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The Mayfly Newsletter

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The Mayfly Newsletter

Vol. 26(2)
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The Mayfly Newsletter is the official newsletter of the Permanent Committee of the International Conferences on Ephemeroptera

In this issue

Feature Photo

Photographing living mayflies:
Greg Courtney: *Sparbarus* sp.
(Caenidae).....1

Meeting Announcement:

2024 XVIIth International Conference on Ephemeroptera and XXIst International Symposium on Plecoptera: 21-26 July 2024.....2

Conference Proposals (for upcoming meetings).....3

Requests for Specimens.....3

Memories about an extraordinary adviser: Prof. Claudio Gilberto Froehlich, by Rodolfo Mariano.....4

Notices:
PhD Position: Functional Morphology and Evolution of the Mating System in Mayflies, State Museum of Natural History Stuttgart.....5

New Books
Tasmanian Mayflies, by R. Thresher (reviewed by P. Suter).....6

Ephemeral Wings, by Eva Silverfine (reviewed in American Entomologist by M. Alma Solis).....6

Other News and notes.....7

From the Archives: a discussion of what to name the Order of Mayflies, from Eaton 1956.....7

Pdfs for Ephemeroptera Galactica.....8

How to donate to the International Permanent Committee on Ephemeroptera Conferences.....8

Submissions to the Mayfly Newsletter9

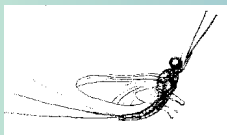
Feature Photo

Greg Courtney, Department of Entomology, Iowa State University, continues his quest to photograph living aquatic insects both near his home and worldwide. In this issue, he shares this view of *Sparbarus* sp. (Caenidae), collected in the Boone River, Iowa, 4 August 2021.



G. Courtney

Sparbarus sp. (Caenidae), Boone River, Iowa, 4 August 2021.



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

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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 Second 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



The **web page** of the 2024 Joint Meeting of the XVII International Conference on Ephemeroptera and XXI International Symposium on Plecoptera that will take place in Turin, Italy, from 21–26 July 2024 is available at the following link: <http://ijmep2024.com/>

This page will be continuously updated with new information, but at that moment it will be possible to find information on:

- Application forms for proposals for future conferences (see below).
- Organising and scientific committees.
- Preliminary information on Scientific and Social programs.
- Invited speakers.
- Registration fees and important dates.

We hope to see you soon in Turin!



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.

Request for Specimens

Steve Burian

Southern Connecticut State University, New Haven, Connecticut

I am looking for reared specimens of:

Rhithrogena undulata (Banks) (male and females with nymphal exuviae intact) from anywhere in North America, but specimens from the northern midwestern U.S. and/or central to eastern Canada are preferred.

Paraleptophlebia ontario (McDunnough) (male and females with nymphal exuviae intact); *Paraleptophlebia praepedita* (Eaton) (males and females with nymphal exuviae intact); and a few clean intact specimens of mid to late instar nymphs of both species from anywhere in North America.

For ongoing systematic studies of the genus *Rhithrogena* and *Paraleptophlebia* in northeastern North America. Anyone who has specimens of these species that would be willing to loan them for taxonomic analysis please contact Steven K. Burian (burians1@southernct.edu).

Memories about an extraordinary adviser: Prof. Claudio Gilberto Froehlich

This past month, November 2023, Brazilian entomology awoke sadder; our eternal professor and friend Claudio Gilberto Froehlich left us. It is difficult to express in words what Prof. Claudio meant to his students. If we could choose one word to define him, I believe it would be EXTRAORDINARY. Talking about his legacy is simple, but describing the existence of the human being that Prof. Claudio was is impossible.

Born on June 10, 1927, in São Paulo, a naturalist by profession and primarily by passion, he became a professor at the University of São Paulo at the age of 25. There began his great legacy in Brazilian and global Entomology. Throughout his career, he published 95 scientific articles, 21 book chapters, and two books, in addition to supervising 37 master's and doctoral theses in the field of aquatic entomology. Professor Claudio was a pioneer in many areas of Zoology in Brazil, including translating the first books on Zoology and Entomology into Portuguese. At the start of his career, he worked on the taxonomy of terrestrial flatworms, describing 59 species of Geoplanidae (Platyhelminthes). He also had studies on Cnidaria and Onychophora, proposing a revision of Brazilian species.

However, he gained worldwide recognition when he entered the fascinating world of aquatic insects in 1960 with the publication of the article "Some Gripopterygids and Notonemourines (Plecoptera) From South America." From this work, 80 species of Plecoptera were described, including 9 *Gripopteryx*, 3 *Guaranyperla* (including the genus), 7 *Paragripopteryx*, 9 *Tupiperla* (including the genus), 29 *Anacroneuria*, 19 *Kempnyia*, and 4 *Macrogynoplax*. But it wasn't only with Plecoptera that Claudio was a pioneer; he was the first Brazilian to publish a new species of Ephemeroptera in Brazil, *Caenis cuniana* Froehlich, 1969.

In addition to his research, his main legacy was mentoring researchers in the field of aquatic entomology. His academic legacy includes 41 direct descendants, counting both master's and doctoral students, most of whom are working (or retired) in Brazilian public universities (26, about 70%), distributed across various regions of Brazil. In his main research area, Plecoptera, there are currently 5 researchers active in Brazil and one in Argentina. The affection that all his students had for the professor can be seen in the number of species named in his honor—39 species in 21 families distributed across 7 orders of insects, 1 Crustacea, and 1 Platyhelminthes.

Always present at most International Conferences on Ephemeroptera and International Symposia on Plecoptera, Prof. Claudio exchanged experiences and warmth with everyone who approached him. He was always easy to talk to, with a unique and captivating sense of humor.

Professor Claudio enchanted so many researchers with his knowledge and guidance that some of his former students and other researchers in the field of aquatic entomology organized a special volume of the *Revista Brasileira de Entomologia* to honor him in life. Unfortunately, he will not be with us at the launch of this edition on December 15, 2023, but what comforts us a little is that he was aware and happy about this tribute.

This special volume of the journal will feature 14 articles, including new species named in his honor and articles about his career. More than a tribute, this volume is a recognition of the scientific and human greatness of our eternal master Prof. Claudio Gilberto Froehlich.

Our heartfelt condolences go out to all family members, students, and friends, and above all, our gratitude for being part of our journey.

Prof. Dr. Rodolfo Mariano
Laboratório de Organismos Aquáticos
Universidade Estadual de Santa Cruz
Ilhéus, Bahia, Brazil



A. Froehlich

90th birthday, Ribeirão Preto, São Paulo, Brazil, 2017.



S. Mateus

Award for his contribution to Neotropical Aquatic Entomology, 3rd Symposium on Neotropical Aquatic Insects, Ribeirão Preto, Brazil (2015).



15th International Conference on Ephemeroptera & 19th International Symposium on Plecoptera, Aracruz, Brazil 3–8 June 2018



R. Mariano

CGF and ED collecting stoneflies and mayflies.

Notices:

NATURKUNDE
MUSEUM
STUTT GART



Phd position (m/f/d) in Entomology – Functional Morphology and Evolution of the Mating System in Mayflies (E13 TV-L, 50 %)

Homepage: www.naturkundemuseum-bw.de/en/

The State Museum of Natural History Stuttgart (SMNS) is one of the largest natural history museums in Germany emphasizing collection-based research in systematics, taxonomy, biodiversity and evolution.

The project:

Mayflies (Insecta: Ephemeroptera) are a basal insect group crucial for the understanding of pterygote evolution. Despite their phylogenetic importance, there is so far little known on the evolution of the Ephemeroptera mating system, which might shed new light on the evolutionary origins of internal fertilization by direct sperm transfer in insects. Preliminary studies indicate that there is a surprising diversity of modes of mating within mayflies, so a comparative study may also provide new characters for a phylogenetic reassessment of the different families. This project thus aims at unraveling the functional morphology of the reproductive system in mayflies, reconstructing its groundplan, and using its different characters for phylogenetic analyses.

Job description:

This PhD position falls within the scope of long-term research investigations developed at the SMNS, aimed at understanding the origins of pterygote insects, their early evolution and adaptations in mayflies.

The successful applicant will compare the morphology of mayfly mating systems in phylogenetically important taxa throughout the order by use of various methods (SEM, histology, μ CT), to reveal the functional mechanisms underlying the aerial mating of mayflies. At the same time, this study is aimed at developing a character matrix, which may allow to clarify phylogenetic affinities between the families, and to test the phylogenetic validity of previous classifications. Comparison of phylogeny and morphology may also allow to reconstruct the groundplan of the mating system in Ephemeroptera. Moreover, acquisition of taxonomic expertise on the group is among the expected results of the project. The evolutionary history of mayflies and comparison with the mating systems of various taxa of fossil Palaeoptera are also a goal of this project.

The successful candidate will be based at the Entomology Department of the SMNS, but is expected to enroll in a doctoral program of University of Hohenheim (<https://www.uni-hohenheim.de/en/natural-science-doctoral-degree-program>).

The project will be supervised by Dr. Arnold H. Staniczek (<https://www.naturkundemuseum-bw.de/en/research/entomology/team-entomology/arnold-h-staniczek>).

For more information about the position, including requirements and how to apply, please see the full ad at <https://www.naturkundemuseum-bw.de/en/jobs>

New Books about (or related to) Mayflies

Tasmanian Mayflies: Identification, Ecology, Behaviour and Imitation

By Ron Thresher

CSIRO Publishing, Clayton South, Victoria

September 2023. Paperback, 228pp, Au \$59.99, ISBN 9781486316113

This book continues the tradition of publications on Tasmanian Mayflies as food for trout which was started in the 1930s by Tillyard (Tillyard 1934, 1936), expanded by Scholes (1961), and now this comprehensive treatise covering all known and some undescribed Tasmania mayflies. This book deals with their ecology, behaviour and importance to the fly-fishers who ply their skills to match the wiles of trout in Tasmanian streams, rivers and lakes.

As a Tasmanian who is passionate about mayflies and have studied them for almost 50 years, and continue to do so in retirement, I was happy to review this book.

'Tasmanian Mayflies' consists of 12 Chapters which deal with the taxonomy of each of the Families found in Tasmania, natural history and behaviour of each group, observed declines in some mayfly species and information for anglers who wish to catch trout. It is well illustrated with photos of nymphs, subimagos and adults throughout and it is also a good read.

This book will be a fine inclusion to my library of mayfly books from all over the world. Nice to have an Australian example.

A full review will be published in Austral Entomology.

Phillip J Suter: p.suter@latrobe.edu.au

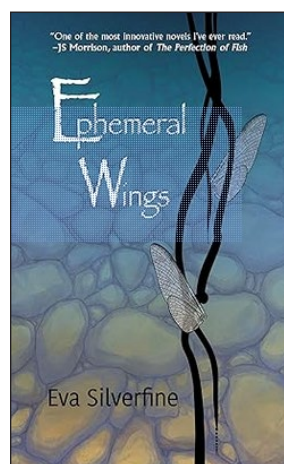
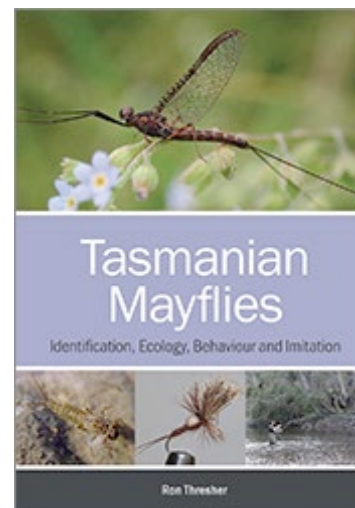
Department of Environment and Genetics, Centre for Freshwater Ecosystems, La Trobe University Albury-Wodonga Campus PO Box 821, University Drive, Wodonga, Victoria 3690 Australia.

References

Scholes, D. 1961. Fly-Fisher in Tasmania. Melbourne: Melbourne University Press.

Tillyard, R. J. 1934. The Trout-Food Insects of Tasmania Part I. A study of the genotype of the mayfly genus *Atalophlebia* and its life history. Papers and Proceedings of the Royal Society of Tasmania, 1933, 1-16.

Tillyard, R. J. 1936. The Trout-Food Insects of Tasmania Part II.-A Monograph of the Mayflies of Tasmania. Paper and Proceedings of the Royal Society of Tasmania, 1935, 23-60.



Ephemeral Wings by Eva Silverfine

reviewed in American Entomologist by *M. Alma Solis*

2022; 161 pages Black Rose Writing ISBN: 978-1-6851-041-1; US \$19.95 (softcover)

From the review by *M. Alma Solis*

<https://academic.oup.com/ae/article-pdf/69/3/54/51409881/tmad049.pdf>

"This is a wondrous story about a mayfly nymph named Maggie who is searching for the great-tasting algae she needs to be able to produce the best eggs. Maggie is very naïve at the outset, but, as she moves upstream, she meets fascinating aquatic organismal personalities who teach her about the world of water."

The man who organized nature: the life of Linnaeus, by G. Broberg, 2023. English translation

Here's a link to a book review in Science: <https://www.science.org/doi/10.1126/science.adj0804>

Mayflies, by A. O'Hagan, 2020. It's a novel that has a time theme to it – it's not about mayflies (the insect). Here's a link to a book review: <https://ans-names.pitt.edu/ans/article/view/2447/2361>. It has also been released as a two-part BBC drama, starring Martin Compston, Tony Curran and Ashley Jensen.

Other news and notes about Ephemeroptera

Wing characteristics of primitive insects unraveled

Meike Rech of the [State Museum of Natural History Stuttgart](https://www.nhm-stuttgart.de/) summarized this new research in a story published 24 November 2023 by *Phys.org*: <https://phys.org/news/2023-11-wing-characteristics-primitive-insects-unraveled.html>

From, the article: An international team led by Drs Arnold Staniczek, an insect specialist at the Natural History Museum in Stuttgart, Germany, and Eduardo Domínguez, a mayfly specialist from Instituto de Biodiversidad Neotropical, CONICET-UNT, Tucumán, Argentina, used modern technologies to discover and describe a key mechanism in the molting process from subadult to adult.

Some of the wing veins in mayflies include bubble-shaped areas named "bullae." The team's investigations revealed that these bubbles in the wings of mayflies do not play a role in flight, as previously assumed, but are crucial for molting into the final adult stage. The results, published in the journal *BMC Biology*, also provide clues about the evolution of winged insects.

(see the results of the full study in *BMC Biology*: <https://bmcbiol.biomedcentral.com/articles/10.1186/s12915-023-01750-8>)

From the Archives: Eatonia issues

Last issue I reported that the issues of *Eatonia*, which preceded the *Mayfly Newsletter*, had been digitized, and are now available on the same site where the *Mayfly Newsletter* is found. I encourage you to explore this resource which is full of interesting information! For example, There was an interesting discussion about what to call the mayflies back in 1956, reported by George Edmunds in *Eatonia*, volume 3, pp 1-2. <https://dc.swosu.edu/eatonia/4/>

The Ordinal Name of the Mayflies

by

George F. Edmunds, Jr.

The variety of ordinal names for the mayflies is a result of two principle causes: (1) some workers have used the rule of priority while others have considered usage more important in determining the ordinal name, and (2) those workers using priority have had difference of opinion as to which name was prior. Consideration of ordinal names by the International Commission of Zoological Nomenclature in 1953 has established that usage shall be considered as more important than priority in determining ordinal names. This is fortunate for

from a preliminary examination of available ordinal names for the mayflies, it would appear that none of the commonly used names are prior. It has been assumed by some that Ephemerida is prior and that it dates from Leach, 1815. This is definitely not true, the name Ephemerida being used by Leach to designate one of two families in the tribe Ephemerides.

In both the specialized literature and textbooks the name Ephemeroptera is most commonly used; the name Ephemerida has had considerable usage, but almost wholly in the U.S. resulting from its use in Comstock's "Introduction to Entomology." The name Plectoptera has been used principally in works on the fossil forms. Its most recent usage has been by Demoulin (1954) who has then shifted the name Ephemeroptera to the status of a superorder including the Protephemeridea. The name Agnatha also has been used, but most of the other names have very limited usage.

The readers of Eatonia constitute the known workers in the field and should take the responsibility of recommending an ordinal name to the I.C.Z.N. To prevent future confusion on the nomenclature of higher categories the Commission will make an official list of such names. What is your choice of name for the order, considering that usage is more important than priority? The editor takes the stand that the name Ephemeroptera (as an ordinal name - not superordinal) has the greatest usage and believes that of the used names Agnatha is prior. Our choice is Ephemeroptera. Please let us know your opinion.

Eatonia, volume 3, pp 1-2.
<https://dc.swosu.edu/eatonia/4/>

The 2024 Mayfly Bibliography will be published in the June 2024. I do my best to include mayfly papers published in the Bibliography year, but my search is limited to Google Scholar, so I may miss some. If you have a recent publication (2023) that you would like to make sure is included in the Mayfly Bibliography, please send it to me (giberson@upei.ca) by 15 May 2024.

PDFs for Ephemeroptera Galactica

Two questions:

**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

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

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And a reminder to think about items to donate to the silent auction supporting meeting scholarships during the next meeting! For details on how to donate, contact the conference organizers.

We're looking for submissions 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@upeu.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 since January 2017.



The Mayfly Newsletter is the official newsletter of the Permanent Committee of the International Conferences on Ephemeroptera and is published to facilitate communication among ephemeropterists.

Subscriptions to the Newsletter are free. To place your name on the e-mailing list or to contribute information for the next issue, contact:

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