

STONEFLY (PLECOPTERA) RECORDS FROM IRELAND IN 2023, WITH ADDITIONAL RECORDS FROM 2009 TO 2022

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Abstract

Almost 450 stonefly records from 22 counties collected primarily in 2023 and 2022, with a single record from 2009 and two records each from 2020 and 2021 are included, covering all 19 extant species found on the island. Several new locations are listed for the rare and restricted species *Capnia atra*, *Leuctra nigra*, *Nemoura avicularis* and *Zwicknia bifrons*. A significant number of records are listed for Northern Ireland, a first in over 30 years. Of worthy attention here is also the reinstatement of the species name *Perla carlukiana* for *Perla* specimens in Ireland after a review of the *Perla bipunctata* species complex in Europe. *Perla carlukiana* is considered an endemic species to Ireland (and Britain). This paper also notes variations in wing length across populations where observed.

Key words: Brachyptery, *Capnia atra*, *Leuctra nigra*, *L. nigra* f. *hibernica*, microptery, *Nemoura avicularis*, new records, Northern Ireland, *Perla carlukiana*, *Zwicknia bifrons*.

Introduction

The authors took the opportunity to collect stoneflies from lake shores, streams and rivers across the island. Four hundred and forty-two records presented were collected primary from February to November 2023, but additional records collected in 2022, a single record from 2009 and two records each from 2020 and 2021 are also included. All 19 extant species were recorded as adults by the authors in 2023. Larval records of 14 species are presented. Specimens

were collected or recorded from 22 counties: Antrim, Carlow, Clare, Cork, Derry (Londonderry), Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Laois, Mayo, Monaghan, Offaly, Sligo, Tipperary, Tyrone, Waterford, Wexford and Wicklow.

Several new locations for *Capnia atra*, *Leuctra nigra* and *Nemoura avicularis* are listed below. Similarly, there are a significant number of records included within this paper from across Northern Ireland which, excluding minor additions by Feeley *et al.* (2021), are the first significant species records from the region since the early 1990s (see Bradley and Kelly-Quinn (2005) for more details).

It is worth noting here that recent research by Reding (2023) has resulted in the species name *Perla carlukiana* Klapálek, 1907 being re-instated for *Perla* specimens from the British-Irish Isles. Illies (1966) synonymised this species incorrectly with *Perla bipunctata* Pictet, 1833; however, *P. carlukiana* is clearly different owing to the consistent brachypterous nature of the males, amongst other traits. See Reding (2023) for full details. This species is considered an endemic species to Britain and Ireland and is henceforth referred to only with its reinstated nomenclature. The only other endemic stonefly to both Britain and Ireland is *Perlodes mortoni* (Klapálek, 1906). Unfortunately it is considered regionally extinct in Ireland (Feeley *et al.*, 2020), despite being relatively widespread on the island of Britain. Britain has three endemic species/subspecies not found in Ireland: *Capnia vidua anglica* Aubert, 1950, *Brachyptera putata* (Newman, 1838) and *Taeniopteryx nebulosa britannica* Hynes, 1957 (Macadam, 2015).

Recently, Feeley, Mitchell and Macadam (2024) described the infrasubspecific form *Leuctra nigra* f. *hibernica* from Ireland (Plate 3), which based on records to date is the dominant form of *L. nigra* in Ireland. Although this form is likely to only be considered a synonym given that it is genetically identical to British *L. nigra* (R. Edward DeWalt, pers. comm.) it is nonetheless an important observation and describes characteristics not presently included in identification keys for the species. All records of *L. nigra* listed below indicate if the form *hibernica* was recorded.

This paper also notes variation in wing length across species and populations where observed, i.e. macroptery, brachyptery and microptery (e.g. Costello, 1988a) but all adults were fully winged (i.e. macropterous) and all male Perlidae were brachypterous unless otherwise stated. Similarly, the phenomenon of ‘crumpled wings’ (Feeley and Macadam, 2021; Feeley *et al.*, 2021) where observed are noted, while one observation of Entomophthora, or fungal infection, is also noted.

Specimens collected by Ciaran Byrne, Bryan Kennedy, David McGrath, Ryan Mitchell, Caroline Plant and Marcin Penk were determined or confirmed by Hugh B. Feeley. Specimens collected by Helen M. Barber-James were identified by Andrew Kenny, Georgia Miles and Helen M. Barber-James, with a subset confirmed by Craig Macadam, Hugh B. Feeley or Jan-Robert Baars. Also included are 39 records submitted to the National Biodiversity Data Centre

(NBDC) by members of the public in 2022 and 2023. Records submitted, accompanied by a photograph, were confirmed, or amended by Hugh B. Feeley and covered the period 2009 to 2023. These records may not have sex denoted and records are identified by NBDC in parenthesis after the collector.

All specimens were identified using Hynes (1977) and Macadam, Feeley and Doe (2022). Larval records were only included where no corresponding adult records are listed below or listed previously in Feeley *et al.* (2023). All records will be forwarded to the National Biodiversity Data Centre to update the dataset “Stoneflies (Plecoptera) of Ireland” (Feeley, 2023). Records are also forwarded to the Centre for Environmental Data and Recording (CEDaR) in Northern Ireland.

The records

CAPNIIDAE

Capnia atra Morton, 1896

CORK: Glenbeg Lough, north shore (V701537), 1 ♀ 18 April 2023, Caroline Plant.

DONEGAL: Lough Veagh, shoreline (at steps) (C022212), 13 ♂♂ 13 ♀♀ 29 March 2023, H. B. Feeley. Lough Barra, shoreline at slipway off the R254 (B929123), 1 ♂ 2 ♀♀ 29 March 2023, H. B. Feeley.

MAYO: Lough Mask, Paddys Bar Shore, Cappaghduff West (M087658), 1 ♀ 5 April 2023, H. B. Feeley. Lough Conn, shore at Brackwanshagh (G191098), 10 ♂♂ 16 ♀♀ (1 ♀ with crumpled wings) 6 April 2023, H. B. Feeley and Bryan Kennedy. Lough Beltra, east shore (off the R312) (M072981), 1 ♂ 1 ♀ 17 April 2023, Bryan Kennedy.

These are the first confirmed adult records of this species in County Cork and at Lough Beltra in County Mayo. Previous records from Glenbeg Lough and Lough Beltra were based on larval material (Feeley, Baars and Kelly-Quinn, 2016). Lough Barra is a new record for this species in Ireland. *Capnia atra* is very rare in Ireland, found in a selection of lakes along the western Atlantic coast and is considered vulnerable to extinction because of climate change (Feeley *et al.*, 2016; Feeley *et al.*, 2020).

This species showed variation in wing length depending on location. Individuals of both sexes collected from Lough Veagh, County Donegal and Lough Mask, County Mayo were brachypterous (Plate 1a), but specimens of both sexes collected at Lough Barra, County Donegal and Lough Conn, County Mayo were macropterous (Plate 1b). This would suggest that wing length within populations can vary across small geographical areas. Costello (1988a) also noted variation in wing length from population to population, although numbers assessed were small. It seems, however, that wing length is consistent regardless of sex within a given population.

***Zwicknia bifrons* (Newman, 1839)**

MAYO: Lough Mask, Paddys Bar Shore, Cappaghduff West (M087658), 7♂♂ 5 April 2023, H. B. Feeley. Lough Conn, shore at Brackwanshagh (G191098), 4♂♂ 6 April 2023, H. B. Feeley and Bryan Kennedy.

TYRONE: Gortin Water, Oritor (Ballinderry Rivers Trust HQ) (H774796), 7♂♂2♀♀ 28 March 2023, H. B. Feeley, H. M. Barber-James and Craig Macadam.

All males were micropterous (Plate 2), while all females were fully winged or macropterous. Costello (1988a) previously noted this phenomenon for other populations of *Z. bifrons* in Ireland.

CHLOROPERLIDAE

***Chloroperla tripunctata* (Scopoli, 1763)**

DERRY: Carndaisy Glen, tributary of the Ballinderry River (H828857), 1 larva 2 October 2022, H. M. Barber-James and 2 larvae 27 March 2023, H. M. Barber-James and Craig Macadam.

DOWN: Bloody Bridge River, Bloody Bridge (J386269), 1 larva 19 March 2023, H. B. Feeley and H. M. Barber-James.

DUBLIN: Owendoher River, Cruagh (bridge on the R116) (O137227), 1♂ 3 May 2023, H. B. Feeley.

KERRY: River Owenreagh, bridge upstream of the Upper Lake (V884821), 1♂1♀ 27 May 2023, J-R. Baars.

LAOIS: Clodaigh River, bridge on the L6002 (N296095), 5 larvae 2 April 2023, J-R. Baars. Owenass River, Cathole Falls (N377049), 2 larvae 2 April 2023, J-R. Baars.

TYRONE: Lissan Water, Harry's Bridge (Lissan House) (H797823), 1 larva 31 August 2022, H. M. Barber-James.

***Siphonoperla torrentium* (Pictet, 1841)**

ANTRIM: Glenarm River, Glenarm Forest (D301117), 1♀ 10 May 2022, H. M. Barber-James. Forth River, Crow Glen (J289768), 1♂2♀♀ 2 June 2023, H. M. Barber-James.

CLARE: River Caher, 150m upstream of Caher Bridge (M163081), 8♂♂3♀♀ (1♀ with crumpled wings) 23 May 2023, H. B. Feeley. River Fergus, Poplar Bridge (R271911), 1♂1♀ 24 May 2023 and Adroon Bridge (R359878), 3♂♂ 25 May 2023, both H. B. Feeley.

DERRY: Carndaisy Glen, tributary of the Ballinderry River (H828857), 4 larvae 27 March 2023, H. M. Barber-James and Craig Macadam.

DOWN: Bloody Bridge River, Bloody Bridge (J386269), 1 larva 19 March 2023, H. B. Feeley and H. M. Barber-James.

DUBLIN: Owendoher River, Cruagh (bridge on the R116) (O137227), 5♂♂4♀♀ 3 May 2023

and Kilakee Mountain (O125222), 1♂ 3 May 2023, both H. B. Feeley.

KERRY: Tomies Wood River, below O'Sullivan's Falls (V915885), 1♂ 20 April 2023 and 5♂♂4♀♀ 29 May 2023, off a small road (V912878), 1♂1♀ 29 May 2023, 500m upstream of a small road (V913873), 11♂♂11♀♀ 29 May 2023, 850m upstream of a small road (V911870), 5♂♂10♀♀ 29 May 2023 and 1.4km upstream of a small road (west tributary, Coomclochan) (V907867), 1♂2♀♀ 29 May 2023, all J-R. Baars. Owengarriff River, near lake edge Mucross House (V962850), 1♂3♀♀ 22 April 2023, J-R. Baars.

LAOIS: Clodaigh River, bridge on L6002 (N296095), 3 larvae 2 April 2023, J-R. Baars.

MAYO: Finny River, bridge south of church in Finny (M010586), 2♀♀ 22 May 2023, H. B. Feeley.

MONAGHAN: Avaghon Lake stream, 2nd bridge downstream of Lough Avaghon (H678142), 1 larva 28 June 2022, H. B. Feeley.

TYRONE: Gortin Water, Oritor (Ballinderry Rivers Trust HQ) (H774796), 13 larvae 28 March 2023, H. B. Feeley, H. M. Barber-James and Craig Macadam and 7 larvae 18 May 2023, H. M. Barber-James. Ballinderry River tributary, Teebane Bridge (H671802), 1 larva 17 May 2023, H. M. Barber-James. Ballinderry River, Wellbrook Mill Seep (H749791), 3♂♂2♀♀ 19 May 2023, H. M. Barber-James.

WICKLOW: River Avonbeg, ford at Barravore (T065941), 4♂♂1♀ 2 May 2023, Drumgoff Bridge (T105907), 3♂♂ 2 May 2023 and Greenan Bridge (T146873), 5♂♂2♀♀ 2 May 2023, all H. B. Feeley. River Ow, bridge near Aghavannagh Barracks (T055861), 4♂♂1♀ 2 May 2023 and Roddenagh Bridge (T117790), 1♂ 2 May 2023, both H. B. Feeley. Glencullen River, Knocksink Wood (O214181), 1♂ 7 May 2023, Ryan Mitchell.

LEUCTRIDAE

Leuctra fusca (Linnaeus, 1758)

ANTRIM: Glenarm River, Glenarm Estate (above a weir) (D301116), 1♀ 22 July 2022, H. M. Barber-James. Linford Water, tributary of Glenarm River (D312060), 4♂♂6♀♀ 22 July 2022, H. M. Barber-James. River Maine, Randalstown Forest (J094877), 1 larva 30 July 2022, H. M. Barber-James. Shillanavogy (Tributary of Shillanavogy Water) (D252014), 1 adult (sex indeterminate) 4 August 2023, David Craig (NBDC).

CARLOW: River Lerr, Lerr Bridge (S718815), 3♂♂1♀ 14 September 2023, H. B. Feeley. Aghalona River, bridge near Moatalusha House (S809728), 1♂1♀ 19 September 2023, H. B. Feeley.

CLARE: Lissycasey Stream, bridge on the N68 north east of Lissycasey (R225670), 4 larvae 6 July 2023 and Lissycasey Stream, bridge on the N68 south west of Lissycasey (R209660), 3 larvae 21 July 2023, both David McGrath. Mill spring, mountain above Aliwee Cave

(M244042), 1 larva 18 August 2023, H. M. Barber-James. Unnamed spring, Berneens (M226027), 1 larva 18 August 2023, H. M. Barber-James. River Caher, Caher Bridge (M163082), 1♂ 21 August 2023, H. M. Barber-James and 2 larvae 21 August 2023, David McGrath.

CORK: Cork City, Quays (River Lee south channel) (W678717), 1 adult (sex indeterminate) 21 August 2009, John O'Sullivan (NBDC). River Sullane, Macroom (W329734), 1 adult (sex indeterminate) 22 November 2020, Judith Vonhof (NBDC). Canrooska River, Glengarriff Nature Reserve (V918569), 2♂♂2♀♀ 16 August 2023, H. B. Feeley.

DERRY: Ballinderry River tributary, Reubens Glen (H857887), 1 larva 2 October 2022, H. M. Barber-James.

KERRY: River Owenreagh, bridge upstream of the Upper Lake (V884821). 1♂ 27 May 2023, J-R. Baars. Tomies Wood River, below O'Sullivan's Falls (V915885), 1♀ 29 May 2023, off a small road (V912878), 5♂♂4♀♀ 29 May 2023, 500m upstream of a small road (V913873), 18♂♂4♀♀ 29 May 2023, 850m upstream of a small road (V911870), 1♂ 29 May 2023, and 1.4km upstream of a small road (west tributary, Coomclochan) (V907867), 2♂♂ 29 May 2023, all J-R. Baars.

KILDARE: River Greese, Levitstown Bridge (S729849), 4♂♂ 13 September 2023, H. B. Feeley. Graney River, bridge in Graney (S817839), 1♂3♀♀ 14 September 2023, H. B. Feeley.

LAOIS: Glenlahan River, Clarahill Bridge (N345107), 1♂ 1♀ 4 September 202, H. B. Feeley. River Barrow, Tinnahinch Bridge (N351104), 3♂♂3♀♀ 4 September 2023, ford south of Rearyvalley (N360129), 6♂♂ 4 September 2023, Twomile Bridge (N422118), 7♂♂3♀♀ 4 September 2023, Barranagh's Bridge (N463092), 1♂ 3♀♀ 4 September 2023, Kilnahown Bridge (N513107), 1♂2♀♀ 5 September 2023, Portarlinton Spa Bridge (N542128), 1♂ 7 September 2023 and Bert Bridge (S659969), 1♂ 12 September 2023, all H. B. Feeley. River Owenass, Cathole Falls (N376048), 3♂♂ 5 September 2023, ford north of Barkmill (N416051), 2♂♂3♀♀ 5 September 2023, bridge north of Irishtown House on the N80 (N450072), 5♂♂ 5 September 2023, all H. B. Feeley. Enaghan Stream, bridge upstream of the Coolagillagh stream confluence (N530167), 3♂♂2♀♀ 6 September 2023, H. B. Feeley. Stradbally River, bridge west northwest of Ballykilcavan House (S596971), 3♂♂1♀ 11 September 2023 and Derrybrock Bridge (S613990), 3♂♂1♀ 11 September 2023, both H. B. Feeley. Crooked Stream, bridge west of Luggacurren (S585887), 4♂♂ ♀ 11 September 2023, H. B. Feeley. Dunrally Stream, bridge upstream of the River Barrow (N629026), 4♂♂♀ 12 September 2023, H. B. Feeley. River Douglas, Gales Bridge (S657859), 2♂♂ 13 September 2023, bridge downstream of Gale's Bridge (S688838), 3♂♂2♀♀ 13 September 2023 and Shanragh Bridge (S608846), 3♂♂2♀♀ 13 September 2023, all H. B. Feeley. River Fushoge, bridge northeast of Strand House (S654804), 3♂♂ 19 September 2023 and bridge south of Crockaun (S691756), 2♀♀ 19

September 2023, both H. B. Feeley.

OFFALY: River Barrow, Garryhinch (N497105), 1 adult (sex indeterminate) 29 September 2022, Rachel Mc Kenna (NBDC). River Camcor, Kinnitty Demesne (N201061), 1 adult (sex indeterminate) 6 November 2022, Rachel Mc Kenna (NBDC). Esker Stream, Esker Bridge (N558272), 6♀♀ 22 August 2023, H. B. Feeley.

SLIGO: Crowagh River headwaters, Easkey Bog (G469283), 6♂♂14♀♀ 23 July 2022, Ryan Mitchell.

TYRONE: Glenelly River, bridge southwest of the B47 (H681939), 16 larvae 3 August 2022, and bridge to farmyard on the B47 (H679941), 7 larvae 3 August 2022, both H. M. Barber-James. Owenkillew River, bridge over Owenkillew River on B48 (H493866), 1 larva 3 August 2022, H. M. Barber-James. Tributary of Drumquin River, Dooish (H311711), 1 adult (sex indeterminate) 17 August 2022, David Craig (NBDC). Ballinderry River tributary, Ballynagilly Bridge (H740839), 1 larva 31 August 2022, H. M. Barber-James. Killymoon River tributary, Slate Quarry Bridge (H727726), 2 larvae 2 October 2022, H. M. Barber-James. Gortin Water, Orior (Ballinderry Rivers Trust HQ) (H774796), 4 larvae 18 May 2023, H. M. Barber-James.

WEXFORD: Camolin, tributary of Bann River (T069569), 1 adult (sex indeterminate) 11 August 2022, 1 adult (sex indeterminate) 30 October 2022, 1 adult (sex indeterminate) 19 December 2022, and 1 adult (sex indeterminate) 19 November 2023, all Hilary Rimbi (NDBC).

WICKLOW: Grangecon Stream, bridge southeast of Ballynure (S836967), 1♂ 28 August 2023, H. B. Feeley.

It is worth noting that the record from Cork in 2009 is the first published record of any stonefly species within the urbanised city of Cork.

***Leuctra hippopus* Kempny, 1899**

ANTRIM: Forth River, Crow Glen (J289768), 1♀ 2 June 2023, H. M. Barber-James.

CLARE: Millbrook River, Ballyline Bridge (R383861), 1♀ 25 May 2023, H. B. Feeley.

DERRY: Carndaisy Glen, tributary of the Ballinderry River (H828857), 1♂ 27 March 2023, H. M. Barber-James and Craig Macadam.

DONEGAL: Owenveagh River, Glenveagh Cottage (B993182), 1♂3♀♀ 29 March 2023, H. B. Feeley. Lough Barra, shoreline at a slipway off the R254 (B929123), 1♀ 29 March 2023, H. B. Feeley. Gweebarra River, Pollglass Bridge (R254) (B948139), 1♂ 29 March 2023, H. B. Feeley. Bullaba River, 500m upstream of the Owenwee River (R254) (C011137), 1♀ 29 March 2023, H. B. Feeley. Cronaniv Burn, Poisoned Glen, Dunlewy (B930186), 1♀ 30 March 2023, H. B. Feeley. Sruhannameel Stream, upstream of Lough Nacung (B901188), 1♂3♀♀ 30 March 2023, H. B. Feeley. Glentornan River, upstream of Lough Nacung (B895191), 5♂♂7♀♀ 30 March 2023, H. B. Feeley. Lough Eske, Ardnamona Wood (G964847), 1♀ 16 April 2023 and 1♀ 13 May 2023, both Ryan Mitchell.

DOWN: Bloody Bridge River, Bloody Bridge (J386269), 1♀ 19 March 2023, H. B. Feeley and H. M. Barber-James. Small stream 1, Carrick Little, Head Road, Annalong (J340229), 1♀ 19 March 2023, H. B. Feeley and H. M. Barber-James. National Museums NI Cultra (J426801), 1♀ 30 March 2023, Craig Macadam.

DUBLIN: Owendoher River, Cruagh (bridge on the R116) (O137227), 2♀♀ 4 February 2023, and Kilakee Mountain (O125222), 2♀♀ 3 May 2023, both H. B. Feeley. Cot Brook, near O'Rourkes Lane (O108199), 2♂♂3♀♀ 27 March 2023, J-R. Baars.

GALWAY: Clonbur River, Clonbur Woods (Roshill) (M097566), 1♂1♀ 5 April 2023, H. B. Feeley.

KERRY: Tomies Wood River, below O'Sullivan's Falls (V915885), 1♀ 20 April 2023, 500m upstream of a small road (V913873), 6♂♂8♀♀ 21 April 2023, 850m upstream of a small road (V911870), 10♂♂6♀♀ 21 April 2023, and 1.4km upstream of a small road (west tributary, Coomclochan) (V907867), 1♂ 21 April 2023, all J-R. Baars.

LAOIS: Owenass River, Cathole Falls (N376048), 2♀♀ 2 April 2023, J-R. Baars. Upper Murglash River, tributary of Owenass River, off the L2018 (N377053), 2♂♂4♀♀ 2 April 2023, J-R. Baars.

MAYO: Finny River, bridge south of the church in Finny (M010586), 6♂♂8♀♀ 5 April 2023, and 3♂♂ 1♀ 22 May 2023, both H. B. Feeley. Glensaul River, confluence at the waterfall, Tourmakeady Woods (M082676), 1♀ 5 April 2023 and at the car park at Tourmakeady Woods (M091678), 1♂1♀ 5 April 2023, both H. B. Feeley.

SLIGO: Union Wood stream, Collooney (G680281), 5♂♂2♀♀ 26 March 2023 and 1♀ 2 April 2023, Ryan Mitchell.

TYRONE: Gortin Water, Oritor (Ballinderry Rivers Trust HQ) (H774796), 1♀ 28 March 2023, H. B. Feeley, H. M. Barber-James and Craig Macadam.

WICKLOW: Lough Dan, Scout Centre Shore (O157025), 5♀♀ 3 March 2023, J-R. Baars. Avonmore River, 1st Bridge south-east of the Sally Gap (O143099), 2♂♂1♀ 6 April 2023, J-R. Baars. Glencree River, off the R115 (O141185), 2♂♂4♀♀ 6 April 2023, J-R. Baars. Avonmore River tributaries, Sheepsbank Bridge (O153095), 4♂♂4♀♀ 17 April 2023 and 2nd bridge southeast of the Sally Gap (O148097), 8♂♂3♀♀ 17 April 2023, both H. B. Feeley. River Liffey, 2km northwest of the Sally Gap (O109127), 8♂♂1♀ (3♂♂ and 1♀ with crumpled wings) 17 April 2023, H. B. Feeley. Avonmore River, 1st Bridge southeast of the Sally Gap (O143099), 4♀♀ 17 April 2023, H. B. Feeley. Lugduff Stream, upstream of the Upper Lake, Glendalough (T110961), 1♀ 21 April 2023, H. B. Feeley. Glendasan River, old mining works (R756) (T099981), 3♂♂ 27 April 2023, H. B. Feeley. River Ow, bridge near Aghavannagh Barracks (T055861), 1♀ 2 May 2023, H. B. Feeley. Glencullen River, Knocksink Wood (O214181), 1♂1♀ 7 May 2023, Ryan Mitchell.

All the specimens collected above the small road in Tomies Wood River, County Kerry, were brachypterous. Costello (1988a) previously reported brachypterous *L. hippopus* from several locations in County Kerry and one location in County Mayo.

***Leuctra inermis* Kempny, 1899**

ANTRIM: Glenarm River, Glenarm Forest (D301117), 1♀ 10 May 2022, H. M. Barber-James. Forth River, Crow Glen (J289768), 1♂5♀♀ 2 June 2023, H. M. Barber-James.

DERRY: Carndaisy Glen, tributary of the Ballinderry River (H828857), 1♀ 27 March 2023, H. M. Barber-James and Craig Macadam.

DONEGAL: Mullangore Stream, bridge upstream of Lough Veagh (C007192), 1♂ 29 March 2023, H. B. Feeley. Sruhannameel Stream, upstream of Lough Nacung (B901188), 8♂♂ 30 March 2023, H. B. Feeley. Glentornan River, upstream of Lough Nacung (B895191), 1♂3♀♀ 30 March 2023, H. B. Feeley. Lough Eske, Ardnamona Wood (G964847), 4♂♂ 16 April 2023, Ryan Mitchell.

DOWN: Bloody Bridge River, Bloody Bridge (J386269), 9 larvae 19 March 2023, H. B. Feeley and H. M. Barber-James. Small stream 1, Carrick Little, Head Road, Annalong (J340229), 2 larvae 19 March 2023, H. B. Feeley and H. M. Barber-James.

DUBLIN: Owendoher River, Cruagh (bridge on the R116) (O137227), 5♂♂2♀♀ 3 May 2023 and Kilakee Mountain (O125222), 1♂1♀ 3 May 2023, both H. B. Feeley.

KERRY: Tomies Wood River, below O'Sullivan's Falls (V915885), 2♂♂3♀♀ 20 April 2023 and 1♀ 29 May 2023, off a small road (V912878), 3♂♂ 1♀ 20 April 2023 and 1♂1♀ 29 May 2023, 500m upstream of a small road (V913873), 1♂ 21 April 2023 and 1♂1♀ 29 May 2023, 850m upstream of a small road (V911870), 5♂♂3♀♀ 21 April 2023 and 1♂ 4♀♀ 29 May 2023 and 1.4km upstream of a small road (west tributary, Coomclochan) (V907867), 4♂♂♀♀ 21 April 2023 and 5♂♂3♀♀ 29 May 2023, all J-R. Baars.

LAOIS: Glenlahan River, Clarahill Bridge (N345107), 1♂ 2 April 2023, J.-R. Baars. Upper Murglash River, tributary of the Owenass River, off the L2018 (N377053), 1♂2♀♀ 2 April 2023, J.-R. Baars.

MAYO: Glensaul River, confluence at waterfall, Tourmakeady Woods (M082676), 1♂ 5 April 2023, H. B. Feeley.

TYRONE: Gortin Water, Oritor (Ballinderry Rivers Trust HQ) (H774796), 69 larvae 28 March 2023, H. B. Feeley, H. M. Barber-James and Craig Macadam.

WICKLOW: Avonmore River tributary, small drain, at Old Bridge (O159018), 1♀ 31 March 2023, J.-R. Baars and 2nd bridge southeast of the Sally Gap (O148097), 1♂1♀ 17 April 2023, H. B. Feeley. River Liffey tributary, bridge on the R759 (O115124), 2♂♂ 17 April 2023, H. B. Feeley. River Liffey, bridge east of Ballysmuttan (O056148), 1♀ 17 April 2023 and 2km northwest of the Sally Gap (O109127), 8♂♂1♀ 17 April 2023, both H. B. Feeley. Ballylow

Brook, bridge upstream of the Ballydonnell River confluence (O067133), 1♀ 17 April 2023, H. B. Feeley. Lugnalee Brook, just upstream of the River Liffey confluence (O094131), 1♂1♀ 17 April 2023, H. B. Feeley. Sraghoe Brook, bridge on the R759 (O097135), 3♀♀ 17 April 2023, H. B. Feeley. Cock Brook, northwest of Kilmore (O021088), 6♂♂3♀♀ 18 April 2023, H. B. Feeley. Kings River, bridge 100m upstream of the Ballinagee River confluence (O033020), 1♂1♀ 18 April 2023, H. B. Feeley. Annalecka Brook, Annalecka Bridge (O056018), 5♂♂12♀♀ 18 April 2023, H. B. Feeley. Glashaboy Brook tributary, Glashaboy Bridge (O066016), 1♂ 18 April 2023, H. B. Feeley. Lugduff stream, upstream of Upper Lake, Glendalough (T110961), 1♂ 21 April 2023, H. B. Feeley. Glendasan River, old mining works (R756) (T099981), 1♂5♀♀ 27 April 2023, H. B. Feeley. Glenmacnass River, 500m downstream of Mall Brook (O122007), 1♂ 27 April 2023, H. B. Feeley. River Ow, bridge near Aghavannagh Barracks (T055861), 2♂♂4♀♀ 2 May 2023, H. B. Feeley. River Avonbeg, ford at Barravore (T065941), 2♂♂1♀ 2 May 2023, H. B. Feeley. Lough Bray Upper inflow (off Military Road) (O141151), 3♂♂4♀♀ 3 May 2023, H. B. Feeley. Avonmore River, Old Bridge (O160018), 1♀ 17 April 2023 and 1st bridge southeast of the Sally Gap (O143099), 4♂♂1♀ 17 April 2023, both H. B. Feeley. Glencullen River, Knocksink Wood (O214181), 2♀♀ 7 May 2023, Ryan Mitchell.

***Leuctra nigra* (Olivier, 1811) (Plate 3)**

DERRY: Carndaisy Glen, tributary of the Ballinderry River (H828857), 1♂ (form not recorded) 27 March 2023, H. M. Barber-James and Craig Macadam.

DONEGAL: Mullangore Stream, bridge upstream of Lough Veagh (C007192), 1♂ (1 f. *hibernica*) 29 March 2023, H. B. Feeley. Lough Eske, Ardnamona Wood (G964847), 10♂♂ (9 f. *hibernica*) 2♀♀ 16 April 2023 and 4♂♂ (3 f. *hibernica*) 19♀♀ 13 May 2023, Ryan Mitchell.

KERRY: Owengarriff River, near lake shore Mucross House (V962850), 1♂ (1 f. *hibernica*) 2♀♀ 22 April 2023, J-R. Baars.

LAOIS: Clodaigh River, bridge on L6002 (N296095), 2 larvae 2 April 2023, J-R. Baars.

MAYO: Lough Beltra, east shore (off R312) (M080986), 1♂ (1 f. *hibernica*) 17 April 2023, Bryan Kennedy.

SLIGO: Union Wood stream, Collooney (G680281), 6♂♂ (6 f. *hibernica*) 8♀♀ 26 March 2023 and 1♂ (1 f. *hibernica*) 2♀♀ 2 April 2023, Ryan Mitchell.

The records from Mullangore Stream, County Donegal and Lough Beltra, County Mayo are also included in Feeley *et al.* (2024). The record from Carndaisy Glen is a new county record for County Derry, while Mullangore Stream, Lough Eske and Lough Beltra are new locations for this uncommon and locally restricted species in Ireland (Feeley *et al.*, 2016).

Feeley *et al.* (2024) highlighted how 72% of male *L. nigra* examined to date in Ireland were of the form *hibernica*. Excluding the two individual male records included in that study, 20 of 23 males examined, or 87%, were confirmed of the form *hibernica*.

NEMOURIDAE

***Amphinemura sulcicollis* (Stephens, 1836)**

ANTRIM: Glenarm River, Glenarm Forest (D301117), 1 ♀ 10 May 2022, H. M. Barber-James. Forth River, Crow Glen (J289768), 1 ♀ 2 June 2023, H. M. Barber-James.

CLARE: River Caher, 150m upstream of Caher Bridge (M163081), 4 ♂♂2♀♀ (1♀ with crumpled wings) 23 May 2023, H. B. Feeley.

DERRY: Carndaisy Glen, tributary of the Ballinderry River (H828857), 1 larva 27 March 2023, H. M. Barber-James and Craig Macadam.

DOWN: Bloody Bridge River, Bloody Bridge (J386269), 3 larvae 19 March 2023, H. B. Feeley and H. M. Barber-James. Small stream 1, Carrick Little, Head Road, Annalong (J340229), 4 larvae 19 March 2023, H. B. Feeley and H. M. Barber-James.

KERRY: Tomies Wood River, below O'Sullivan's Falls (V915885), 4♀♀ 29 May 2023, off a small road (V912878), 2♀♀ 29 May 2023, 500m upstream of a small road (V913873), 3♀♀ 29 May 2023, 850m upstream off a small road (V911870), 2♂♂2♀♀ 29 May 2023, 1.2km upstream of a small road (south east tributary, Shehy Mountain) (V913867), 1♀ 29 May 2023 and 1.4km upstream of a small road (west tributary, Coomclochan) (V907867), 4♂♂4♀♀ 29 May 2023, all J-R. Baars.

LAOIS: Clodaigh River, bridge on L6002 (N296095), 4 larvae 2 April 2023, J.-R. Baars. Glenlahan River, Clarahill Bridge (N345107), 3 larvae 2 April 2023, J.-R. Baars.

MAYO: Glennamong River, bridge upstream of Lough Feeagh (F947024), 1♂ 18 April 2023, Bryan Kennedy.

WICKLOW: Glencullen River, Knocksink Wood (O214181), 1♂ 7 May 2023, Ryan Mitchell.

***Nemoura avicularis* Morton, 1894**

CAVAN: Maudabawn River, bridge upstream of the River Annalee (H645098), 3 larvae 22 August 2022, H. B. Feeley.

DONEGAL: Lough Veagh, shoreline (at steps) (C022212), 1♂ 29 March 2023, H. B. Feeley. Cronaniv Burn, Poisoned Glen, Dunlewy (B930186), 1♂ 30 March 2023, H. B. Feeley. Lough Eske, Ardnamona Wood (G964847), 1♂4♀♀ 16 April 2023, Ryan Mitchell.

GALWAY: Clonbur River, Clonbur Woods (Roshill) (M097566), 1♂ 5 April 2023, H. B. Feeley. Lough Mask, Ferry Bridge (R300) (M064582), 2♂♂ (1 individual had a fungal growth on its genitalia) 5 April 2023, H. B. Feeley.

KERRY: Owengarriff River, near the lake edge, Mucross House (V962850), 1♂ 3♀♀ 22 April 2023, J-R. Baars.

LAOIS: Owenass River, Cathole Falls (N377049), 1♂ 2 April 2023, J-R. Baars.

TYRONE: Ballinderry River, Wellbrook Bridge (H749791), 5 larvae 14 October 2022, H. M. Barber-James.

WICKLOW: Lough Dan, Scout Centre Shore (O157025), 26♂♂11♀♀ 31 March 2023, J-R. Baars and 1♂3♀♀ (1♀ with crumpled wings) 17 April 2023, H. B. Feeley.

The records from counties Cavan, Donegal, Galway and Tyrone above are new locations for this restricted species in Ireland, with the record from County Tyrone only the second record for that county and the first since 1990 (Feeley *et al.*, 2016).

***Nemoura cinerea* (Retzius, 1783)**

ANTRIM: Linford Water, tributary of Glenarm River (D312060), 1 larva 22 July 2022, H. M. Barber-James.

DONEGAL: Lough Eske, Ardnamona Wood (G964847), 1♂3♀♀ 13 May 2023, Ryan Mitchell.

DOWN: Small stream 1, Carrick Little, Head Road, Annalong (J340229), 8 larvae 19 March 2023 and small stream 2, Carrick Little, Head Road, Annalong (J336237), 27 larvae 19 March 2023, both H. B. Feeley and H. M. Barber-James.

GALWAY: Clonbur River, Clonbur Woods (Roshill) (M097566), 1♀ 5 April 2023, H. B. Feeley.

KERRY: Tomies Wood River, off a small road (V912878), 1♂1♀ 29 May 2023, J-R. Baars.

MAYO: Finny River, bridge south of the church in Finny (M010586), 2♀♀ 5 April 2023, H. B. Feeley. Lough Conn, shore at Brackwanshagh (G191098), 1♂ 6♀♀ 6 April 2023, H. B. Feeley and Bryan Kennedy. Lough Cullen, shore on the R318 (G239043), 1♀ 13 May 2023, Bryan Kennedy.

***Nemurella pictetii* Klapálek, 1900**

ANTRIM: Linford Water, tributary of Glenarm River (D312060), 1 larva 22 July 2022, H. M. Barber-James. Forth River, Crow Glen (J289768), 1 larva 2 June 2023, H. M. Barber-James.

CLARE: small stream from a holy well, Tobar Oireachta, Dysert (R289838), 17 larva (1♂16♀♀) 13 August 2023, David McGrath.

Mature *N. pictetii* larvae can be sexed successfully (Macadam *et al.*, 2022).

DERRY: Carndaisy Glen, tributary of the Ballinderry River (H828857), 15 larvae 2 October 2022, H. M. Barber-James.

DOWN: Small stream 1, Carrick Little, Head Road, Annalong (J340229), 1 larva 19 March 2023 and small stream 2, Carrick Little, Head Road, Annalong (J336237), 3 larvae 19 March 2023, both H. B. Feeley and H. M. Barber-James.

KERRY: Knockasartnett (Glanooragh River) (V956945), 1♀ 9 May 2022, Noreen O'Reilly (NBDC). Owengarriff River, near lake edge Mucross House (V962850), 1♂ 22 April 2023, J-R. Baars.

SLIGO: Bunduff Lough, south shore off the L7109 (G715552), 1♂1♀ 13 April 2023, Ryan Mitchell.

TYRONE: Ballinderry River tributary, Keragh Bridge (H680824), 3 larvae 2 October 2023, H. M. Barber-James.

WICKLOW: Annalecka Brook, Annalecka Bridge (O056018), 1♀ 18 April 2023, H. B. Feeley. Glashaboy Brook tributary, Glashaboy Bridge (O066016), 1♀ 18 April 2023, H. B. Feeley.

***Protonemura meyeri* (Pictet, 1841)**

ANTRIM: Glenarm River, Glenarm Forest (D301117), 1♀ 10 May 2022, H. M. Barber-James.

CARLOW: River Slaney, Kilcarrig Bridge (S892625), 1 adult (sex indeterminate) 3 April 2022, Ciaran Byrne.

CLARE: Shallee River (Ballygriffy River), Rinerrinagh (R308809), 4 larvae 14 December 2022, David McGrath. River Caher, upstream of Caher Bridge (M163081), 1♀ 23 May 2023, H. B. Feeley.

DERRY: Carndaisy Glen, tributary of the Ballinderry River (H828857), 1♂ 27 March 2023, H. M. Barber-James and Craig Macadam.

DONEGAL: Owenveagh River, Glenveagh Cottage (B993182), 1♂2♀♀ 29 March 2023, H. B. Feeley. Gweebarra River, Pollglass Bridge (R254) (B948139), 2♀♀ 29 March 2023, H. B. Feeley. Bullaba River, 500m upstream of Owenwee River (R254) (C011137), 1♀ 29 March 2023, H. B. Feeley. Cronaniv Burn, Poisoned Glen, Dunlewy (B930186), 7♂♂5♀♀ 30 March 2023, H. B. Feeley. Glentornan River, upstream of Lough Nacung (B895191), 1♂3♀♀ 30 March 2023, H. B. Feeley. Killybegs (tributary of Lough Aderry) (G698813), 1 adult (sex indeterminate) 30 March 2023, Marie Muirhead (NBDC). Sruhannameel Stream, upstream of Lough Nacung (B901188), 3♂♂2♀♀ 30 March 2023, H. B. Feeley. Lough Eske, Ardnamona Wood (G964847), 1♀ 13 May 2023, Ryan Mitchell.

DOWN: Bloody Bridge River, Bloody Bridge (J386269), 1♂1♀ 19 March 2023, H. B. Feeley.

DUBLIN: River Dodder, bridge on the Castlekelly Road (O108202), 1♂ 15 March 2022, Marcin Penk. Owendoher River, near Cruagh, off the R116 (O139226), 4♂♂4♀♀ 27 March 2023, J-R. Baars and Kilakee Mountain (O125222), 2♀♀ 3 May 2023, H. B. Feeley. Cot Brook, near O'Rourkes Lane (O108199), 4♂♂5♀♀ 27 March 2023, J-R. Baars.

KERRY: Tomies Wood River, below O'Sullivan's Falls (V915885), 2♀♀ 20 April 2023 and 3♂♂ 29 May 2023 and off a small road (V912878), 1♀ 20 April 2023 and 1♀ 29 May 2023, 500m upstream of a small road (V913873), 1♀ 21 April 2023 and 1♂ 29 May 2023, 850m upstream of a small road (V911870), 1♂ 2♀♀ 21 April 2023, 1.2km upstream of a small road (south east tributary, Shehy Mountain) (V913867), 2♂♂4♀♀ 21 April 2023 and 1.4km upstream of a small road (west tributary, Coomclochan) (V907867), 1♂2♀♀ 21 April 2023, all J-R. Baars.

MAYO: River Robe, Crossboyne Bridge (M337709), 1♀ 26 March 2023, H. B. Feeley. Finny

River, bridge south of church in Finny (M010586), 4♂♂5♀♀ 5 April 2023, H. B. Feeley. Glensaul River, confluence at Waterfall, Tourmakeady Woods (M082676), 1♀ 5 April 2023, H. B. Feeley. Shanwar (flying in domestic garden), Foxford (G297037), 1♀ 12 April 2023, Bryan Kennedy.

OFFALY: Near Birr (N144076), 1 adult 26 March 2022 and 1 adult 13 April 2022, Rachel McKenna (NBDC).

SLIGO: Union Wood stream, Collooney (G680281), 1♀ 26 March 2023, Ryan Mitchell. River Unshin, off the L1402, southeast of Riverstown (G756186), 1♂2♀♀ 17 March 2023, Bryan Kennedy. Lenyvee Stream, bridge upstream of Owenaher River (G418172), 1♂1♀ 25 March 2023, Bryan Kennedy.

TYRONE: Ballinderry River, Wellbrook Bridge (H749791), 50 larvae 14 October 2022, H. M. Barber-James. Gortin Water, Oritor (Ballinderry Rivers Trust HQ) (H774796), 5♂♂1♀ 28 March 2023, H. B. Feeley, H. M. Barber-James and Craig Macadam.

TIPPERARY: Cashel (S069339), 1 adult (sex unknown) 2 March 2022, Larry Doherty (NBDC).

WEXFORD: Camolin, tributary of Bann River (T067569), 1 adult (sex indeterminate) 11 March 2023, Hilary Rimbi (NDBC).

WICKLOW: Avonmore River, 1st Bridge south-east of the Sally Gap (O143099), 2♂♂ 6 April 2023, J-R. Baars and 2♀♀ 17 April 2023, H. B. Feeley. River Liffey tributary, south of bridge on the R759 (O114124), 1♂2♀♀ 6 April 2023, J-R. Baars and at a bridge on the R759 (O115124), 2♀♀ 17 April 2023, H. B. Feeley. River Liffey, 2km northwest of the Sally Gap (O109127), 1♂ 6 April 2023, J-R. Baars and 11♂♂9♀♀ 17 April 2023 and bridge east of Ballysmuttan (O056148), 2♂♂ 17 April 2023, both H. B. Feeley. Glencree River, off the R115 (O141185), 8♂♂2♀♀ 6 April 2023, J-R. Baars. Avonmore River tributaries, Sheepsbank Bridge (O153095), 14♂♂12♀♀ 17 April 2023 and 2nd bridge southeast of the Sally Gap (O148097), 4♂♂1♀ 17 April 2023, both H. B. Feeley. Ballylow Brook, bridge upstream of Ballydonnell River confluence (O067133), 1♂ 17 April 2023, H. B. Feeley. Ballydonnell River, Ballylow Bridge (O060129), 2♂♂2♀♀ (1♂ and 1♀ with crumpled wings) 17 April 2023, H. B. Feeley. Lugnalee Brook, just upstream of the River Liffey confluence (O094131), 1♂ 17 April 2023, H. B. Feeley. Sraghoe Brook, bridge on the R759 (O097135), 1♂1♀ 17 April 2023, H. B. Feeley. Ballinagee River, Ballinagee Bridge (O036023), 1♀ 18 April 2023, H. B. Feeley. Cock Brook, northwest of Kilmore (O021088), 3♂♂3♀♀ 18 April 2023, H. B. Feeley. Kings River, bridge 100m upstream of the Ballinagee River confluence (O033020), 18 April 2023, H. B. Feeley. Annalecka Brook, Annalecka Bridge (O056018), 3♂♂ 18 April 2023, H. B. Feeley. Glendasan River, bridge upstream of the Glenealo River confluence (T123969), 5♂♂1♀ 21 April 2023 and old mining works, (R756) (T099981), 1♂ 27 April 2023, both H. B. Feeley.

Glenealo River, Mining Road (T089961), 1♂1♀ 21 April 2023, H. B. Feeley. Lugduff Stream, upstream of Upper Lake, Glendalough (T110961), 1♂ 21 April 2023, H. B. Feeley. Cloghoge Brook, downstream of Lough Tay (Luggala Estate) (O158060), 1♂ 27 April 2023, H. B. Feeley. River Ow, bridge near Aghavannagh Barracks (T055861), 2♂♂1♀ 2 May 2023 and Ballymanus Bridge (T093815), 2♀♀ 2 May 2023, both H. B. Feeley. Avonbeg River, Greenan Bridge (T146873), 1♀ 2 May 2023, H. B. Feeley. Lough Bray Upper inflow (off Military Road) (O141151), 1♂1♀ 3 May 2023, H. B. Feeley.

***Protonemura praecox* (Morton, 1894)**

DUBLIN: Owendoher River, Cruagh (bridge on R116) (O137227), 2♂♂ 4 February 2023, H. B. Feeley and near Cruagh, off the R116 (O139226), 4♂♂5♀♀ 27 March 2023, J-R. Baars. Cot Brook, near O'Rourkes Lane (O108199), 3♂♂6♀♀ 27 March 2023, J-R. Baars.

PERLIDAE

***Dinocras cephalotes* (Curtis, 1827)**

ANTRIM: Linford Water, tributary of Glenarm River (D312060), 1 larva 22 July 2022, H. M. Barber-James.

CLARE: River Caher, 150m upstream of Caher Bridge (M163081), 7♂♂7♀♀ 23 May 2023, H. B. Feeley, just upstream of Caher Bridge (M163082), 1 larva 21 August 2023, H. M. Barber-James. Derrynavahagh (M173067), 4 larvae 25 November 2023 and just off the L5047 (500m east junction with R477) (M151090), 1 larva 26 November 2023, both David McGrath.

TIPPERARY: Glengarra Woods (Burncourt River) (R923202), 1 larva 27 September 2021, Jonathan Boyle (NBDC) and 1 larva 8 February 2022, Michael Griffin (NBDC).

WATERFORD: Glenary (Glenary River) (S219190), 1 larva 24 March 2022, Niamh Birch (NBDC).

***Perla carlukiana* Klapálek, 1907**

CORK: Coolnagearah (W431738), 1♀ 26 May 2020 and 1♀ 16 May 2023, Mike O'Sullivan (NBDC).

DONEGAL: Owenveagh River, Glenveagh Cottage (B993182), 2 larvae 29 March 2023, H. B. Feeley.

KERRY: Ullauns River, Killarney National Park (V915794), 1♀ 6 June 2023, Katy Steele (NBDC).

LAOIS: Clodaigh River, bridge on the L6002 (N296095), 3 larvae 2 April 2023, J-R. Baars. Glenlahan River, Clarahill Bridge (N345107), 2 larvae 2 April 2023, J-R. Baars.

MAYO: Finny River, bridge south of the church in Finny (M010586), 5♂♂2♀♀ 22 May 2023, H. B. Feeley.

OFFALY: Camcor River, Birr Town (N064048), 1 larva 6 July 2022, Rachel Mc Kenna

(NBDC).

PERLODIDAE

Diura bicaudata (Linnaeus, 1758)

MAYO: Lough Conn, shore at Brackwanshagh (G191098), 1 ♀ 6 April 2023, H. B. Feeley and Bryan Kennedy. Lough Beltra, east shore (off the R312) (M080986), 1 ♂ 17 April 2023, Bryan Kennedy.

WICKLOW: River Liffey, Liffey Head Bog (south of the R115) (O138135), 1 ♂ 14 June 2021, Liffey Head Bog (north of the R115) (O134138), 1 larva 15 April 2022, both K. Finch (NBDC) and 2km northwest of the Sally Gap (O109127), 1 ♂ 6 April 2023, J-R. Baars. Avonmore River, 1st bridge southeast of the Sally Gap (O143099), 2 ♂♂ 6 April 2023, J-R. Baars and 1 ♀ 17 April 2023, H. B. Feeley.

The female collected in County Mayo was brachypterous and the male micropterous, while the females collected in County Wicklow were fully winged and the males were brachypterous.

Isoperla grammatica (Poda, 1761)

ANTRIM: Glenarm River, Glenarm Forest (D301117), 4 larvae 10 May 2022, H. M. Barber-James. Braid River, Broughshane (D147066), 1 adult (sex indeterminate) 16 May 2023, David Craig (NBDC). Forth River, Crow Glen (J289768), 1 ♀ 2 June 2023, H. M. Barber-James.

CLARE: River Caher, 150m upstream of Caher Bridge (M163081), 8 ♂♂2♀♀ (1 ♂ with crumpled wings) 23 May 2023, H. B. Feeley and just off the L5047 (500m east junction with the R477) (M151090), 1 larva 26 November 2023, David McGrath. River Fergus, Poplar Bridge (R271911), 1 ♂ 24 May 2023 and Addroon Bridge (R359878), 1 ♂ 25 May 2023, both H. B. Feeley. Millbrook River, Ballyline Bridge (R383861), 2 ♂♂2♀♀ 25 May 2023, H. B. Feeley. Lissycasey Stream, Bridge on the N68 south west of Lissycasey (R209660), 1 larva 21 July 2023, David McGrath.

CORK: Glashagarriff River, Coolnagearagh (R618) (W431738), 1 adult (sex indeterminate) 17 May 2023, Mike O'Sullivan (NBDC).

DERRY: Carndaisy Glen, tributary of the Ballinderry River (H828857), 3 larvae 27 March 2023, H. M. Barber-James and Craig Macadam.

DOWN: Small stream 1, Carrick Little, Head Road, Annalong (J340229), 1 larva 19 March 2023, H. B. Feeley and H. M. Barber-James. Bloody Bridge River, Bloody Bridge (J386269), 1 larva 19 March 2023, H. B. Feeley and H. M. Barber-James.

DUBLIN: Whitechurch, Rathfarnham (Whitechurch Stream) (O145259), 1 adult (sex indeterminate) 20 June 2022, Vraja Leader (NBDC).

GALWAY: Beagh River, 1.5km upstream of Lough Cutra (M466004), 1 ♂2♀♀ 23 May 2023, H. B. Feeley.

KERRY: Tomies Wood River, below O’Sullivan’s Falls (V915885), 1♂ 20 April 2023 and off a small road (V912878), 1♂ 20 April 2023 and 1♂ 29 May 2023, 500m upstream of a small road (V913873), 11♂1♀ 29 May 2023 and 1.4km upstream of a small road (west tributary, Coomclochan) (V907867), 5♀♀ 29 May 2023, all J-R. Baars. Glanagenty Kielbawn (Glanageenty River) (Q949142), 1 adult (sex indeterminate) 18 June 2023, Anneke O’Connor (NBDC).

LAOIS: Clodaigh River, bridge on the L6002 (N296095), 2 larvae 2 April 2023, J.-R. Baars. Owenass River, Cathole Falls (N377049), 1 larvae 2 April 2023, J.-R. Baars.

OFFALY: Camcor River, Birr Town (N064048), 1 larva 6 July 2022, Rachel Mc Kenna (NBDC).

TIPPERARY: Cahir (R994232), 1♀ 27 May 2022, Niall Halligan (NBDC).

TYRONE: Gortin Water, Oritor (Ballinderry Rivers Trust HQ) (H774796), 4 larvae 28 March 2023, H. B. Feeley, H. M. Barber-James and Craig Macadam. Ballinderry River tributary, Teebane Bridge (H671802), 1 larva 17 May 2023, H. M. Barber-James.

WATERFORD: Knockaunbrandaun (Tributary of Glounmore Stream) (S229112), 1 adult (sex indeterminate) 18 June 2023, Adrian Allen (NBDC).

WICKLOW: Ballydonnell Brook, Ballylow Bridge (O058130), 1 larva 5 May 2023 and 1 adult (sex indeterminate) 12 May 2023, both Paula White (NBDC). Tinahely Railway Walk (Derry River) (T042721), 1 adult (sex indeterminate) 4 June 2023, David Cullen (NBDC).

There is some doubt over the identity of *Isoperla* in Ireland. British and Irish specimens were originally described as a separate subspecies, *Chloroperla grammatica subarmata* Despax, 1936 (Despax, 1936), but Illies (1952) subsequently synonymised it with *Isoperla grammatica*. However, it is suggested that *I. subarmata* is a valid species based on the shape of the penal armature (Jean-Paul Reding, pers. comm.). Therefore, further work is required to determine the taxonomic status of *Isoperla* in Ireland (and Britain) and whether both *Isoperla grammatica* and *I. subarmata* are present here.

TAENIOPTERYGIDAE

Brachyptera risi (Morton, 1896)

ANTRIM: Glenarm River, Glenarm Forest (D301117), 1 larva 10 May 2022, H. M. Barber-James. Forth River, Crow Glen (J289768), 1♂ 2 June 2023, H. M. Barber-James.

DERRY: Ballinderry River tributary, Reubens Glen (H857887), 1 larva 2 October 2022, H. M. Barber-James. Carndaisy Glen, tributary of the Ballinderry River (H828857), 2♂♂2♀♀ 27 March 2023, H. M. Barber-James and Craig Macadam and 1♀ 18 May 2023, H. M. Barber-James.

DONEGAL: Owenveagh River, Glenveagh Cottage (B993182), 1♀ 29 March 2023, H. B.

Feeley. Lough Eske, Ardnamona Wood (G964847), 2♂♂ 16 April 2023, Ryan Mitchell.

DOWN: Small stream 1, Carrick Little, Head Road, Annalong (J340229), 1 larva 19 March 2023, H. B. Feeley and H. M. Barber-James.

DUBLIN: Owendoher River, near Cruagh, off the R116 (O139226), 2♂♂ 27 March 2023, J-R. Baars, Cruagh (bridge on the R116) (O137227), 2♀♀ 3 May 2023 and Kilakee Mountain (O125222), 1♀ 3 May 2023, both H. B. Feeley. Cot Brook, near O'Rourke's Lane (O108199), 2♀♀ 27 March 2023, J-R. Baars.

FERMANAGH: Crocknagrally (Colebrooke River) (H482428), 17 April 2022, Sam Clawson (NBDC).

KERRY: Tomies Wood River, below O'Sullivan's Falls (V915885), 2♂♂ 20 April 2023, off a small road (V912878), 6♂♂2♀♀ 20 April 2023, 500m upstream of a small road (V913873), 1♂ 21 April 2023, 850m upstream of a small road (V911870), 2♂♂4♀♀ 21 April 2023 and 1.4km upstream of a small road (west tributary, Coomclochan) (V907867), 2♂♂1♀ 21 April 2023, all J-R. Baars.

LAOIS: Clodaigh River, bridge on the L6002 (N296095), 2 larvae 2 April 2023, Owenass River, Cathole Falls (N377049), 2♂♂2♀♀ 2 April 2023, J-R. Baars. Glenlahan River, Clarahill Bridge (N345107), 1♀ 2 April 2023, J-R. Baars. Upper Murglash River, tributary of Owenass River, off the L2018 (N377053), 1♂4♀♀ 2 April 2023, J-R. Baars.

MAYO: Srahnalong River, bridge on the R300 (M008614), 1♂ 5 April 2023, H. B. Feeley. Glensaul River, confluence at the waterfall, Tourmakeady Woods (M082676), 1♂ 5 April 2023 and car park at Tourmakeady Woods (M091678), 1♂ 5 April 2023, both H. B. Feeley.

TYRONE: Gortin Water, Oritor (Ballinderry Rivers Trust HQ) (H774796), 4♂♂3♀♀ 28 March 2023, H. B. Feeley, H. M. Barber-James and Craig Macadam.

WICKLOW: Avonmore River, 1st bridge south-east of the Sally Gap (O143099), 1♂ 6 April 2023, J-R. Baars. Glencree River, off the R115 (O141185), 2♀♀ 6 April 2023, J-R. Baars. Avonmore River tributary, Sheepsbank Bridge (O153095), 1♂ 17 April 2023, H. B. Feeley. River Liffey, bridge east of Ballysmuttan (O056148), 1♀ 17 April 2023 and 2km northwest of the Sally Gap (O109127), 1♂1♀ 17 April 2023, both H. B. Feeley. Ballylow Brook, bridge upstream of the Ballydonnell River confluence (O0677338), 3♂♂2♀♀ (1♂ with crumpled wings) 17 April 2023, H. B. Feeley. Ballydonnell River, Ballylow Bridge (O060129), 2♂♂2♀♀ 17 April 2023, H. B. Feeley. Lugnalee Brook, just upstream of the River Liffey confluence (O094131), 2♂♂ 17 April 2023, H. B. Feeley. Sraghoe Brook, Bridge on the R759 (O097135), 1♂ 17 April 2023, H. B. Feeley. Ballinagee River, Ballinagee Bridge (O036023), 2♀♀ 18 April 2023, H. B. Feeley. Cock Brook, northwest of Kilmore (O021088), 1♂ 18 April 2023, H. B. Feeley. Kings River, bridge 100m upstream of the Ballinagee River confluence (O033020), 2♂♂ 18 April 2023, H. B. Feeley. Annalecka Brook, Annalecka Bridge (O056018), 1♂4♀♀ 18

April 2023, H. B. Feeley. Glashaboy Brook tributary, Glashaboy Bridge (O066016), 1♂ 18 April 2023, H. B. Feeley. Glendasan River, bridge upstream of the Glenealo River confluence (T123969), 1♀ 21 April 2023, H. B. Feeley. Glenmacnass River, just upstream of the Avonmore River (T145964), 1♀ 27 April 2023, H. B. Feeley. River Ow, Ballymanus Bridge (T093815), 1♂2♀♀ 2 May 2023, H. B. Feeley. Lough Bray Upper inflow (off the Military Road) (O141151), 2♀♀ 3 May 2023, H. B. Feeley. Glencullen River, Knocksink Wood (O214181), 1♂ 7 May 2023, Ryan Mitchell.

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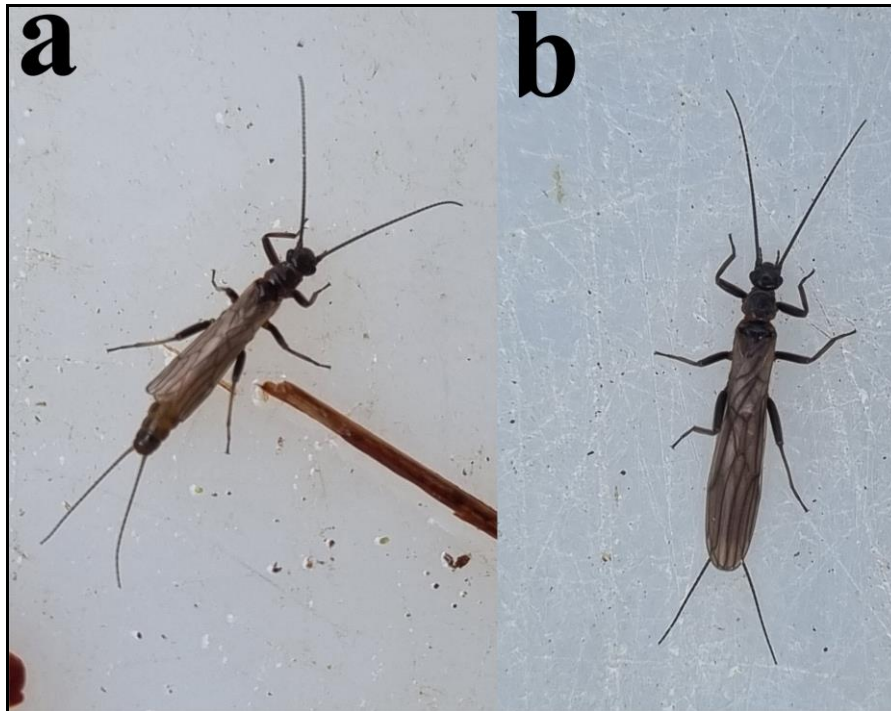


PLATE 1. Wing length variation in *Capnia atra* populations. **a:** brachypterous female collected from Lough Veagh, County Donegal; **b:** macropterous individual collected from Lough Conn, County Mayo. Photographs: Hugh B. Feeley.

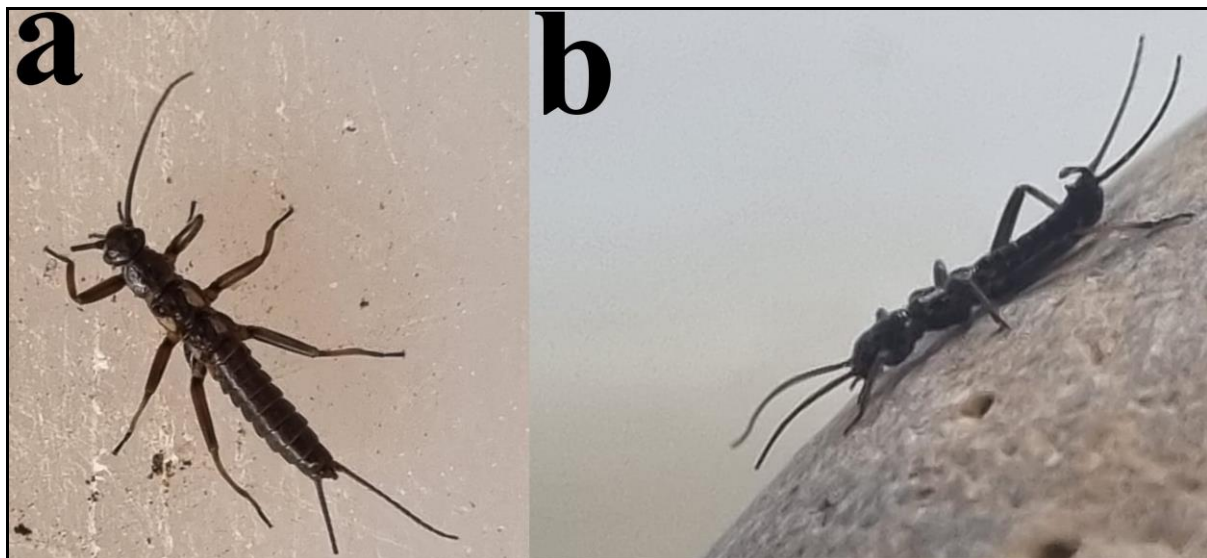


PLATE 2. Microptery in male *Zwicknia bifrons* collected from Lough Mask, County Mayo. All male *Z. bifrons* collected exhibited this extreme reduction in wing size, with adults resembling larvae. **a:** dorsal view. **b:** lateral view. Photographs: Hugh B. Feeley.



PLATE 3. Lateral view of additional upstanding processes on tergite VII characteristic of a male *Leuctra nigra* f. *hibernica* after Feeley *et al.* (2024), the dominant form of adult males in Ireland. Adult male *L. nigra* sensu stricto only have upstanding processes on tergites VI and VIII. Photograph: Hugh B. Feeley.