

A Preliminary Study Aimed An Annotated Checklist of Chironomidae (Diptera: Culicomorpha: Chironomoidea) of IranGazel Burcu AYDIN^{1*}, Najmeh SAMİN²¹Trakya University, Faculty of Science, Department of Biology, Edirne, Turkey²Islamic Azad University, Science and Research Branch, Young Researchers and Elites Club, Tehran, Iran*Corresponding Author: gburcuaydin@trakya.edu.tr**Research Article**

Received 03 June 2019; Accepted 12 September 2019; Release date 01 March 2020.

How to Cite: Aydın, G. B., & Samin, N. (2020). A preliminary study aimed an annotated checklist of Chironomidae (Diptera: Culicomorpha: Chironomoidea) of Iran. *Acta Aquatica Turcica*, 16(1), 38-50. <https://doi.org/10.22392/actaquatr.573632>**Abstract**

This checklist deals with summarizing all the data on Iranian Chironomidae (Diptera). In total, 34 species from 5 subfamilies are listed as the fauna of Iran: Buchonomyiinae (single species), Chironominae (18 species from 24 genera with some unknown species), Diamesinae (unknown species within 4 genera), Orthoclaadiinae (8 species from 24 genera with some unknown species) and Tanypodinae (7 species from 10 genera with some unknown species). Three species, *Chironomus anthracinus* Zetterstedt, 1860, *Cladotanytarsus (Cladotanytarsus) mancus* (Walker, 1856) and *Tanytus punctipennis* Meigen, 1818 are new records for the fauna of Iran.

Key words: Chironomidae, Diptera, Iran, Checklist, new records.**İran'ın Açıklamalı Chironomidae (Diptera: Culicomorpha: Chironomoidea) Kontrol Listesine Yönelik Bir Ön Çalışma****Özet**

Bu kontrol listesi, İran Chironomidae (Diptera) ile ilgili tüm verilerin özetlenmesiyle ilgilidir. Toplamda 5 alt familyaya ait 34 tür İran'ın faunası olarak listelenmiştir: Buchonomyiinae (1 tür), Chironominae (tanımlanmayan türlerle birlikte 24 cinsine ait 18 tür), Diamesinae (tanımlanmayan türlerin bulunduğu 4 cins), Orthoclaadiinae (tanımlanmayan türlerle birlikte 24 cinsine ait 8 tür) ve Tanypodinae (tanımlanmayan türlerle birlikte 10 cinsine ait 7 tür). *Chironomus anthracinus* Zetterstedt, 1860, *Cladotanytarsus (Cladotanytarsus) mancus* (Walker, 1856) ve *Tanytus punctipennis* Meigen, 1818 türleri İran faunası için yeni kayıtlardır.

Anahtar kelimeler: Chironomidae, Diptera, İran, kontrol listesi, yeni kayıtlar.**INTRODUCTION**

There are supposedly at least 15000 species of Chironomid midges in the world (Cranston, 1995) making in the largest family among in the aquatic insects and is known by its abundance, species diversity, and ecological importance, and occurs in all zoogeographical regions including Antarctica (Ashe et al., 1987). Eleven extant subfamilies are currently recognized within the Chironomidae: Aphroteniinae, Buchonomyiinae, Chilenomyiinae, Chironominae, Diamesinae, Orthoclaadiinae, Podonominae, Prodiamesinae, Tanypodinae, Telmatogetoninae and Usambaromyiinae (Spies and Reiss, 1996). The oldest geological record of the Chironomidae dates from the Lower Jurassic (Upper Liassic, ca. 185 Mio years) (Ansorge, 1999).

The fauna of Iranian chironomidae has so far been studied poorly which most the studies focused on genera identification. In the main faunistic works, Fakhri (2001) and Ebrahimnezhad and Fakhri (2005) reported 27 genera of Chironomidae from 3 subfamilies, Chironominae (14 genera), Orthoclaadiinae (9 genera) and Tanypodinae (4 genera) from Zayandehrud River (Isfahan); Ebrahimnezhad and Allahbakhshi (2013) reported 35 genera of Chironomidae from 4 subfamilies, Chironominae (15 genera), Diamesinae (2 genera), Orthoclaadiinae (13 genera) and Tanypodinae (5 genera) from Golpayegan River (Isfahan); Karami et al. (2014) reported 39 genera of Chironomidae

from 4 subfamilies, Chironominae (15 genera), Diamesinae (2 genera), Orthocladiinae (17 genera) and Tanypodinae (5 genera) from Marbor River (Isfahan). The aim of this research is cataloging of all the data on Iranian Chironomidae.

MATERIAL and METHODS

The published data on the distribution of the family Chironomidae (Diptera) in Iran are summarized by province. Subfamilies, genera, and species are listed alphabetically. Data about classification, nomenclature and distribution data are according to Ashe and Cranston (1990), and in other situations, the related references are given. When accurate data about local distribution in Iran are lacking in a quoted reference, the mention "Iran (no locality cited)" is used. The specimens of new records were collected by the Malaise trap and preserved in alcohol. Prior to examination it was dissected, treated with KOH and mounted in Canada balsam following the procedure outlined by Sæther (1969). This study is summarized with collected larval and adult data. The distributions of Iranian Chironomidae are shown in Figure 1.

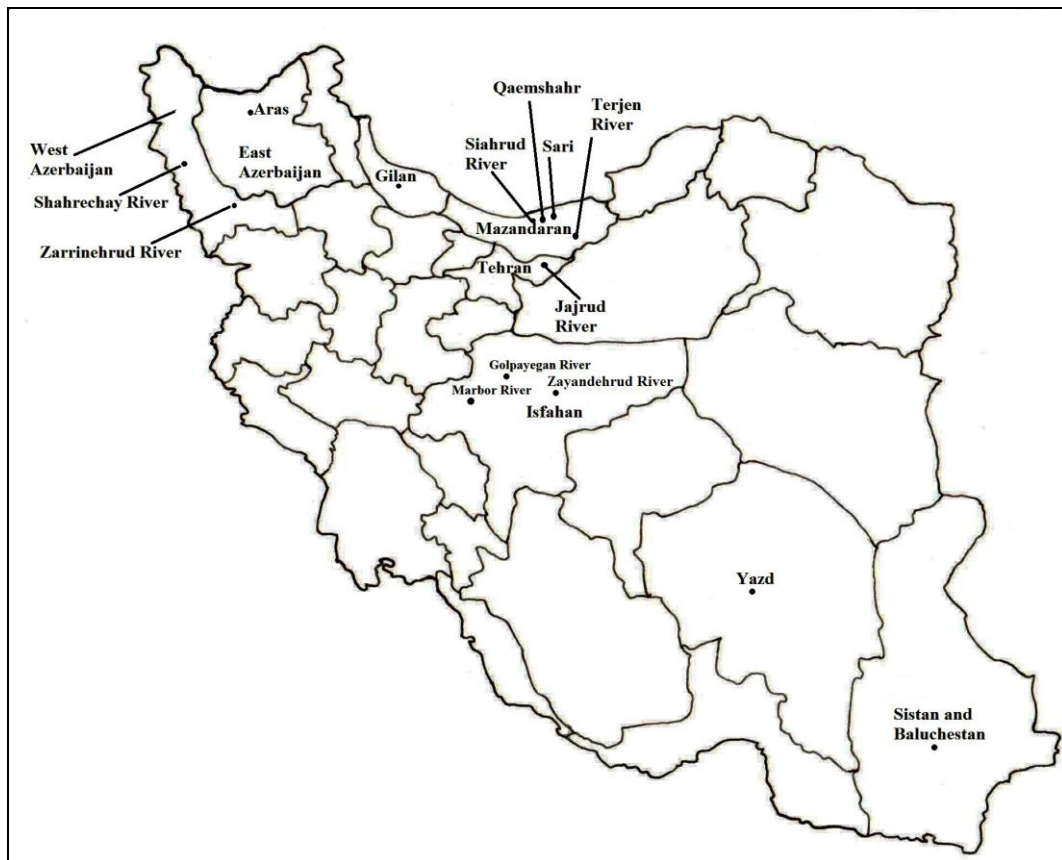


Figure 1. Map showing the distributions of Iranian Chironomidae

RESULTS and DISCUSSION

Totally 63 genera of Chironomidae within 5 subfamilies Buchonomyiinae, Chironominae, Diamesinae, Orthocladiinae, and Tanypodinae have so far been recorded from Iran. Only 34 species were identified for these genera and several collected specimens by the researchers are unknown. Since Iran is a large country and also comprises various geographical regions especially numerous aquatic ecosystems in northern Iran, surely a large number of species remained to be discovered. We expect 200-250 Chironomidae species as the fauna of Iran. The list of species is given below alphabetically with distribution data.

Family Chironomidae Erichson, 1842**Subfamily Buchonomyiinae Brundin & Sæther, 1978****Genus Buchomyia Fittkau, 1955*****Buchomyia thienemanni* Fittkau, 1955**

Distribution in Iran: Isfahan (Zayandehrud River) (Dowling, 1980; Ashe et al., 2015), Iran (no locality cited) (Murray and Ashe, 1981; Ashe et al., 1987).

Distribution Europe and worldwide: Ireland, Italy, Czech Republic, North Africa, the Near East, Austria, Belgium, Britain I., Corsica, French mainland, Germany, Luxembourg, Slovakia, Spanish mainland, Russia (Murray, 1976; Marziali et al., 2004; Sæther and Spies 2013; Ashe et al., 2014; Ashe et al., 2015).

Subfamily Chironominae Macquart, 1838**Genus *Chironomus* Meigen, 1803*****Chironomus albidus* Konstantinov, 1956**

Distribution in Iran: Guilan, Mazandaran (Caspian Sea) (Mohammadian, 2004).

Distribution Europe and worldwide: Polish, Romania (Polski, 2001; Dascălu et al., 2009; Sæther and Spies 2013).

***Chironomus anthracinus* Zetterstedt, 1860**

Material examined: Mazandaran province, Sari, Tejen River, 36°30'N 53°30'E, 3 adults, August 2011. New record for Iran.

Distribution Europe and worldwide: France and Corsica, Lithuania, Romania, Ohio, Finland, European Turkey, Austria, Britain I, Central and East European Russia, Czech Republic, Germany, Hungary, Ireland, Italian mainland, Sweden, Switzerland, (Serra-Tosio and Laville, 1991; Pakalniškis, 2000; Tatole, 2000; Bolton, 2012; Sæther and Spies 2013; Paasivirta, 2014; Aydın and Güher, 2017).

***Chironomus aprilius* Meigen, 1818**

Distribution in Iran: Yazd (Bafq) (Rajabipour et al., 2011 a, b).

Distribution Europe and worldwide: France and Corsica, Romania, Ohio, Germany, Finland, European Turkey, Austria, Belgium, Britain I, Bulgaria, Croatia, Czech Republic, Danish mainland, Faroe islands, Hungary, Ireland, North Africa, Poland, Spanish mainland, Sweden, Ukraine, The Netherlands (Serra-Tosio and Laville, 1991; Tatole, 2000; Bolton, 2012; Sæther and Spies 2013; Orendt et al., 2014; Paasivirta, 2014; Aydın and Güher, 2017).

***Chironomus (Microtendipes) dimidiatus* Kieffer, 1921**

Distribution in Iran: Tehran (Jajrud River) (Amri et al., 2014 as *Tanytarsus dimidiatus* (Meigen, 1838)).

Distribution worldwide: Oriental China (Qi et al., 2012).

Comments: The presence of *C. dimidiatus* in Iran is doubtful and needs confirmation.

***Chironomus plumosus* (Linnaeus, 1758)**

Distribution in Iran: East Azarbaijan (Aras reservoir) (Aliyev et al., 2013), West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2011, 2012; Aliyev et al., 2013).

Distribution Europe and worldwide: France and Corsica, Lithuania, Romania, Ohio, Germany, Finland, European Turkey, Albania, Austria, Belarus, Belgium, Bosnia and Herzegovina, Britain I, Bulgaria, Central and East European Russia, Czech Republic, Estonia, Hungary, Ireland, Latvia, North Africa, Slovakia, Sweden, Switzerland, Yugoslavia (Serra-Tosio and Laville, 1991; Pakalniškis, 2000; Tatole, 2000; Bolton, 2012; Sæther and Spies 2013; Orendt et al., 2014; Paasivirta, 2014; Aydın and Güher, 2017).

***Chironomus riparius* Meigen, 1804**

Distribution in Iran: Guilan (Sahragard and Rafatifard, 2006, 2010).

Distribution Europe and worldwide: France and Corsica, Lithuania, Romania, USA, Germany, Finland, European Turkey, Austria, Belarus, Belgium, Britain I, Bulgaria, Central and East European Russia, Czech Republic, Estonia, Hungary, Ireland, Latvia, Luxembourg, North Africa, Slovakia, Sweden, Switzerland, Yugoslavia (Serra-Tosio and Laville, 1991; Pakalniškis, 2000; Tatole, 2000; Bilger et al., 2005; Bolton, 2012; Sæther and Spies 2013; Orendt et al., 2014; Paasivirta, 2014; Aydın and Güher, 2017).

***Chironomus* spp.**

Distribution in Iran: Isfahan (Marbor River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Karami et al., 2014), Tehran (Jajrud River) (Arkia et al., 2018), West Azarbaijan (Shahrechay River) (Asadpour-Ousalou, 2015).

Genus *Cladotanytarsus* Kieffer, 1921***Cladotanytarsus atridorsum* (Kieffer, 1922)**

Distribution in Iran: Tehran (Jajrud River) (Amri et al., 2014 as *Tanytarsus atridorsum* (Kieffer, 1922)).

Distribution Europe and worldwide: France and Corsica, Baltic Sea, Italy, Hungary, Finland, Germany, Austria, Canary island, Britain I, Central and East European Russia, Czech Republic, Estonia, North Africa, Slovakia, Sweden, Switzerland, Ukraine (Serra-Tosio and Laville, 1991; Zettlera and Daunys, 2007; Marziali et al., 2008; Móra and Farkas, 2012; Sæther and Spies 2013; Paasivirta, 2014; Orendt et al., 2014).

***Cladotanytarsus (Cladotanytarsus) mancus* (Walker, 1856)**

Material examined: Mazandaran province, Qaemshahr, Siahруд River, 36°28'N 52°52'E, 3 adults, 17.v.2010. New record for Iran.

Distribution Europe and worldwide: France and Corsica, Lithuania, USA, Poland, Germany, Finland, European Turkey, Austria, Belarus, Belgium, Britain I, Bulgaria, Central and East European Russia, Czech Republic, Estonia, Hungary, North Africa, Slovakia, Sweden, Switzerland, Ukraine, Yugoslavia, (Serra-Tosio and Laville, 1991; Pakalniökis, 2000; Bilger et al., 2005; Gilka and Dominiak, 2007; Bolton, 2012; Sæther and Spies 2013; Orendt et al., 2014; Paasivirta, 2014; Aydın and Güher, 2017).

***Cladotanytarsus* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Constempellina* Brundin, 1947***Constempellina* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al., 2014).

Genus *Cryptochironomus* Kieffer, 1918***Cryptochironomus camptolabis* (Kieffer, 1913)**

Distribution in Iran: West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2012).

Distribution worldwide: Baltic Sea (Zettlera and Daunys, 2007).

***Cryptochironomus defectus* (Kieffer, 1913)**

Distribution in Iran: East Azarbaijan, West Azarbaijan (Aras reservoir) (Aliyev et al., 2013 as *Chironomus defectus* (Kieffer, 1913)), West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2012).

Distribution Europe and worldwide: France and Corsica, Romania, Germany, European Turkey, Albania, Austria, Belarus, Belgium, Britain I, Bulgaria, Central and East European Russia, Czech Republic, Hungary, Latvia, Lithuania, Poland, Slovakia, Sweden, Switzerland, Ukraine, Yugoslavia (Serra-Tosio and Laville, 1991; Tatole, 2000; Sæther and Spies 2013; Orendt et al., 2014; Aydın and Güher, 2017).

***Cryptochironomus* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Cryptotendipes* Beck & Beck, 1969***Cryptotendipes* spp.**

Distribution in Iran: Isfahan (Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013).

Genus *Demicryptochironomus* Lenz, 1941***Demicryptochironomus* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Dicrotendipes* Kieffer, 1913***Dicrotendipes* spp.**

Distribution in Iran: Isfahan (Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005).

Genus *Harnischia* Kieffer, 1921***Harnischia* spp.**

Distribution in Iran: Isfahan (Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013).

Genus *Kiefferulus* Goetghebuer, 1922***Kiefferulus* spp.**

Distribution in Iran: Isfahan (Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005).

Genus *Lapposmittia* Thienemann, 1939***Lapposmittia* spp.**

Distribution in Iran: Isfahan (Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005).

Genus *Microchironomus* Kieffer, 1918***Microchironomus nigrovittatus* (Malloch, 1915)**

Distribution in Iran: West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2011, 2012).

Distribution worldwide: Canada, Texas, Kentucky Lake (Chang et al., 1994; Ferrington, Jr., et al., 1995; White, 2014).

***Microchironomus* spp.**

Distribution in Iran: Isfahan (Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005).

Genus *Micropsectra* Kieffer, 1908***Micropsectra* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Microtendipes* Kieffer, 1915***Microtendipes chloris* (Meigen, 1818)**

Distribution in Iran: West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2012).

Distribution Europe and worldwide: France and Corsica, Baltic Sea, Finland, Germany, European Turkey, Albania, Austria, Belgium, Britain I, Bulgaria, Central and East European Russia, Estonia, Czech Republic, Hungary, Italian mainland, Luxembourg, Lithuania, Norwegian mainland, Poland, Romania, Slovakia, Sweden, Switzerland, Ukraine, Yugoslavia (Serra-Tosio and Laville, 1991; Zettlera and Daunys, 2007; Sæther and Spies 2013; Paasivirta, 2014; Orendt et al., 2014; Aydın and Güher, 2017).

***Microtendipes* spp.**

Distribution in Iran: Isfahan (Marbor River; Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Karami et al., 2014).

Genus *Neozavrelia* Goetghebuer & Theinemann, 1941***Neozavrelia* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al., 2014).

Genus *Paratanytarsus* Thienemann & Bause, 1913***Paratanytarsus lauterborni* (Kieffer, 1909)**

Distribution in Iran: West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2012 as *Tanytarsus lauterborni* (Kieffer, 1909)).

Distribution Europe and worldwide: Aral Sea, Baltic Sea, Finland, France and Corsica, Germany, European Turkey, Austria, Britain I, Bulgaria, Central and East European Russia, Czech Republic, Hungary, Italian mainland, Lithuania, Norwegian mainland, Poland, Romania, Slovakia, Sweden, Switzerland, Ukraine, The Netherlands, Yugoslavia (Serra-Tosio and Laville, 1991; Nazarova, 2006; Zettlera and Daunys, 2007; Sæther and Spies 2013; Paasivirta, 2014; Orendt et al., 2014; Aydın and Güher, 2017).

***Paratanytarsus* spp.**

Distribution in Iran: Isfahan (Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013).

Genus *Paratendipes* Kieffer, 1911***Paratendipes* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Phaenopsectra* Kieffer, 1921

***Phaenopsectra* spp.**

Distribution in Iran: Isfahan (Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013).

Genus *Polypedilum* Kieffer, 1912

***Polypedilum (Polypedilum) nubeculosum* (Meigen, 1804)**

Distribution in Iran: East Azarbaijan, West Azarbaijan (Aras reservoir) (Aliyev et al., 2013 as *Chironomus nubeculosus* (Meigen, 1804)).

Distribution Europe and worldwide: Canada, France and Corsica, Baltic Sea, Finland, Germany, Greece, European Turkey, Albania, Austria, Belarus, Belgium, Britain I, Bosnia and Herzegovina, Dodekánisos, Bulgaria, Central and East European Russia, Estonia, Czech Republic, Hungary, Italian mainland, Luxembourg, Lithuania, Latvia, North Africa, Norwegian mainland, Poland, Romania, Slovakia, Sweden, Switzerland, Ukraine, Yugoslavia (Serra-Tosio and Laville, 1991; Chang et al., 1994; Zettlera and Daunys, 2007; Móra and Csabai, 2008; Sæther and Spies 2013; Paasivirta, 2014; Orendt et al., 2014; Aydın and Güher, 2017).

***Polypedilum* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Rheotanytarsus* Theinmann & Bause, 1913

***Rheotanytarsus* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Saetheria* Jackson, 1977

***Saetheria* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al., 2014).

Genus *Stempellina* Thienemann & Bause, 1913

***Stempellina* spp.**

Distribution in Iran: Isfahan (Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013).

Genus *Stictochironomus* Kieffer, 1919

***Stictochironomus pictulus* Meigen, 1830**

Distribution in Iran: Sistan and Baluchestan (Annandale, 1921; Mohammadian, 2004).

Distribution Europe and worldwide: Canada, Bulgaria, Italy, Finland, Austria, Belgium, Britain I, Bulgaria, Corsica, Germany, Hungary, Italian mainland, Norwegian mainland, Poland, Romania, Slovakia, Sweden, Switzerland, Yugoslavia (Chang et al., 1994; Stoichev, 1996; Rossaro, 2006; Sæther and Spies 2013; Paasivirta, 2014).

***Stictochironomus* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al., 2014).

Genus *Tanytarsus* van der Wulp, 1874

***Tanytarsus antennata* (Birula, 1936)**

Distribution in Iran: Tehran (Jajrud River) (Amri et al., 2014).

Distribution worldwide: Russia (Ashe and Cranston, 1990).

***Tanytarsus exiguus* Johannsen, 1905**

Distribution in Iran: West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2012).

Distribution Europe and worldwide: Lithuania (Bubinas and Jagminienà, 2002), Aral Sea (Nazarova, 2006).

***Tanytarsus gregarius* Kieffer, 1909**

Distribution in Iran: West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2012).

Distribution Europe and worldwide: France and Corsica, Lithuania, Romania, Polish, Hungary, Aral Sea, Turkey, Poland, Germany, Finland, Albania, Austria, Belgium, Britain I, Bulgaria, Hungary, Italian mainland, North Africa, Norwegian mainland, Poland, Romania, Slovakia, Sweden, Switzerland, Yugoslavia (Serra-Tosio and Laville, 1991; Pakalniökis, 2000; Tatole, 2000; Polski,

2001; Bubinas and Jagminienà, 2002; Arnold and György, 2004; Nazarova, 2006; Özkan, 2006; Gilka and Dominiak, 2007; Sæther and Spies 2013; Orendt et al., 2014; Paasivirta, 2014).

***Tanytarsus* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Virgatanytarsus* Pinder, 1982

***Virgatanytarsus* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Subfamily Diamesinae Kieffer, 1922

Genus *Diamesa* Meigen, 1835

***Diamesa* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014), Tehran (Jajrud River) (Arkia et al., 2018).

Genus *Potthastia* Kieffer, 1922

***Potthastia* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al., 2014).

Genus *Pseudodiamesa* Goetghebuer, 1939

***Pseudodiamesa* spp.**

Distribution in Iran: Tehran (Jajrud River) (Arkia et al., 2018).

Genus *Sympotthastia* Pagast, 1947

***Sympotthastia* spp.**

Distribution in Iran: Isfahan (Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013).

Subfamily Orthocladiinae Edwards, 1929

Genus *Aagaardia* Sæther, 2000

***Aagaardia longicalcis* Sæther, 2000**

Distribution in Iran: Tehran (Jajrud River) (Amri et al., 2014).

Distribution worldwide: Canada (Sæther, 2000).

***Aagaardia oksanae* Makarchenko, 2005**

Distribution in Iran: Tehran (Jajrud River) (Amri et al., 2014).

Distribution worldwide: Russian Far East (Makarchenko and Makarchenko, 2005).

***Aagaardia protensa* Sæther, 2000**

Distribution in Iran: Tehran (Jajrud River) (Amri et al., 2014).

Distribution Europe: Finland (Sæther and Spies 2013; Paasivirta, 2014).

***Aagaardia sivertseni* (Aagaard, 1979)**

Distribution in Iran: Tehran (Jajrud River) (Amri et al., 2014).

Distribution Europe: Norway, Finland, Sweden (Sæther, 2000; Sæther and Spies 2013; Paasivirta, 2014).

Genus *Abiskomyia* Edwards, 1937

***Abiskomyia paravirgo* Goetghebuer, 1940**

Distribution in Iran: Tehran (Jajrud River) (Amri et al., 2014).

Distribution Europe: Finland, Turkey, Near East, Sweden, Norwegian mainland (Sæther and Spies 2013; Paasivirta, 2014; Koçak and Kemal, 2014).

Genus *Acricotopus* Kieffer, 1921

***Acricotopus* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al., 2014).

Genus *Brillia* Kieffer, 1913

***Brillia* spp.**

Distribution in Iran: Isfahan (Marbor River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Karami et al., 2014).

Genus *Cardiocladius* Kieffer, 1912

***Cardiocladius* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Chaetocladius* Kieffer, 1911***Chaetocladius* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al., 2014).

Genus *Cricotopus* van der Wulp, 1874***Cricotopus fuscus* (Kieffer, 1909)**

Distribution in Iran: West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2012).

Distribution Europe and worldwide: Russia, Lithuania, Andorra, Austria, Belgium, Britain I, Bulgaria, Estonia, Czech Republic, European Turkey, Hungary, Germany, Italian mainland, Lithuania, North Africa, Poland, Romania, Slovakia, Switzerland, Ukraine, Yugoslavia (Sæther and Spies 2013; Gukov, 2000; Bubinas and Jagminienà, 2002).

***Cricotopus* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Doithrix* (Sæther & Sublette, 1983)***Doithrix barberi* (Sæther & Sublette, 1983)**

Distribution in Iran: Tehran (Jajrud River) (Amri et al., 2014).

Distribution worldwide: Nearctic Region (Oliver et al., 1990).

Genus *Eukiefferiella* Theinmann, 1926***Eukiefferiella* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Euryhopsis* Oliver, 1981***Euryhopsis* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al., 2014).

Genus *Goeldichironomus* Fittkau, 1965***Goeldichironomus pictus* (Reiss, 1974)**

Distribution in Iran: West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2012).

Distribution worldwide: Brazil, USA (Jacobsen, 2008; Trivinho-Strixino, 2011).

Genus *Nanocladius* Kieffer, 1913***Nanocladius* spp.**

Distribution in Iran: Isfahan (Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013).

Genus *Orthocladius* van der Wulp, 1874***Orthocladius* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Paracladius* Hirvenoja, 1973***Paracladius* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Paracricotopus* Brundin, 1956***Paracricotopus* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al. 2014).

Genus *Parametriocnemus* Goetghebuer, 1932***Parametriocnemus* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Paraphaenocladius* Thienemann, 1924***Paraphaenocladius* spp.**

Distribution in Iran: Isfahan (Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013).

Genus *Paratrachocladius* Santos Abreu, 1918***Paratrachocladius* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Psectrocladius* Kieffer, 1906

***Psectrocladius* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al., 2014).

Genus *Rheocricotopus* Brundin, 1956

***Rheocricotopus* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Spaniotoma* Philippi, 1865

***Spaniotoma* spp.**

Distribution in Iran: West Azarbaijan (Shahrechay River) (Asadpour-Ousalou, 2015).

Genus *Synorthocladius* Theinmann, 1935

***Synorthocladius* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Theinmanniella* Kieffer, 1911

***Theinmanniella* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al., 2014).

Genus *Tvetenia* Kieffer, 1922

***Tvetenia* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Subfamily Tanypodinae Thienemann & Zavrel, 1916

Genus *Ablabesmyia* Johannsen, 1905

***Ablabesmyia digitata* (Kieffer, 1923)**

Distribution in Iran: Tehran (Jajrud River) (Amri et al., 2014).

Distribution worldwide: Africa (Harrison, 1971).

***Ablabesmyia ensiceps* (Chaudhuri, Debnath & Nandi, 1983)**

Distribution in Iran: Tehran (Jajrud River) (Amri et al., 2014).

Distribution worldwide: Bengal (Chaudhuri et al., 1983).

***Ablabesmyia* spp.**

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Coelotanypus* Kieffer, 1913

***Coelotanypus tricolor* (Loew, 1861)**

Distribution in Iran: West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2011, 2012).

Distribution worldwide: Mississippi (Cooper, 1981).

Genus *Conchapelopia* (Fittkau, 1957)

***Conchapelopia* spp.**

Distribution in Iran: Isfahan (Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013).

Genus *Hayesomyia* Murray & Fittkau, 1986

***Hayesomyia* spp.**

Distribution in Iran: Isfahan (Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013).

Genus *Macropelopia* Thienemann, 1916

***Macropelopia* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al., 2014).

Genus *Nilotanypus* Kieffer, 1923

***Nilotanypus* spp.**

Distribution in Iran: Isfahan (Marbor River) (Karami et al., 2014).

Genus *Procladius* Skuse, 1889

***Procladius (Holotanypus) choreus* (Meigen, 1804)**

Distribution in Iran: West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2012).

Distribution Europe and worldwide: Romania, Hungary, Macaronesia, Russia, Baltic Sea, Greece, Czech Republic, Denmark, Finland, Germany, Austria, Belgium, Britain I, Bulgaria, Corsica, Italian mainland, Czech Republic, North Africa, Norwegian mainland, Poland, Romania, Slovakia, Sweden, Sicily, Switzerland, Yugoslavia (Tatole, 2000; Arnold and György, 2004; Murray et al., 2004; Sæther, 2004; Zettlera and Daunys, 2007; Móra and Csabai, 2008; Hamerlika and Brodersen, 2010; Sæther and Spies 2013; Paasivirta, 2014; Orendt et al., 2014).

Procladius (Holotanypus) ferrugineus (Kieffer, 1918)

Distribution in Iran: East Azarbaijan, West Azarbaijan (Aras reservoir) (Aliyev et al., 2013).

Distribution Europe and worldwide: Romania, Hungary, Aral Sea, Bulgaria, Estonia, Lithuania, Russia, Sweden, Ukraine (Tatole, 2000; Arnold and György, 2004; Nazarova, 2006; Sæther and Spies 2013).

Procladius spp.

Distribution in Iran: Isfahan (Marbor River, Golpayegan River, Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005; Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

Genus *Rheopelopia* Fittkau, 1962

Rheopelopia spp.

Distribution in Iran: Isfahan (Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005).

Genus *Tanypus* Meigen, 1803

***Tanypus punctipennis* Meigen, 1818**

Material examined: West Azarbaijan province, Ourmieh, Shahrechay River, 37°33'N 45°00'E, 2 adults, 11.vi.2008. New record for Iran.

Distribution Europe and worldwide: Canada, Lithuania, Romania, Polish, Hungary, USA, Malaysia, Ohio, Finland, Germany, European Turkey, Albania, Austria, Belgium, Britain I, Bulgaria, Central and East European Russia, Corsica, Czech Republic, Estonia, Italian mainland, Ireland, Liechtenstein, North Africa, Norwegian mainland, Sicily, Slovakia, Sweden, Switzerland, Yugoslavia, The Netherlands (Chang et al., 1994; Pakalniökis, 2000; Tatole, 2000; Polski, 2001; Arnold and György, 2004; Bilger et al., 2005; Al-Shami et al., 2010; Bolton, 2012; Sæther and Spies 2013; Paasivirta, 2014; Orendt et al., 2014; Aydın and Güher, 2017).

***Tanypus stellatus* Coquillett, 1902**

Distribution in Iran: West Azarbaijan (Zarrinehrud River) (Ahmadi et al., 2012).

Distribution worldwide: Brazil, USA, Ohio, Kentucky Lake (Fusari and Fonseca-Gessner, 2006; Bilger et al., 2005; Bolton, 2012; White, 2014).

Tanypus spp.

Distribution in Iran: Isfahan (Zayandehrud River) (Fakhri, 2001; Ebrahimnezhad and Fakhri, 2005).

Genus *Trissopelopia* Kieffer, 1923

Trissopelopia spp.

Distribution in Iran: Isfahan (Marbor River, Golpayegan River) (Ebrahimnezhad and Allahbakhshi, 2013; Karami et al., 2014).

CONCLUSION

In this study, the data of the larval and adult chironomids of Iran were compiled. As a result, there are insufficient studies on chironomids in Iran, which has many aquatic ecosystems, and we believe that that more species will be identified for both Iran and the world through the studies to be carried out.

Acknowledgements: This research was supported by Trakya University (Turkey) and Islamic Azad University (Young Researchers and Elites Club, Science and Research Branch).

REFERENCES

- Ahmadi, R., Aliyev, A., Seidgar, M., Bayramov, A., & Ganji, S. (2012). Macroinvertebrate communities differences on Riverine Parts and Reservoirs of Zarrineh River. *American Journal of Agricultural and Biological Sciences*, 7 (1), 71-75.

- Ahmadi, R., Mohebbi, F., Hagigi, P., Esmailly, L., & Salmanzadeh, R. (2011). Macro-invertebrates in the Wetlands of the Zarrineh estuary at the south of Urmia Lake (Iran). *International Journal of Environmental Research*, 5 (4), 1047-1052.
- Aliyev, A., Ahmadi, R., Bayramov, A., Seidgar, M., & Maharramov, M. (2013). The assessment of organic contamination of the Aras reservoir based on hydrobiological indicators. *International Journal of Aquatic Science*, 4 (1), 62-73.
- Al-Shami, S.A., Md Rawi, C.S., HassanAhmad, A., & Mohd Nor, S.A. (2010). Distribution of Chironomidae (Insecta: Diptera) in polluted rivers of the Juru River Basin, Penang, Malaysia. *Journal of Environmental Sciences*, 22 (11), 1718–1727.
- Amri, N., Jamili, S., & Abdolbaghian, A. (2014). Diversity of macrobenthos communities and their relationships with environmental factors in Jajroud River, Iran. *Resources and Environment* 4 (2), 95-103.
- Annandale, N. (1921). *Aquatic fauna of Seistan*, Part V. Records of the Indian Museum, Vol. XVIII. Calcutta.
- Ansorge, J. (1999). *Aenne liasina* gen. et sp. n. - the most primitive nonbiting midge (Diptera: Chironomidae: *Aenneinae* subfam. n.) - from the Lower Jurassic of Germany. *Polskie Pismo Entomologiczne*, 68 (4), 431-443.
- Arkia, S., Yousefi Siahkalroodi, S., Kheradpir, N., & Karami, A. (2018). Faunistic study of Chironomidae in the Jajroud River. *Journal of Animal Environment*, 9 (4), 243-250.
- Arnold, M., & György, D. (2004). Checklist of the non-biting midges (Diptera: Chironomidae) of Hungary with notes on records and peculiarity of the occurrence of the species. *Acta Biologica*, 12, 39-207.
- Asadpour-Ousalou, Y. (2015). Identifying the benthic organisms diversity in Shahrechay River and Dam Lake, Western Azerbaijan province, Iran. *Ecopersia*, 3 (2), 1013-1021.
- Ashe, P., & Cranston, P.S. (1990). Family Chironomidae. In: Soós, A. & Papp, L. (eds.), *Catalogue of Palaearctic Diptera*. Volume 2. Psychodidae - Chironomidae. Akadémiai Kiadó, Budapest, 113-355.
- Ashe, P., Murray, D.A., & Reiss, F. (1987). The zoogeographical distribution of Chironomidae (Insecta: Diptera). *Annales de Limnologie*, 23, 27-60.
- Ashe, P., Moubayed-Breil, J., & Vondrák, D. (2014). First records of *Buchonomyia thienemanni* Fittkau (Diptera: Chironomidae) from the Czech Republic. *Chironomus Newsletter on Chironomidae Research*, 27, 51-53.
- Ashe, P., O'connor, J.P., & Murray, D.A. (2015). A review of the distribution and ecology of *Buchonomyia thienemanni* Fittkau (Diptera: Chironomidae) including a first record for Russia. *European Journal of Environmental Sciences*, 5 (1), 5-11.
- Aydın, G.B., & Güher, H. (2017). The Chironomidae (Diptera) fauna of Kırklareli Province. *Turkish Journal of Zoology*, 41, 335-341.
- Bilger, M.D., Riva-Murray, K., & Wall, G.L. (2005). *A checklist of the aquatic invertebrates of the Delaware River Basin, 1990-2000*: U.S. Geological Survey Data Series 116, 29 pp.
- Bolton, M.J. (2012). *Ohio EPA supplemental keys to the larval Chironomidae (Diptera) of Ohio and Ohio Chironomidae checklist*. Ohio Environmental Protection Agency, 111 pp.
- Bubinas, A., & Jagminienė I. (2002). Bioindication of the Neris River based on the structure of hydrobiocenoses. *Acta Zoologica Lituanica*, 12 (1), 42-46.
- Chang, P.S.S., Cobb, D.G., Flannagan J.F., & Sæther O.A. (1994). *Light Trap Collections of Mayflies, Caddisflies and Chironomids from Lake Winnipeg during 1969 and 1971*. Canadian Manuscript Report of Fisheries and Aquatic, 27 pp.
- Chaudhuri, P.K., Debnath, R.K., & Nandi, S.K. (1983). Tanypodine midges of the genus *Ablabesmyia* Johannsen (Diptera: Chironomidae) from West Bengal with a note on their seasonal incidence and sex ratios. *Journal of Natural History*, 17, 901-917.
- Cooper, C.M. (1981). A population study of the Diptera (Insecta) of Grenada Reservoir, Mississippi. *Journal of Freshwater Ecology*, 1, 251-265.
- Cranston, P.S. (1995). Biogeography. In: Armitage, P., P.S. Cranston & L.C. Pinder (eds.). *The Chironomidae. The biology and ecology of nonbiting midges*. Chapman & Hall, London. Pp.62-84.
- Dascălu, M.M., Novac, A., Neagu, A.N., & Miron, J. (2009). *Chironomid larvae communities from the fish farm area of Izvoru Muntelui-Bicaz Reservoir*. Analele Științifice ale Universității "Al. I. Cuza" Iași, s. Biologie animală, Tom LV, 61-66.
- Dowling, C. (1980). Preliminary investigations on the Chironomidae (Insecta, Diptera) from some lotic environments in Iran. In: Murray DA (ed) *Chironomidae. Ecology, systematics, cytology and physiology*. Proc. 7th Int. Symp. Chironomidae, Dublin, August 1979. Pergamon Press, Oxford, 131-137.
- Ebrahimnezhad, M., & Allahbakhshi, E. (2013). A study on Chironomid larvae (Insecta- Diptera) of Golpayegan River (Isfahan-Iran) at generic level. *Iranian Journal of Science & Technology*, A1, 45-52.
- Ebrahimnezhad, M., & Fakhri, F. (2005). Taxonomic study of Chironomidae (Diptera) larvae of Zayandehrood river, Iran and effects of selected ecological factors on their abundance and distribution. *Iranian Journal of Science and Technology, Transaction*, A., 29 (A1), 89-105.

- Fakhri, F. (2001) *Identification of Chironomidae larvae (Diptera) in Zayandehrood River and effects of some physical factors on their abundance and distribution*. MSc thesis. University of Isfahan, Isfahan, Iran.
- Ferrington, Jr., L.C., Kavanaugh, R.G., Schmidt, F.J., & Kavanaugh, J.L. (1995). Habitat separation among Chironomidae (Diptera) in big springs. *Journal of the Kansas Entomological Society*, 68 (2), 152-165.
- Fusari, L.M., & Fonseca-Gessner, A.A. (2006). Environmental assessment of two small reservoirs in southeastern Brazil, using macroinvertebrate community metrics. *Acta Limnologica Brasiliensia*, 18 (1), 89-99.
- Gilka, W., & Dominiak, P. (2007). Tanytarsini (Diptera: Chironomidae) of the Kashubian Lakeland. *Fragmenta Faunistica*, 50 (1), 47-55.
- Gukov, A.Y. (2000). Monitoring of Macro-Zoobenthos in the Lena River Mouth. *Polarforschung*, 70, 107-114.
- Hamerlika, L., & Brodersen, K.P. (2010). Non-biting midges (Diptera: Chironomidae) from fountains of two European cities: micro-scale island biogeography. *Aquatic Insects*, 32 (1), 67-79.
- Harrison, A. (1971). A Conspectus of the Macropelopiini and Pentaneurini (Tanypodinae: Chironomidae) of Africa South of the Sahara. *The Canadian Entomologist*, 103 (3), 386-390.
- Jacobsen, R.E. (2008). *A Key to the Pupal Exuviae of the Midges (Diptera: Chironomidae) of Everglades National Park, Florida*: U.S. Geological Survey Scientific Investigations Report 2008-5082, 119 pp.
- Karami, A., Ebrahimnezhad, M., & Zamanpour, M. (2014). Checklist and key identification of Chironomidae larvae (Insecta: Diptera) in Marbor River (Isfahan, Iran). *Taxonomy and Biosystematics*, 2, 49-64.
- Koçak, A.Ö., & Kemal, M. (2014). Revised and advanced list of the dipteran species of Turkey. *Cesa News*, 98, 14-105.
- Makarchenko E.A., & Makarchenko, M.A. (2005). A new species, Aagaardia oksanae sp. n. (Diptera, Chironomidae, Orthoclaadiinae) from Sikhote-Alin' Biosphere Nature Reserve. *Euroasian Entomological Journal*, 4 (3), 235-236.
- Marziali, L., Casalegno, C., & Rossaro, B. (2004). The first record of the subfamily Buchonomyiinae (Diptera, Chironomidae) from Italy. *Italian Journal of Zoology*, 71, 341-345.
- Marziali, L., Lencioni, V., Parenti, P., & Rossaro, B. (2008). Benthic Macroinvertebrates as Water Quality Indicators in Italian Lakes. *Boletim do Museu Municipal do Funchal*, 13, 51-59.
- Mohammadian, H. (2004). *The biodiversity of Diptera in Iran*. Shabpareh Publication, 138 pp.
- Móra, A., & Csabai, Z. (2008). First annotated checklist of Chironomidae of Rhodos, Greece. *Spixiana*, 31 (2), 223-231.
- Móra, A., & Farkas, A. (2012). The Chironomidae (Diptera) Fauna of the Szentendrei-Duna, Hungary. *Acta Biologica Debrecina Supplementum Oecologica Hungarica*, 28, 129-140.
- Murray, D.A. (1976). *Buchonomyia thienemanni* Fittkau (Diptera, Chironomidae) a rare and unusual species recorded from Killarney, Ireland. *Entomologist's Gazette*, 27, 179-180.
- Murray, D.A., & Ashe, P. (1981). A description of the pupa of *Buchonomyia thienemanni* Fittkau, with notes on its ecology and on the phylogenetic position of the subfamily Buchonomyiinae (Diptera, Chironomidae). *Spixiana*, 4, 55-68.
- Murray, D.A., Hughes, S.J., Furse, M.T., & Murray, W.A. (2004). New records of Chironomidae (Diptera: Insecta) from the Azores, Macaronesia. *Annales de Limnologie - International Journal of Limnology*, 40 (1), 33-42.
- Nazarova, L. (2006). Chironomids of the Aral Sea. *Chironomus Newsletter of Chironomid Research*, 19, 10-12.
- Oliver, D.R., Dillon, M.E. & Cranston, P. S. (1990). A Catalog of Nearctic Chironomidae. *Research Branch Agriculture Canada Publication*, 1857/B, 1-89.
- Orendt, C., Garcia, X. F., Janecek, B.F., Michiels, S., Otto, C.J., & Müller, R. (2014). Faunistic overview of Chironomidae (Insecta: Diptera) in lowland running waters of north-east Germany (Brandenburg) based on 10- year EU-Water Framework Directive monitoring programme. *Lauterbornia*, 77, 37-62.
- Özkan, N. (2006). Fauna of Chironomid (Chironomidae; Diptera) in Turkish Thrace Region (Kırklareli, Tekirdağ, İstanbul and Çanakkale). *Ege University Journal of Fisheries and Aquatic Sciences*, 23, 125-132.
- Paasivirta, L. (2014). Checklist of the family Chironomidae (Diptera) of Finland. *ZooKeys*, 441, 63-90.
- Pakalniškis, S., Rimdaitė, J., Sprangauskaitė-Bernotienė, R., Butautaitė, R., & Podėnas, S. (2000). Checklist of Lithuanian Diptera. *Acta Zoologica Lituanica*, 10 (1), 1392-1657.
- Polski, W.M. (2001). Check list of Polish Diptera. Wersja: IV, 153 pp.
- Qi, X., Lin, X., & Wang, X. (2012). A new species of the genus *Microtendipes* Kieffer, 1915 (Diptera, Chironomidae) from Oriental China. *Zookeys*, 212, 80-89.
- Rajabipour, F., Mashaii, N., Saresangi, H., Bitaraf, A., Mohammadi, M., & Askari, M. (2011a). *Chironomus aprilinus* Meigen, 1830, production in underground brackish waters of Bafq, Iran. *Proceedings of 18th International Symposium on Chironomidae, Trondheim Norway 4-6 July 2011*, pp. 41.

- Rajabipour, F., Mashaii, N., Saresangi, H., Bitaraf, A., Mohammadi, M., & Sahragard, A. (2011b). *Chironomus aprilius* Meigen, 1830, production in underground brackish waters of Iran. *Academic Journal of Entomology*, 4 (2), 41-46.
- Rossaro, B., Boggero, A., Lencioni, V., Marziali L., & Solimini, A. (2006). Tools for the development of a benthic quality index for Italian lakes. *Journal of Limnology*, 65 (1), 41-51.
- Sæther, O.A. (1969). Some Nearctic Podonominae, Diamesinae and Orthoclaidiinae (Diptera: Chironomidae). *Bulletin of the Fisheries Research Board of Canada*, 107, 1-154.
- Sæther, O.A. (2000). Aagaardia, a New Holarctic Orthoclad Genus (Diptera: Chironomidae). *Aquatic Insects*, 22 (3), 177-196.
- Sæther, O.A. (2004). The chironomids (Diptera, Chironomidae) described by Lund-ström (1915) from arctic Siberia, with a redescription of *Derotanypus sibiricus* (Kruglova & Chernovskii). *Zootaxa*, 595, 1-35.
- Sæther, O. A., & Spies, M. (2013). Fauna Europaea: Chironomidae in: Beuk, P. & T. Pape (eds.) Fauna Europaea: Diptera Nematocera. Fauna Europaea version 2.6. Internet database, online since April 2013.
- Sahragard, A., & Rafatifard, M. (2006). Mass rearing of the larvae of *Chironomus riparius* (Dip.: Chironomidae). *Journal of Entomological society of Iran*, 26 (1), 45-55.
- Sahragard, A., & Rafatifard, M. (2010). Biology and effect of temperature on larval development time of *Chironomus riparius* Meigen (Diptera: Chironomidae) under laboratory conditions. *Munis Entomology and Zoology*, 5, 1025-1033.
- Serra-Tosio, B., & Laville, H. (1991). Liste annotée des Diptères Chironomidae de France continentale et de Corse. *Annales de Limnologie*, 27, 37-74.
- Spies, M., & Reiss, F. (1996). Catalog and bibliography of Neotropical and Mexican Chironomidae (Insecta, Diptera). *Spixiana*, 22, 61-119.
- Stoichev, S. (1996). On the Chironomid fauna from Bulgarian inland waters. *Lauterbornia*, H., 25, 117-123.
- Tatole, V. (2000). Checklist of Chironomidae (Diptera) of Romania. *Travaux du Muséum National d'Histoire Naturelle "Grigore Antipa"*, 42, 117-132.
- Trivinho-Strixino, S. (2011). Chironomidae (Insecta, Diptera, Nematocera) from São Paulo State, Southeast of Brazil. *Biota Neotrop*, 11 (1a), 675-684.
- White, D.S. (2014). The Benthic Macroinvertebrates of Kentucky Lake, a Mainstem Reservoir on the Tennessee River, USA. *Transactions of the American Entomological Society*, 140, 83-99.
- Zettlera, M.L., & Daunys, D. (2007). Long-term macrozoobenthos changes in a shallow boreal lagoon: Comparison of a recent biodiversity inventory with historical data. *Limnologia*, 37, 170-185.