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The Mayfly Newsletter

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THE MAYFLY NEWSLETTER

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1998 International Conferences in Argentina: Ephemeroptera and Plecoptera

LOCATION

The IXth International Conference on Ephemeroptera and the XIIIth International Symposium on Plecoptera will be held jointly in the village of Tafi del Valle. It is a small town of about 7,000 inhabitants, 2,000 m above sea level and 107 km from San Miguel de Tucumán (capital of the province). Surrounded by high mountains, Tafi is a privileged site for its beauty, the mildness of its climate and the wealth of its cultural inheritance. The winter is the dry season in the region, with cold nights and mild, sunny days. The friendly environment of the town will permit relaxed interaction among the participants.

PROGRAM

Oral and poster presentations by participants are invited. Poster presentations are strongly encouraged. Only one paper per senior author will be accepted. It is intended that presentations will be published as conference proceedings. Manuscripts will be reviewed before acceptance for publication. Projection facilities for overhead transparencies and 35 mm slides will be provided. Planned topics of general interest include systematics, ecology, biogeography and conservation. Field trips, social events and visits to traditional places will be included in the activities.

SCHEDULE (preliminary) August 1998

- 17-21: IXth Conference on Ephemeroptera
- 20: Mayfly-Stonefly Joint Symposium
- 21: Joint Field Trip
- 20-23: XIIIth Symposium on Plecoptera.

POST-CONFERENCE TOURS

Several post-conference tours will be arranged to different places in Argentina after 23 August 1998. Among the choices will be tours to Bariloche (Patagonia), Iguazú falls (NE Argentina), and Humahuaca (NW Argentina).

ACCOMMODATIONS

Accommodations will be available in hotels and motels of different categories and prices. Meals can be taken individually in diverse restaurants.

FEES (provisional, in US dollars)

Ephemeroptera Conference: \$150

Plecoptera Symposium: \$125

Both Congresses: \$220

Fees will include abstracts, program and proceedings, morning and afternoon coffee, conference field day, conference dinner, and souvenir.

DEADLINE

Further information about the scientific program, accommodations, and availability of conference scholarships will be provided in the second announcement. If you wish to receive more information and the registration forms, please reply no later than 30 May 1997, to

Dr. Eduardo Dominguez

Mayfly-Stonefly Congress

Facultad de Ciencias Naturales (INSUE)

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This information and periodically updated information will be available at the following homepage: <http://www.unt.edu.ar/congresos/EPHEMERO.HTM>.

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Book Review: *Current Directions in Research on Ephemeroptera*

Charles P. Hawkins

Editor's note: This book review was published in the *Journal of the North American Benthological Society*, 1996, 15(1):136-138. It is reprinted here with the permission of NABS and Chuck Hawkins. Chuck made several important points that I think we should consider regarding our published proceedings. I will make space available in future newsletters if anyone would like to continue discussion on this matter. Thanks to Chuck, NABS, and Phil Collinson (Allen Press) who provided an electronic copy.

Current Directions in Research on Ephemeroptera. L. D. Corkum and J. J. H. Ciborowski (editors). ISBN 1-55130-075-3. Canadian Scholars' Press Inc., 180 Bloor St. West, Suite 402, Toronto, Ontario, Canada M5S 2V6, 1995. 478 pp. \$49.95 US and Canadian (paper).

Every 3 or 4 years, mayfly biologists convene an International Conference on Ephemeroptera to disseminate new knowledge regarding mayfly biology. The conference proceedings have been published in book form since the 1st conference in 1970 (Peters and Peters 1973, Pasternek and Sowa 1979, Flannagan and Marshall 1980, Landa et al. 1984, Campbell 1990, Alba-Tercedor and Sanchez-Ortega 1991, Corkum and Ciborowski 1995). This latest volume contains the proceedings of the most recent conference (7th), which was held at the University of Maine, 3-6 August 1992.

Current Directions in Research on Ephemeroptera contains 35 chapters describing the work of mayfly biologists from 13 nations conducting research in 14 countries. Although the authors come from every continent but Antarctica, there is a strong North American bias with greater than 50% of the chapters describing work by researchers from the United States (17 chapters) or Canada (4 chapters).

The content and quality of papers published in proceedings of this type varies greatly and hence so does the value to potential readers. This volume is no exception and will therefore be of mixed value to both mayfly specialists and general aquatic biologists alike. The book consists of a dedication, a chapter based on the plenary address, and 33 contributed chapters organized into 6 thematic sections: water quality (4 chapters), distributional patterns (8), life histories (2), ecology (9), morphology (2), and phylogeny and systematics (8). These contributed chapters represent the heart and soul of the book and describe the diversity and quality of science presented at this conference.

The dedication and plenary chapters introduce the reader to the book and partly set the stage for subsequent chapters. The 1st chapter (by W. P. McCafferty) is a dedication to George Edmunds for his life-time achievements as an ephemeropterist. McCafferty's paper is fun reading for those interested in the history of aquatic biology and the genealogy of aquatic biologists. The 2nd chapter is the plenary address by Vladimir Landa and Tomas Soldan on the potential use of mayflies as bioindicators of water quality and environmental

change. Although Landa and Soldan are accomplished and respected ephemeropterists, I doubt that those practicing and developing bioassessment procedures will find much new insight in their chapter. The general ideas that develop about bioassessment have been more thoroughly discussed elsewhere, and although mayflies may, in fact, vary greatly in species-specific responses to various types of pollution, few would now suggest that a single taxon should be used in bioassessment.

The contributed chapters are highly variable in quality, and thus I must question the usefulness and need for this type of book. The book clearly has value for the conference participants because it represents the collective efforts of the participants and is a tangible reminder of what probably was a stimulating and enjoyable conference. However, the most important value of such a book should be to provide nonparticipants an easily accessible source of new ideas and data on mayfly biology that would not be available otherwise.

Does the book provide this value? I learned interesting things about mayflies in a few chapters. The chapter by Dave McShaffrey on comparative functional morphology was well-written and dealt with an important yet neglected area of basic organismal biology that has profound implications for understanding both trophic and evolutionary relationships in aquatic insects. Gaino and Mazzini's chapter on the organization of the fat body in mayflies also was informative and provided unique insights into the developmental biology of mayfly larvae and adults. I also learned a lot from Bae and McCafferty's chapter on the evolution of tusks in mayflies. Other chapters contained data that could be useful in future syntheses (e.g., Lugo-Ortiz and McCafferty's list of species from Texas, Harper et al.'s description of emergence patterns from 3 Oregon streams, and Brittain's data on egg development in Australian mayflies), but I found that most chapters were based either on preliminary or incomplete data or were excessively speculative. These latter chapters would not have survived the peer review used by journals devoted to freshwater biology; thus their value is suspect.

Perhaps the ultimate test of any publication is whether it influences the development of knowledge in a discipline. What influence will this book have and whose ideas will these papers influence? To answer these questions, I conducted 2 bibliographic analyses. First, I determined how many times each paper published in Campbell (1990) had been cited between 1991 and 1994 as reported by the Institute for Scientific Information's *Science Citation Index* (SCI). Second, I counted the number of papers published in previous mayfly proceedings that were cited in each of the chapters published in Corkum and Ciborowski's book. In general I found that the papers published in these proceedings are largely ignored (Table 1). Over 50% of the papers in Campbell (1990) were never cited in the 4 years since publication, and the most frequently cited paper (Brittain's review of life-history strategies in mayflies and stoneflies)

Table 1. Frequency of citations^a reported by Science Citation Index between 1991 and 1994 for the 44 papers published in Campbell (1990), and how frequently 34^b chapters in Corkum and Ciborowski (1995) cited papers published in the 6 previous Proceedings of the International Ephemeroptera Conference. Values in parentheses are % of papers cited 0-5 times between 1991 and 1994 (Campbell 1990) and % of papers citing 0-10 papers published in previous mayfly conferences (Corkum and Ciborowski 1995). Percentages exceed 100% because of rounding error,

Frequency	Campbell (1990)	Corkum and Ciborowski (1995)
0	25 (57)	13 (38)
1	14 (32)	6 (18)
2	2 (5)	9 (26)
3	2 (5)	2 (6)
4	0 (0)	3 (9)
5	1 (2)	0 (0)
10	0 (0)	1 (3)

^a Self citations were not included in analyses

^b McCafferty's dedication was not included in this analysis

was cited only 7 times (2 of these were self-citations). In combination, all of the papers published in Campbell (1990) were cited only 29 times by researchers other than the authors between 1991 and 1994 (there were only 4 self-citations), which resulted in the average paper in this book being cited 0.16 times a year. Brittain's paper had an average yearly citation rate of 1.25. In all fairness, these results probably underestimate the influence of the papers in Campbell (1990) because of the lag time (2-4 y) between publication of one study and another that might cite it. Overall citation rates of papers in Campbell (1990) did increase between 1991 and 1994 (4, 7, 6, and 13 citations per year); nonetheless, the average citation rate of papers in this volume using only the 1994 data are still low (0.30 per paper).

These low-to-nonexistent citation rates suggest that most of the papers published in these proceedings are not influencing the ideas of other scientists, at least those who publish in journals tracked by SCI. Not all journals are followed by SCI, however (Gibbs 1995), and SCI citation rates may not provide a realistic appraisal of a paper's true influence. For example, North American journals represent the majority of journals followed by SCI (Gibbs 1995), and North American researchers also appear to cite papers published outside North America less frequently than those published in North America, even if these journals are tracked by SCI (Wardle 1995). Furthermore, low SCI citation rates may not reflect the real influence a paper has in a small, specialized area of research such as mayfly biology (Ware 1993).

Perhaps a better measure of the influence of a proceedings paper is the frequency such a paper is cited by the commu-

nity of researchers publishing in those proceedings. The data from this analysis are somewhat more favorable than the SCI analysis, but are still discouraging (Table 1). Less than half (38%) of the chapters in Corkum and Ciborowski (1995), excluding the dedication, did not cite a single paper from 1 of the previous 6 mayfly proceedings. There is some evidence of a bimodal population of authors in Corkum and Ciborowski (1995) in that more (26%) chapters cited 2 previous proceedings than cited 1 (18%). Some authors clearly were aware of past proceedings and cited these papers frequently (e.g., Bae and McCafferty cite 10 previous proceedings papers), but this magnitude of citation was the exception and not the norm. The 34 chapters in Corkum and Ciborowski (1995) cited an average of only 1.5 papers each from the 6 previous proceedings. In contrast, papers published in journals were cited frequently.

From these data it seems clear that these proceedings are of limited use to researchers in either general aquatic or mayfly biology. Some good and interesting papers get published in them, but their potential influence may be diluted because most seem to be seldom read and never cited; moreover, these books generally have limited circulation. For example, my university's library has only 2 of the 7 mayfly proceedings. If the papers in these books have so little influence, why are such proceedings still published? The cynical answer is that we publish in them mainly to lengthen our curricula vitae, and proceedings allow us to publish those data and ideas too weak to withstand the more stringent peer review of journals.

I did not anticipate writing such a negative review. I have the utmost respect for the editors, and I know that editing a book, especially one based on the proceedings of a conference, can be a nearly impossible task. Corkum and Ciborowski did a commendable job editing the 35 chapters that constitute this book, and Canadian Scholars' Press produced a generally legible and attractive book. I'm certain the quality of the book was greatly improved because of Lynda Corkum and Jan Ciborowski's attention to quality and format.

So, would I buy this book? Probably not, but I will ask my library to buy it mainly because some data there may be useful when I or students eventually attempt to synthesize what is known about some aspect of aquatic insect biology. Should future International Mayfly Conferences be published as books? I would argue against such publication and urge future editors to consider submitting manuscripts from these conferences to an established journal where data and ideas will receive more thorough scrutiny and thus maximize the likelihood that these papers will be read and their ideas used.

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Mayflies on Video

A videotape of 50 genera of mayfly nymphs with emphasis on mouthparts (no sound track) is available now in PAL format from Arnold Janiczek, Universitat Tubingen, Zoolog. Schausammlung, Sigwartstr. 3, D-72076, Tubingen, Germany.

For the VHS format, write to Ken Wood, 361 Morrison Road, Whigham, Georgia 31797 USA.

Request: Mayflies from Sri Lanka

I would like to know if any of you have worked/been working on Sri Lankan mayfly species. I'd like to collect information related to their identification to the taxonomic categories (to the generic and species level).

Those who have information, please write to me: Dr. (Mrs.) Sriyani Dias, Department of Zoology, University of Kelaniya, Dalugama, Kelaniya, Sri Lanka.

This Newsletter is Numbered!

Examine the upper right hand area of page 1. *The Mayfly Newsletter* now has its own unique International Standard Serial Number (ISSN): 1091-4935.

This number was assigned, upon request, by the National Serials Data Program (NSDP) of the Library of Congress. According to the NSDP, the ISSN can be used for such processes as ordering, billing, inventory control, abstracting, indexing, acquisitions, claiming, binding, accessioning, shelving, cooperative cataloguing, circulation, interlibrary loans, and retrieval of requests. How did we ever get along without it?

Bejeweled Ephemeroptera

A colleague passed an interesting jewelry catalog to me recently. It contains a variety of animal-inspired pins, tacks, pendants and rings. Included in the catalog are mayfly, stonefly and mosquito pins; two mayfly tacks; and an exceptionally beautiful dragonfly pin.

Prices for these items begin at US\$75.

Catalogs or further information may be obtained from Singleton-Moss, 10 South 5th Street, Suite 111, Minneapolis, Minnesota, 55402 USA, phone 1-800-474-0079.

Children's Book on Mayflies

I found an interesting little book in the juvenile section of the library the other day, *The Mayfly*, by Ross E. Hutchins (1970. Addison-Wesley Publishing Co., SBN 201-03100-0).

It basically follows the life cycle of a mayfly inhabiting a stream in the Great Smoky Mountains. Topics such as egg laying habits, egg attachment structures, nymphal and subimaginal molting, mating flights, and predation are all covered nicely. The illustrations are well done, too.

I checked with our local bookstore and, unfortunately, this book is now out of print. I suppose there is always a chance one may find a copy among some used books.

1995 Mayfly Bibliography

[Editor's note: This bibliography was published as the Ephemeroptera portion of the 1995 (1996) North American Benthological Society's *Current and Selected Bibliographies on Benthic Biology*.]

The following is a list of current publications dealing with Ephemeroptera that have been published up to and during 1995 and have not appeared in previous NABS Bibliographies. To facilitate locating abstracts and addresses of authors, the name of the index (abbreviated), volume, and abstract or item number follow each reference. Abbreviations are as follows: *Biological Abstracts* (BA); *Biological Abstracts/Reports, Reviews, and Meetings* (BA/RRM); *Current Contents - Agriculture, Biology, and Environmental Sciences* (CC); *Dissertation Abstracts International* (DAI); *Entomological Abstracts* (EA); *Masters Abstracts* (MA); and *Zoological Record - General Insects and Small Orders* (ZR). Citations for CC, DAI, and MA include the volume, issue number in parentheses, and page number on which the reference is found. References without an abstract number were obtained from the original reprint. I would appreciate receiving a reprint of any article that deals with mayflies, especially if it includes scientific names, so that it may be included in next year's bibliography. Also, I would like to be informed of any corrections or omissions in this or past bibliographies. Suggestions are always welcome. Please send all correspondence to Peter M. Grant, Department of Biological Sciences, Southwestern Oklahoma State University, Weatherford, Oklahoma 73096-3098 USA, phone (405) 774-3294, FAX (405) 774-3795, E-mail grantp@swosu.edu.

- CORRECTION: There is an error in the 1994 (1995) Mayfly Bibliography. The reference Gillies (1994) on *Dicentropilum* should be deleted. It is correctly listed as Wuillot and Gillies (1994) in the same bibliography.
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Ephemeroptera Galactica

A site on the World Wide Web has been set up to coordinate information about mayflies available over the Internet. "Ephemeroptera Galactica" contains hypertext links to many sources of information on mayflies, including taxonomic catalogs, bibliographies, how to contact mayfly people, figures, and pointers to other Internet sites of interest (including "Mayfly Central," the first Internet site dedicated to mayflies). You can visit "Ephemeroptera Galactica" on the World Wide Web at the URL "<http://www.famu.edu/mayfly>."

ITIS/EPA/ASC

The Interagency Taxonomy Information System (ITIS) plans to put all known species of North American flora and fauna on the World Wide Web. The Environmental Protection Agency (EPA) and the Association of Systematics Collections (ACS), among other agencies, are involved with this project.

ITIS will register a species under all of its synonyms, but when queried, will identify the most widely accepted scientific name. It will also provide references and a list of experts on that species.

The ITIS URL is <http://www.itis.usda.gov/itis/>. [From *Science* (1996) 272:37]

Nomina Insecta Nearctica

A Checklist of the Insects of North America

Nomina Insecta Nearctica will appear in four volumes. Volume 1 (now available) covers the orders Coleoptera and Strepsiptera. Volume 2 (to appear in summer 1996) covers the Hymenoptera, Raphidioptera, Megaloptera, Neuroptera, Mecoptera, and Trichoptera. Volume 3 contains the Diptera, Lepidoptera, and Siphonaptera (late Fall 1996), and volume 4 covers the Non-Holometabolous orders (Winter 1996/1997). At the conclusion of the publication of the four volumes, a CD-ROM will be released containing the databases for all four volumes as part of a database application.

Each order consists of a primary checklist covering all of the names applied to the species of that order with complete synonymies. Each name includes its original orthography and the original generic name. All names are arranged alphabetically, families within the order, genera within the family, and valid species within the genus. Synonyms, homonyms, emendations, misspellings, etc. are arranged chronologically under the valid species name. A separate section is provided listing the higher classification "phylogenetically" to subfamily with valid generic names listed alphabetically under subfamilies. The entire series is thoroughly indexed by species and genus group names.

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The series is being published by Entomological Information Services. [Poole, R. W. and P. Gentili. "Nomina Insecta Nearctica." *ECOLOG-L@UMD.EDU* (20 June 1996)]

The Mayfly Newsletter is the official newsletter of the International Conferences on Ephemeroptera and is published twice a year 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, Weatherford, Oklahoma 73096-3098 USA, phone (405) 774-3294, FAX (405) 774-3795, or send E-mail to grantp@swosu.edu. This publication was authorized by the Dean of Arts and Sciences and was printed at a cost of \$150.00 for 500 copies.

Supraspecific Classification of Ephemeroptera

Nikita Kluge

At the present time I am working on a monograph on supraspecific classification of Ephemeroptera. It will include a critical revision of all mayfly taxa higher than species, as well as accounts of all known useful characters which allow determination of supraspecific taxa or are used in discussions about phylogeny and system.

Recent literature (as well as literature of any period) contains many disagreements concerning ranks of the taxa: a group of the same volume is regarded by some authors as a genus, by others as a subgenus, or as a subfamily, etc. I believe that discussions of such kind are useless and give nothing for our scientific knowledge, because the absolute ranks (such as genus, family, order and others) are not objectively determined. At the same time, the zoological nomenclature regulated by ICZN is based on ranks in such a manner that it is impossible to give a name for a taxon if a certain rank is not attributed for it.

In my monograph, I am using a new HIERARCHICAL nomenclature, which on one hand is completely based on the rules of ICZN about priority of generic and family group names (and thus, can be accepted by everybody who recognizes ICZN), but on the other hand this nomenclature is free from ranks (and even from such "saintly" ranks as genus). Usage of this nomenclature allows one to avoid useless discussions about ranks and about subjective synonyms (which are also absent in this nomenclature).

Being different from the ICZN-nomenclature, the new hierarchical nomenclature at the same time does not contradict the recommendations of the ICZN. The new nomenclature is made in such a manner, that everybody who does not want to use it, and wants to see traditional taxa names, can easily change hierarchical names to traditional rank names, if attribute to these taxa any ranks according to own taste. Discussion on three alternative principles of taxonomic nomenclature - rank, volume and hierarchical ones - will be published in a separate paper, the computer text of which is available now by e-mail.

In the monograph on mayfly supraspecific taxa, I am using an original form of text arrangement, which helps to find information about characters and taxa in a long text.

Before the IXth International Conference on Ephemeroptera, I am going to finish the first draft of this monograph without the taxon corresponding to Atalophlebiinae sensu Peters. This draft will be available before its publication as a computer text for everybody who would like to study it in order to criticize or to use. At the present time, selected parts of the text are prepared and are available to specialists who would like to discuss them now.

A number of problems are connected with taxa which I am not able to study myself. Having no financial possibility to travel, I can't collect mayflies of out-of-Palaeartic faunas.

One complex of these systematic problems is connected with baetids. Their systematic position can be determined with help of examination of pose of gonostyli buds in mature male nymphs which are ready to molt to subimago (Novikova & Kluge, 1994 et al.), but for many exotic baetid taxa, this character is still unknown. These are American taxa *Baetodes*, *Camelobaetidius* (incl. *Dactylobaetis*), *Paracloeodes*, *Heterocloeon*, *Apobaetis*; all Australian baetids; all baetid genera described last 20 years except for the groups described by Kluge and Novikova, and except for *Afroptilum sudanense* which I have received from Dr. Gillies; out-of-Palaeartic species, which are placed to artificial genera *Baetis*, *Cloeon*, *Centroptilum*, *Pseudocloeon*, *Acentrella* and *Procloeon*, but actually do not belong to the natural groups with these names.

Another group of problems is connected with adult pterothorax structure, especially with subimaginal pterothorax structure. In many cases it gives very important characters for supraspecies classification and phylogenetic reconstruction, but it is very poorly investigated. It would be important to examine subimaginal thorax of *Rallidens*, *Tricorythus*, taxa recently placed to Teloganodinae, and probably some other exotic groups.

In order to understand systematic position of ephemerellid taxa, it is necessary to do a very simple thing: to describe structure of tergaliae (= "gills"). Unfortunately, for some taxa, only the external appearance of larvae is described; because of this, systematic position of *Caurinella*, *Crinitella*, *Hyrtanella* and *Teloganopsis* is still unclear. In order to be sure in the name "*Ephemerella*," it is necessary to examine larvae of its type species - *E. excrucians*.

I have a strange idea that *Exeuthyplocia* can be related to Behningiidae, but in order to verify this idea, examination of *Exeuthyplocia* nymphs is necessary.

I would be very thankful to everybody who would be able to provide me with material or suggest sources of finance for collecting trips.

At the present time I am in a deep financial hole (together with our University and all Russian science). I can't promise to send letters or other correspondence, but I can send E-mail without problems, because somebody has paid for this at our University. The following E-mail address can be used now to contact me: vladi@vdi.usr.pu.ru

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Address Update - New, Corrections, Changes

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