

## **RECENT RECORDS OF CHIRONOMIDAE (INSECTA: DIPTERA) IN IRELAND FROM COUNTIES DUBLIN, KILDARE AND MEATH AND A BRIEF NUMERICAL UPDATE OF THE IRISH CHECKLIST**

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### **Abstract**

Records are given for 31 species of Chironomidae (Insecta: Diptera) from Counties Dublin, Kildare and Meath in Hydrometric Areas (HAs) 7, 8 and 9. *Zavreliomyia* (*Zavreliomyia*) *melanura* (Meigen, 1804) is reported for the first time in Counties Dublin, Meath and HA9 and *Zavreliomyia* (*Z.*) *nubila* (Meigen, 1830) is new for Kildare and HA9. *Acricotopus lucens* (Zetterstedt, 1815) is new for Dublin, *Tevetnia verralli* (Edwards, 1929) is new for HA8. *Chironomus* (*Chironomus*) *luridus* Strenzke, 1959 is new for Kildare and *Chironomus* (*C.*) *riparius* Meigen, 1804 is new for HA8. *Glyptotendipes* (*Glyptotendipes*) *barbipes* and *Cladotanytarsus pallidus* Kieffer, 1922 are new for Dublin and HA9. An update of the number of species currently known to occur in these Counties and HAs and in Ireland is given.

**Key words:** Chironomidae, Diptera, county records, Hydrometric Area, distribution, Ireland.

### **Introduction**

Examination of Chironomidae obtained in occasional collections in Counties Dublin, Kildare and Meath in Hydrometric Areas 7, 8 and 9, during the year 2022 and up to April 2023, yielded records of 31 species that are reported here. This new data augments the comprehensive distribution records of Chironomidae in Ireland given by Murray *et al.* (2013, 2014, 2015, 2018), Murray and O'Connor (2018), Murray (2019a,b, 2020, 2021) and the recently published findings from studies on Clare Island and west Mayo (Murray, 2022).

A collection from the upper reaches of the River Poddle, in the grounds of the Church of the Holy Spirit at Kimmage Manor, Templeogue, in the suburbs of Dublin, was made on the day of the funeral service there of our late colleague Patrick Ashe on 22 June 2022. This paper is dedicated to the memory of Paddy, a dear friend and colleague.

## Abbreviations

Abbreviations used: HA(s) - Hydrometric Area(s); Pe - pupal exuviae; Im♂ - adult male; Im♀ adult female.

## Methods

Pupal exuviae and occasionally “drowned” adults were obtained in fine mesh skim net sweeps from surface waters of artificial ponds and in foam accumulations on two lotic water bodies, one each in Dublin and Meath. Other collections were made by hand picking floating exuviae from the water surface of exposed rainwater filled barrels, buckets and an animal drinking trough. Identifications of pupal exuviae are primarily based on Langton and Visser (2003). Records are given by county and hydrometric area (Murray *et al.*, 2013; also <www.epa.ie> for details of hydrometric areas in Ireland), along with collection site information, six figure Irish Grid Reference and date of collection.

## Results

Records are given for four species in the subfamily Tanypodinae, two in the Diamesinae, thirteen Orthoclaadiinae and twelve Chironominae (eight in the Tribe Chironomini and four in the Tribe Tanytarsini). The Tanypodine species *Zavreliomyia* (*Zavreliomyia*) *melanura* (Meigen, 1804) is reported for the first time in Counties Dublin, Meath and HA9 and *Zavreliomyia* (*Zavreliomyia*) *nubila* (Meigen, 1830) is documented for the first time from Kildare and HA9. The Orthoclaadiinae species *Acricotopus lucens* (Zetterstedt, 1815) is new for Dublin and *Tevetnia verralli* (Edwards, 1929) is new for HA8. Within the subfamily Chironominae, *Chironomus* (*Chironomus*) *luridus* Strenzke, 1959 is new for Kildare, *Chironomus* (*C.*) *riparius* Meigen, 1804 is recorded for the first time in HA8 while *Glyptotendipes* (*Glyptotendipes*) *barbipes* (Staeger, 1839) and *Cladotanytarsus* (*Cladotanytrsus*) *pallidus* Kieffer, 1922 are new for Dublin and HA9.

### Subfamily TANYPODINAE

#### *Conchapelopia* (*Conchapelopia*) *melanops* (Meigen, 1818)

**DUBLIN: HA9** - River Poddle, Kimmage Manor, Templeogue (O126299), Im♂ Pe♂♀ 22 June 2022; Artificial water feature, Herbert Park, Ballsbridge (O178324), Pe♂♀ 23 June 2022.

*Conchapelopia melanops* is widespread in Ireland with records from over 100 locations. There are seven previous records in HA9, one in County Kildare and six in Dublin, the earliest of which was by C. F. Humphries in April, 1947 from the Bohernabreena Reservoir, at the headwaters of the River Dodder (Murray *et al.*, 2013).

***Procladius (Psilotanypus) rufovittatus* (van der Wulp, 1874)**

**DUBLIN: HA9** - Artificial water feature, Herbert Park, Ballsbridge (O178324), Im♂♀ Pe♂♀ 23 June 2022.

There are records of *Procladius (P.) rufovittatus* from 69 locations in Ireland and this is a second site record for the species in Dublin and HA9. The previous record was from collections of pupal exuviae from an artificial pond on the campus of University College Dublin, Belfield, in May 2018 (Murray and O'Connor, 2018).

***Zavreliomyia (Zavreliomyia) melaura* (Meigen, 1804) New for HA9, County Dublin and County Meath**

**DUBLIN: HA9** - Artificial water feature, Herbert Park, Ballsbridge (O178324), Im♂♀ Pe♂ 24 October 2022. **MEATH: HA7** - St Bridget's Well, Ardsallagh (N897635), Pe♂ Im♂ 21 July 2022 and 18 April 2023.

This species has been documented from ten locations in Ireland (Murray *et al.*, 2013, 2018) but these are the first records in County Dublin, HA9 and County Meath. However, it is already recorded in HA7 from collections in the littoral waters of Lough Cuilcagh, County Cavan, in 1968 (Murray, 1972).

***Zavreliomyia (Zavreliomyia) nubila* (Meigen, 1830) New for County Kildare and HA9**

**KILDARE: HA9** - rainwater accumulation in garden tank, Glen Easton Wood, Leixlip (N987365), Pe♂ 1 September 2022. **MEATH: HA8** - rainwater in bucket, Meadesbrook, Ashbourne (O040594), Pe♂ 17 and 27 March and 7 April 2023.

Larvae of *Zavreliomyia nubila* typically inhabit standing waters and Fittkau (1962) noted that they frequently occur in artificial man-made ephemeral habitats, such as in those reported here. Until now this species has been documented from only three locations, all in the eastern region of Ireland. It is known from two sites in County Meath, at the present location in HA8 at which it has been documented on 12 occasions since 1968 (Murray, 1972, 2019a; Murray *et al.*, 2013, 2018) and a second site in the adjacent HA8 (Murray, 2016). The third location in Ireland is in HA10 in the artificial lake in the grounds of Powerscourt Demesne, County Wicklow (Murray, 2018). The new record at Leixlip is a fourth location for the species in Ireland and the first record in County Kildare and HA9. Further collections from small standing water ephemeral habitats would likely yield additional knowledge of distribution for this species.

**Subfamily DIAMESINAE**

***Pothastia gaedii* (Meigen, 1838)**

**DUBLIN: HA9** - River Poddle, Kimmage Manor, Templeogue (O126299), Pe♂♀ 22 June 2022. Artificial water feature (HA9), Herbert Park, Ballsbridge (O178324), Pe♂ 23 June 2022.

This species has a widespread distribution in Ireland (Murray *et al.*, 2013) and, with the addition of the records presented here, it is now known from 195 locations. There are only two previous records in HA9, one in Dublin from the River Dodder in 1946 and one from the River Liffey in Kildare in 1986 (Murray *et al.*, 2013).

***Potthastia longimanus* Kieffer, 1922**

**DUBLIN: HA9** - River Poddle, Kimmage Manor, Templeogue (O126299), Pe♂♀ 22 June 2022.

This is the second record of the species for Dublin and a third location and record for HA9. There is one record in HA10 from a tributary of the Glencullen river (Clabby and Bracken, 1976). In HA9 it is known from the aquaduct adjacent to the Reservoir on the River Dodder at Bohernabreena, from May 1967 (Murray, 1972) and also in HA9 from the River Liffey at Sallins, County Kildare from July 1983 (Hayes, 1991; Murray *et al.*, 2013). It is now known from 126 locations in Ireland.

**Subfamily ORTHOCLADIINAE**

***Acricotopus lucens* (Zetterstedt, 1850) New for Dublin**

**DUBLIN: HA9** - Artificial water feature, Herbert Park, Ballsbridge (O178324), Pe♂ 23 June and 24 October 2022.

With this new record for County Dublin there are now records of *Acricotopus lucens* from 38 locations in Ireland. While this is the first documentation of the species for the county there are two previous records from HA9, both in County Kildare, one from studies by C. F. Humphries in 1929 on the River Liffey at Straffan (Humphries and Frost, 1937) and one at Lyons Estate, Celbridge in 1968 (Murray, 1972).

***Brillia bifida* (Kieffer, 1909)**

**DUBLIN: HA9** - River Poddle, Kimmage Manor, Templeogue (O126299), Pe♂ Im♂♀ 22 June 2022.

There are now records from 140 sites in Ireland and this is the second site record of *Brillia bifida* in HA9 and County Dublin. The previous record was from collections in Bohernabreena reservoir by Reilly (1951) and first published in Murray *et al.* (2014).

**MEATH: -** Meadesbrook, Stream (HA8), Ashbourne (O038594), Pe♂ 11 January 2022. There are 14 previous records of *B. bifida* at this site where it was first recorded in July 1967 (Murray, 1972).

***Brillia longifurca* Kieffer, 1921**

**MEATH: HA8** - Stream, Meadesbrook, Ashbourne (O038594), Pe♂ 21 February 2022.

There are records of this species from 69 sites in Ireland, two previously at Meadesbrook from where it was first recorded in November 2012 (Murray *et al.*, 2014) and more recently in

May 2020. Previous records in Ireland are during the months from March to November, with most records between May and September. The presence of pupal exuviae in collections in February 2022 suggests an earlier more prolonged emergence period.

***Cricotopus (Isocladius) intersectus* (Staeger, 1839)**

**DUBLIN: HA9** – Artificial pond, Herbert Park, Ballsbridge (O178324), Pe♂ 25 April 2023.

With the addition of the record of *Cricotopus (Isocladius) intersectus* at this site, the species is now documented from 48 locations in Ireland. There are two earlier records in HA9 and County Dublin, one from a water fountain in St Stephens Green (Murray and Ashe, 2017) and one from the artificial lake in the campus of University College, Dublin at Belfield (Murray and O'Connor, 2018).

***Cricotopus (Isocladius) sylvestris* (Fabricius, 1794)**

**MEATH: HA7** - Cattle drinking trough, Ardsallagh, Navan (N896635), Pe♂ 27 March 2023.

This species is widely distributed in Ireland, now with records from 108 sites. There are five previous records in HA7, three in County Cavan and two in County Meath and the record at Ardsallagh is an additional site record for Meath and HA7.

***Eukiefferiella claripennis* (Lundbeck, 1898)**

**MEATH: HA8** - Stream, Meadesbrook, Ashbourne (O038594), Pe♂ 1 January and 21 February 2022.

This species is very commonly encountered in rivers and streams in Ireland with some 248 records from 149 different locations. There are records from ten sites on 21 occasions in County Meath, nine in HA7 and one in HA6. It has been recorded on seven previous occasions in HA8 at Meadesbrook.

***Limnophyes minimus* (Meigen, 1818)**

**MEATH: HA8** - Rainwater tank in yard, Meadesbrook, Ashbourne (O040594), Pe♂ 7 April 2023.

There are records of *Limnophyes minimus* from 32 sites in Ireland including four locations in County Meath, two each in HA7 and HA8 including this site at Meadesbrook where adult males were taken on the wing on three occasions, first in 2005 (Murray *et al.*, 2015) and more recently in February 2021 (Murray, 2021).

***Metriocnemus (Inermipupa) carmentabertarum* Langton and Cobo, 1997**

**DUBLIN: HA8** - Naul, Garden (O313607), Im♂ 28 March 2023. **MEATH: HA8** - Rainwater tank in yard, Meadesbrook, Ashbourne (O040594), Im♂ Pe♂ 17 March, 11 May, 18 June, 2 September, 10 October 2022 and 27 March 2023.

This record is based on determination from a photograph, in which the distinct thoracic chaetotaxy of this species is clearly visible, posted on the social media Facebook/Meta page *Insects / Invertebrates of Ireland*, by Mr Joe Curtis. This is a second record of the species for

County Dublin. The earlier record is based on pupal exuviae collected from an exposed rain-filled tank on the roof of the Science building at University College Dublin, Belfield (Murray, 2013). There are now records from 14 locations of this recent immigrant species to Ireland that was first collected in HA7 in County Meath in 2012 (Murray, 2012).

***Psectrocladius (Psectrocladius) limbatellus (Holmgren, 1869)***

**DUBLIN: HA9** - Artificial water feature, Herbert Park, Ballsbridge (O178324), Pe♂ 23 June 2022. **MEATH: HA7** - Cattle drinking trough, Ardsallagh, Navan (N896635), Pe♂ 6 June 2022 and Pe♂ 27 March 2023; **HA8** - Meadesbrook, Ashbourne, Rainwater tank in yard (O040594), Pe♂ 30 March 2023.

There are now 62 records of this species from 50 sites in Ireland. There are five previous records from five sites in Dublin and HA9 while in Meath there are three previous records in HA7 from the drinking trough at Ardsallagh (Murray, 2021) and eight in HA8 at Meadesbrook (Murray, 2020).

***Psectrocladius (Psectrocladius) sordidellus (Zetterstedt, 1838)***

**DUBLIN: HA9** - Artificial pond, Herbert Park, Ballsbridge (O178324), Pe♂ 23 June 2022.

This species is commonly found in littoral regions of lakes and frequently in small ponds. There are now 113 records of *Psectrocladius (Psectrocladius) sordidellus* from 95 locations in Ireland but just one previous record in Dublin and HA9, from the artificial pond at the public Library at Dun Laoghaire, reported by Murray and Ashe (2017).

***Tvetenia calvescens (Edwards, 1929)***

**DUBLIN: HA9** - River Poddle, Kimmage Manor, Templeogue (O126299), Pe♂♀ 22 June 2022.

*Tvetenia calvescens* is one of the most common species of Orthocadiinae encountered in Irish rivers and streams. With the addition of this new record from the River Poddle, at Kimmage Manor, there are now 417 records of the species from 271 locations in Ireland. It was previously reported from nine locations in HA9, two in County Kildare on the River Liffey and seven from the River Dodder in County Dublin (Murray *et al.*, 2014).

***Tvetenia discoloripes (Goetghebuer and Thienemann, 1936)***

**MEATH: HA8** - Stream, Meadesbrook, Ashbourne (O038594), Pe♂♀ 1, 11 January and 2 February 2022.

This species is widely distributed in Irish flowing waters and is known from 65 locations (Murray *et al.*, 2018). There are 15 previous records of *Tvetenia discoloripes* from the stream at Meadesbrook from where it was first recorded in July 1974 (Murray *et al.*, 2014).

***Tvetenia verralli (Edwards, 1929) New for HA8***

**MEATH: HA8** - Stream, Meadesbrook, Ashbourne (O038594), Pe♂ 23 February 2023.

This is the first record from HA8 but *Tvetenia verralli* has been previously recorded in the adjoining HA7 from the Rivers Boyne and Blackwater in the vicinity of Navan (Murray *et al.*, 2014) and more recently from the River Dee, County Louth (Murray, 2019). *T. verralli* is widely distributed in rivers and streams and there are now records of the species from 123 locations in Ireland.

### **Subfamily CHIRONOMINAE**

#### **Tribe Chironomini**

#### ***Chironomus (Chironomus) luridus* Strenzke, 1959 New for County Kildare**

**KILDARE: HA9** - Rainwater tank in garden, Glen Easton, Leixlip (N987365), Im♂Pe♂♀ 1 September 2022. **MEATH: HA8** - Meadesbrook, Ashbourne, Rainwater tank in yard (O040594), Pe ♂ 27 March 2023.

There are records of *Chironomus (Chironomus) luridus* from 28 locations in Ireland, the majority from rain filled outdoor containers, tanks and barrels but also from ponds and slow flowing waters. It is known from three locations in HA9 in Dublin, two on the campus of University College Dublin - one by the author in a collection made in 1966 from the artificial lake on the campus and one by the late Patrick Ashe in 1981 from an exposed tank on the flat roof of the Science building (Murray *et al.*, 2015). The third location in Dublin is from a garden tank at Castleknock (Murray and O'Connor, 2018). The recent record from Leixlip is a fourth location in HA9 but it is the first record from County Kildare. In County Meath, there are records from two locations, it has been collected previously on 13 occasions at Meadesbrook in HA8 and there is one record in HA7, from a rainwater filled barrel (Murray, 2016).

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

**DUBLIN: HA9** - Artificial pond, Herbert Park, Ballsbridge (O178324), Pe♂ 25 April 2023.

This species has a widespread distribution in Ireland. The record at Herbert Park is a third record for HA9 and a second in County Dublin. It was first collected in HA9 in 1986 from collections the River Liffey at Straffan, County Kildare (Hayes, 1991; Murray *et al.*, 2015), The previous record in County Dublin was from the main pond in St Stephens Green (Murray and Ashe, 2017)

#### ***Chironomus (Chironomus) riparius* Meigen, 1804 New for HA8**

**MEATH: HA8** - On wing in garden, Meadesbrook, Ashbourne (O040594), Im♂ 31 March 2022.

Records of *Chironomus riparius* are documented from 22 locations in 16 HAs but this is the first record of the species in HA8. It is already known in County Meath from collections at three locations in the adjacent HA7.

***Dicrotendipes nervosus* (Staeger, 1839)**

**DUBLIN: HA9** - Artificial pond, Herbert Park, Ballsbridge (O178324), Pe♂ 25 April 2023.

This is the only the second record of *Dicrotendipes nervosus* in HA9 and Dublin. The earlier record was from the main lake in the Zoological Gardens in July 1987. Larvae of *D. nervosus* are characteristic of ponds, ditches and slow-flowing waters.

***Endochironomus albipennis* (Meigen, 1830)**

**DUBLIN: HA9** - Artificial pond, Herbert Park, Ballsbridge (O178324), Pe♂ 25 April 2023.

There is only one previous record of *Endochironomus albipennis* in HA9 and Dublin in a collection from the Royal Canal at Ashtown in 1968 (Murray, 1972). However, this species is widespread in Ireland, now on record from 160 locations, 158 cited in Murray *et al.* (2018) and an additional location given in Murray and O'Connor (2018).

***Glyptotendipes (Glyptotendipes) barbipes* (Staeger, 1839) New for Dublin and HA9**

**DUBLIN: HA9** - Artificial pond, Herbert Park, Ballsbridge (O178324), Pe♂ 25 April 2023.

With this new record in Dublin and HA9 there are now records of the species from 28 locations in Ireland.

***Glyptotendipes (Glyptotendipes) pallens* (Meigen, 1804)**

**DUBLIN: HA9** - Artificial pond, Herbert Park, Ballsbridge, (O178324), Pe♂ 25 April 2023.

This is the third record of *Glyptotendipes (Glyptotendipes) pallens* in HA9 and Dublin. It was first recorded from the artificial lake in the Zoological Gardens in 1987 (Murray *et al.*, 2015) and more recently from the artificial lake in the campus of University College, Dublin at Belfield (Murray and O'Connor, 2018). There are now records of the species from 71 locations in Ireland.

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

**MEATH: HA7** - Cattle drinking trough, Ardsallagh, Navan (N896635), Pe♂ 27 March 2023.

There are records of *Polypedilum (Polypedilum) nubeculosum* from 81 locations in Ireland, eight in HA7 in County Meath, including at the present location where it was first collected in May 2021 (Murray, 2021).

**Tribe Tanytarsini**

***Cladotanytarsus (Cladotanytarsus) pallidus* Kieffer, 1922 New for Dublin and HA9**

**DUBLIN: HA9** - Artificial pond, Herbert Park, Ballsbridge (O178324), Pe♂ 25 April 2023.

This is the first record of this small species from County Dublin and HA9 and it is now known from 45 locations in Ireland where the majority of records are from sites in southern, western and northern regions. There is one record in the midlands from pupal exuviae collected along the shore of Lough Lene in HA7 in County Westmeath (Murray *et al.*, 2015). Larvae of



*Cladotanytarsus (Cladotanytarsus) pallidus* are typical denizens of habitats in lentic or stagnant waters in ditches, ponds, pools and the littoral zone of lakes.

***Micropsectra atrofasciata* (Kieffer, 1911)**

**MEATH: HA8** - Stream, Meadesbrook, Ashbourne (O038594), Im♂Pe♂ 11 January and 2 February 2022; cobweb, house window (O040594), Im♂ 14 November 2022.

This is a rather common species with records from 146 locations in Ireland, including 18 in County Meath - one in HA6, 15 in HA7 and two in HA8. There have been eleven previous records at Meadesbrook from where adult males were first collected in 1968 (Murray, 1972; Murray *et al.*, 2015). Although regarded as multivoltine, thus far there are no records of *Micropsectra atrofasciata* at Meadesbrook between the months of July and September.

***Micropsectra junci* (Meigen, 1818)**

**DUBLIN: HA9** - River Poddle, Kimmage Manor, Templeogue (O126299), Pe♂♀ 22 June 2022. **MEATH: HA7** - St Bridget's Well, Ardsallagh (N897635), Pe♂ 18 April 2023.

*Micropsectra junci* is now known from 33 locations in Ireland. This is a third location in HA7 in County Meath and the second record from County Dublin and HA9 from where it was first recorded in HA9 from the River Dodder in 1967 as *M. subviridis* (Murray, 1972; Murray *et al.*, 2015).

***Tanytarsus mendax* Kieffer, 1925**

**DUBLIN: HA9** - River Poddle, Kimmage Manor, Templeogue (O126299), Pe♂♀ 22 June 2022.

This species has now been recorded at 24 locations in Ireland, this being a second location for the species in Dublin and HA9. The previous record is from examination of pupal exuviae in formalin preserved bulk collections of littoral Cladocera made by Duigan (1989) from the Bohernabreena Reservoir at the headwaters of the River Dodder (Murray, 2018).

### **Update of distribution records**

The new county and Hydrometric area records presented here, combined with existing data (Murray, 2020, 2021), give revised totals for the number of species now on record in County Dublin as 157 (formerly 151), in County Kildare as 71 (formerly 69) and in County Meath as 213 (formerly 209). The number of species on record for HA7 is now 229 (was 228), for HA8 is now 91 (was 86) and for HA9 is now 196 (was 192).

A summary of the occurrence, by county and HA, of the 520 positively identified species of Chironomidae on record in Ireland up to December 2017 was given by Murray *et al.* (2018). The addition of two species new to the Irish fauna (Langton and Ruse, 2018; Murray and Langton, 2019) gave a revised total of 522 species for Ireland (Murray, 2019b). An additional species has recently been added from net collections of Diptera made by Adam Mantell in July

2022 at Muckcross, in the Killarney National Park, County Kerry that captured an adult male of *Chironomus (Chaetolabis) macani* Freeman, 1948, the first record of a species in the subgenus *Chaetolabis* in Ireland (Langton *et al.*, 2023). With the addition of that species the total number of Chironomidae is now 319 species in County Kerry and 285 in HA22. There are now records of 523 species of Chironomidae in Ireland. However, an additional 20 species-level taxa are known to occur, 14 recognised as morphotypes of distinct pupal exuviae not yet associated with described adults, and six undescribed species. Thus an overall total of 543 species level taxa of Chironomidae are documented from the Irish fauna at the end of April 2023.

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