



3-1-2012

The Mayfly Newsletter

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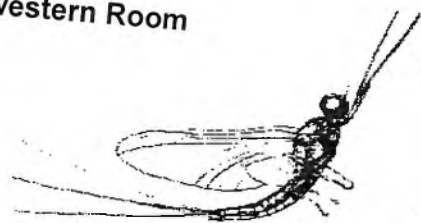
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Recommended Citation

Grant, Peter M. (2012) "The Mayfly Newsletter," *The Mayfly Newsletter*. Vol. 17: Iss. 1, Article 1.
Available at: <https://dc.swosu.edu/mayfly/vol17/iss1/1>

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THE MAYFLY NEWSLETTER

Vol. 17 No. 1 Southwestern Oklahoma State University, Weatherford, Oklahoma 73096-3098 USA March 2012

News from the Permanent Committee

Dear Mayfly Students and Enthusiasts,

The year 2011 comes to an end and, needless to say, it has been a peculiar year. We should have met this spring in Kiyosato for our joint meeting with Plecopterists. The tragic events which happened in March in Japan prevented finally the organization of such a meeting.

Our sincere thoughts and thanks are addressed to our Japanese colleagues for the hard work to rapidly relocate the conference site and their willing to host the congress in 2012. The next Joint International Conference will be held in Wakayama City, Wakayama Prefecture, Kansai District, Japan, 3-9 June 2012. The preliminary program includes welcome and farewell parties and a mid-conference barbeque party and excursion.

The deadline for registration and abstract submission is 30 March. Room reservations close on 30 April.

Much more information is available at the conference web site: <http://cse.ffpri.affrc.go.jp/yoshi887/jointconference2011.html>.

I strongly suggest you to consider attending this event which should take place from June 3 to 9, 2012, in Wakayama City. This is a unique opportunity to meet in a friendly atmosphere with your colleagues and share with them your interest and enthusiasm about mayflies. This is also a strong support to our Japanese colleagues and friends and recognition for their outstanding spirit to host this event.

In Wakayama, the Permanent Committee will share its thoughts about some reorganization inside our Association. We have been thinking for a couple of years to get a more formal status, similar to the International Society of Plecopterists. To get this international status will help us to raise more money for the scholarship funds and other activities the Committee intends to develop in the future. We will come with proposals and to be in Wakayama will give you the opportunity to discuss them with us.

Finally, do not forget we are waiting for your inputs concerning the next joint meeting, which should take place in 2015, as well as your nominations for the next Lifetime Achievement Award recipient.

I wish all of you a peaceful New Year and I am waiting to see you again in Japan!

For the Permanent Committee,

Michel Sartori
Chairman



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Entomologists Launch 5,000 Insect Genome Project (i5k)

[Editor's Note: This article is based on an email from the Entomological Society of America on 21 June 2011 and is published here with the Society's permission. Since target species for this study include "key representatives for understanding arthropod evolution and phylogeny," this project would be a great opportunity for ephemeropterists to get involved.

An i5K workshop will be held during the 2012 Arthropod Genomics Symposium in Kansas City, Missouri, USA. Support grants for students and postdocs are available to attend this workshop - <http://www.k-state.edu/agc/symp2012/images/SupportGrants-INSTRUCTIONS.pdf>.]

It's been called "the Manhattan Project of Entomology," an undertaking that has the potential to revolutionize the way we think about insects.

The i5k Initiative, also known as the 5,000 Insect Genome Project, was recently launched with a letter to Science (<http://www.sciencemag.org/content/331/6023/1386.citation>) from ten signers known as the i5k Ad Hoc Launch Group. Now the latest issue of *American Entomologist* features an interview with four of the signers about the project's origins, purpose, and goals.

The Initiative aims to sequence the genomes of 5,000 insects and other arthropods over the next five years in order to "improve our lives by contributing to a better understanding of insect biology and transforming our ability to manage arthropods that threaten our health, food supply, and economic security."

"We hope that generating this data will lead to better models for insecticide resistance, better models for developing new pesticides, better models for understanding transmission of disease, or for control of agricultural pests," said Daniel Lawson, a coordinator at the European Bioinformatics Institute. "Moving into the genetics era revolutionizes what you can do, what you can try to assay in your species, what you can infer from your experiments."

According to Gene E. Robinson, a professor at the University of Illinois at Urbana-Champaign, "This will provide information that breeders would need to look for ways of dealing with insect resistance to pesticides. It would also provide geneticists with information on what might be vulnerable points in an insect's makeup, which could be used for novel control strategies."

As the costs of genomic sequencing continue to fall due to technological improvements, it will soon become feasible to

cheaply sequence the genomes of 5,000 insects of medical and agricultural importance, and then to mine the genomes for data which could lead to better insect control and management products and techniques.

"For example, we could mine data for cytochrome p450 detox genes. Those genes are involved with detoxifying chemicals that are inside insects, so if we know about those genes from one insect to another, we can use that information to actually kill the insects," said Kevin J. Hackett, a national program leader at the USDA Agricultural Research Service. "Or if you take beneficial insects like honey bees, which do not have as many detoxifying genes and are more susceptible to chemicals, that kind of information could be used to help protect bees."

The leaders of the i5k Initiative invite entomologists around the world to sign up and to create wiki pages at <http://arthropodgenomes.org/wiki/i5K> in order to recommend which insect genomes should be sequenced in the future, report which insect genomes are already being sequenced, and to start conversations with other scientists who are working on similar projects.

"We're trying to find out who's working on what insects, and if they feel that having genomic information about their insects would help," said Susan J. Brown, a professor at Kansas State University. "Quite a few researchers are probably working on transcriptomics, looking at the genes that are transcribed under certain contexts, environmental conditions or life stages. Looking at the whole genome will help us understand these comparatively and not just in one organism."

"We want this to be a broad-based, inclusive effort," said Dr. Robinson. "We want all people to be involved, we want all insects of agricultural importance, all insects of medical importance, and so forth. Workshops will be organized and held, and there will be opportunities for further input, interactions, and the ability to shape the project."

To find out more, read the interview in *American Entomologist* at <http://entsoc.org/PDF/2011/AE-15k.pdf>, and to participate, visit the i5k wiki website at <http://arthropodgenomes.org/wiki/i5K>.

For more information, contact Dr. Kevin J. Hackett, Agricultural Research Service USDA, (301) 504-4680, kevin.hackett@ars.usda.gov; Dr. Gene E. Robinson, University of Illinois, (217) 333-2910, generobi@life.uiuc.edu; Prof. Susan J. Brown, Kansas State University, (785) 532-3935, sjbrown@ksu.edu; Dr. Daniel Lawson, European Bioinformatics Institute, +44 (0)1223 494 627, lawson@ebi.ac.uk.

Web Sites for Japan Travel Information

Web Japan - <http://web-japan.org/>

Japan Information Network - <http://nippon-jin.com/>

Lonely Planet – Japan - <http://www.lonelyplanet.com/japan> **Japan Guide** - <http://www.japan-guide.com/>

Japan National Tourism Organization - <http://www.jnto.go.jp/eng/>

“Trust Me I’m a Scientist”

Jay Wilson Richardson, Jr., August 01, 1940 - October 26, 2010

Editor’s Note: The following obituary was written by Bern Sweeney and provided by David Funk.]

It was an ordinary day but at its close, so ended the life of an extraordinary man

Jay was born on August 1, 1940, in Magna, Utah. As a child, he wondered how he could ever make a significant contribution coming from such a small town. But he did, it was his destiny.

He received his bachelor’s degree from the University of Utah in Biology in 1962, and his Masters Degree in Entomology in 1964. In 1966, he travelled to Pennsylvania, where he aligned with Dr. Ruth Patrick, of the Academy of Natural Sciences in Philadelphia. In pursuit of a PhD in aquatic insects and water quality, he participated in the initial organization and establishment of the Stroud Water Research Center in Avondale, PA. He is noted in their “Hall of Fame” as the first graduate student.

His personal association with the Stroud family and Dr. Patrick launched a lifetime quest and lifelong friendships, working with clients such as Procter & Gamble, Campbell Soup, and DuPont. He collected biological and chemical samples for analysis of aquatic studies which took him to Canada, the Virgin Islands, South America and Europe, and over 28 states in the United States.

In the early 1960s, Jay and Dr. Ruth Patrick met with President John F. Kennedy to address water quality problems in the United States and implement the necessary resolutions. This meeting became one of the most significant events for change in our country’s water quality history.

In 1991 Jay returned to Utah as an environmental specialist for the State of Utah, Department of

Environmental Quality, Division of Water Quality where he continued advanced field research throughout Utah’s lakes and streams. He retired in January, 2008.

Jay’s accomplishments, publications and society affiliations are numerous. He was an elected “Fellow” of the Explorers Club. He is listed in American Men and Women of Science, and he served and participated in world-wide conferences in his field. He was also a member of The Church of Jesus Christ of Latter Day Saints.

The depth of Jay’s knowledge was incalculable. Not all who knew him were even aware of his prestigious accomplishments. He was a private man. Those who knew Jay well, recognized that he was the greatest of friends and colleagues, that he loved life’s finest things and all that was honorable. And at the end of the day in the still moments when life counts the very most, we all know that he had a golden heart. Be at peace, dear Jay, you have earned the time to rest.

Jay has reunited with his parents, Jay Sr. and Pauline Stewart Richardson, grandparents, aunts and uncles and many dear friends. Surviving his death are former wives, Dixie DeVore and Sheri Thompson Price; step-sister Holly Earl, step-children Melissa Thompson, Michael, (Mayumi) Thompson, step-grandchildren, Lauren, Matthew, Mayla, Mackinley and mother-in law, Armored Reese Walker.

Special love and gratitude recognize Dr. Robert Ferguson, Bishop Alan Hansen, Dee and Clay Ek and relatives, Dr. Bernard Sweeney, Director, Stroud Water Research Center, Dr. Isabella Tcaciuc, Fred VanDerVeur, Director, and friends at the Masters Program.

Donations, in Jay’s memory, may be directed toward the Stroud Water Research Center, 970 Spencer Road, Avondale, PA 19311, USA, www.stroudcenter.org.

The Mayfly Newsletter (ISSN 1091-4935) 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 mailing list or to contribute information for the next issue, contact Peter M. Grant, editor, *The Mayfly Newsletter*, Department of Biological Sciences, Southwestern Oklahoma State University, 100 Campus Drive, Weatherford, Oklahoma 73096-3098 USA, phone (580) 774-3294, FAX (580) 774-7140, email peter.grant@swosu.edu. This publication was authorized by the Dean of Arts and Sciences and was printed at a cost of \$405.00 for 500 copies.



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Phylogeny of the Euthyplociidae: Call for Specimens

Inês Corrêa Gonçalves, Daniela Maeda Takiya & Jorge Luiz Nessimian
Department of Zoology, Biology Institute, Federal University of Rio de Janeiro
(Universidade Federal do Rio de Janeiro – UFRJ), Brazil

I'm a first year doctoral student from Rio de Janeiro, Brazil, currently working on reconstructing the phylogeny of Euthyplociidae (at the generic level) with particular focus on *Campylocia* (specific level) based on both morphological and molecular data.

Our goals with this study are to propose hypotheses of phylogenetic relationships among the genera of Euthyplociidae, as well as *Campylocia* species, and test the monophyly of the Euthyplociidae and Euthyplociinae, since no studies regarding such relationships exist. We also intend to discuss the current geographic distributional patterns of these genera based on the obtained phylogeny and describe new informative morphological taxonomic characters for the family. Representatives of Potamanthidae, Ichthybotidae, Ephemeridae, Paligeniidae, Behningiidae, and Polymitarciidae will be included in the study as outgroups.

If someone has any material of Euthyplociidae or outgroup representatives to contribute, particularly if collected recently in high-percentage ethanol (suitable for DNA extraction), I will be more than happy to study it! Please contact me at inescg.bio@gmail.com.

Ephemeroptera Alma Baumwoll

Fire on the water.

Heart unreformed.

reforming, remodeling.

boiling under the surface film-

thick barrier to release

egg, sperm, chitin cracked.

flying away. Surface tension:

enemy of explorer and horror

of pre-smoked lakes. Return

home and die in the flat

of the water, wings re-conjoined

from whence they came

thorax the motion

of quickdead twitch above

fertile film. Return

home and die in the flat,

explored land that holds

no new sights and nobody believes.

[Editor's Note: This poem was originally published in *Anomalous Press* (<http://www.anomalouspress.org/index.php>), Issue #1, and is published here with the author's permission.]

Xerces Moves to Protect Cold-Water-Dependent Insects

[Editor's Note: This article was originally published in the spring 2011 issue of *Wings: Essays on Invertebrate Conservation* by The Xerces Society for Invertebrate Conservation and is published here with the Society's permission.]

Among the animals most threatened by climate change are those that depend upon cold-water habitats. They require cool, clear rivers and streams fed by glacial meltwater and snow melt, two sources that are becoming less dependable in the face of a warming climate and changing precipitation patterns.

It is vital that we ensure that the creeks these species live in are not further degraded by water diversion, grazing, extensive recreation, pollution, and other activities. The Xerces Society has asked for Endangered Species Act listing for the most vulnerable cold-water invertebrates – the Arapahoe snowfly (*Capnia arapahoe*), the western glacier stonefly (*Zapada glacier*), the Gila mayfly (*Lachlania dencyanna*), the straight snowfly (*Capnia lineata*), and the Idaho snowfly (*Capnia zukeli*). ESA protection would mean that habitat of these insects would be protected and restored.

To date, the U.S. Fish and Wildlife Service has responded on just one of these species, the Arapahoe snowfly, determining that protection may be warranted and initiating a status review.

[The petition to list the Gila mayfly as an endangered species is available at <http://www.xerces.org/wp-content/uploads/2010/09/lachlania-dencyanna-petition.pdf>.]

Auction at International Conference to Raise Funds for Travel Scholarships

An auction will be held at the International Conference in Japan to benefit the William L. Peters Travel Scholarship Fund. This fund provides financial support to help students, who are studying mayflies, to attend the international conference.

During the Stuttgart conference, four students were awarded travel scholarships totaling €2644, €1500 of which were supplied by the scholarship fund.

This will be a silent auction, where all items to be auctioned will be displayed for several days during the meeting. A sheet of paper will be placed next to each item so that individuals may write down the amount they wish to bid for the item. At the end of the auction, the person who submitted the highest bid wins that item.

For now we are asking you to think about what you might like to donate to this auction. Certainly anything with a mayfly theme would be appropriate, such as books or other publications, photographs, artwork or jewelry. Collecting equipment, rare or unusual mayfly specimens, and tied flies for fly-fishing would be good options, too.

Donated items do not have to deal with mayflies, though. For example, consider donating interesting art or craftwork from your country or possibly souvenirs of Japan.

If you will not be attending the meeting, but would like to donate items for the auction, please contact the Secretary-general of the conference, Dr. Mayumi Yoshimura at m.yoshimura@affrc.go.jp, to make arrangements.

If you would like to make a financial donation to this fund, please contact the Treasurer of the Permanent Committee, Donna Giberson, Department of Biology, University of Prince Edward Island, 550 University Avenue, Charlottetown, Prince Edward Island, Canada, C1A 4P3, giberson@upei.ca.

In the meantime, if you have any suggestions or questions about this auction, please contact either Eduardo Domínguez, Facultad de Ciencias Naturales, Universidad Nacional de Tucumán, Miguel Lillo 251, 4.000 Tucumán, Argentina, fax 54(81)248025, mayfly@unt.edu.ar or Pete Grant (see publication box on p. 3).

Aquatic Insects in Baltic Amber
Wichard, W., C. Gröhn and F. Seredusz. 2009.
Verlag Kessel, Remagen-Oberwinter, Germany.
ISBN: 978-3-941300-10-1.

From the dust jacket:

“At first sight the embedment of aquatic insects in Baltic amber seems to be contradictory, as the insects live in water and amber originated from resin of extinct trees that grew in a Fennoscandian montane forest approximately 40–50 million years ago. About 25% of all animals found in amber are aquatic insects. The larvae of these amphibious forms lived in water whereas adults were frequently terrestrial and capable of flying.

“The Tertiary ‘amber forest’ apparently contained a great amount of lentic waters, flood plains and flowing waters.

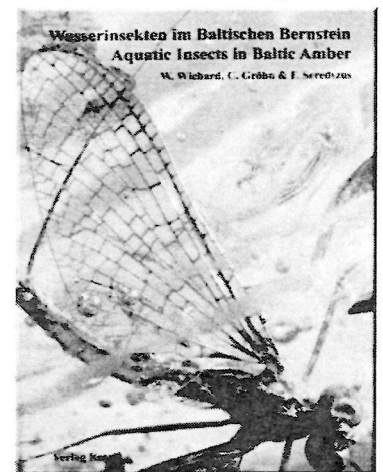
The resin was washed out of dead wood and streams and rivers transported it to the sea where it became fossilized into amber.

“Without water, the genesis of amber would be impossible. The high number of aquatic insects in amber is connected with the process of its fossilization. As if in a

complex ‘paleontological jigsaw puzzle’ amber inclusions are combined together so that the whole mosaic of the nature of 40–50 million years ago can be reconstructed.”

This book is divided into chapters by orders of aquatic insects. A chapter on Crustacea is also included. The text on each page is conveniently written in English and German.

Nine pages are devoted to mayflies and these include 14 illustrations (photos and drawings) of adults, subimaginal exuviae and even heptageniid nymphs! The text provides background information on what is generally known about mayflies in Baltic amber. The last chapter provides a list of species of aquatic insects known from amber. There are 36 species in 14 families listed for mayflies.



Aquatic Entomology Seminar Offered by the Humboldt Institute

29 July – 4 August 2012 with Dr. Steven K. Burian

A description of this seminar may be found at <http://www.eaglehill.us/programs/nhs/nhs-calendar.shtml>. Information on lodging options, meals, and costs may be found at <http://www.eaglehill.us/programs/general/application-info.shtml>. There is an online application form at <http://www.eaglehill.us/programs/general/application-web.shtml>.

Syllabi are available for this and many other fine natural history training seminars on diverse topics.

For more information, please contact the Humboldt Institute, PO Box 9, Steuben, Maine 04680-0009 USA, (207) 546-2821, Fax (207) 546-3042, office@eaglehill.us. Online general information may be found at <http://www.eaglehill.us>.

Submit a Proposal to Host the Next Conference

During the next international joint conference in Japan, the mayfly and stonefly organizing committees will consider proposals to host the next conference, ca. 2015. If you are considering the possibility of hosting a conference after Japan, please note the following.

Representatives from the Permanent Committee of the International Conferences on Ephemeroptera and the Standing Committee of the International Society of Plecopterologists established a set of guidelines for submitting proposals to host the joint conferences. These guidelines are:

Preliminary Proposals

Preliminary proposals to host a conference may be submitted six years prior to the year of the proposed conference, but a final vote on the conference site will not be made until three years prior to the actual conference date.

Final Proposals

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 this proposal should be sent to the chair of each committee - International Conferences on Ephemeroptera (Michel Sartori, michel.sartori@vd.ch) and the International Society of Plecopterologists (John Brittain, j.e.brittain@nhm.uio.no).
3. Proposals should be submitted by email. 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.

So, if you would like to host a conference after Japan, or if you have questions about hosting a conference or submitting a proposal, please contact either Michel or John. Either individual can answer your questions.

New Contact Information

Dr. Michael Hubbard
Webmaster for the Permanent Committee
hubbard1066@gmail.com

Ephemeroptera Galactica
<http://www.famu.org/mayfly/>

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