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The Mayfly Newsletter

Donna Giberson

The Permanent Committee of the International Conferences on Ephemeroptera, giberson@upei.ca

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The Mayfly Newsletter

Vol. 27(1)
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The Mayfly Newsletter is the official newsletter of the Permanent Committee of the International Conferences on Ephemeroptera

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Feature Photos

Greg Courtney, Professor of Entomology, Iowa State University, continues to photograph living aquatic insects both near his home and worldwide. In this issue, he shares an image of *Dolania americana* Edmunds & Travers (Behningiidae), a psammophilic (sand-loving) mayfly photographed in the Florida panhandle.

Nymph of *Dolania americana* Edmunds & Travers (Behningiidae) from upper Blackwater River, Florida. 22 February 2024



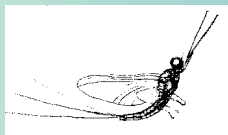
© G. Courtney

Frederico Salles shares this photo taken in December 2022 at Serra do Brigadeiro State Park, Minas Gerais, Brazil:

A male imago of a new species belonging to the genus *Massartella* (Ephemeroptera, Leptophlebiidae).



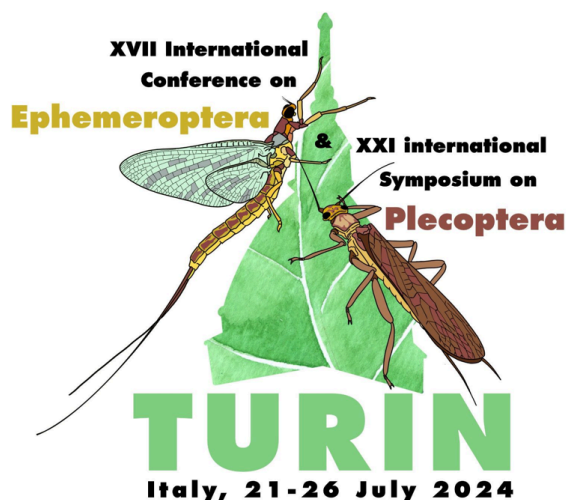
© F.F. Salles



The Mayfly Newsletter is published (on-line) at <https://dc.swosu.edu/mayfly/> (see link on Ephemeroptera Galactica: <http://www.ephemeroptera-galactica.com/>)

contact: Donna J. Giberson, Editor
email giberson@upei.ca

Masthead image: *Hexagenia* sp. Andy Usher (Indiana University, Purdue University, Indianapolis)



2024 Joint Meeting of the XVII International Conference on Ephemeroptera and XXI International Symposium on Plecoptera Third announcement

Organizers: **Stefano Fenoglio**, Università di Torino, Italy, stefano.fenoglio@unito.it; **Romolo Fochetti**, Università della Tuscia, Italy, fochetti@unitus.it; **Manuel J. López-Rodríguez**, Universidad de Granada, Spain, manujlr@ugr.es; **J. Manuel Tierno de Figueroa**, Universidad de Granada, Spain, jmtdef@ugr.es

Dear colleagues,

Preparations for the IJMEP 2024 progress successfully and we, as the organizing committee, are finalizing the details to welcome you to Turin this July. The early and regular registration periods finished the 15th of April and 15th of May respectively, and we are now in the late registration period, so we encourage you to check the website for information on late registration. Up to date, there are 78 participants from 27 different countries of five continents, so we expect interesting communications on the advance of the knowledge about mayflies and stoneflies all over the World.

As before, you will find all the information on the website of the meeting (<http://ijmep2024.com>). After the 15th of May, we will update the program and we will schedule the received communications so, please, stay tuned to the web site.

We are excited and looking forward to seeing you in Turin!

All the best!

The organizing committee



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DE GRANADA**

How to Donate to the International Permanent Committee on Ephemeroptera Scholarship Fund

This fund (Canadian Tax Reg. No. BN 88915 1379 RR001) provides travel scholarships to assist upcoming scientists to attend our international conferences. You have several options to donate to the mayfly travel fund. The committee can accept a cheque, a wire transfer or you can use our PayPal account. More details are provided below.

- 1) Cheque.** Please make cheque payable to: "International Permanent Committee on Ephemeroptera" and mail to Alexa at the address below.
- 2) Wire transfer.** Wire transfer. By arrangement with the treasurer. Please email alexa@ecobmi.com
- 3) PayPal.** Business account: International Permanent Committee for Ephemeroptera Scholarship Fund, <https://www.paypal.com/paypalme/Ephemeroptera> Email: alexa@ecobmi.com.

Do let me know how I can help if any of this information is unclear.

Alexa C. Alexander Trusiak,

Permanent Committee Treasurer

Environnement et changement climatique Canada | Environment and Climate Change Canada,

Department of Biology and Canadian Rivers Institute, University of New Brunswick,

#10 Bailey Drive, P.O. Box 4400, Fredericton, NB, CANADA, E3B 5A3

+001-506-447-3496

alexa@ecobmi.com

NOUVEAU | NEW: alexa.alexander-trusiak@canada.ca

And a reminder to think about items to donate to the silent auction supporting meeting scholarships during the next meeting! Please bring these items with you to the meeting, or contact the conference organizers to send items.

Potential items can be, among other things, souvenirs from your own country, specimens, books and articles on Plecoptera/Ephemeroptera, memorabilia and artwork. **Proceeds from the auction go directly to fund travel scholarships for early career students of Ephemeroptera and Plecoptera to attend our Joint Conferences**



C. Francischetti

A view of the busy Silent Auction Table from the Aracruz Meeting.

Request for Specimens

Benedict Stocker

Department of Entomology, State Museum of Natural History Stuttgart
Rosenstein 1, 70191 Stuttgart, Germany, Email: benedict.stocker@smns-bw.de

NATURKUNDE
MUSEUM
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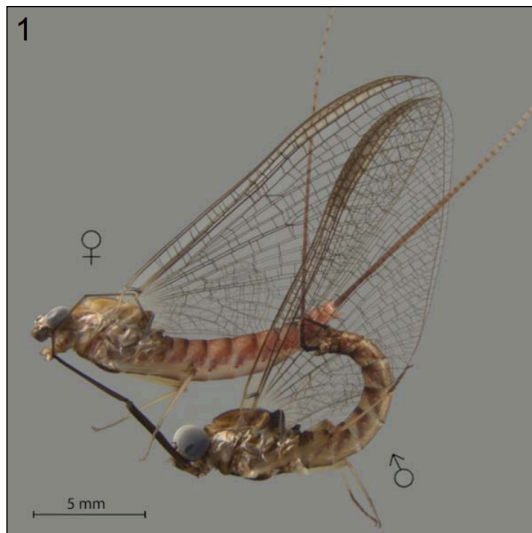
Dear colleagues,

In my PhD project, which I just started under the supervision of Dr. Arnold Staniczek in Stuttgart, I aim to compare different modes and mechanisms of copulation in mayflies using μ -CT. To be able to compare across a diverse range of families, I would highly appreciate your help:

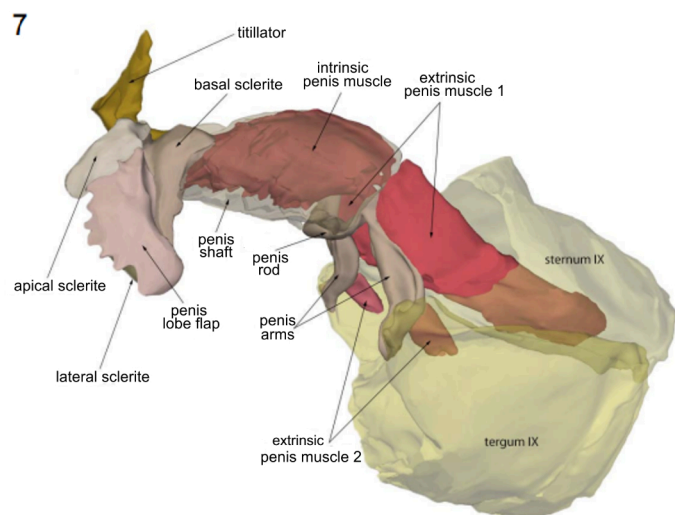
I am seeking fixated pairs in copula (preferably preserved in alcohol, any species), so if by chance you have copulae in alcohol, or if you come across copulating mayflies, please think of me, fixate them while they are still in copula (EtOH will do), and send them to me. I would in fact be immensely appreciative if collectors could preserve any copulae they encounter this year in alcohol and if those of you already in possession of fixated copulae would be willing to donate them. Specimens and questions can be mailed to the above address.

I will also be attending the conference in Turin this July and I am very much looking forward to meeting many of you there. Therefore, specimens could also be handed over directly at the conference in Turin.

Thank you very much for your support and help!



B. Stocker



Conference Proposals

The joint International Conference on Ephemeroptera and International Symposium on Plecoptera usually takes place every three years. The next joint meeting will take place in Turin, Italy, 21-26 July 2024.

Preliminary proposals to host the following joint conference in 2027 may be submitted from now onwards and at the latest one month before the Turin meeting. Proposals should be presented at the conference in 2024, and a final decision on the conference site will be made shortly afterwards by the joint committees.

1. Proposals should be submitted at least one month prior to the conference during which the proposal will be officially presented.
2. A copy of the proposal should be sent to the chair of each committee
 - International Conferences on Ephemeroptera: Michel Sartori (michel.sartori@vd.ch)
 - International Society of Plecopterologists: John Brittain (j.e.brittain@nhm.uio.no)
3. Proposals should be submitted by e-mail. This facilitates distribution of the proposal to the members of the two committees.
4. Proposals should contain detailed information regarding plans to host the conference.

Contact either chair for additional information.

Ephemeroptera Outreach!

TED Lesson on mayflies by Luke Jacobus

For most of the world's 4,000 mayfly species, adulthood lasts roughly one day. And for some species, it's only a matter of minutes. This isn't because they're all eaten up by predators. Rather, this abridged adulthood is a natural part of their life cycle. So, what role do these bugs play in their ecosystems? Luke M. Jacobus explores the stunningly short life span of the winged insects.

About the process. Luke reported "My TED lesson about mayflies is out! About a year ago, they approached me about developing content for them, and here it is. I am glad I did not delete that first email; I thought it was a scam."



<https://ed.ted.com/lessons/if-you-re-an-adult-mayfly-you-ll-probably-die-before-the-end-of-this-video-luke-m-jacobus>

The Global Center for Species Survival is a partnership between the IUCN Species Survival Commission and the Indianapolis Zoological Society

The Indianapolis Zoo has partnered with the IUCN Species Survival Commission to form the Global Center for Species Survival (<https://www.indianapoliszoo.com/gcss/about/>).

One of their initiatives is a podcast series dedicated to "conversing with conservationists". One recent podcast focused on Mayflies, with Luke Jacobus (<https://www.indianapoliszoo.com/gcss/blog/mayflies-with-luke-jacobus/>).

Direct link to podcast: <https://www.youtube.com/watch?v=OIMLa9WSnrA>

Proceedings published from the 2022 virtual meeting

Proceedings of the 2022 XVI International Conference on Ephemeroptera and XX International Symposium on Plecoptera (<https://doi.org/10.11646/zoosymposia.24.1.2>)

Edited by R. Edward DeWalt & Steven K. Burian

Available from: <https://mapress.com/zs/issue/view/zoosymposia.24.1>

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Project Updates

A complete dataset of mayflies (Ephemeroptera) recorded in Ireland, 1850–2023.

Hugh B. Feeley, Mary Kelly-Quinn and Jan-Robert Baars

Email: hughfeeley@gmail.com; mary.kelly-quinn@ucd.ie; jan-robert.baars@ucd.ie

The island of Ireland has 34 species of Ephemeroptera. While the island is species-poor compared to the island of Britain and mainland Europe—in large part due to our glacial history and isolation from mainland Europe—the Ephemeroptera represent an important component of Ireland’s freshwater biodiversity. Of the 34 species, 6 (or 18%) are assessed as Threatened and two as Near Threatened using International Union for the Conservation of Nature (IUCN) criteria and guidelines (see Kelly-Quinn and Regan 2012 for more details). Several other species are deemed data deficient owing to few records, especially in recent years, while *Baetis fuscatus* (Linnaeus, 1761) remains unconfirmed as an Irish species (Kelly-Quinn and Regan 2012). New efforts are underway to address some of the data gaps relating to Ephemeroptera in Ireland over the coming years.

Research and recording of mayflies in Ireland can be dated back to the late 1800s and the work of pioneering entomologists such as Alfred Edwin Eaton (1844–1929), amongst others. Many of Ireland’s mayfly species were listed together for the first time in the seminal papers by King (1889) and King and Halbert (1910), which both documented “*Neuroptera of Ireland*” and included 24 mayfly species, then referred to as Ephemeridae. In the 1950s, J.R. Harris, a keen angler and entomologist, produced a detailed book on the taxonomy, ecology, phenology, and biology, and even some of the first distribution maps, of mayflies in Ireland, much of which still stands the test of time (Harris 1952). At the end of the 20th century, Kelly-Quinn and Bracken (2000) produced the first island-wide comprehensive species list and distribution maps of mayflies for Ireland, listing 33 species. This dataset eventually went on to aid the production of the first IUCN Red listing of Ephemeroptera in Ireland (Kelly-Quinn and Regan 2012). More recently in 2020, *Baetis atlanticus* (Soldán and Godunko) was added to the Irish species list (Feeley and Macadam 2020; Snounou, Snell and Feeley 2022) highlighting that additional species may yet remain undiscovered. One such species, *Siphonurus aestivalis* (Eaton, 1903), which was recently confirmed in Britain (Macadam and Farr 2021), is a prime candidate owing to taxonomic similarities with the rare species *S. armatus* Eaton, 1870. Nevertheless, despite over 180 years of records, new species locations are continuously being added, especially for some of our rarer species (e.g., Baars, Lyons and Kelly-Quinn 2005; Feeley and Mitchell *in press*).

A complete dataset of mayflies recorded in Ireland, covering the period 1850–2023 is currently available online and free to access (Figure 1). The dataset and maps are hosted by Ireland’s National Biodiversity Data Centre (<https://biodiversityireland.ie/>) and are licensed by Creative Commons CC-BY 4.0, thus making them free to download and use. The dataset, updated annually, has some general information available, along with a list of Irish species, with maps available for each individual species. There is also a ‘Live Map’ feature which allows users to add various administrative maps and boundaries, habitats, and visual options (e.g., orthophoto layer). The user can also select any record on the map and see the associated metadata which will include an Irish grid reference, site name, recorder, determiner, species, and record date. Finally, all the records can be downloaded as a .CSV file for further use.

While the dataset is currently our most comprehensive record of Ireland’s mayflies there is one caveat. Owing to the recent discovery of *B. atlanticus* and its taxonomic similarity with *B. rhodani* (Pictet, 1843) (see Feeley and Macadam 2020 for more details) the records relating to *B. rhodani* pre-2020 are uncertain. Nevertheless, this is a very common and widespread species, and its distributions is very likely to overlap with what is currently outlined in the dataset. Similarly, the low number of records for *B. atlanticus*, while correctly assigned, do not reflect the true distribution of this species in Ireland owing to a lack of data. These discrepancies may well be sorted in the future but are worth mentioning here for any potential users of the data.

The full Irish Ephemeroptera dataset (Kelly-Quinn and Feeley 2024) and associated maps, metadata, etc., can be accessed at <https://maps.biodiversityireland.ie/Dataset/49>.

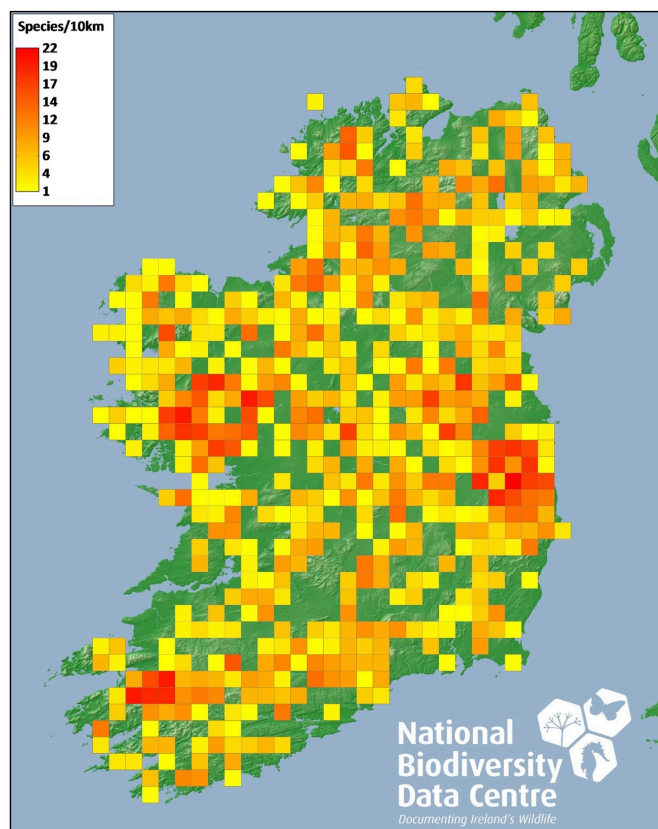


Figure 1. Map of Ephemeroptera records for the island of Ireland, 1850–2023. Map available at <https://maps.biodiversityireland.ie/Dataset/49>

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Assessing specific stressors in multi-stressed stream ecosystems using mayflies as a model organism group

Leon van Kouwen L.vanKouwen@has.nl
HAS green academy
's-Hertogenbosch, the Netherlands

Ecological water quality in North-Western Europe has greatly improved since the 1970s. However, this improvement stagnated during the last decade. A major cause is the presence of multiple interacting stressors acting at different spatial-temporal scales, making it difficult to identify measures to alleviate stress and improve water quality. Mayflies are widely used as indicators, and are sensitive to various stressors, making them ideal for identifying environmental stressors. Additionally, restoring streams to conditions suitable for typical mayfly species, may also benefit other macroinvertebrates.

The goal of the project is to connect specific stressors to specific mayfly species, and to develop effective stream restoration measures. The project focusses on:

- Identifying region- and species-specific trends to understand how different species respond to specific stressors, moving beyond general trends observed in previous studies. This has led to the first publication: <https://www.sciencedirect.com/science/article/pii/S0048969724017613>
- Investigating the relationship between land use/scale, aiming to quantify how and on which scale stressors affect different species.
- Examining the aerial dispersal capacity of mayflies in relation to land use types (e.g., forested areas, more open spaces) to understand how landscape characteristics influence their flight distances, using *Ephemera danica* as a model organism.
- Conducting a reintroduction experiment, aiming to determine if restoration efforts have been sufficiently effective. Here, we use *Leptophlebia marginata* as a model organism.



Reintroduction program for *Leptophlebia marginata*

L. van Kouwen

Emendations to mayfly references for Maine and Connecticut, USA

Steven K. Burian

Northeast Ephemeroptera Laboratory,
9 Molsick Rd., Seymour, CT USA 06483

burians1@southernct.edu

It has been more than 30 years since the first of three publications appeared treating the mayfly fauna of Maine, and later Connecticut, USA. These references (Burian and Gibbs 1991, Burian and Bednarik 1994, and Burian 1997) have provided essential first approximations of the diversity and distribution of mayfly species spanning the northernmost and southernmost New England States. However, over the past 30 years there have been many changes in taxonomic nomenclature and there has been much time to carefully reevaluate the data presented in these references. It seems appropriate at this time to provide an update to these publications that allows their content to be correctly interpreted and used to support future efforts to study the mayfly diversity of this region of North America.

The emendations to these references are presented in the tables shown over the next few pages. They are also available from the author in an excel spreadsheet with three worksheets, one for each of the three references (Burian & Gibbs, 1991, Burian & Bednarik, 1994, and Burian 1997). Most of the changes listed are for changes in taxonomic nomenclature. In Tables 1 and 2 (the worksheets for Burian & Gibbs 1991 and Burian & Bednarik 1994), the first column contains the names of taxa as they appeared in the original publication. Any red markings in this first column note mistakes in the original listing or special notes meant to clarify a species status. The second column in these worksheets contains the correct names for these taxa as of 2024, as well as any additional information to help clarify the status of a species or to update the original list based on information obtained after it was published. There is also a third column that contains notes, which include updates to occurrence records of taxa on the original publication. The inclusion of additional occurrence information is limited to that which was known at or near the time of publication, but for various reasons was unable to be included in the original lists. The occurrence updates listed here do not represent the full scope of what is now known for new species records in these regions, but it is not the intent here to provide a comprehensive listing of new records. Table 3 (The worksheet for the biogeography paper (Burian 1997) that included multivariate statistical analyses of mayfly distributions in Maine) is structured differently from that for the species lists papers. In this paper species were listed by number and codes. These numbers and codes appeared in vector plots and were explained in a table at the end of the paper. The first two columns in the worksheet are the numbers and codes of species that require name updates. In the third column are the names as they appeared in the paper and the fourth column contains the current names. Again, any red markings in the original name column note mistakes in the original listing or special notes meant to clarify a species status. Using these three Tables, it should be possible to correctly interpret the content of older publications with regards to our current knowledge of species names and thus continue to access and use the associated habitat and biological data in a meaningful way. There is still much to be learned about the mayfly fauna of the New England region of North America and it is hoped that these works will continue to support future research efforts.

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Table 1. Emendations to the names of mayfly families, genera, and species appearing in the faunal list of Maine mayflies (Burian and Gibbs 1991). Occurrence data is also updated, and notes provided to clarify the status of species where necessary.

Mayfly Species - Species names and families as listed in Burian & Gibbs (1991)	Mayfly Species - Species names and families according to current (2024) taxonomic nomenclature	Update and review of mayfly species occurrences
Siphonuridae	Ameletidae	
<i>Ameletus browni</i> McDunnough, 1933	<i>Ameletus browni</i> McDunnough, 1933	No Changes
<i>Ameletus lineatus</i> Traver, 1932	<i>Ameletus lineatus</i> Traver, 1932	Add New Records: H6, H25, H26
<i>Ameletus ludens</i> Needham, 1905	<i>Ameletus ludens</i> Needham, 1905	No Changes
<i>Ameletus tertius</i> McDunnough, 1938	<i>Ameletus tertius</i> McDunnough, 1938	Add New Record: Ps30 - Howe Brook, Baxter State Park - 1979
Heptageniidae	Arthropleidae	
<i>Arthroplea bipunctata</i> (McDunnough, 1924)	<i>Arthroplea bipunctata</i> (McDunnough, 1924)	Add New Records: H20, H27, P49

...Continued

Mayfly Species - Species names and families as listed in Burian & Gibbs (1991)	Mayfly Species - Species names and families according to current (2024) taxonomic nomenclature	Update and review of mayfly species occurrences
Baetidae	Baetidae	
<i>Baetis armillatus</i> McCafferty & Waltz, 1990	<i>Acentrella parvula</i> (McDunnough, 1932)	No Changes
<i>Acentrella carolina</i> (Banks), 1924	<i>Acentrella turbida</i> (McDunnough, 1924)	No Changes
<i>Acerpenna macdunnoughi</i> (Ide, 1937)	<i>Acerpenna macdunnoughi</i> (Ide, 1937)	Add New Records: H1, H7, H20, H26, Ps4(M,F)
<i>Acerpenna pygmaea</i> (Hagen), 1861	<i>Acerpenna pygmaea</i> (Hagen, 1861)	Add New Records: H2, H6, H21
<i>Procladius album</i> (McDunnough), 1926	<i>Anafroptilum album</i> (McDunnough, 1926)	Add New Records: H26, Ps8 (M)
<i>Centroptilum semirufum</i> (McDunnough, 1926) - Actually <i>Anafroptilum victoriae</i> (McDunnough, 1938), it was misidentified in the original publication.	<i>Anafroptilum victoriae</i> (McDunnough, 1938)	No Change
	<i>Anafroptilum semirufum</i> (McDunnough, 1926)	Present in Maine - Unpublished collection from Penobscot River
<i>Baetis brunneicolor</i> (McDunnough, 1925)	<i>Baetis brunneicolor</i> (McDunnough, 1925)	Species is present in Maine, but far less common than previously listed. About half of the records previously listed for <i>B. brunneicolor</i> are now known to be assignable to <i>B. pluto</i> . Initial determinations were made using inaccurate illustrations in the primary literature and vague descriptions of nymphs in keys. New work using reared specimens from other parts of the species range where <i>B. brunneicolor</i> is abundant provided the data necessary for clarifying the initial determinations presented by Burian & Gibbs (1991). The Following records are assignable to <i>B. brunneicolor</i> : F20, Ps2, Ps5, Ps7, Wn1, Wn4, Ps2 (F), Ps5(F), Ps6(F), Ps7(M), Wn4(M)
<i>Baetis flavistriga</i> McDunnough, 1921 - Now considered a species complex	<i>Baetis flavistriga</i> McDunnough, 1921 [species complex]	Add New Records: H6, H26
<i>Baetis intercalaris</i> McDunnough, 1921	<i>Baetis intercalaris</i> McDunnough, 1921	No Change
<i>Baetis pluto</i> McDunnough, 1925	<i>Baetis pluto</i> McDunnough, 1925	Species is present in Maine and far more common than previously listed. About half of the records previously listed for <i>B. brunneicolor</i> are now known to be assignable to <i>B. pluto</i> . The following records are assignable to <i>B. pluto</i> : F5, F9, F18, H1, H2, H4, H9, H25, H26, K1, L1, P3, P7, P8, P10, Ps2, S5, W2, W3, W4, Wn11, H2(F), L1(F), P7 (M,F), P10(M,F).
<i>Baetis tricaudatus</i> Dodds, 1923	<i>Baetis tricaudatus</i> Dodds, 1923	Add New Records: H1, H24, H26
<i>Callibaetis ferrugineus</i> (Walsh), 1862	<i>Callibaetis ferrugineus</i> (Walsh, 1862)	Add New Record: H27
<i>Callibaetis fluctuans</i> (Walsh), 1862	<i>Callibaetis fluctuans</i> (Walsh, 1862)	Add New Record: H32
<i>Callibaetis pallidus</i> Banks, 1900	<i>Callibaetis pallidus</i> Banks, 1900	No Change
<i>Callibaetis pretiosus</i> Banks, 1914	<i>Callibaetis pretiosus</i> Banks, 1914	No Change

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Table 1. Continued

Mayfly Species - Species names and families as listed in Burian & Gibbs (1991)	Mayfly Species - Species names and families according to current (2024) taxonomic nomenclature	Update and review of mayfly species occurrences
<i>Cloeon cognatum</i> Stephens, 1835	<i>Cloeon dipterum</i> (Linnaeus, 1761)	No Change
<i>Dipheter hageni</i> (Eaton), 1885	<i>Dipheter hageni</i> (Eaton, 1885)	No Change
<i>Acentrella amplum</i> (Traver, 1932)	<i>Heterocloeon (J.) amplum</i> (Traver, 1932)	Add New Records: H4, H26
<i>Heterocloeon curiosum</i> (McDunnough), 1923	<i>Heterocloeon (H.) curiosum</i> (McDunnough, 1923)	No Change
<i>Baetis-frondalis</i> (McDunnough), 1925	<i>Labiobaetis frondalis</i> (McDunnough, 1925)	No Change
<i>Baetis propinquus</i> (Walsh), 1863	<i>Labiobaetis propinquus</i> (Walsh, 1863)	No Change
<i>Centroptilum triangulifer</i> (McDunnough), 1931	<i>Neocloeon triangulifer</i> (McDunnough, 1931)	No Change
<i>Baetis veteris</i> (McDunnough, 1924)	<i>Plauditus cestus</i> (Provonsha & McCafferty, 1982)	Add New Records: F7
<i>Baetis cinctutustus</i> McCafferty & Waltz, 1990	<i>Plauditus cingulatus</i> (McDunnough, 1931)	No Change
<i>Baetis dubius</i> (Walsh), 1862	<i>Plauditus dubius</i> (Walsh, 1862)	Add New Records: H6, H26
<i>Baetis punctiventris</i> (McDunnough), 1932	<i>Plauditus punctiventris</i> (McDunnough, 1932)	No Change
<i>Baetis virile</i> (McDunnough), 1923	<i>Plauditus virilis</i> (McDunnough, 1923)	No Change
<i>Procloeon bellum</i> (McDunnough, 1924) - Actually <i>Procloeon rivulare</i> (Traver, 1935)	<i>Procloeon bellum</i> (McDunnough, 1924) Likely an invalid species	All records listed for this species are assignable to <i>P. rivulare</i>
<i>Procloeon convexum</i> (Ide, 1930) - Now jr. synonym of <i>Anafroptilum album</i> (McDunnough, 1926)		All records listed for this species are assignable to <i>A. album</i>
<i>Procloeon ingens</i> (McDunnough), 1923	<i>Procloeon ingens</i> (McDunnough, 1923)	No Change
<i>Procloeon intermediale</i> (McDunnough), 1931) Only ID Adult ♂, possibility this could be <i>P. fargile</i> (McDunnough, 1923)	<i>Procloeon intermediale</i> (McDunnough, 1931) Only ID Adult ♂	No Change
<i>Procloeon mendax</i> (Walsh), 1862)	<i>Procloeon mendax</i> (Walsh, 1862)	Correct Record P39 to be H30
<i>Procloeon ozburni</i> (McDunnough, 1924) Only ID Adult ♂	<i>Procloeon ozburni</i> (McDunnough, 1924) Only ID Adult ♂	Only Record P17(M) considered valid
<i>Procloeon rivulare</i> (Traver), 1935)	<i>Procloeon rivulare</i> (Traver, 1935)	Add New Records: F10, F12, H1, P3, P7, S8, Wn5 (M), F10(M,F)
<i>Procloeon rubropictum</i> (McDunnough), 1923)	<i>Procloeon rubropictum</i> (McDunnough, 1923)	Add New Records: H1
<i>Procloeon rufostrigatum</i> (McDunnough), 1924)	<i>Procloeon rufostrigatum</i> (McDunnough, 1924)	Add New Records: H24
<i>Procloeon simplex</i> (McDunnough), 1925)	<i>Procloeon simplex</i> (McDunnough, 1925)	No Change
Baetiscidae	Baetiscidae (1G, 6 Spp.)	
<i>Baetisca berneri</i> Tarter & Kirchner, 1978	<i>Baetisca berneri</i> Tarter & Kirchner, 1978	No Change
<i>Baetisca carolina</i> Traver, 1931	<i>Baetisca carolina</i> Traver, 1931	No Change
<i>Baetisca lacustris</i> McDunnough, 1932	<i>Baetisca lacustris</i> McDunnough, 1932	No Change

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Table 1. Continued

Mayfly Species - Species names and families as listed in Burian & Gibbs (1991)	Mayfly Species - Species names and families according to current (2024) taxonomic nomenclature	Update and review of mayfly species occurrences
<i>Baetisca laurentina</i> McDunnough, 1932	<i>Baetisca laurentina</i> McDunnough, 1932	No Change
<i>Baetisca rubescens</i> (Provancher), 1878)	<i>Baetisca rubescens</i> (Provancher, 1878)	Add New Record: Ak36 - Aroostook River, nr Ashland - 1995
Caenidae	Caenidae	
<i>Caenis amica</i> Hagen, 1861	<i>Caenis amica</i> Hagen, 1861	Add New Record: H27
<i>Caenis anceps</i> Traver, 1935	<i>Caenis anceps</i> Traver, 1935	No Change
<i>Caenis diminuta diminuta</i> Walker, 1853	<i>Caenis diminuta diminuta</i> Walker, 1853	Add New Records: H21, H22
<i>Caenis latipennis</i> Banks, 1907	<i>Caenis latipennis</i> Banks, 1907	No Change
<i>Caenis punctata</i> McDunnough, 1931	<i>Caenis punctata</i> McDunnough, 1931	No Change
<i>Caenis tardata</i> McDunnough, 1931	<i>Caenis tardata</i> McDunnough, 1931	No Change
<i>Brachycercus lacustris</i> (Needham), 1918)	<i>Sparbarus lacustris</i> (Needham, 1918)	Add New Record: Wn15
Ephemerellidae	Ephemerellidae	
<i>Attenella attenuata</i> (McDunnough), 1925)	<i>Attenella attenuata</i> (McDunnough, 1925)	No Change
<i>Attenella margarita</i> (Needham), 1927)	<i>Attenella margarita</i> (Needham, 1927)	No Change
<i>Dannella simplex</i> (McDunnough), 1925)	<i>Dannella simplex</i> (McDunnough, 1925)	No Change
<i>Drunella cornuta</i> (Morgan), 1911)	<i>Drunella cornuta</i> (Morgan, 1911)	No Change
<i>Drunella cornutella</i> (McDunnough), 1931)	<i>Drunella cornutella</i> (McDunnough, 1931)	No Change
<i>Drunella lata</i> (Morgan), 1911)	<i>Drunella lata</i> (Morgan, 1911)	No Change
<i>Drunella tuberculata</i> (Morgan), 1911)	<i>Drunella tuberculata</i> (Morgan, 1911)	No Change
<i>Drunella walkeri</i> (Eaton), 1884)	<i>Drunella walkeri</i> (Eaton, 1884)	No Change
<i>Ephemerella aurivilli</i> (Bengtsson), 1908)	<i>Ephemerella aurivilli</i> (Bengtsson, 1908)	Add New Record: H26
<i>Ephemerella dorothea</i> dorothea (Needham, 19078)	<i>Ephemerella dorothea</i> dorothea (Needham, 1908)	Add New Record: H1, H6, H21, H26
<i>Ephemerella invaria</i> (Walker), 1853)	<i>Ephemerella invaria</i> (Walker, 1853)	Add New Record: H1, H6, H25, H26
<i>Ephemerella needhami</i> McDunnough, 1925	<i>Ephemerella needhami</i> McDunnough, 1925	No Change
<i>Ephemerella rotunda</i> Morgan, 1911- Now jr. synonym of <i>Ephemerella invaria</i> (Walker, 1853)		Add to records listed: H21 and all previously listed records now assignable to <i>E. invaria</i>
<i>Ephemerella septentrionalis</i> McDunnough, 1925	<i>Penelomax septentrionalis</i> (McDunnough, 1925)	No Change
<i>Ephemerella subvaria</i> McDunnough, 192531	<i>Ephemerella subvaria</i> McDunnough, 1931	No Change
<i>Eurylophella aestiva</i> (McDunnough), 1931)	<i>Eurylophella aestiva</i> (McDunnough, 1931)	No Change
<i>Eurylophella bicolor</i> (Clemens), 1913)	<i>Eurylophella bicolor</i> (Clemens, 1913)	Add New Records: P32, S2, WAD2, WAD5

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Table 1. Continued

Mayfly Species - Species names and families as listed in Burian & Gibbs (1991)	Mayfly Species - Species names and families according to current (2024) taxonomic nomenclature	Update and review of mayfly species occurrences
<i>Eurylophella coxalis</i> (McDunnough), 1926) - Misidentified, specimens initially determined to be <i>E. coxalis</i> are actually <i>E. enoensis</i> Funk, 1994.		The record previously listed (Ps6) now assignable to <i>E. enoensis</i> .
<i>Eurylophella funeralis</i> (McDunnough), 1925)	<i>Eurylophella funeralis</i> (McDunnough, 1925)	Add New Records: H1, H20, H24, H25, H26, Ps32, CRY3, WAD5
<i>Eurylophella minimella</i> (McDunnough), 1931)	<i>Eurylophella minimella</i> (McDunnough, 1931)	Add New Records: F7, Ps32
<i>Eurylophella prudentialis</i> (McDunnough), 1931)	<i>Eurylophella prudentialis</i> (McDunnough, 1931)	Add New Records: H1, Ps32, Y6, WAD5
<i>Eurylophella temporalis</i> (McDunnough), 1924)	<i>Eurylophella temporalis</i> (McDunnough, 1924)	No Change
<i>Eurylophella verisimilis</i> (McDunnough), 1930)	<i>Eurylophella verisimilis</i> (McDunnough, 1930)	Add New Records: H6, H20, H21, H25, H26, Ps32
<i>Serratella serrata</i> (Morgan, 1911)	<i>Serratella serrata</i> (Morgan, 1911)	No Change
<i>Serratella serratoides</i> (McDunnough), 1931)	<i>Serratella serratoides</i> (McDunnough, 1931)	No Change
<i>Serratella sordida</i> (McDunnough), 1925) - Now jr. synonym of <i>Serratella serrata</i> (Morgan, 1911)		The record previously listed (Wn10) now assignable to <i>Serratella serrata</i> .
<i>Serratella deficiens</i> (Morgan), 1911)	<i>Teloganopsis deficiens</i> (Morgan, 1911)	Add New Record: H25
Ephemeridae	Ephemeridae	
<i>Ephemera guttulata</i> Pictet, 1843	<i>Ephemera guttulata</i> Pictet, 1843	No Change
<i>Ephemera simulans</i> Walker, 1853	<i>Ephemera simulans</i> Walker, 1853	No Change
<i>Ephemera varia</i> Eaton, 1883	<i>Ephemera varia</i> Eaton, 1883	No Change
<i>Litobrancha recurvata</i> (Morgan), 1913)	<i>Litobrancha recurvata</i> (Morgan, 1913)	Add New Record: F7
<i>Hexagenia limbata</i> (Serville, 1829)	<i>Hexagenia limbata</i> (Serville, 1829)	Add New Records: H12, K9 (M,F), Y6 (M,F)
<i>Hexagenia limbata affiliata</i> McDunnough, 1927- Now jr. synonym of <i>Hexagenia limbata</i> (Serville, 1829)		All records now assignable to <i>H. limbata</i> .
<i>Hexagenia limbata occulta</i> (Walker, 1853) - Now jr. synonym of <i>Hexagenia limbata</i> (Serville, 1829)		All records now assignable to <i>H. limbata</i> .
<i>Hexagenia rigida</i> McDunnough, 1924	<i>Hexagenia rigida</i> McDunnough, 1924	Add New Record: Wn15
Heptageniidae	Heptageniidae (9G, 48 Spp.)	
<i>Nixe (N.) horrida</i> (McDunnough), 1926)	<i>Afghanurus horrida</i> (McDunnough, 1926)	Genus updated according to Burian (2019), but genus status seems to currently be in state of flux.
<i>Nixe (N.) lucidipennis</i> (Clemens), 1913)	<i>Afghanurus lucidipennis</i> (Clemens, 1913)	Same comment as above
<i>Nixe (N.) perfida</i> (McDunnough), 1926)	<i>Afghanurus perfida</i> (McDunnough, 1926)	Same comment as above
<i>Cinygmula subaequalis</i> (Banks), 1914)	<i>Cinygmula subaequalis</i> (Banks, 1914)	Add New Record: H26

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Table 1. Continued

Mayfly Species - Species names and families as listed in Burian & Gibbs (1991)	Mayfly Species - Species names and families according to current (2024) taxonomic nomenclature	Update and review of mayfly species occurrences
<i>Epeorus fragilis</i> (Morgan), 1911)	<i>Epeorus fragilis</i> (Morgan, 1911)	Add New Records: H2, H21, H26, Ps30
<i>Epeorus frisoni</i> (Burks), 1946)	<i>Epeorus frisoni</i> (Burks, 1946)	No Change, but other records published after this date
<i>Epeorus pleuralis</i> (Banks), 1910)	<i>Epeorus pleuralis</i> (Banks, 1910)	Add New Records: H1, H2, H7, H12, H20, H21, H24, H26
<i>Epeorus (I.) rubidus</i> (Traver, 1933) - Now jr. synonym of <i>Epeorus vitreus</i> (Walker, 1853)		No Change
<i>Epeorus vitreus</i> (Walker), 1853)	<i>Epeorus vitreus</i> (Walker, 1853)	Add New Records: F5, H1 and correct F8 to be P8
<i>Heptagenia flavescens</i> (Walsh), 1862)	<i>Heptagenia flavescens</i> (Walsh, 1862)	No Change
<i>Heptagenia pulla</i> (Clemens), 1913)	<i>Heptagenia pulla</i> (Clemens, 1913)	No Change
<i>Leucrocuta aphrodite</i> (McDunnough), 1926)	<i>Leucrocuta aphrodite</i> (McDunnough, 1926)	No Change
<i>Leucrocuta hebe</i> (McDunnough), 1924)	<i>Leucrocuta hebe</i> (McDunnough, 1924)	Add New Records: H1, H25, H26
<i>Leucrocuta maculipennis</i> (Walsh), 1863)	<i>Leucrocuta maculipennis</i> (Walsh, 1863)	No Change
<i>Leucrocuta minerva</i> (McDunnough), 1924)	<i>Leucrocuta minerva</i> (McDunnough, 1924)	No Change
<i>Leucrocuta walshi</i> (McDunnough), 1926)	<i>Leucrocuta walshi</i> (McDunnough, 1926)	No Change
<i>Rhithrogena amica</i> Traver, 1935 - Misidentified, specimens initially determined to be <i>R. amica</i> actually mix of specimens of <i>R. manifesta</i> and <i>R. serpenglena</i> (sp. n. inpress 2023). <i>R. amica</i> now confirmed within Maine, but not according to listing in Burian and Gibbs (1991).		New Record published <i>R. amica</i> by Burian (2024) from Maine: West Branch of Magalloway River, at washed out bridge on Rump Hill Rd. (site 32) elev. 573 m. All other records listed in Burian and Gibbs (1991) are invalid.
<i>Rhithrogena brunneotincta</i> McDunnough, 1933	<i>Rhithrogena brunneotincta</i> McDunnough, 1933	No Change, but not considered an endemic of Eastern Canada
<i>Rhithrogena impersonata</i> (McDunnough), 1925)	<i>Rhithrogena impersonata</i> (McDunnough, 1925)	No Change except need to delete record F9 - now known to be a different <i>Rhithrogena</i> species.
<i>Rhithrogena jejuna</i> Eaton, 1885 - Records listed as this species were determined according to Traver (1935) - now known to be a new species	<i>Rhithrogena serpenglena</i> Burian, 2024	No Change
<i>Rhithrogena pellucida</i> Daggy, 1945 - Now jr. synonym of <i>Rhithrogena manifesta</i> Eaton, 1885)	<i>Rhithrogena manifesta</i> Eaton, 1885	Add New Record: Wn11
<i>Rhithrogena uhari</i> Traver, 1933 - Misidentified, specimens initially determined to be <i>R. uhari</i> is Traver's key (1935) actually are <i>R. manifesta</i> Eaton, 1885 - No valid records for New England or New York.	Does Not Occur in New England	All listed records now assignable to <i>R. manifesta</i> .
<i>Stenacron candidum</i> (Traver), 1935)	<i>Stenacron candidum</i> (Traver, 1935)	No Change
<i>Stenacron interpunctatum</i> (Say), 1839)	<i>Stenacron interpunctatum</i> (Say, 1839)	Add New Records: H1, H24, H26, Wn4 (F), Y6 (M,F)
<i>Stenacron pallidum</i> (Traver), 1933)	<i>Stenacron pallidum</i> (Traver, 1933)	No Change
<i>Stenonema femoratum</i> (Say), 1823)	<i>Stenonema femoratum</i> (Say, 1823)	Add New Record: Y6 (M,F)

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Table 1. Continued

Mayfly Species - Species names and families as listed in Burian & Gibbs (1991)	Mayfly Species - Species names and families according to current (2024) taxonomic nomenclature	Update and review of mayfly species occurrences
<i>Stenonema ithaca</i> (Clemens & Leonard), 1924)	<i>Stenonema ithaca</i> (Clemens & Leonard, 1924)	No Change
<i>Stenonema luteum</i> (Clemens), 1913)	<i>Stenonema luteum</i> (Clemens, 1913)	No Change
<i>Stenonema mediopunctatum</i> (McDunnough), 1926)	<i>Stenonema mediopunctatum</i> (McDunnough, 1926)	No Change
<i>Stenonema mexicanum integrum</i> (McDunnough), 1924)	<i>Stenonema mexicanum integrum</i> (McDunnough, 1924)	No Change
<i>Stenonema modestum</i> (Banks), 1910)	<i>Stenonema modestum</i> (Banks, 1910)	Add New Records: H1, H2, H20, H21, H24, H25, H26
<i>Stenonema terminatum</i> (Walsh), 1862)	<i>Stenonema terminatum</i> (Walsh, 1862)	No Change
<i>Stenonema vicarium</i> (Walker), 1853)	<i>Stenonema vicarium</i> (Walker, 1853)	No Change
Oligoneuriidae	Isonychiidae	
<i>Isonychia bicolor</i> (Walker), 1853)	<i>Isonychia bicolor</i> (Walker, 1853)	No Change
<i>Isonychia obscura</i> Traver, 1932	<i>Isonychia obscura</i> Traver, 1932	No Change
Tricorythidae	Leptohyphidae	
<i>Tricorythodes allectus</i> (Needham, 1905)	<i>Tricorythodes allectus</i> (Needham, 1905)	No Change
<i>Tricorythodes atratus</i> McDunnough, 1923 - Now jr. synonym of <i>Tricorythodes allectus</i> (Needham, 1905)		All records perviously listed for <i>T. atratus</i> are assignable to <i>T. allectus</i>
<i>Tricorythodes minutus</i> Traver, 1935 - Now jr. synonym of <i>Tricorythodes explicatus</i> (Eaton, 1892)	<i>Tricorythodes explicatus</i> (Eaton, 1892)	No Change to records previously listed for <i>T. minutus</i> that are now assignable to <i>T. explicatus</i> .
<i>Tricorythodes stygiatus</i> McDunnough, 1931	<i>Tricorythodes stygiatus</i> McDunnough, 1931	No Change
Leptophlebiidae	Leptophlebiidae	
<i>Choroterpes (C.) basalis</i> (Banks), 1900)	<i>Choroterpes (C.) basalis</i> (Banks, 1900)	See all records listed for <i>C. fusca</i> - No Change
<i>Choroterpes (C.) fusca</i> (Banks), 1900) - Now jr. synonym of <i>Choroterpes basalis</i> (Banks, 1900)		All records perviously listed for <i>C. fusca</i> are assignable to <i>C. basalis</i>
<i>Habrophlebia (H.) vibrans</i> Needham, 1907	<i>Habrophlebia (H.) vibrans</i> Needham, 1907	Add New Records: H21, H25, H26
<i>Habrophlebiodes americana</i> (Banks), 1903)	<i>Habrophlebiodes americana</i> (Banks, 1903)	Add New Records: H6, H24, H25, H26
<i>Leptophlebia cupida</i> (Say), 1823)	<i>Leptophlebia cupida</i> (Say, 1823)	Add New Record: H24
<i>Leptophlebia intermedia</i> (Traver), 1932)	<i>Leptophlebia intermedia</i> (Traver, 1932)	Add New Record: H1
<i>Leptophlebia johnsoni</i> McDunnough, 1924	<i>Leptophlebia johnsoni</i> McDunnough, 1924	Add New Record: H32

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Table 1. Continued

Mayfly Species - Species names and families as listed in Burian & Gibbs (1991)	Mayfly Species - Species names and families according to current (2024) taxonomic nomenclature	Update and review of mayfly species occurrences
<i>Leptophlebia nebulosa</i> (Walker), 1853)	<i>Leptophlebia nebulosa</i> (Walker, 1853)	Add New Records: H24, H25
<i>Paraleptophlebia adoptiva</i> (McDunnough), 1929)	<i>Neoleptophlebia adoptiva</i> (McDunnough, 1929)	No Change
<i>Paraleptophlebia debilis</i> (Walker), 1853)	<i>Paraleptophlebia debilis</i> (Walker, 1853)	Add New Record: H25
<i>Paraleptophlebia guttata</i> (McDunnough), 1924)	<i>Paraleptophlebia guttata</i> (McDunnough, 1924)	Add New Record: H1
<i>Paraleptophlebia moerens</i> (McDunnough), 1924)	<i>Paraleptophlebia moerens</i> (McDunnough, 1924)	No Change
<i>Paraleptophlebia mollis</i> (Eaton), 1871)	<i>Neoleptophlebia mollis</i> (Eaton, 1871)	Add New Record: H1
<i>Paraleptophlebia strigula</i> (McDunnough), 1932)	<i>Paraleptophlebia strigula</i> (McDunnough, 1932)	No Change
<i>Paraleptophlebia volitans</i> (McDunnough), 1924)	<i>Paraleptophlebia volitans</i> (McDunnough, 1924)	Add New Records: H1, H12, H25
Metretopodidae	Metretopodidae	
<i>Metretopus borealis</i> (Eaton, 1871)	<i>Metretopus borealis</i> (Eaton, 1871)	No Change
<i>Siphloplecton basale</i> (Walker), 1853)	<i>Siphloplecton basale</i> (Walker, 1853)	No Change
<i>Siphloplecton sp. n. A</i> - validity of this not confirmed, no adults differing from <i>S. basale</i> have ever been found	<i>Siphloplecton sp. n. A</i>	No Change
Polymitarciyidae	Polymitarciyidae	
<i>Ephoron leukon</i> Williamson, 1802	<i>Ephoron leukon</i> Williamson, 1802	No Change
Potamanthidae	Potamanthidae	
<i>Anthopotamus distinctus</i> (Traver), 1935)	<i>Anthopotamus distinctus</i> (Traver, 1935)	No Change
Siphonuridae	Siphonuridae	
<i>Siphonisca aerodromia</i> Needham, 1908 ⁹	<i>Siphonisca aerodromia</i> Needham, 1909	No Changes
<i>Siphonurus alternatus</i> (Say), 1824)	<i>Siphonurus alternatus</i> (Say, 1824)	No Changes
<i>Siphonurus barbaroides</i> McDunnough, 1929	<i>Siphonurus barbaroides</i> McDunnough, 1929	No Changes
<i>Siphonurus demaryi</i> Kondratieff & Voshell, 1981	<i>Siphonurus demaryi</i> Kondratieff & Voshell, 1981	No Changes
<i>Siphonurus marginatus</i> (Traver, 1932) Delete - No New Eng. Records (Currently under investigation possibly <i>S. typicus</i>)	Does Not Occur In New England	Records listed not assignable to <i>S. marginatus</i> , all listed site records are likely assignable to <i>S. typicus</i> .
<i>Siphonurus marshalli</i> (Traver, 1934) Delete - No New Eng. Records (Currently under investigation possibly <i>S. mirus</i>)	Does Not Occur In New England	Records listed not assignable to <i>S. marshalli</i> , all listed site records are likely assignable to <i>S. mirus</i> .

...Continued

Table 1. Continued

Mayfly Species - Species names and families as listed in Burian & Gibbs (1991)	Mayfly Species - Species names and families according to current (2024) taxonomic nomenclature	Update and review of mayfly species occurrences
<i>Siphonurus mirus</i> (Eaton, 1885)	<i>Siphonurus mirus</i> (Eaton, 1885)	Add New Records: H24, H25, H26
<i>Siphonurus quebecensis</i> (Provancher, 1878)	<i>Siphonurus quebecensis</i> (Provancher, 1878)	Add New Record: H1
<i>Siphonurus</i> sp. n. A (Quebensis Var.)-not yet fully described	<i>Siphonurus</i> n.sp.A (Quebensis Var.)-not yet fully described	No Changes
<i>Siphonurus rapidus</i> McDunnough, 1924	<i>Siphonurus rapidus</i> McDunnough, 1924	No Changes
<i>Siphonurus securifer</i> McDunnough, 1926	<i>Siphonurus securifer</i> McDunnough, 1926	Add New Record: H28 - Chicken Mill Pond- 1993
<i>Siphonurus typicus</i> Eaton, 1885	<i>Siphonurus typicus</i> Eaton, 1885	Add New Records: H20, H27

Table 2. Emendations to the names of mayfly families, genera, and species appearing in the faunal list of Connecticut mayflies (Burian and Bednarik 1994). Occurrence data is also updated, and notes provided to clarify the status of species where necessary.

Mayfly Species - Names and Families as listed in Burian & Bednarik (1994) - Connecticut	Mayfly Species - Names and Families According to Current (2024) Taxonomic Nomenclature	Notes
Siphonuridae	Ameletidae	
<i>Ameletus ludens</i> Needham, 1905	<i>Ameletus ludens</i> Needham, 1905	
Heptageniidae	Arthropleidae	
<i>Arthroplea bipunctata</i> (McDunnough, 1924)	<i>Arthroplea bipunctata</i> (McDunnough, 1924)	
Baetidae	Baetidae	
<i>Baetis armillatus</i> McCafferty & Waltz, 1990	<i>Acentrella parvula</i> (McDunnough, 1932)	
<i>Acentrella carolina</i> (Banks, 1924)	<i>Acentrella turbida</i> (McDunnough, 1924)	
<i>Acerpenna macdunnoughi</i> (Ide, 1937)	<i>Acerpenna macdunnoughi</i> (Ide, 1937)	
<i>Acerpenna pygmaea</i> (Hagen, 1861)	<i>Acerpenna pygmaea</i> (Hagen, 1861)	
<i>Baetis brunneicolor</i> (McDunnough, 1925)	No valid recorded in material studied for the original species check list.	Species is present in northern New England, but reevaluation of previous records for CT indicated that all were misidentified B. pluto . Initial determinations were made using inaccurate illustrations in the primary literature and vague descriptions of nymphs in keys. New work using reared specimens from other parts of the species range where <i>B. brunneicolor</i> is abundant provided the data necessary for clarifying the initial determinations presented by Burian & Bednarik (1994).
<i>Baetis flavistriga</i> McDunnough, 1921 - Now considered a species complex	<i>Baetis flavistriga</i> McDunnough, 1921 [species complex]	
<i>Baetis intercalaris</i> McDunnough, 1921	<i>Baetis intercalaris</i> McDunnough, 1921	
	<i>Baetis pluto</i> McDunnough, 1925 - see note above	
<i>Baetis tricaudatus</i> Dodds, 1923	<i>Baetis tricaudatus</i> Dodds, 1923	

...Continued

Table 2. Continued

Mayfly Species - Names and Families as listed in Burian & Bednarik (1994) - Connecticut	Mayfly Species - Names and Families According to Current (2024) Taxonomic Nomenclature	Notes
<i>Callibaetis ferrugineus</i> (Walsh, 1862)	<i>Callibaetis ferrugineus</i> (Walsh, 1862)	
<i>Callibaetis fluctuans</i> (Walsh), 1862)	<i>Callibaetis fluctuans</i> (Walsh, 1862)	
<i>Callibaetis pallidus</i> Banks, 1900	<i>Callibaetis pallidus</i> Banks, 1900	
<i>Cloeon cognatum</i> Stephens, 1835	<i>Cloeon dipterum</i> (Linnaeus, 1761)	
<i>Acentrella-amplum</i> (Traver, 1932)	<i>Heterocloeon (J.) amplum</i> (Traver, 1932)	
<i>Heterocloeon curiosum</i> (McDunnough, 1923)	<i>Heterocloeon (H.) curiosum</i> (McDunnough, 1923)	
<i>Centroptilum triangulifer</i> (McDunnough, 1931)	<i>Neocloeon triangulifer</i> (McDunnough, 1931)	
<i>Baetis dubius</i> (Walsh, 1862)	<i>Plauditus dubius</i> (Walsh, 1862)	
<i>Baetis punctiventris</i> (McDunnough, 1932)	<i>Plauditus punctiventris</i> (McDunnough, 1932)	
<i>Procloeon bellum</i> (McDunnough, 1924) - Actually <i>Procloeon rivulare</i> (Traver, 1935)	<i>Procloeon bellum</i> (McDunnough, 1924) Likely an invalid species	All records listed for this species are assignable to <i>P. rivulare</i>
Baetiscidae	Baetiscidae (1G, 6 Spp.)	
<i>Baetisca laurentina</i> McDunnough, 1932	<i>Baetisca laurentina</i> McDunnough, 1932	
Caenidae	Caenidae	
<i>Caenis amica</i> Hagen, 1861	<i>Caenis amica</i> Hagen, 1861	
<i>Caenis anceps</i> Traver, 1935	<i>Caenis anceps</i> Traver, 1935	
<i>Caenis diminuta diminuta</i> Walker, 1853	<i>Caenis diminuta diminuta</i> Walker, 1853	
<i>Caenis hilaris</i> (Say, 1839)	No valid recorded in material studied for the original species check list.	
<i>Caenis latipennis</i> Banks, 1907	<i>Caenis latipennis</i> Banks, 1907	
<i>Caenis macafferti</i> Provonsha, 1990	<i>Caenis macafferti</i> Provonsha, 1990	
<i>Caenis punctata</i> McDunnough, 1931	<i>Caenis punctata</i> McDunnough, 1931	
<i>Brachycercus nitidus</i> (Traver, 1932)	<i>Brachycercus nitidus</i> (Traver, 1932)	
Ephemerellidae	Ephemerellidae	
<i>Attenella attenuata</i> (McDunnough, 1925)	<i>Attenella attenuata</i> (McDunnough, 1925)	
<i>Attenella margarita</i> (Needham, 1927)	<i>Attenella margarita</i> (Needham, 1927)	
<i>Dannella simplex</i> (McDunnough, 1925)	<i>Dannella simplex</i> (McDunnough, 1925)	
<i>Drunella cornuta</i> (Morgan, 1911)	<i>Drunella cornuta</i> (Morgan, 1911)	
<i>Drunella lata</i> (Morgan, 1911)	<i>Drunella lata</i> (Morgan, 1911)	
<i>Drunella tuberculata</i> (Morgan, 1911)	<i>Drunella tuberculata</i> (Morgan, 1911)	
<i>Drunella walkeri</i> (Eaton, 1884)	<i>Drunella walkeri</i> (Eaton, 1884)	
<i>Ephemerella dorothea dorothea</i> (Needham, 1908)	<i>Ephemerella dorothea dorothea</i> (Needham, 1908)	

...Continued

Table 2. Continued

Mayfly Species - Names and Families as listed in Burian & Bednarik (1994) - Connecticut	Mayfly Species - Names and Families According to Current (2024) Taxonomic Nomenclature	Notes
<i>Ephemerella needhami</i> McDunnough, 1925	<i>Ephemerella needhami</i> McDunnough, 1925	
<i>Ephemerella rotunda</i> Morgan, 1911 - Now jr. synonym of <i>Ephemerella invaria</i> (Walker, 1853)		
<i>Ephemerella septentrionalis</i> McDunnough, 1925	<i>Penelomax septentrionalis</i> (McDunnough, 1925)	
<i>Ephemerella subvaria</i> McDunnough, 1925 ³¹	<i>Ephemerella subvaria</i> McDunnough, 1931	
<i>Ephemerella simila</i> Allen & Edmunds ?	No valid recorded in material studied for the original species check list.	
<i>Eurylophella aestiva</i> (McDunnough), 1931)	<i>Eurylophella aestiva</i> (McDunnough, 1931)	
<i>Eurylophella bicolor</i> (Clemens), 1913)	<i>Eurylophella bicolor</i> (Clemens, 1913)	
<i>Eurylophella coxalis</i> (McDunnough), 1926) - Misidentified, specimens initially determined to be <i>E. coxalis</i> are actually <i>E. enoensis</i> Funk, 1994.		
<i>Eurylophella funeralis</i> (McDunnough, 1925)	<i>Eurylophella funeralis</i> (McDunnough, 1925)	
<i>Eurylophella lutulenta</i> (Clemens, 1913)	<i>Eurylophella lutulenta</i> (Clemens, 1913)	
<i>Eurylophella minimella</i> (McDunnough, 1931)	<i>Eurylophella minimella</i> (McDunnough, 1931)	
<i>Eurylophella prudentalis</i> (McDunnough, 1931)	<i>Eurylophella prudentalis</i> (McDunnough, 1931)	
<i>Eurylophella temporalis</i> (McDunnough, 1924)	<i>Eurylophella temporalis</i> (McDunnough, 1924)	
<i>Eurylophella verisimilis</i> (McDunnough, 1930)	<i>Eurylophella verisimilis</i> (McDunnough, 1930)	
<i>Serratella deficiens</i> (Morgan, 1911)	<i>Teloganopsis deficiens</i> (Morgan, 1911)	
<i>Serratella frisoni</i> (McDunnough, 1927)	No valid recorded in material studied for the original species check list.	
<i>Serratella serrata</i> (Morgan, 1911)	<i>Serratella serrata</i> (Morgan, 1911)	
<i>Serratella serratoides</i> (McDunnough), 1931)	<i>Serratella serratoides</i> (McDunnough, 1931)	
<i>Serratella sordida</i> (McDunnough), 1925) - Now jr. synonym of <i>Serratella serrata</i> (Morgan, 1911)		
Ephemeridae	Ephemeridae	
<i>Ephemerella guttulata</i> Pictet, 1843	<i>Ephemerella guttulata</i> Pictet, 1843	
<i>Ephemerella simulans</i> Walker, 1853	<i>Ephemerella simulans</i> Walker, 1853	
<i>Ephemerella varia</i> Eaton, 1883	<i>Ephemerella varia</i> Eaton, 1883	
<i>Litobranchna recurvata</i> (Morgan, 1913)	<i>Litobranchna recurvata</i> (Morgan, 1913)	
<i>Hexagenia atrocaudata</i> McDunnough, 1924	<i>Hexagenia atrocaudata</i> McDunnough, 1924	
<i>Hexagenia limbata</i> (Serville, 1829)	<i>Hexagenia limbata</i> (Serville, 1829)	

...Continued

Table 2. Continued

Mayfly Species - Names and Families as listed in Burian & Bednarik (1994) - Connecticut	Mayfly Species - Names and Families According to Current (2024) Taxonomic Nomenclature	Notes
<i>Nixe (N.) horrida</i> (McDunnough), 1926)	<i>Afghanurus horrida</i> (McDunnough, 1926)	Genus updated according to Burian (2019), but genus status seems to currently be in state of flux.
<i>Nixe (N.) lucidipennis</i> (Clemens), 1913)	<i>Afghanurus lucidipennis</i> (Clemens, 1913)	Same comment as above
<i>Nixe (N.) perfida</i> (McDunnough), 1926)	<i>Afghanurus perfida</i> (McDunnough, 1926)	Same comment as above
<i>Cinygmula subaequalis</i> (Banks), 1914)	<i>Cinygmula subaequalis</i> (Banks, 1914)	
<i>Epeorus fragilis</i> (Morgan), 1911)	<i>Epeorus fragilis</i> (Morgan, 1911)	
<i>Epeorus frisoni</i> (Burks), 1946)	<i>Epeorus frisoni</i> (Burks, 1946)	
<i>Epeorus pleuralis</i> (Banks), 1910)	<i>Epeorus pleuralis</i> (Banks, 1910)	
<i>Epeorus (I.) rubidus</i> (Traver, 1933) - Now jr. synonym of <i>Epeorus vitreus</i> (Walker, 1853)		
<i>Epeorus vitreus</i> (Walker), 1853)	<i>Epeorus vitreus</i> (Walker, 1853)	
<i>Heptagenia marginalis</i> Banks, 1910	<i>Heptagenia marginalis</i> Banks, 1910	
<i>Heptagenia pulla</i> (Clemens, 1913)	<i>Heptagenia pulla</i> (Clemens, 1913)	
<i>Leucrocuta hebe</i> (McDunnough), 1924)	<i>Leucrocuta hebe</i> (McDunnough, 1924)	
<i>Leucrocuta maculipennis</i> (Walsh), 1863)	<i>Leucrocuta maculipennis</i> (Walsh, 1863)	
<i>Rhithrogena amica</i> Traver, 1935 - All specimens initially determined to be misidentified.	<i>Rhithrogena serpenglena</i> Burian, 2024	All previous specimens determined to be <i>R. amica</i> are now confirmed to be misidentified specimens of <i>R. serpenglena</i> Burian, 2024.
<i>Rhithrogena anomala</i> McDunnough, 1928	<i>Rhithrogena anomala</i> McDunnough, 1928	
<i>Rhithrogena jejuna</i> Eaton, 1885 - All specimens now assigned to another species.	<i>Rhithrogena serpenglena</i> Burian, 2024	Species concept of <i>R. jejuna sensu Traver(1935)</i> now assignable to new species <i>R. serpenglena</i> Burian, 2024
<i>Stenacron interpunctatum</i> (Say, 1839)	<i>Stenacron interpunctatum</i> (Say, 1839)	
<i>Stenonema femoratum</i> (Say, 1823)	<i>Stenonema femoratum</i> (Say, 1823)	
<i>Stenonema ithaca</i> (Clemens & Leonard, 1924)	<i>Stenonema ithaca</i> (Clemens & Leonard, 1924)	
<i>Stenonema mediopunctatum</i> (McDunnough, 1926)	<i>Stenonema mediopunctatum</i> (McDunnough, 1926)	
<i>Stenonema mexicanum integrum</i> (McDunnough, 1924)	<i>Stenonema mexicanum integrum</i> (McDunnough, 1924)	
<i>Stenonema modestum</i> (Banks, 1910)	<i>Stenonema modestum</i> (Banks, 1910)	
<i>Stenonema pudicum</i> (Hagen, 1861)	<i>Stenonema pudicum</i> (Hagen, 1861)	
<i>Stenonema vicarium</i> (Walker, 1853)	<i>Stenonema vicarium</i> (Walker, 1853)	

...Continued

Table 2. Continued

Mayfly Species - Names and Families as listed in Burian & Bednarik (1994) - Connecticut	Mayfly Species - Names and Families According to Current (2024) Taxonomic Nomenclature	Notes
Oligoneuriidae	Isoncyhiidae	
<i>Isonychia bicolor</i> (Walker, 1853)	<i>Isonychia bicolor</i> (Walker, 1853)	
<i>Isonychia obscura</i> Traver, 1932	<i>Isonychia obscura</i> Traver, 1932	
Tricorythidae	Leptohyphidae	
<i>Tricorythodes</i> sp.	<i>Tricorythodes allectus</i> (Needham, 1905); <i>Tricorythodes explicatus</i> (Eaton, 1892); <i>Tricorythodes stygiatus</i> McDunnough, 1931 - unpublished records	
Leptophlebiidae	Leptophlebiidae	
<i>Choroerpes (C.) basalis</i> (Banks, 1900)	<i>Choroerpes (C.) basalis</i> (Banks, 1900)	
<i>Habrophlebia (H.) vibrans</i> Needham, 1907	<i>Habrophlebia (H.) vibrans</i> Needham, 1907	
<i>Habrophlebiodes americana</i> (Banks, 1903)	<i>Habrophlebiodes americana</i> (Banks, 1903)	
<i>Leptophlebia cupida</i> (Say), 1823)	<i>Leptophlebia cupida</i> (Say, 1823)	
<i>Leptophlebia intermedia</i> (Traver), 1932)	<i>Leptophlebia intermedia</i> (Traver, 1932)	
<i>Leptophlebia johnsoni</i> McDunnough, 1924	<i>Leptophlebia johnsoni</i> McDunnough, 1924	
<i>Paraleptophlebia adoptiva</i> (McDunnough, 1929)	<i>Neoleptophlebia adoptiva</i> (McDunnough, 1929)	
<i>Paraleptophlebia debilis</i> (Walker, 1853)	<i>Paraleptophlebia debilis</i> (Walker, 1853)	
<i>Paraleptophlebia moerens</i> (McDunnough), 1924)	<i>Paraleptophlebia moerens</i> (McDunnough, 1924)	
<i>Paraleptophlebia mollis</i> (Eaton), 1871)	<i>Neoleptophlebia mollis</i> (Eaton, 1871)	
<i>Paraleptophlebia ontario</i> (McDunnough, 1926)?	No valid recorded in material studied for the original species check list.	
<i>Paraleptophlebia strigula</i> (McDunnough), 1932)	<i>Paraleptophlebia strigula</i> (McDunnough, 1932)	
<i>Paraleptophlebia volitans</i> (McDunnough), 1924)	<i>Paraleptophlebia volitans</i> (McDunnough, 1924)	
Metretopodidae	Metretopodidae	
<i>Siphloplecton basale</i> (Walker), 1853)	<i>Siphloplecton basale</i> (Walker, 1853)	
Polymitarciidae	Polymitarciidae	
<i>Ephoron leukon</i> Williamson, 1802	<i>Ephoron leukon</i> Williamson, 1802	
Potamanthidae	Potamanthidae	
<i>Anthopotamus distinctus</i> (Traver), 1935)	<i>Anthopotamus distinctus</i> (Traver, 1935)	

...Continued

Mayfly Species - Names and Families as listed in Burian & Bednarik (1994) - Connecticut	Mayfly Species - Names and Families According to Current (2024) Taxonomic Nomenclature	Notes
Siphonuridae	Siphonuridae	
<i>Siphonurus alternatus</i> (Say), 1824)	<i>Siphonurus alternatus</i> (Say, 1824)	
<i>Siphonurus mirus</i> (Eaton, 1885)	<i>Siphonurus mirus</i> (Eaton, 1885)	
<i>Siphonurus quebecensis</i> (Provancher, 1878)	<i>Siphonurus quebecensis</i> (Provancher, 1878)	
<i>Siphonurus rapidus</i> McDunnough, 1924	<i>Siphonurus rapidus</i> McDunnough, 1924	
<i>Siphonurus securifer</i> McDunnough, 1926	<i>Siphonurus securifer</i> McDunnough, 1926	
<i>Siphonurus typicus</i> Eaton, 1885	<i>Siphonurus typicus</i> Eaton, 1885	

Table 3. Emendations to the names of mayfly genera, and species appearing in CCA biplots and Appendix 1 in biogeographical study of the mayflies of Maine (Burian 1997). Notes are provided to clarify the status of species where necessary. The number column refers

No.	Code	Mayfly Species - Names as listed in Burian (1997)	Mayfly Species - Names according to current (2024) taxonomic nomenclature	Notes
14	ACE AMP	<i>Acentrella amplum</i> (Traver, 1932)	<i>Heterocloeon (J.) amplum</i> (Traver, 1932)	
18	BAE ARM	<i>Baetis armillatus</i> McCafferty & Waltz, 1990	<i>Acentrella parvula</i> (McDunnough, 1932)	
20	BAE CIN	<i>Baetis cinctutustus</i> McCafferty & Waltz, 1990	<i>Plauditus cingulatus</i> (McDunnough, 1931)	
21	BAE DUB	<i>Baetis dubius</i> (Walsh), 1862)	<i>Plauditus dubius</i> (Walsh, 1862)	
29	BAE VET	<i>Baetis veteris</i> (McDunnough, 1924)	<i>Plauditus cestus</i> (Provonsha & McCafferty, 1982)	
30	BAE VIR	<i>Baetis virile</i> (McDunnough), 1923)	<i>Plauditus virilis</i> (McDunnough, 1923)	
34	CEN SEM	<i>Centroptilum semirufum</i> (McDunnough, 1926)	<i>Anafroptilum victoriae</i> (McDunnough, 1938)	This species was misidentified in the original publication as <i>C. semirufum</i> (McD.).
35	CEN TRI	<i>Centroptilum triangulifer</i> (McDunnough), 1931)	<i>Neocloeon triangulifer</i> (McDunnough, 1931)	
38	PRO ALB	<i>Procloeon album</i> (McDunnough), 1926)	<i>Anafroptilum album</i> (McDunnough, 1926)	
39	PEO BEL	<i>Procloeon bellum</i> (McDunnough, 1924)	<i>Procloeon rivulare</i> (Traver, 1935)	This species was misidentified in the original publication as <i>P. bellum</i> (McD.).
61	NIX HOR	<i>Nixe (N.) horrida</i> (McDunnough), 1926)	<i>Afghanurus horrida</i> (McDunnough, 1926)	Genus updated according to Burian (2019), but genus status seems to currently be in state of flux.

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Table 3. Continued

No.	Code	Mayfly Species - Names as listed in Burian (1997)	Mayfly Species - Names according to current (2024) taxonomic nomenclature	Notes
62	NIX PER	<i>Nixe (N.) perfida</i> (McDunnough), 1926)	<i>Afghanurus perfida</i> (McDunnough, 1926)	Same comment as above
64	RHI JEJ	<i>Rhithrogena jejuna</i> Eaton, 1885 - Records listed as this species now known to be a new species	<i>Rhithrogena serpenglena</i> Burian 2024 sp. n.	This species was misidentified in the original publication as <i>R. jejuna</i> Eaton -sensu Traver (1935).
65	RHI PEL	<i>Rhithrogena pellucida</i> Dagg, 1945	<i>Rhithrogena manifesta</i> Eaton, 1885	Now jr. synonym of <i>Rhithrogena manifesta</i> Eaton, 1885)
80	PAR ADO	<i>Paraleptophlebia adoptiva</i> (McDunnough), 1929)	<i>Neoleptophlebia adoptiva</i> (McDunnough, 1929)	
83	PAR MOL	<i>Paraleptophlebia mollis</i> (Eaton), 1871)	<i>Neoleptophlebia mollis</i> (Eaton, 1871)	
94	DAN SIM	<i>Timpanoga simplex</i> (McDunnough), 1925)	<i>Dannella simplex</i> (McDunnough, 1925)	This species was listed in original publication in genus <i>Timpanoga</i> with an (*) denoting change in genus status at time of publication.
104	EPH ROT	<i>Ephemerella rotunda</i> Morgan, 1911	<i>Ephemerella invaria</i> (Walker, 1853)	This species was listed in the original publication as <i>E. rotunda</i> which is now jr. syn. of <i>E. invaria</i> .
105	EPH SEP	<i>Ephemerella septentrionalis</i> McDunnough, 1925	<i>Penelomax septentrionalis</i> (McDunnough, 1925)	
109	EUR COX	<i>Eurylophella coxalis</i> (McDunnough), 1926)	<i>Eurylophella enoensis</i> Funk, 1994.	This species was misidentified in the original publication as <i>E. coxalis</i> (McD.).
115	SER DEF	<i>Serratella deficiens</i> (Morgan), 1911)	<i>Teloganopsis deficiens</i> (Morgan, 1911)	
120	TRY MIN	<i>Tricorythodes minutus</i> Traver, 1935	<i>Tricorythodes explicatus</i> (Eaton, 1892)	This species was listed in the original publication as <i>T. minutus</i> which is now jr. syn. of <i>T. explicatus</i> .
121	BRA LAC	<i>Brachycercus lacustris</i> (Needham), 1918)	<i>Sparbarus lacustris</i> (Needham, 1918)	

2023 Ephemeroptera Bibliography

Compiled by Donna Giberson

The Ephemeroptera Bibliography is published annually in the June issue of the Mayfly Newsletter, and includes papers and reports with an emphasis or mention of mayflies that were published in the previous year. The list is not exhaustive, as it is compiled by searching on-line sources such as Web of Science and Google Scholar, so some titles may have been missed. You can ensure that papers are included by sending the full citation to the editor (giberson@upej.ca) before the June issue of the following year. If a paper has been missed in the June issue, send the citation to the editor, so an update can be published in the next Newsletter.

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Have you published a paper on mayflies If so, did you send a PDF to EG?

Ephemeroptera Galactica (EG) is a web site that was developed by Mike Hubbard and is now maintained by Arnold Staniczek. One of the great features of EG is the bibliography of mayfly literature at this site. PDFs of hundreds of mayfly articles are available. To keep this bibliography updated, please send a PDF of your articles on mayflies (if allowed by the journal) to Arnold (arnold.staniczek@smns-bw.de).

Arnold Staniczek Staatliches Museum für Naturkunde, Abt. Entomologie, Rosenstein 1, D-70191 Stuttgart, Germany

Interested in submitting to the *Mayfly Newsletter*?

Do you have anything you'd like to share with your fellow ephemeropterists? In addition to the Notices, Mayfly Bibliography, and information about the upcoming International Meeting, we'd like to include project updates, book reviews, notices of upcoming meetings of interest to Ephemeroptera workers, requests for collaboration, and any interesting notes about mayflies.

So - my questions to you - Are you looking for collaborators on a project? Do you have some spectacular mayfly photos that you'd like to share with your colleagues? Is there a special collecting site or new collecting method whose details would be of interest to other mayfly workers? Have you ever had an adventure in collecting mayflies? We publish our data in our research papers, but sometimes the story behind the story is equally interesting!

Deadlines:

- June issue: May 15

- December issue: Dec. 1

The *Mayfly Newsletter*

Starting with the Winter 2016 issue, the Mayfly Newsletter moved to being fully digital! You will be able to find the link to the issues on the Digital Commons site: <https://dc.swosu.edu/mayfly/> (or see link on *Ephemeroptera Galactica* (<http://www.ephemeroptera-galactica.com>)). Contact Donna (giberson@upei.ca) with your email address if you would like to receive notification when new issues are posted. As of December 2023, the newsletter's 50 issues have been downloaded 9,211 times since we started uploading them 6/17/2016. The map below shows our reader distribution between January 2017 and December 2023.

