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Chironomidae (Insecta, Diptera) of the Dnipro-Buh estuarine region, Ukraine

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Реферат

Шевченко І. (2026) Chironomidae (Insecta, Diptera) Дніпровсько-Бузької гирлової області, Україна

Передумови: База даних включає знахідки личинок та лялечок двокрилих комах родини Chironomidae (Insecta, Diptera), виявлених під час гідробіологічних досліджень Херсонської гідробіологічної станції НАН України та Національного природного парку «Нижньодніпровський» у Дніпровсько-Бузькій гирловій області протягом 2012–2021 років. Більшість матеріалів було зібрано на теперішній території НПП «Нижньодніпровський» або у безпосередній близькості до його меж.

Нова інформація: Датасет включає знахідки з численних локацій в межах Дніпровсько-Бузького лиману та пониззя Дніпра (дельтової та придельтової ділянок), та налічує 2329 спостережень і 14882 особин. Вперше наводиться детальна інформація щодо видового складу хірономід району досліджень із зазначенням типів субстратів, включаючи знахідки 24 нових видів / морфотипів для фауни Дніпровсько-Бузькій гирловій області та чотирьох – для фауни України. Усі знахідки 78 видів / морфотипів Chironomidae з географічною прив'язкою опубліковано на GBIF.

Ключові слова: *Хірономіди, водні безхребетні, природоохоронні території, моніторинг біорізноманіття, гідробіологія*

Abstract

Background: The database includes records of Chironomidae (Insecta, Diptera) larvae and pupae, collected during the hydrobiological studies of the Dnipro-Buh estuarine region of the Kherson Hydrobiological Station of the NAS of Ukraine and the Nyzhniodniprovskyi National Nature Park in 2012–2021. A significant part of the records was collected in the present-day territory of the Nyzhniodniprovskyi NNP.

New information: The dataset includes records from multiple locations of the Dnipro-Buh Estuary and the Lower Dnipro region (the Dnipro River delta and pre-delta regions) with 2329 occurrences and 14882 individuals. For the first time, it provides detailed information about Chironomidae species composition within the study area with habitat notes, including records of 24 new species / morphotypes in the fauna of Dnipro-Buh estuarine region and five new records for Ukraine. All records of 78 Chironomidae species / morphotypes with georeferencing were published in GBIF.

Keywords: *Chironomids, aquatic invertebrates, protected areas, biodiversity monitoring, hydrobiology*

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Introduction

Active hydrobiological research in the Lower Dnipro region began in the mid-20th century, primarily in connection with the construction of the Dnipro River hydroelectric cascade. Prior to the construction of the Kakhovka Hydroelectric Power Plant, only a limited number of studies had been conducted in the area (Mordukhai-Boltovskoi 1948, Olivari 1953, Olivari 1958). Subsequently, research intensified, encompassing the entire Dnipro-Buh estuarine region (Zhukinskii et al. 1989, Zimbalevskaya et al. 1989, Moroz 1993). The study process was largely driven by the researchers of the Institute of Hydrobiology of the NAS of Ukraine and its subdivision, the Kherson Hydrobiological Station (which has functioned as an independent institution under the NAS of Ukraine since 2002 and, since 2025, operates under the Institute of Marine Biology of the NAS of Ukraine). In 2015, the Nyzhniodniprovskyi National Nature Park was established, with its researchers initiating active scientific study by 2017.

From the very beginning, hydrobiological studies in the region incorporated macrozoobenthos as an essential biotic component of aquatic ecosystems. However, comprehensive studies of aquatic insects, unlike other macrozoobenthos groups such as crustaceans (Bortkevich 1983) or mollusks (Aleksenko 1992), were largely absent. This primarily concerns members of the family Chironomidae (Insecta, Diptera), whose larvae and pupae play a significant and sometimes dominant role in shaping the taxonomic diversity, abundance, and biomass of benthic fauna in the Dnipro-Buh estuarine region and have only been partially studied in earlier research (Olivari 1955).

Comprehensive studies of aquatic stages of Diptera started in the 2010s at the Kherson Hydrobiological Station of the NAS of Ukraine and continued as part of the Nyzhniodniprovskyi NNP scientific research. During the study, the role of Diptera larvae and pupae in the macrozoobenthos communities was analyzed (Shevchenko 2018), and specific taxonomic and ecological notes on the chironomids were provided (Shevchenko 2015, Shevchenko & Orlova 2019, Shevchenko et al. 2020). Currently, a series of papers dedicated to certain Chironomidae subfamilies are in progress (Shevchenko 2020, Shevchenko 2025b, Shevchenko in press). The new records of Chironomidae species and morphotypes (morphologically distinct forms that are poorly differentiated at the larval stage within a species group or genus level due to the similarity of morphological characters or the absence of updated taxonomic keys) for the fauna of the Lower Dnipro (24 new taxa) and Ukraine (five new taxa) have been published (Shevchenko 2025c).

In total, 78 Chironomidae species / morphotypes have been recorded in the fauna of the Dnipro-Buh estuarine region, 77 of which are recorded for the Nyzhniodniprovskyi NNP as either resident (confirmed within the NNP) or background species (recorded in close proximity to the NNP boundaries). One species, *Lipiniella arenicola*, is listed as «probable», as it has been collected only from the former Kakhovka Reservoir.

General description

Purpose: The data contribute to the understanding of the Chironomidae fauna of the Dnipro-Buh estuarine region and, more broadly, of the river delta and estuarine regions of the Western Palaearctic. The destruction of the Kakhovka Dam and Reservoir by the Russian military forces in 2023 led to irreversible changes in the Dnipro-Buh estuarine region. Therefore, the data collected before the catastrophe are of particular importance as a record of the pre-disturbance state of the region and as a reference point for further monitoring of ecological changes in the ecosystem.

Sampling methods

Description: The dataset is based on the records of larvae and pupae of Chironomidae (Insecta, Diptera) from the South of Ukraine (Kherson and Mykolaiv Regions). The sampling sites were located within the Dnipro-Buh estuarine region, covering different types of water bodies, in particular the Dnipro-Buh Estuary, and the delta and pre-delta areas of the Dnipro River (including main stem, branches, the tributary (the Viryovchyna River), straits, floodplain lakes, temporary ponds, and artificial micro-reservoirs). A limited number of samples were collected in the Kakhovka Reservoir near the Dam. Long-term investigations (during 2012–2021) were conducted in numerous water bodies of the Nyzhniodniprovskyi NNP.

Table 1. Water bodies.

Longitude	Latitude	Water body	Sampling sites	Sampling years
46.589965	31.639961	Dnipro Estuary, western part	4	2012, 2013
46.568706	31.941533	Dnipro Estuary, central part	9	2012–2014, 2016–2020
46.518033	32.235500	Dnipro Estuary, eastern part	7	2012–2020
46.737389	31.930775	Buh Estuary	3	2014–2016
46.593333	32.590000	Dnipro River	20	2012–2015, 2017–2021
46.626909	32.568573	Koshova River	11	2012–2015, 2017, 2018
46.628469	32.549996	Viryovchyna River	4	2013–2015, 2017, 2018
46.547036	32.561017	Strait into Lake Bobrove	1	2020–2021
46.597810	32.600446	Strait into Lake Kruhle	1	2015
46.584272	32.601484	Hadiuchka Strait	1	2015
46.595270	32.639557	Chaika River	3	2012–2014
46.782528	33.260611	Kozak River	1	2018–2021
46.504640	32.375029	Lake Krasnikove	1	2013
46.521591	32.395952	Lake Liahushache	3	2013, 2014
46.633320	32.465788	Lake Bile	1	2021
46.622713	32.494806	Lake Bezmen	2	2015
46.622237	32.519269	Lake Rohozuvate	4	2014, 2015
46.605155	32.493031	Lake Chychkuvate	4	2015
46.599722	32.517222	Lake Skadovsk-Pohorile	5	2013–2018
46.609722	32.533056	Lake Stebliivskyi Liman	8	2014, 2016–2018, 2021
46.566209	32.546378	Lake Nazarove-Pohorile	1	2014–2017
46.588889	32.573333	Lake Zakitne	1	2015–2021
46.547156	32.553760	Lake Bobrove	3	2020–2021
46.594167	32.603889	Lake Kruhle	5	2012–2021
46.581667	32.628056	Lake Kardashynskyi Liman	19	2012–2014, 2016–2018
46.770972	33.251028	Lake Sabetskyi Liman	4	2014, 2016–2021
46.617784	32.575578	Temporary ponds	1	2015

Longitude	Latitude	Water body	Sampling sites	Sampling years
46.602717	32.582764	Artificial micro-reservoir	1	2016
46.788270	33.361892	Kakhovka Reservoir	3	2018

Four Permanent Sample Plots have been established here since 2018 (Lake Kruhle, Lake Zakitne, the Kozak River, Lake Sabetskyi Liman). The western and central parts of the Dnipro-Buh Estuary (beyond the boundaries of the NNP) were studied mainly in 2012–2016. Certain water bodies were studied sporadically (straits, Lake Krasnikove, Lake Liahushache, Lake Bile, etc.). The locations of the water bodies, along with the number of sampling sites within them, are shown in Table 1. The coordinates indicate the central or most studied part of the water body.

Sampling description: The data collection was carried out as part of expeditionary studies using the traditional hydrobiological methods. Samples were collected three times a year in the spring, summer and autumn seasons. In some research years, monthly sampling and winter season sampling were carried out. Benthic samples were collected with a Petersen grab (small and medium models) and washed through a №19 (1000 μm) nylon mesh sieve. Plankton samples were collected by filtering a certain volume of water through an Apstein net made of nylon mesh №68 (139 μm). Samples were preserved in 4% formalin solution.

Quality control: Specimen picking and taxa identification were carried out in laboratory conditions. Larval specimens were mounted on temporary microscopic slides using glycerine and identified using following literature: Pankratova (1970) [1], Sæther (1976) [2], Shilova (1976) [3], Pankratova (1977) [4], Klink (1983) [5], Pankratova (1983) [6], Simpson et al. (1983) [7], Webb & Scholl (1985) [8], Zelentsov (1985) [9], Michailova & Contreras-Lichtenberg (1995) [10], Ekrem (2004) [11], Tang et al. (2004) [12], Vallenduuk & Morozova (2005) [13], Brooks et al. (2007) [14], Vallenduuk & Langton (2010) [15], Andersen et al. (2013) [16], Cuppen et al. (2015) [17], Cuppen & Tempelman (2018) [18] (more specifically, see Table 2 and the taxonomic notes in Shevchenko (in press)). The nomenclature follows Sæther & Spies (2013) with notes from Martin (2000) and Spies & Sæther (2003).

Step description:

1. Expeditionary studies and sampling
2. Primary processing of samples and species / morphotypes identification
3. Data validation
4. Summarizing and converting data into Darwin Core format

Geographic coverage

Description: The study area covered the Dnipro-Buh estuarine region, extending from Lymany village in the north to Rybalche village in the south, and from the western tip of the Kinburn Peninsula in the west to the Kakhovka Dam in the east. The region includes the Dnipro-Buh Estuary, the delta and pre-delta areas of the Dnipro River (Fig. 1).

Coordinates: 46.788571 and 46.487681 Latitude; 31.515017 and 33.363126 Longitude

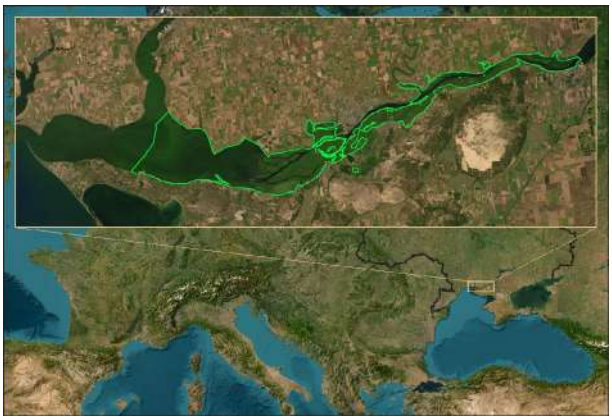

Figure 1. *Map of the Dnipro-Buh estuarine region with the boundaries of Nyzhniodniprovskyi National Nature Park (marked in green)*

Table 2. The list of Chironomidae taxa (accepted Scientific Name following GBIF and Verbatim Identification following Sæther & Spies (2013) with morphotype and species group level identifications), the number of recorded individuals in the Dnipro-Buh estuarine region during 2012–2021, and literature sources used for identification (see Quality control section)

Scientific Name	Verbatim Identification	Individual Count	Source
Subfamily Tanypodinae			
Tribe Anatopyniini			
Anatopynia plumipes (Fries, 1823)	*Anatopynia plumipes* (Fries, 1823)	3	[4]
Tribe Clinotanypodini			
Clinotanypus nervosus (Meigen, 1818)	*Clinotanypus nervosus* (Meigen, 1818)	1	[4]
Tribe Pentaneurini			
Ablabesmyia monilis (Linnaeus, 1758)	*Ablabesmyia* (*Ablabesmyia*) cf. *monilis* (Linnaeus, 1758)	51	[4]
Guttipelopia guttipennis (Wulp, 1861)	*Guttipelopia guttipennis* (van der Wulp, 1861)	2	[4]
Xenopelopia Fittkau, 1962	*Xenopelopia* cf. *falcigera* (Kieffer, 1911) / nigricans (Goetghebuer, 1927)	1	[4]
Tribe Procladiini			
Procladius choreus (Meigen, 1804)	*Procladius* (*Holotanypus*) *choreus* (Meigen, 1804)	318	[4]
Procladius ferrugineus (Kieffer, 1918)	*Procladius* (*Holotanypus*) *ferrugineus* (Kieffer, 1919)	54	[4]
Procladius (*Psilotanypus*) *nigriventris* (Kieffer, 1924)	*Procladius* (*Psilotanypus*) *nigriventris* (Kieffer, 1924)	5	[4]
Tribe Tanypodini			
Tanypus kraatzi (Kieffer, 1912)	*Tanypus* (*Tanypus*) *kraatzi* (Kieffer, 1912)	137	[4]
Tanypus punctipennis Meigen, 1818	*Tanypus* (*Tanypus*) *punctipennis* Meigen, 1818	69	[4]
Subfamily Orthocladiinae			
Corynoneura scutellata Winnertz, 1846	*Corynoneura scutellata* Winnertz, 1846	27	[1]
Cricotopus bicinctus (Meigen, 1818)	*Cricotopus* (*Cricotopus*) *bicinctus* (Meigen, 1818)	35	[7, 16, 18]
Cricotopus Wulp, 1874	*Cricotopus* (*Cricotopus*) *bicinctus* group sp.	68	[7, 16]
Cricotopus intersectus (Staeger, 1839)	*Cricotopus* (*Isocladius*) *intersectus* (Staeger, 1839)	3	[7, 16]
Cricotopus sylvestris Fabricius, 1794	*Cricotopus* (*Isocladius*) cf. *sylvestris* (Fabricius, 1794)	165	[7, 16]
Hydrobaenus lugubris Fries, 1830	*Hydrobaenus lugubris* Fries, 1830	93	[2, 16]
Limnophyes Eaton, 1875	*Limnophyes* sp.	1	[1, 16]
Nanocladius dichromus (Kieffer, 1906)	*Nanocladius* (*Nanocladius*) *dichromus* (Kieffer, 1906)	6	[1]

Scientific Name	Verbatim Identification	Individual Count	Source
Orthocladius Wulp, 1874	*Orthocladius* (*Euorthocladius*) sp.	1	[16]
Propsilocerus lacustris Kieffer, 1923	*Propsilocerus lacustris* Kieffer, 1923	238	[1, 12]
Psectrocladius (*Psectrocladius*) *psilopterus* (Kieffer & Thienemann, 1906)	*Psectrocladius* (*Psectrocladius*) cf. *psilopterus* (Kieffer, 1906)	4	[16]
Psectrocladius sordidellus (Zetterstedt, 1838)	*Psectrocladius* (*Psectrocladius*) cf. *sordidellus* (Zetterstedt, 1838)	210	[16]
Psectrocladius zetterstedti Brundin, 1949	*Psectrocladius* (*Psectrocladius*) cf. *zetterstedti* Brundin, 1949	15	[9, 16]
Psectrocladius Kieffer, 1906	*Psectrocladius* (*Psectrocladius*) *sordidellus* group sp.	2	[16]
Subfamily Chironominae			
Tribe Chironomini			
Chironomus aprilinus Meigen, 1830	*Chironomus* (*Chironomus*) *aprilinus* Meigen, 1818	457	[6]
Chironomus cingulatus Meigen, 1830	*Chironomus* (*Chironomus*) *cingulatus* Meigen, 1830	21	[6]
Chironomus parathummi Keyl, 1961	*Chironomus* (*Chironomus*) *parathummi* Keyl, 1961	75	[6, 15]
Chironomus nuditarsis Keyl, 1961	*Chironomus* (*Chironomus*) *nuditarsis* Keyl, 1961	234	[6, 8]
Chironomus pallidivittatus Edwards, 1929	*Chironomus* (*Chironomus*) *pallidivittatus* Edwards, 1929	4	[6]
Chironomus plumosus (Linnaeus, 1758)	*Chironomus* (*Chironomus*) *plumosus* (Linnaeus, 1758)	1212	[6]
Chironomus riparius Meigen, 1804	*Chironomus* (*Chironomus*) *riparius* Meigen, 1804	4	[6]
Chironomus salinarius Kieffer, 1915	*Chironomus* (*Chironomus*) *salinarius* Kieffer, 1915	43	[6]
Chironomus tentans Fabricius, 1805	*Chironomus* (*Chironomus*) *tentans* Fabricius, 1805	88	[6]
Cladopelma viridulum (Linnaeus, 1767)	*Cladopelma viridulum* (Linnaeus, 1767)	236	[6]
Cryptochironomus Kieffer, 1918	*Cryptochironomus* (*Cryptochironomus*) cf. *obreptans* (Walker, 1856) / *supplicans* (Meigen, 1830)	73	[6, 13]
Demeijerea rufipes (Linnaeus, 1761)	*Demeijerea rufipes* (Linnaeus, 1761)	5	[6]
Dicrotendipes lobiger (Kieffer, 1921)	*Dicrotendipes lobiger* (Kieffer, 1921)	1	[6]
Dicrotendipes nervosus (Staeger, 1839)	*Dicrotendipes nervosus* (Staeger, 1839)	450	[6]
Dicrotendipes pulsus (Walker, 1856)	*Dicrotendipes pulsus* (Walker, 1856)	40	[6]
Dicrotendipes tritomus (Thienemann & Kieffer, 1916)	*Dicrotendipes tritomus* (Kieffer, 1916)	25	[6]
Einfeldia pagana (Meigen, 1838)	*Einfeldia pagana* (Meigen, 1818)	1	[6]
Endochironomus albipennis (Meigen, 1830)	*Endochironomus albipennis* (Meigen, 1830)	55	[6]

Scientific Name	Verbatim Identification	Individual Count	Source
Fleuria lacustris Kieffer, 1924	*Fleuria lacustris* Kieffer, 1924	1236	[6, 16]
Glyptotendipes imbecilis Walker, 1856	*Glyptotendipes* (*Caulochironomus*) *imbecillis* (Walker, 1856)	17	[6]
Glyptotendipes barbipes (Staeger, 1839)	*Glyptotendipes* (*Glyptotendipes*) *barbipes* (Staeger, 1839)	1	[6]
Glyptotendipes cauliginellus (Kieffer, 1913)	*Glyptotendipes* (*Glyptotendipes*) *cauliginellus* (Kieffer, 1913)	14	[6]
Glyptotendipes pallens (Meigen, 1804)	*Glyptotendipes* (*Glyptotendipes*) cf. *pallens* (Meigen, 1804) / *glaucus* (Meigen, 1818)	525	[6, 10]
Glyptotendipes paripes (Edwards, 1929)	*Glyptotendipes* (*Glyptotendipes*) *paripes* Edwards, 1929	2446	[6]
Harnischia curtilamellata (Malloch, 1915)	*Harnischia curtilamellata* (Malloch, 1915)	1	[6]
Kiefferulus tendipediformis (Goetghebuer, 1921)	*Kiefferulus* (*Kiefferulus*) *tendipediformis* (Goetghebuer, 1921)	11	[6, 16]
Lipiniella araenicola Shilova, 1961	*Lipiniella araenicola* Shilova, 1961	4	[6]
Microchironomus tener (Kieffer, 1918)	*Microchironomus tener* (Kieffer, 1918)	195	[6]
Microtendipes pedellus (De Geer, 1776)	*Microtendipes pedellus* (De Geer, 1776)	6	[6]
Parachironomus gracilior (Kieffer, 1918)	*Parachironomus gracilior* (Kieffer, 1918)	348	[6]
Phaenopsectra Kieffer, 1921	*Phaenopsectra* cf. *flavipes* (Meigen, 1818) / *punctipes* (Wiedemann, 1817)	29	[6, 16]
Polypedilum (*Pentapedilum*) *sordens* (Wulp, 1875)	*Polypedilum* (*Pentapedilum*) *sordens* (van der Wulp, 1874)	49	[6]
Polypedilum nubeculosum (Meigen, 1804)	*Polypedilum* (*Polypedilum*) *nubeculosum* (Meigen, 1804)	939	[6]
Polypedilum nubifer Skuse, 1889	*Polypedilum* (*Polypedilum*) *nubifer* (Skuse, 1889)	203	[6]
Polypedilum bicrenatum Kieffer, 1921	*Polypedilum* (*Tripodura*) *bicrenatum* Kieffer, 1921	203	[6]
Polypedilum scalaenum Schrank, 1803	*Polypedilum* (*Tripodura*) *scalaenum* (Schrank, 1803)	130	[6]
Polypedilum cultellatum Goetghebuer, 1931	*Polypedilum* (*Uresipedilum*) *cultellatum* Goetghebuer, 1931	2	[6, 16]
Stictochironomus Kieffer, 1919	*Stictochironomus sticticus* group sp.	35	[6]
Synendotendipes impar (Walker, 1856)	*Synendotendipes impar* (Walker, 1856)	1	[6]
Xenochironomus xenolabis Kieffer, 1916	*Xenochironomus xenolabis* Kieffer, 1916	21	[6]
Zavreliella marmorata (Wulp, 1858)	*Zavreliella marmorata* (van der Wulp, 1858)	1	[6]
Tribe Tanytarsini			
Cladotanytarsus Kieffer, 1922	*Cladotanytarsus mancus* group sp.	1101	[6, 16]
Paratanytarsus confusus Palmén, 1960	*Paratanytarsus confusus* Palmén, 1960 sensu Shilova (1976)	91	[3, 6]

Scientific Name	Verbatim Identification	Individual Count	Source
Paratanytarsus inopertus (Walker, 1856)	*Paratanytarsus inopertus* (Walker, 1856)	278	[5, 6]
Paratanytarsus quintuplex Kieffer, 1922	*Paratanytarsus quintuplex* Kieffer, 1922	221	[3, 6]
Tanytarsus nemorosus Edwards, 1929	*Tanytarsus* cf. *excavatus* Edwards, 1929 / *nemorosus* Edwards, 1929	657	[3, 6, 17]
Tanytarsus formosanus Kieffer, 1912	*Tanytarsus* cf. *formosanus* Kieffer, 1912	852	[6, 11]
Tanytarsus lestagei Goetghebuer, 1922	*Tanytarsus lestagei* Goetghebuer, 1922	8	[3, 6]
Tanytarsus medius Reiss, 1971	*Tanytarsus medius* Reiss et Fittkau, 1971	9	[3, 6]
Tanytarsus mendax Kieffer, 1925	*Tanytarsus mendax* Kieffer, 1925	71	[3, 6]
Tanytarsus pallidicornis (Walker, 1856)	*Tanytarsus pallidicornis* (Walker, 1856)	2	[3, 6]
Tanytarsus usmaensis Pagast, 1931	*Tanytarsus usmaensis* Pagast, 1931	53	[3, 6]
Tanytarsus verralli Goetghebuer, 1928	*Tanytarsus veralli* Goetghebuer, 1928	198	[3, 6]
Tanytarsus Wulp, 1874	*Tanytarsus lugens / glabrescens*-type sp.	391	[6, 14]

Taxonomic coverage

Description: The dataset includes 2329 occurrences of 14882 recorded individuals of the family Chironomidae (Shevchenko 2025a), accounting for more than one third of all Chironomidae records on GBIF for Ukraine. The Dnipro-Buh estuarine region ranks second in number of occurrences after the Danube Delta region (including Sasyk Lagoon) (Zorina-Sakharova et al. 2023, Zorina-Sakharova & Liashenko 2025a, Zorina-Sakharova & Liashenko 2025b). Overall, 5734 occurrences of chironomids have been published on GBIF for the territory of Ukraine as of 2026. The recorded specimens of the family belong to 67 species and 11 morphotypes (in Verbatim Identification) of 38 genera, seven tribes and three subfamilies. Most specimens were identified to species and morphotype levels (Table 2).

Column label	Column description
basisOfRecord	The specific nature of the data record (Human Observation).
individualCount	The number of individuals present at the time of the occurrence.
lifeStage	The life stage of the organisms at the time the occurrence was recorded.
occurrenceID	An identifier for the occurrence (an identifier constructed from author's surname, the research group's family name, the study region name, the country code, the years of research, and a sequence number).
occurrenceStatus	A statement about the presence or absence of a taxon at a location (Present).
organismQuantity	A number for the quantity of organisms.
organismQuantityType	The type of quantification system used for the quantity of organisms (Individuals).
recordedBy	Name of the person responsible for recording the original occurrence (Ivan Shevchenko).
recordedByID	The globally unique identifier for the person responsible for recording the original occurrence (ORCID).
eventDate	The date when the event was recorded.

Column label	Column description
habitat	A category or description of the habitat in which the event occurred (bottom sediment types and associated macrophytes for benthic samples, associated macrophytes for plankton samples).
samplingProtocol	The names of, references to, or descriptions of the methods or protocols used during an event (sampling equipment names with a description of methods in the Methodology section).
identifiedBy	Name of the person who assigned the taxon to the subject (Ivan Shevchenko).
identifiedByID	The globally unique identifier for the person responsible for assigning the taxon to the subject (ORCID).
verbatimIdentification	A string representing the taxonomic identification as it appeared in the original record (including valid subgenus names, morphotype or species group names used for genus level identification in the Scientific Name field, and the term «cf.» used for species with uncertain identification).
kingdom	The full scientific name of the kingdom in which the taxon is classified (Animalia).
phylum	The full scientific name of the phylum or division in which the taxon is classified (Arthropoda).
class	The full scientific name of the class in which the taxon is classified (Insecta).
order	The full scientific name of the order in which the taxon is classified (Diptera).
family	The full scientific name of the family in which the taxon is classified (Chironomidae).
subfamily	The full scientific name of the subfamily in which the taxon is classified.
tribe	The full scientific name of the tribe in which the taxon is classified.
genus	The full scientific name of the genus in which the taxon is classified.
scientificName	The full scientific name, with authorship and date information if known.
taxonRank	The taxonomic rank of the most specific name in the scientific name.
Continent	The name of the continent in which the location occurs (Europe).
countryCode	The standard code for the country in which the location occurs (UA).
decimalLatitude	The geographic latitude (in decimal degrees) of the geographic center of a location.
decimalLongitude	The geographic longitude (in decimal degrees) of the geographic center of a location.
geodeticDatum	Spatial reference system upon which the geographic coordinates are based (WGS84).
maximumDepthInMeters	The lesser depth of a range of depth below the local surface, in meters (the depth of a water body at which organisms were sampled).
stateProvince	The name of the next smaller administrative region than country (Region) in which the location occurs.
waterBody	The name of the water body in which the location occurs.

Higher taxa included:

Rank	Scientific Name	Common Name
Kingdom	Animalia	Animals
Phylum	Arthropoda	Arthropods
Class	Insecta	Insects
Order	Diptera	Flies
Family	Chironomidae	Non-biting midges
Subfamily	Tanypodinae	
Subfamily	Orthocladiinae	
Subfamily	Chironominae	

Temporal coverage

Data range: March 27, 2012 – October 22, 2021

Usage licence

Licence: Attribution-NonCommercial 4.0 International (CC BY-NC 4.0)

Data resources

Data package title: Chironomidae (Insecta, Diptera) of the Dnipro-Buh estuarine region, Ukraine

Resource link: https://www.gbif.org/dataset/f5a81245-4cfd-4a89-acdb-a7247252c71a

Alternative identifiers: https://doi.org/10.15468/9g4wj7

Number of data sets: 1

Data set name: Chironomidae (Insecta, Diptera) of the Dnipro-Buh estuarine region, Ukraine

Data format: Darwin Core

Data format version: 1.2

Discussion

For the fauna of Nyzhniodniprovskyi National Nature Park, the list of rare species was determined based on their frequency indices (Shevchenko 2025c) and number of recorded individuals in samples. The chironomids from poorly studied biotopes, such as temporary water bodies (*Xenopelopia*, *Limnophyes*) and supralittoral zone (*Clinotanypus*) were not included in the list. The status of *Chironomus riparius* requires further investigation; however, there is no doubt that the distribution of both the *Chironomus thummi* group and type in the delta and pre-delta areas of the Dnipro River is very limited. Depending on the circumstances of the species identification, part of the records was assigned to a category whose taxonomic status requires further research. This category included specimens whose identification was complicated by the very incomplete list of species within the genera in the larval taxonomic keys (*Procladius*), the difficulty in interpreting essential characters without reference materials (all rare *Psectrocladius morphotypes*), and identifications based on the pigmentation traits, which may be an unreliable marker (*Polypedilum cultellatum*, *Tanytarsus lestagei*, *T. medius*). However, it should be noted that members of the *Psectrocladius psilopterus* group are undoubtedly rare in the region, and their frequent records in previous studies refer to the *sordidellus/limbatellus* group due to a mistake in the old keys (Moller Pillot 2009).

The list of rare Chironomidae species in the fauna of the Nyzhniodniprovskyi NNP is presented below.

Anatopynia plumipes (Fries, 1823)
Guttipelopia guttipennis (van der Wulp, 1861)
Cricotopus (*Isocladius*) *intersectus* (Staeger, 1839)
Nanocladius (*Nanocladius*) *dichromus* (Kieffer, 1906)
Orthocladius (*Euorthocladius*) sp.
Chironomus (*Chironomus*) *pallidivittatus* Edwards, 1929
Demeijerea rufipes (Linnaeus, 1761)
Dicrotendipes lobiger (Kieffer, 1921)
Einfeldia pagana (Meigen, 1818)
Glyptotendipes (*Glyptotendipes*) *barbipes* (Staeger, 1839)
Harnischia curtilamellata (Malloch, 1915)
Kiefferulus (*Kiefferulus*) *tendipediformis* (Goetghebuer, 1921)

Microtendipes pedellus (De Geer, 1776)
Synendotendipes impar (Walker, 1856)
Zavreliella marmorata (van der Wulp, 1858)
Tanytarsus pallidicornis (Walker, 1856)

Despite the widespread occurrences of these species in Europe, their limited records throughout the decade of research in the Dnipro-Buh estuarine region indicate their rare status in the Nyzhniodniprovskyi NNP.

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