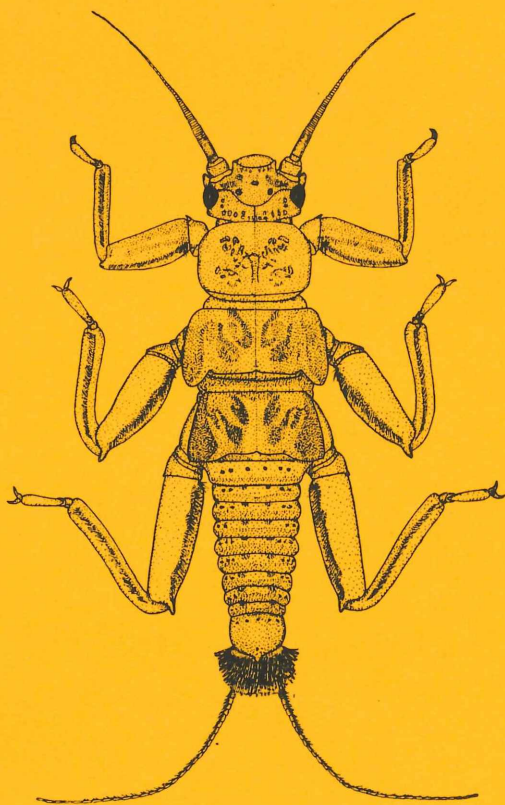

PERLA

Newsletter and Bibliography
of the
International Society of Plecopterologists



PERLA No. 18, 2000

Aquatic Entomology Laboratory
Department of Biological Sciences
University of North Texas
Denton, Texas 76203

PERLA
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International Society of Plecopterologists
Available on Request to the Managing Editor

MANAGING EDITOR:

Kenneth W. Stewart
Department of Biological Sciences
University of North Texas
P O Box 305220
Denton, Texas 76203-5220 USA
Fax: 940-565-3821
E-mail: stewart@unt.edu

EDITORIAL BOARD:

Richard W. Baumann
Department of Zoology and
Monte L. Bean Life Science Museum
Brigham Young University
Provo, Utah 84602, USA

Peter P. Harper
Département de Sciences biologiques
Université de Montréal
C.P. 6128, Succ. "Centre-Ville"
Montréal, Québec, H3C 3J7, CANADA

Boris C. Kondratieff
Department of Bioagricultural Sciences
and Pest Management
Colorado State University
Ft. Collins, CO 80523, USA

Ian D. McLellan
P. O. Box 95
Westport, NEW ZEALAND

Shigekazu Uchida
Lake Briwa Museum
1091 Oroshimo
Kusatsu 525, JAPAN

Peter Zwick
Limnologische Fluss-Station
Max-Planck-Institut für Limnologie
Postfach 260
D-36105 Schlitz, GERMANY

EDITORIAL ASSISTANT AND COPY EDITOR:
Francene Stewart, Denton, Texas

COVER ILLUSTRATION

This cover illustration of the nymph of *Eunotoperla kershawi* Tillyard 1924 is from the original drawing by Ian McLellan, done by him in 1968 for his Australian gripopterygid paper. This is the sole member of the genus and largest Australian gripopterygid. Its distribution is restricted to Southeastern New South Wales and Victoria.

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PERLA SUBSCRIPTION POLICY

**(As revised by vote of the participants
and the Standing Committee at the
XIII International Symposium in
Tucumán, Argentina, August, 1998)**

Dues for membership in the International Society of Plecopterologists are \$15 U.S. per year. Members will automatically receive PERLA. Libraries or other institutions may receive PERLA by making a \$10 annual donation, or through an exchange of publications agreement approved by the Managing Editor and Editorial Board. Five dollars (\$5) of the dues will become part of the Scholarship Fund of the Society, to be used for helping active and deserving workers or students participate in future symposia

Persons or institutions who have no support or are financially unable to pay dues may continue to receive PERLA by writing a brief note to the Managing Editor requesting a waiver of dues and to be retained on the mailing list.

It is therefore important that you respond to this receipt of PERLA 18 in one of the following ways, in order to be kept on the mailing list for PERLA 19: (1) pay your annual dues, (2) make a \$10 donation (institutions), or (3) request a waiver. A form and self-addressed envelope are included with this issue, (PERLA 18) for your convenience in responding.

You may send your dues or donation in the form of a personal check, bank note, cashier's check, or postal money order designated in U.S. funds to the Managing Editor. Because of high bank costs for exchange in some countries, you may send cash, in which case the Managing Editor will respond with a personal acknowledgment if it is received.

Dues and donations are used to help pay the costs of publishing and mailing PERLA, for Lifetime Achievement Award plaques presented by the Society at International Symposia and for the Scholarship Fund. The Managing Editor will make a financial report to the International Committee at each International Symposium Business Meeting or at any other time when requested.

Members or institutions whose dues remain unpaid for two consecutive years, or have not been granted exchange, waiver or emeritus status, will be dropped from the PERLA mailing list.

DEDICATION

This issue of PERLA is dedicated to the memory of Mary Hynes who died early in 1999. Many of us remember her smiling face, delightful sense of humor, other warm characteristics and the fellowship we enjoyed with her at several International Symposia. We, as Noel, feel deep personal loss, and at our request he has written the following words describing her supportive role in his distinguished career:

Yes, I should be happy to see an acknowledgment of Mary's influence on my work in Perla. She was after all, a joint author on a couple of my Australian papers, and to that end I would suggest that Heide's photo of her in the bush beside Cement Creek, Victoria, Oz, holding a bug net and wearing a broad smile, would be most appropriate. It is one of the best photos we have of her, and that is an excellent setting.

Mary and I met when she was the secretary and administrative assistant to the Director of the Freshwater Biological Association laboratory in the English Lake District and I was a beginning graduate student. We were both housed in the nineteenth century pseudo castle that was the field station. She was a physics graduate from Cambridge University, but had not been able to find work in her field. When I was writing my thesis she helped me considerably by criticizing my writing, as she did later all through our long career together. I was, after our two years at Wray Castle, anxious to marry her, but she said, quite rightly, that I was too young, as she was four years my senior. However, after I had been overseas for a year, we were married in 1942, shortly before I was posted to Ethiopia. But we did manage to get together after a year's separation, and thereafter we did everything together as far as was possible. So Mary lived in Ethiopia, Kenya and Somalia, and produced our first two children in Nairobi, and when we returned to England, and our four children were of school age, she resumed using her physics by teaching in a college and secondary school. We traveled widely, camping with our children, and Mary became increasingly involved in my work and became quite an expert in some aspects of stream ecology, with her name on a couple of papers on Plecoptera. She was also a major contributor to the development of the Department of Biology that we came to Canada to build. I told her that she was a sort of colonel's wife, a role in which she excelled. I owe an enormous amount to her in support, encouragement and her remarkable abilities with people. Her

death after 55 years of happy marriage has been a great loss to me, but I am well cared for by our four excellent children of whom any parents would be proud; and that I also owe to her. I was a fortunate man!

Noel Hynes

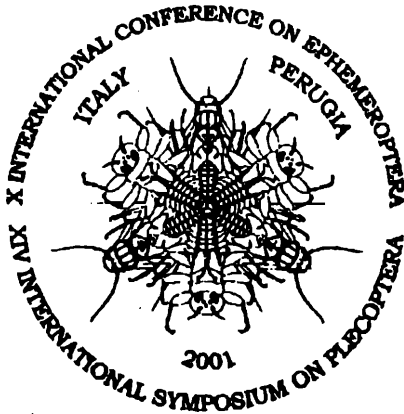


This photo of Mary Hynes, as mentioned above in Noel's writeup, was provided by Peter Zwick: It is a picture he took of Mary on the Acheron River, halfway between Marysville and Warburton Australia, on the field trip of the Plecoptera Symposium, in 1987.

HISTORY OF INTERNATIONAL PLECOPTERA SYMPOSIA

Symposium	Place	Time	Organizer(s)
I.	Lausanne, Switzerland	Sept, 1956	Jaques Aubert
II.	Vienna, Austria (Symposium XIII within Framework of International Congress of Entomology)	Aug. 1960	E. Pomeisl
III.	Ploen, Germany	Sept. 1963	J. Illies
IV.	Abisko, Swedish Lapland	July 1968	P. Brinck & S. Ulfstand
V.	Washington, D.C., USA	Sept. 1974	R.W. Baumann
VI.	Schlitz, Germany	Aug. 1977	J. Illies & P. Zwick
VII.	Nara, Japan	Aug. 1980	Teizi Kawai
VIII.	Toulouse, France	Aug. 1983	C. Berthélemy
IX.	Marysville, Australia	Feb. 1987	Ian Campbell
X.	Granada, Spain	July, 1989	J. Alba-Tercedor
XI.	Treehaven Biological Station, Wisconsin, USA.	Aug. 1992	S. W. Szczytko
XII.	Lausanne, Switzerland	Aug. 1995	P. Landolt & M. Sartori
XIII.	Tucumán, Argentina	Aug. 1998	E. Dominguez
XIV.	Perugia, Italy	(Upcoming Aug., 2001)	Elda Gaino

2001 INTERNATIONAL JOINT MEETING



**X INTERNATIONAL CONFERENCE ON
EPHEMEROPTERA**

**XIV INTERNATIONAL SYMPOSIUM
PLECOPTERA**

5-11 AUGUST, PERUGIA-ITALY

Website <http://olympus.unigp.it/maystone/>

This meeting is being organized by Prof. Elda Gaino with the help of numerous collaborators. The International Joint Meeting on Ephemeroptera and Plecoptera intends to update the current knowledge of these two insect groups in the fields of biodiversity and environment, biogeography, ultrastructure, physiology, systematics and taxonomy, phylogeny, reproduction, life histories and behavior.

Registration Fee

The estimated fee is 200 Euro. For an accompanying person the fee is 100 Euro. The registration fee will cover: (a) the conference rooms costs; (b) coffee breaks; (c) field trip (one-day excursion); (d) conference dinner; (e) program, abstract book and a copy of the proceedings; and (f) souvenirs.

Location

Perugia is the most important town of Umbria. It is located in Central Italy, about 200 km north-east of Rome and 150 km south of Florence, and stands on a hill at about 500 ma.s.l.

Perugia is the center of "Italy's Green Heart", and the visitor will see at first glance that this is an apt description of Umbria. In addition to its historical sites, Umbria has beautiful landscapes with gentle hills, high mountains, rivers and lakes. In any village tourists can find vestiges of the past.

Perugia has its roots in the Etruscan age and is surrounded by smaller but equally interesting cities: Assisi, Todi, Spello, Spoleto, Trevi, Città della Pieve and Gubbio to mention only the better known.

Transportation

Perugia has good road and rail connections. People flying to the conference should arrive either (a) in Rome or Florence and go on to Perugia by train or by bus or (b) in Milan and fly to Perugia (Sant'Egidio Regional Airport). There are also rail and road connections from Milan. At present, there is no direct connection between the Rome and Perugia airports.

Accommodations

Perugia is a tourist town and offers various kinds of accommodations: there are hotels, pensions, camping sites (10km from Perugia), youth hostels and a lodge reserved for University researchers (only a few rooms available).

Guests

For accompanying persons, Perugia offers many sightseeing opportunities: museums, palaces, churches, medieval and archaeological sites, etc. Guided tours will be arranged.

Post Conference Tours

A form will be sent to the participants with some options on visits to the main Italian towns (e.g. Rome, Florence, Venice).

Proceedings

The Proceedings will be published in a special volume of the *Rivista di Idrobiologia*, University of Perugia.

Field Trip

The field trip will be organized to allow people to collect specimens along one of the many streams of the region.

Preregistration

A preregistration form is available online at <http://olympus.unipg.it/maystone>. People who have no email address will receive the first announcement by mail.

Preregistration forms must be returned by February, to the following address: 2001 International Joint Meeting, Dipartimento di Biologia Animale ed Ecologia, via Elce di Sotto, 06123, Perugia (Italy). Or you may fax it to ++39 075 5855733 or email it to maystone@unipg.it.

Second Announcement

Second announcement and call for abstracts will be sent by September 2000.

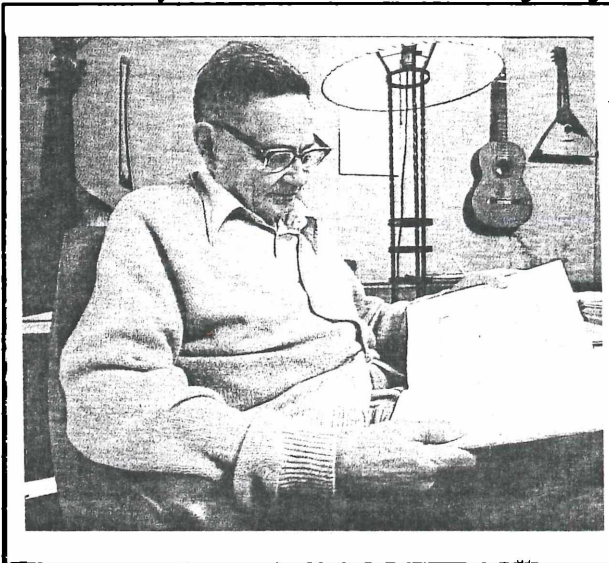
REPRINT OF ARTICLE IN NOV. 12, 1984 SPORTS ILLUSTRATED

(Editors Note - Bob Boyle brought this article to my attention this past year. Since Bill Ricker is now 91 years young and says "he is doing OK healthwise, OK for an old man!", and "was sorry to miss the meeting last year in Argentina". I thought readers of PERLA would enjoy reminiscing with this very interesting article. Reprint rights were obtained from Sports Illustrated in early 2000.

by ROBERT H. BOYLE

FISHERIES BIOLOGIST WILLIAM E. RICKER IS A REAL HALL OF FAMER IN HIS FIELD

After years of following baseball and occasionally dipping into the sciences, I have arrived at these conclusions: Great mathematicians are like fastball pitchers. They're at their peak in their 20s, and after that they're finished. Great chemists are like curveball or screwball pitchers. They make their contributions in their 30s. But great biologists are like knuckleball pitchers. They can go on for years because they don't burn out. In fact, biologists get better with age.



Ricker can be bookish when discussing his curve.

The truth of it came home to me long ago when I had the good fortune to meet one of my longtime heroes, Dr. William E. Ricker, who at 76 is the Phil Niekro of fisheries biology. Ricker is the author of nearly 200 papers, articles and books about fish, aquatic insects and kindred subjects, and for a dozen years, from 1950 to '62, he served as the editor of the *Journal of the Fisheries Research Board of Canada* (now the *Canadian Journal of Fisheries and Aquatic Science*), which he made into the best publication of its kind in the world.

A tall, bespectacled man who sports a 1957 Johnny Unitas crew cut, Ricker is gracious and polite in that old-fashioned way that characterizes many Canadians, except when they're playing hockey. His office at the Pacific Biological Station in Nanaimo on Vancouver Island, B.C., where he served as chief scientist until his "retirement" in 1973, is awash with books and papers. No clean-desk man, Ricker works on two or three problems simultaneously until the answer to one, or all of them, suddenly pops into his head.

"Everybody doesn't work the same way I do," he says "I've never consciously divided the day into sections. When there's a deadline I concentrate on the subject, whatever it is. I often wake up in the middle of the night and I stay awake for an hour or so, and some good ideas come to me at that time. When they do, I hop out of bed and write them down for fear they won't last. New or unusual ideas or relationships come spontaneously when you're not actively thinking about them."

The late Dr. George W. Bennett, who was the head of the aquatic biology section at the Illinois Natural History Survey and the leading authority on largemouth bass once remarked, "Bill Ricker looks like a big country boy but he's a genius." Dr. James Atz, a former curator of ichthyology at the American Museum of Natural History, says, "If Ricker worked in molecular biology or some other field in which Nobel prizes are given, he would have won at least one."

Ricker is the godfather of modern fisheries science, a different kettle of fish from fisheries biology, also a Ricker specialty. Fisheries science deals with the dynamics of fish population and Ricker figured out much of the mathematical methodology now used in this arcane field. The celebrated Ricker curve isn't a pitch but a graph representing the number of progeny added to a fish population by any given number of parent spawners. (The graph is based on the equation $R = \alpha P e^{-\beta P}$; where R = number of progeny, α = ratio of R to P when the stock is almost zero, P = size of parental stock, $e = 2.718 \dots$ and β = a parameter with dimensions of $1/P$.) Ricker's 382 page *Computation and Interpretation of Biological Statistics of Fish*

Populations, which is crammed with far more complex equations than that for the Ricker curve, is commonly known as “the Green Book” because of the color of the binding. It’s *The Baseball Encyclopedia* of the field.

Also long intrigued by fecundity of the Pacific salmon, Ricker proposed, in a paper published back in the 1950’s, that they be stocked in waters to the east, such as the Great Lakes. A decade later, after sea lampreys had wiped out the lake trout in the Great Lakes and alewives had taken over, other scientists picked up on his suggestion, and chinook and coho salmon now flourish in the lakes, providing the basis of a multimillion-dollar sports fishery.

The Green Book is very heavy stuff, but Ricker’s involvement with mathematics is only the means to any number of ends. Ricker’s use of mathematics to check his insights helps make him unique. As another admirer, Dr. R. Ian Fletcher, former professor of fisheries and biomathematics at the University of Washington, puts it, “Darwin never wrote an equation in his life, but Ricker is like a Darwin who did.”

Except for 11 years he served as a professor at Indiana University—he took over Alfred Kinsey’s course in ornithology when Kinsey, who started out as an entomologist specializing in gall wasps, decided to devote himself to the study of human sexuality—Ricker has lived and worked in Canada. Yet in 1969, when the American Fisheries Society, a U.S. organization with international members, bestowed its first Award of Excellence medal, it bypassed several outstanding biologists in this country to give the award to Ricker for his “superb and original contributions” to the methodology of statistically sound sampling and interpretation of fish populations; the relationship between parent fish stocks and the numbers of surviving progeny; his new concepts about growth, mortality and predator influence on salmon; and his theory of lake circulation.

For all the accolades, Ricker’s views don’t always prevail. As he told the society a year later (he was unable to attend the award ceremony in ‘69 because he was in U.S.S.R.), “Practically every one who has ever gone fishing considers himself an expert in fish management and doesn’t hesitate to say so. Also, the man who uses any particular type of fishing gear invariably regards all other types as pernicious and destructive; but he can insist, with a straight face, that *his* kind of fishing couldn’t possibly do the stock any harm.

“And such illogical opinions can on occasion build up a head of pressure that cannot be resisted. Thus, there are many medium-sized streams, lakes and reservoirs on this continent that would benefit

from a small net fishery but are wholly reserved for angling. As a result, fine stocks of whitefish and ciscoes go unused, suckers and buffaloes flourish, and even species like crappies may be greatly underutilized."

In bestowing its medal, the society noted, as an afterthought, that Ricker had a "sideline interest" in aquatic insects. This was like saying that Leonardo dabbled in painting. Ricker was then the world's leading authority on the insect order Plecoptera (stoneflies), an important food for trout. In the 1940s he completely rearranged some parts of the classification of this order, mainly on the basis of the evolutionary development of the genitalia. "Ricker smashed the old chaotic order of stoneflies," says Dr. Sandy B. Fiancé, a stonefly specialist, "and what he built from the wreckage was a thing of beauty and simplicity that made evolutionary sense."

Ricker's stature in stonefly and fisheries research has been so outstanding that some scientists automatically assume that two experts working in two different fields happen to have the same name and middle initial. They are surprised to learn, as I have found, that there is only one William E. Ricker and that he is the expert in both fields.

Amazingly enough, Ricker first took up the study of stoneflies as a hobby. As far as he is concerned, anyone could become interested in them, and he cites the example of Raymond A. Hays, who began sending Ricker stoneflies for identification some years ago. Hays was a custodian in Bozeman, Mont., but he had a good reference library at hand because he happened to mop the floors in the zoology building at Montana State. He read voraciously, collected stoneflies from Hyalite Creek near the campus and corresponded with Ricker. "Hays was as good or better than I was," Ricker says.

Hays made Hyalite Creek perhaps the most studied stonefly stream in North America, if not the world. He collected a record 55 different species from it, including one previously unknown, which Ricker named *Isocapnia hyalita*. In honor of the energetic custodian, Ricker named a new stonefly species found in Yellowstone National Park *Nemoura haysi*, and when he collaborated with several other entomologists on a study, *The Stoneflies (Plecoptera) of Montana*, published by the American Entomological Society in 1972. Ricker saw to it that Hays was listed as one of the authors.

Although Ricker sometimes writes letters to friends in Latin, he doesn't necessarily use the customary Latin or Greek to name new species of stoneflies. "The classical languages have been rather thoroughly ransacked," he says. "Scientific names proposed for organisms should preferably be distinctive, euphonious and

descriptive, in that order of importance," he says. Ricker prefers to use Spanish, native American Indian or Russian words for scientific names; he's familiar with, if not fluent in these languages. But he says, "My only claim to linguistic virtuosity is that I can sing at least one song in English, French, German, Russian, Spanish, Italian, Latin and Japanese." He is the author of the *Russian-English Dictionary for Students of Fisheries and Aquatic Biology* and has translated about 100 Russian scientific papers into English. The species name *Alloperla usa*, a stonefly that Ricker named, comes from the Russian word *usy* (mustache). He chose it because of the patch of hairs on the stonefly's behind. *Zapada chila* another stonefly named by Ricker, is both Russian and Spanish. The generic name *Zapada* comes from the Russian *zapad* (west)—because the genus occurs mainly in western North America—while *chila* comes from the Spanish for red pepper. Ricker thought this particular insect was "a red-hot discovery" because it was the first one found in the East. He gave a specimen of *Allocapnia* the species name of *aurora* "because it suddenly dawned on me that this must be a new species."

In his spare time—what there is of it—Ricker golfs, trolls for salmon and does a bit of fly-fishing. "I was probably at my peak when I was in my 40s," he says. "Still, I suppose a biologist goes downhill more slowly than a mathematician or chemist because the accumulated background tends to make up for declining analytical powers. I'm not as strong as the young fellows, but I know the tricks a lot better."

CURRENT RESEARCH ON PLECOPTERA

This section is intended to keep society members current on research in progress by other members, workers and students. Please use Editor Stewart's e-mail address (inside front cover) or conventional mail to submit a brief, informative description of your current work, for the next PERLA (19).

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## **Research in Dr. Boris C. Kondratieff's Lab., Colorado State University.**

1. With R. F. Kirchner, description of two new species of *Allocaonia* in the *recta* group from Tennessee and Mississippi.
  2. With Bill P. Stark and a Colorado State University undergraduate, Brian J. VanWiener, reviewing the North American species of *Megarcys*. The adults and eggs of the five species are redescribed.
  3. With Richard Lechleitner, Mount Rainier National Park a survey of the stoneflies of Mount Rainier National Park, Washington. Approximately 70 species have been collected as adults, including several rare taxa and one new species. Any material from the Park would be greatly appreciated.
- ~~~~~

**Ian McLellan** of Westport, New Zealand has completed a revision of *Cristaperla* (Plecoptera: Notonemouridae) and handed to the editor of the New Zealand Journal of Zoology late in 1999. Two ongoing projects are work on South American Gripopterygidae with Peter Zwick and distribution maps of various New Zealand notonemourid genera. Recently Bob McDowall (National Institute of Water and Atmosphere, Christchurch, New Zealand) completed a survey of Falkland Islands freshwater fishes and collected aquatic insects. A number of nymphs and the first adults of one species of stonefly (Species A of McLellan, Wais and Cabo, 1990) were collected. Ian is now working on them.

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Michelle Dobrin, graduate student of Donna Giberson, University of Prince Edward Island, Charlottetown, PEI, Canada, has been actively collecting stoneflies and other aquatic insects since 1997 when the project started out as a baseline survey of the aquatic insects in streams at Prince Edward Island National Park. In 1998, the study became focused on land use and comparison of stoneflies and other aquatic insects between a stream outside PEI park and Balsam Hollow Brook inside the park. The objective has been to determine if a golf course and tourism have had any effect on the Balsam Hollow Brook aquatic insect diversity, since the number of tourists has dramatically increased to up to 5000 a day.

Drs. Mike D. Picker and Duncan Stevens, Zoology Department, University of Cape Town, South Africa have for a while been working on South African Notonemouridae. They have completed the alpha taxonomy of the group (see Picker & Stevens [1997] in Bibliography), and are using mate-choice trials to distinguish sibling species complexes. Their honours student, Cecily Roos is examining the mechanics of mating, as well as determination of possible cues used in mate recognition. They contacted your managing Editor because of interest in looking at possible use of drumming. They had never witnessed drumming or males vibrating their abdomen and wondered if they were missing it. Ken Stewart informed them that his and Ian McLellan's observations in New Zealand and those of several investigators in the southern hemisphere, including J. Illies, Noel Hynes, Guenther Theischinger and others have never observed drumming for any species of Antartoperlaria. Picker and Stevens feel they have covered most of the commoner species of notonemourids, but expect to uncover some cryptic species within the widespread *Aphanicerca capensis* using mating trials. A PhD student at UCT Zoology is studying the genetics of that species, so they hope to collaborate with him. They are also in the process of working out a phylogeny for the Notonemouridae.

Dr. Andy Sheldon of the University of Montana continues working with Dr. Dick Baumann on the biogeography of Great Basin Plecoptera and life history studies of *Setvena*, *Doroneuria* and some *Isoperla* species. He is spending the next year on sabbatical working with the Forest Service in Oxford, Mississippi on ecosystem research in catchments on the Ouchita National Forest. Emphasis will be on a thorough adult-based faunistic study on the half dozen small watersheds; nymphs will also be worked into the study and some time will be spent on comparative ecology of perlids. Andy will also be working with fishes.

Dr. Richard Baumann of Brigham Young University continues to work with several colleagues on zoogeographic studies of Ohio, Atlantic Canada and the Great Basin, and with graduate student Ron Call on stoneflies of Southern Utah. He is also nearing completion of a manuscript on revision of the capniid genus *Isocapnia*, a previous master's project of his student J. T. Zenger.

J. Manuel Tierno de Figueroa of Granada University, Spain, is working in Italy with Dr. Romolo Fochetti on a postdoctoral grant on stoneflies, and continues his work with Dr. A. Sanchez-Ortega and Dr. P. Membiela on a book of Iberian Plecoptera and other stonefly projects.

Jonathan Benstead and Pascal Rabeson of the Institute of Ecology, University of Georgia, are working with Plecoptera specimens from SE Madagascar.

Research in Dr. Ken Stewart's Lab, University of North Texas

1. Doctoral student John Sandberg is well into his study of the systematics, behavior and ecology of the stonefly genus *Isogenoides*. The revision will include illustration and description of all life stages of the currently recognized 9 species and problematical *I. Hudsonicus*, previously synonymized with *I. frontalis*. Eggs and nymphs will be correlated by rearing and drumming and search behaviors will be determined from reared, virgin adults. The life history of *I. zionensis* was studied in the San Miguel River, Colorado in 1999-2000, and drumming signals of *I. krumholzi* and *I. olivaceous* and *I. varians* have been successfully recorded. The *I. varians* material was reared from 23 nymphs collected with help of Bill Stark in Mississippi. *I. Colubrinus* and *I. elongatus* from March, 2000 collections are being reared, and a collecting trip with Stan Szczytko in Wisconsin, and Iowa is planned for April, 2000, for live nymphs of *I. frontalis* and *I. doratus*. If you have preserved *Isogenoides* materials, especially *I. hansonii*, or are working in the field with any of the species, please contact John at jbs001@students.cas.unt.edu. Boris Kondratieff and Stan Szczytko are members of John Sandberg's doctoral committee.
2. Ken Stewart and Stan Szczytko are working on a manuscript describing recently reared nymphs of several western North America *Isoperla* species, including *I. decolorata*, *I. katmaiensis*, *I. denningi*, *I. roguinse*, *I. baumanni*, *I. gravitatus* and *I. tilasqua*. The objective is to eventually produce an illustrated key to nymphs with notes to all western *Isoperla* species.
3. With Bill Stark, a project to describe the females and eggs of the 3 *Setvena* species is nearing completion.
4. With Bill Stark the manuscript for 2nd Edition of "Nymphs of North American Stonefly Genera (Plecoptera)" is scheduled for completion by fall, 2000.
5. With Mark Oswood, preparation of a book manuscript on "Stoneflies of Alaska and Northwestern Canada" is well underway.
6. With Eduardo Dominguez of Argentina and Maria Zuniga of Colombia, a project to rear-correlate *Anacroneuria* nymphs and study drumming of Argentinian and Columbian species has been initiated.

Life history studies of Texas caddisfly species have also been recently published, and a masters student is near completion of a project on the casemaking behavior and life history of *Phylloicus ornatus*.

Dr. Bill Stark of Mississippi College continues to work on several projects listed here under other colleagues names and on *Anacroneuria* with Maria Zuniga; several new species have been collected in Colombia by Maria, who visited Ken Stewart's lab in Texas and Bill's lab in Mississippi in the fall, 1999.

Dr. Yu Isobe of Nara Women's University, Japan continues to supervise graduate research projects on stoneflies (see 3 recent theses her students have completed in this issue).

ANNOUNCEMENTS

Dr. Kevin Alexander, who recently published with Ken Stewart a revision of the chloroperlid genus *Suwallia* (see 1999 Bibliography) has accepted a teaching-research position at Western State College in Gunnison, Colorado, beginning Fall, 2000.

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### **Plecoptera Catalogue still in the making**

The update of the Plecoptera world catalogue as an ACCESS database which Dr Ulrike NEU-BECKER and myself started a while ago (see PERLA 17) is making progress, but is still far from completion. The work continues being done by Dr NEU-BECKER on a half time basis. She is a trained chemist now devoted to this project after the Max-Planck-Society closed the famous GMELIN-Institute of Inorganic Chemistry where she worked previously. Dr NEU-BECKER is on the way to turning into an entomologist: after reading much about Plecoptera and seeing preserved ones in the local collection she is now eager to see them in the wild; we plan on some spring field trips to the Rhoen Mts, in May.

Initially, Dr NEU-BECKER had some support from the GWDG, an institution specializing in scientific data processing run jointly by the Max-Planck-Society and the University of Goettingen. At the start, the stonefly bibliography assembled by C. RAVIZZA and a list of presumably Plecoptera-relevant journals were entered into the database, but bibliographic entries were since not yet consistently compared to actual papers and errors resulting from scanning were not yet corrected; that can easily be done at a later stage. The development of the database structure and of the necessary input masks what was more important and has really made impressive progress. The database will accommodate all the taxonomic, ecological, distributional, pictorial and other information on Plecoptera, although there are of course limits to detail. Database structure is complex; we considered including a relation diagram but even in the smallest available script it occupied a DinA3 page, i.e., would not have come out after reduction to the size of our newsletter; we consider a display at the meeting in Perugia!

During the second half of this year we hope to complete various test runs and will then start putting actual data in; we will keep you informed how things go. At this moment, the best help you can provide is sending reprints of your recent papers to Peter ZWICK at Schlitz so that none is overlooked. While bibliographies like the one which we routinely publish in PERLA can largely be assembled from abstracting journals or the internet, we need to see actual papers to exploit them fully for the catalogue database; thank you all in advance!

Peter Zwick

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## **NAPS 2000**

By the time most of you receive this issue of PERLA, the May, 2000 meeting of the North American Plecoptera Society (NAPS) 6<sup>th</sup> symposium in Provo, Utah will already be in progress or have taken place. The latest announcement is repeated here and a report on the meeting will be forthcoming in PERLA 19.

### **SIXTH NORTH AMERICAN PLECOPTERA SYMPOSIUM MAY 25-27, 2000**

The Sixth North American Plecoptera Symposium will be held May 25-27, 2000 in Provo, Utah. It is scheduled to correspond with the North American Benthological Society meeting, that will take place May 29-June 1 in Keystone, Colorado. This is a perfect time of year for traveling and collecting in the Rocky Mountains and will allow participants a minimum of a day to drive from Utah to Colorado to attend both meetings.

Plecopterologists will be hosted by Brigham Young University, which will provide space for the papers and posters at the Monte L. Bean Life Museum. Friday night we will stay at Timpanogos Lodge, which is located in the Wasatch Mountains, adjacent to the Sundance Ski Resort. Saturday will be a field trip day to the Uinta Mountains, weather permitting.

Housing and food will be available at reasonable prices at the student dormitories, that are just east of the museum. In addition, motels are located in the Provo area for those that would rather stay in a nicer place. Many fine eating establishments are found in the valley, offering a wide variety of cuisine.

Skiers and Olympic games enthusiasts may come early or stay late and examine the preparations that are underway for the winter olympic games in 2002. For those that may be flying to attend the meeting, excellent connections are available at the Salt Lake City airport.

**FOR FURTHER INFORMATION ON THE SIXTH NORTH AMERICAN  
PLECOPTERA SYMPOSIUM PLEASE CONTACT:**

Richard W. Baumann  
Monte L. Bean Life Science Museum  
Department of Zoology  
Brigham Young University  
Provo, Utah 84602-5254  
801-378-5492  
richard\_baumann@byu.edu

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## **Other Meetings of Interest:**

### **NABS 2000**

1. 48<sup>TH</sup> Annual Meeting of the North American Benthological Society, Keystone Resort, Colorado, May 28-June 1, 2000. The NABS annual meeting has established a reputation, not only for its camaraderie, but also for the high quality of its program and presentations.

The NABS 2000 Program Committee has assembled a record number of 521 presentations on many aspects of benthic science. Local Arrangements Chair is Steve Canton, Chadwick Ecological Consultants, Inc., 5575 S. Sycamore St., Suite 101, Littleton, CO 80120, USA. E-mail [chadeco@aol.com](mailto:chadeco@aol.com)

### **IST 2000**

2. 10<sup>TH</sup> International Symposium on Trichoptera, Potsdam, Germany, July 30-August 5, 2000, will be held in "Ostdeutsche Spartassenakademie", the training and meeting centre for East German Savings Banks. An informal reception will be held on Sunday night, 30 July, and opening session of the symposium will begin on Monday morning at 10:00. Paper presentations will continue through Tuesday. On Wednesday, 2 August, a field trip by motor boat will be held as a round trip of the lakes, channels and rivers of Potsdam and Berlin. On Thursday, 3 August, presentations will resume and on Friday, 4 August, the final session and business meeting will conclude the symposia. For further information, contact Dr. Wolfram Mey, Museum für Naturkunde, Humboldt-Universität, Invalidenstr. 43, D-10115 Berlin.

### **ICE 2000**

3. XXI International Congress of Entomology, Foz do Iguassu-Brazil, August 20-26, 2000. Theme "Entomologists preserving biodiversity". For information go to website (<http://www.embrapa.br.ice>) The 2<sup>nd</sup> announcement is available. Nearly a dozen symposia are scheduled on systematics, phylogenetic relationships, and diversity (especially Neotropical diversity) of insect groups. Also, many individual papers and posters will consider general and specific aspects of arthropod diversity and phylogeny, Organizing Committee-ICE, Caixa Postal 231, 86001-970 Dondrina, Brazil. E-mail: [ice@sercomiel.com.br](mailto:ice@sercomiel.com.br).

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## **Photo Guide Book on American Stoneflies**

The book by Bill Stark, Stan Szczytko, and Riley Nelson (1998 : American Stoneflies: A Photographic Guide to the Plecoptera, The Caddis Press, P.O. Box 21039, Columbus, Ohio, USA 43221-0039) is still available. The book has over 230 quality color photographs of nymphs and adults and an accompanying text with an introductory chapter, a chapter on stoneflies and



trout and individual chapters on each stonefly genus and for many stonefly species throughout North America. The book should be of great interest to flyfishers and flytiers wanting to learn more about colors, morphology and biology of stoneflies as well as to stonefly specialists. Cost is \$50.00 plus shipping and can be ordered from the Caddis Press, address given above.

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### **Illinois Natural History Survey Plecoptera Holdings now on Internet.**

As announced in PERLA 17, part of the Illinois Natural History Survey's attempt to make their collections useful to a wider range of scientific, management and lay public, includes increasing the accessibility of their collections through building specimen-level databases and serving them to the Internet: currently 2 million specimens, including nearly 300,000 insects, have been entered into those databases. Most of these specimen records are now available via the web. They are also geo-referencing specimen locations and serving maps via the web for some taxa. Please see [www.inhs.uiuc.edu](http://www.inhs.uiuc.edu) for more information.

Don Webb, Kathy Zeiders and Ed DeWalt have recently completed and served to the Internet the entire Plecoptera specimen database. They are currently soliciting responses from curators and private Plecoptera collections nationally, and internationally.

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### **CALL FOR SCHOLARSHIP DONATIONS**

Decision in Tucuman by the Standing Committee to increase dues to \$15.00, and allocate the increase (\$5.00) to the Scholarship Fund of the Society (see Subscription Policy on previous page and announcement in PERLA 17) should contribute to helping active and deserving workers or students to participate in future symposia.

However, increasing costs of travel and expense involved in traveling internationally project that scholarship support of the full expense of participation may not be possible. Therefore, to maximize the amount of scholarship support that the Society will be able to provide to any one or more recipients, we solicit any consideration members might give to making a donation to the Scholarship Fund to supplement the subscription allocation. Donations can be sent to Peter Zwick, Corresponding Secretary of the Society; address inside cover of this PERLA.

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## APPLICATION FOR SCHOLARSHIP FOR PERUGIA, ITALY, 2001

Plecopterists who have limited or no institutional support, need financial assistance, and would like to attend and present a paper at the next symposium in Italy in the year 2001 (see announcement elsewhere in this issue) may send a letter of application for a scholarship to Peter Zwick (address on inside front or back cover), providing the following information:

1. Name and age.
2. Mailing address (including fax and/or e-mail).
3. Affiliation and current position.
4. Title and summary of proposed presentation.
5. A resume and list of publications.
6. Approximate amount of financial support needed (include information on any personal or other commitment to the travel expense).

International Committee Selection Criteria will be financial need, potential contribution to the symposium and to professional development of the applicant and geographical location of the applicant. Applications should be made before March 31, 2001.

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### How Many Stonefly Flytiers in Our Society?

**Robert H. Boyle**, President of Hudson Riverkeeper Fund, a senior writer for Sports Illustrated and co-author with Eric Leiser of "Stoneflies for the Angler" (1982, Alfred A. Knopf, New York) wonders how many readers of PERLA tie imitations of stoneflies to catch trout. He recently sent Ken Stewart an imitation of his generic adult *Pteronarcys* that is so realistic, it looks ready to take off into flight. He says it has caught trout and bass (the latter in lakes that have never seen a stonefly) "to beat the band" (an American expression), and even when a *Pteronarcys* emergence is long over. Dr. Heinz Meng, professor of biology at SUNY, New York, has taken a 24-inch cutthroat on a tributary of the Green River last October with this fly. It is made of a stiff center quill (rachis) of a Canada goose primary feather snipped to fit inside (and out) of the butt end (calamus) on the same feather. The cerci, antennas and side markings are javelina; the segmentation, black thread; the thorax, flat sheet cork; the wings, a mallard flank feather coated with vinyl cement and 5-minute epoxy; the eyes, burned nylon; and the legs, turkey "biots" from a wild turkey primary feather dyed black. Magic Markers color the body of the fly. Bob Boyle resides at :Shad Roe, Cold Spring, New York 10516.

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### PUBLICATION OF TUCUMÁN PROCEEDINGS

Eduardo Dominguez, organizer of our XIII International Symposium in Tucumán Argentina, has contracted with Kluwer Academics/Plenum Press to publish the Proceedings of that joint meeting with the IX International Conference of Ephemeroptera. Title of the Proceedings will be "Trends in Research in Ephemeroptera and Plecoptera". Contributors should be receiving proofs of the papers in May or June, 2000.

**RECENT LITERATURE  
UNPUBLISHED THESES AND DISSERTATIONS  
ON PLECOPTERA**

Editor's note – would supervising professors or their graduate students please provide a copy or citation to the managing editor upon completion.

**CALL, R. G.** (1999): The stoneflies (Plecoptera) of southern Utah, with an updated checklist of Utah species. — Masters Thesis, Zoology, Department of Zoology, Brigham Young University, Provo, Utah, USA, 133pp. (In English).

**HANADA, S.** (1997): Reproductive ecology of *Microperla brevicauda* Kawai (Plecoptera, Ploperlidae) — Doctoral Thesis, Division of Human Life and Environmental Sciences, Graduate School of Human Culture, Nara Women's University, Japan, 100 pp. (In English).

**HAYASHI, Y.** (1997): Daily periodicity of emergence in *Sweltsa* spp. in relation to the environmental factors. — Masters Thesis, Biology, Graduate School of Science, Nara Woman's University, Japan, 54pp. (Including illustrations). (In Japanese).

**YOSHIMURA, M.** (1999): Life history strategy in three species of Plecoptera. — Masters Thesis, Biology, Graduate School of Science, Nara Woman's University, Japan, 56pp. (In English).

## RECENT PLECOPTERA LITERATURE (CALENDAR YEAR 1999 AND EARLIER)

Note: Unless otherwise indicated, references are to the original title in the language in which the body of the article is written. If titles are given in two languages separated by a slash, the translated title was provided by the author(s) and there is also an abstract in that same language. If the second title is in English but appears in square brackets, an editorial translation of the title was included for the convenience of readers of PERLA, but there is no English abstract.

- AAGAARD, P. (1998): The stonefly *Perlodes microcephala* (Pictet, 1833) (Plecoptera): increased distribution in River Stora, Western Jutland, Denmark. — *Flora Fauna* 104: 35-40. In Danish.
- ALFORD, M.H. (1998): New records of *Allocapnia* (Plecoptera: Capniidae) from Mississippi and Louisiana. — *Entomol. News* 109: 183-188.
- ALEXANDER, K.D.; STEWART, K.W. (1999): Revision of the genus *Suwallia* Ricker (Plecoptera: Chloroperlidae). — *Trans Amer. Entomol. Soc.* 125: 185-250.
- ANGRADI, T.R. (1999): Fine sediment and macroinvertebrate assemblages in Appalachian streams: a field experiment with biomonitoring applications. — *J. N. Am. Benthol. Soc.* 18: 49-66.
- ARTO, H. (1998): Antipredator behavior of lotic insects: responses to fish and invertebrate predators. — *Acta Univ. Ouluensis Scient. Rerum Natur.* 317
- BAKER, S.C.; SHARP, H.F. Jr. (1998): Evaluation of the recovery of a polluted urban stream using the Ephemeroptera - Plecoptera - Trichoptera index. — *J. Freshw. Ecol.* 13: 229-234.
- BARUAH, B.K.; TALUKDAR, S.; BORTHAKUR, C.R. (1998): Limnological studies of ponds in relation to pisciculture. — *Environment Ecol.* 16: 518-522.
- BAUMANN, R.W.; JACOBI, G.Z. (1998): Arden R. Gaufin, 1911-1997: Obituary and list of publications. — *Gt Basin Natur.* 58: 192-197.
- BENKE, A.C.; HURYN, A.D.; SMOCK, L.A.; WALLACE, J.B. (1999): Length-mass relationships for freshwater macroinvertebrates in North America with particular reference to the southeastern United States — *J. N. Am. Benthol. Soc.* 18: 308-343.

- BERGER, T.; KLIMA, M.; ROTHE, U. (2000): Bemerkenswerte Eintags- und Steinfliegenfunde (Insecta: Ephemeroptera, Plecoptera) in Brandenburg – Eine aktualisierte Checkliste. / Remarkable records of Ephemeroptera and Plecoptera in Brandenburg/Germany – an updated checklist. — *Lauterbornia* 37 (1999): 187-197. [published 12 Febr. 2000].
- BERGLIND, S.A. (1999): Naturally rare, threatened, or overlooked? *Semblis phalaenoides* and *S. atrata* (Trichoptera: Phryganeidae) in Sweden. — *Entomologisk Tidskrift* 120: 1-16.
- BRINKMANN, R.; OTTO, C.-J. (2000): Untersuchungen zur Litoralfauna schleswig-holsteinischer Seen – Teil II: Eintagsfliegen und Steinfliegen (Ephemeroptera et Plecoptera). / Investigations on the littoral fauna from lakes in Schleswig-Holstein (Germany) – Part II: Ephemeroptera and Plecoptera. — *Lauterbornia* 37 (1999): 237-246. [published 12 Febr. 2000].
- BRINKMANN, R.; REUSCH, H. (1998): Notes on the distribution of all known species of Ephemeroptera and Plecoptera (Insecta) in the lowland of North Germany from different biotopes. — *Braun. Naturk. Schrif.* 5: 531-540.
- BRUNKE, M.; GONSER, T. (1999): Hyporheic invertebrates - the clinal nature of interstitial communities structured by hydrological exchange and environmental gradients. — *J. N. Am. Benthol. Soc.* 18: 344-362.
- BUCKTON, S.T.; BREWIN, P.A.; LEWIS, A.; STEVENS, P.; ORMEROD, S.J. (1998): The distribution of dippers, *Cinclus cinclus* (L.), in the acid-sensitive region of Wales. — *Freshw. Biol.* 39: 387-396.
- CEREGHINO, R.; LAVANDIER, P. (1998): Influence of hydropeaking on the distribution and larval development of the Plecoptera from a mountain stream. — *Reg. Rivers Res. Mgmt.* 14: 297-309.
- CHINO, Y. (1999): A new species of the genus *Skwala* Ricker from central Japan (Nagano Pref.) (Plecoptera: Perlodidae). — *Aquatic Insects* 21: 161-167.
- CLEMENTS, W.H. (1999): Metal tolerance and predator-prey interactions in benthic macroinvertebrate stream communities. — *Ecol. Applic.* 9: 1073-1084.
- COLLIER, K.J.; WILCOCK, R.J.; MEREDITH, A.S. (1998): Influence of substrate type and physico-chemical conditions on macroinvertebrate faunas and biotic indices of some lowland Waikato New Zealand, streams. — *N.Z.J. Mar. and Freshw. Res.* 32: 1-19.
- COURTNEY, L.A.; CLEMENTS, W.H. (1998): Effects of acidic pH on benthic macroinvertebrate communities in stream microcosms. — *Hydrobiologia* 379: 135-145.
- DAHL, J. (1998): Effects of a benthivorous and a drift-feeding fish on a benthic stream assemblage. — *Oecologia* 116: 426-432.
- DAHL, J. (1998): The impact of vertebrate and invertebrate predators on a stream benthic community. — *Oecologia* 117: 217-226.

- DAHL, J.; GREENBERG L. (1999): Effects of prey dispersal on predator-prey interactions in streams. — *Freshwat. Biol.* 41: 771-780.
- DANGLES, O.; GUÉROLD, F. (1998): A comparative study of beech leaf breakdown, energetic content, and associated fauna in acidic and non-acidic streams. — *Arch. Hydrobiol.* 144: 25-39.
- DANGLES, O.; GUÉROLD, F. (1999): Impact of headwater stream acidification on the trophic structure of macroinvertebrate communities. — *Internat. Rev. Hydrobiol.* 84: 287-297.
- DEJONG, H. (1998): In search of historical biogeographic pattern in the western Mediterranean terrestrial fauna. — *Biol. J. Linn. Soc.* 65: 99-164.
- DICKMAN, M.; RYGIEL, G. (1998): Municipal landfill impacts on a natural stream located in an urban wetland in regional Niagara, Ontario. — *Can. Field Natur.* 112: 619-630.
- DINIZ-FILHO, J.A.F.; OLIVEIRA, L.G.; SILVA, M.M. (1998): Explaining the beta diversity of aquatic insects in "Cerrado" streams from central Brazil using multiple Mantel test. — *Rev. Brasil. Biol.* 58: 223-231.
- DORN, A.; WEINZIERL, A. (1999): Nochmals: Stein- und Koecherfliegen-Nachweise entlang der Muenchener Isar (Insecta: Plecoptera, Trichoptera). [Again: Records of stoneflies and caddisflies along the river Isar in Munich (Insecta: Plecoptera, Trichoptera)]. — *Lauterbornia* 36: 3-7.
- DORVILLÉ, L.F.M.; FROEHLICH, C.G. (1999): Additional characters to distinguish the nymphs of the perlid genera from southeastern Brazil (Insecta, Plecoptera) — *Aquatic Insects* 21: 281-284.
- DOSDALL, L.M.; PARKER, D.W. (1998): First report of a symphoretic association between *Nanocladius branchicolus* Saether (Diptera: Chironomidae) and *Argia moesta* (Hagen) (Odonata: Coenagrionidae). — *Amer. Midl. Natur.* 139: 181-185.
- DU, Y.; CHOU, I. (1999): Notes on Chinese species of the genus *Togoperla* Klapálek (Plecoptera: Perlidae: Perlinae). — *Entomotaxonomia* 21: 1-8. Chinese, English summary.
- DU, Y.; HE, J.; MA, Y. (1999): A preliminary study of the distribution of the family Perlidae (Plecoptera: Perloidea). — *Zool. Res.* 20: 189-195.
- DU, Y.; SIVEC, I.; HE, J. (1999): A checklist of the Chinese species of the family Perlidae (Plecoptera: Perloidea). — *Acta Entomol. Slovenica* 7(1): 59-67.
- DUCET, R.R.; GIBERSON, D.J.; POWER, G. (1999): Parasitic association of *Nanocladius* (Diptera: Chironomidae) and *Pteronarcys biloba* (Plecoptera: Pteronarcyidae): insights from stable-isotope analysis. — *J. N. Am. Benthol. Soc.* 18(4): 514-521.

- DUDGEON, D. (1999): Tropical Asian streams zoobenthos, ecology and conservation. — Hong Kong University Press, 830 pp., ISBN 962 209 469 4.
- DUDGEON, D. (1999): Indiscriminate feeding by a predatory stonefly (Plecoptera: Perlidae) in a tropical Asian stream. — *Aquatic Insects* 22: 39-47.
- EHMANN, H.; KUGELSTADT, C.; WERDING, B. (1999): Neue Funde von *Leuctra geniculata*, *Leuctra fusca* und *Perlodes microcephalus* (Plecoptera) an der Lahn. / New records of *Leuctra geniculata*, *Leuctra fusca* and *Perlodes microcephalus* (Plecoptera) in the river Lahn (Hesse, Germany). — *Lauterbornia* 36: 43-44.
- EISENDLE, U.; WARINGER, J. (1999): Faunistik und Phaenologie der Ephemeroptera, Plecoptera und Trichoptera eines Flysch-Wienerwaldbaches (Weidlingbach, Niederoesterreich) / Phenology of mayflies, stoneflies and caddisflies in a small sandstone brook of the Wienerwald area (Weidlingbach, Niederoesterreich). — *Lauterbornia* 35: 21-31.
- ELEXOVA, E. (1998): Interaction of the Danube river and its left side tributaries in Slovak stretch from benthic fauna point of view. — *Biologia (Bratislava)* 53: 621-632.
- FESL, C.; HUMPECH, U.H.; ANSCHAUER, A. (1999): The relationship between habitat structure and biodiversity of the macrozoobenthos in the free-flowing section of the Danube in Austria – east of Vienna (preliminary results). — *Arch. Hydrobiol., Suppl.* 115 (Large Rivers 11): 349-374.
- FIALKOWSKI, W.; ROSCISZEWSKA, E. (1994): Morphology of a freshly hatched larva of stonefly *Perla pallida* Guérin, 1838 (Plecoptera : Perlidae). — *Acta Biol. Cracoviensia*.
- FLORY, E.A.; MILNER, A.M. (1999): Influence of riparian vegetation on invertebrate assemblages in a recently formed stream in Glacier Bay National Park, Alaska. — *J. N. Am. Benthol. Soc.* 18: 261-273.
- FONTAN, B.; BRULIN, M.; MASSELOT, G. (1999): Redécouverte de *Neophemera maxima* (Joly, 1870) pour la France [Ephemeroptera: Neophemeridae]. / Rediscovery of *Neophemera maxima* (Joly, 1870) for the Ephemeroptera fauna of France [Ephemeroptera: Neophemeridae]. — *Ephemera* 1: 31-34.
- FRIBERG, N.; LARSEN, S.E. (1998): Microhabitat selection by stream invertebrates: importance of detritus aggregations. — *Verh. Internat. Verein. Limnol.* 26: 1016-1020.
- FRITZ, K.M.; DODDS, W.K.; PONTIUS, J. (1999): The effects of bison crossings on the macroinvertebrate community in a tallgrass prairie stream. — *Amer. Midl Natur.* 141: 253-265.
- FROEHLICH, C.G. (1999): Seven new species of *Tupiperla* (Plecoptera: Gripopterygidae) from Brazil, with a revision of the genus. — *Stud. Neotrop. Fauna Environm.* 33: 19-36.

- GARCÍA AVILÉS, J. (1990): Insectos acuáticos de Baleares (Odonata, Ephemeroptera, Heteroptera, Plecoptera, Coleoptera). — Ph.D. thesis, Biological Sciences, University Complutense de Madrid.
- GARCIA, C.F.; TOME, A.; VEGA, F.J.; ANTOLIN, C. (1999): Performance of some diversity and biotic indices in rivers affected by coal mining in northwestern Spain. — *Hydrobiologia*. 394: 209-217.
- GENITO, D.; KERANS, B.L. (1999): Effects of a diverse prey assemblage on stonefly feeding. — *J. Freshw. Ecol.* 14: 219-231.
- GRAF, W.; WEINZIERL, A. (2000): Bemerkenswerte Arten der *Leuctra prima*-Untergruppe (Insecta: Plecoptera) aus den Ostalpen. / Remarkable species of the *Leuctra prima*-subgroup (Insecta: Plecoptera) from the Eastern Alps. — *Lauterbornia* 37 (1999): 31-34. [published 12 Febr. 2000].
- GRAF, W. (2000): Check-Liste der Steinfliegen (Insecta: Plecoptera) Oesterreichs. / Checklist of Plecoptera (Insecta: Plecoptera) from Austria. — *Lauterbornia* 37 (1999): 35-46. [published 12 Febr. 2000].
- GUKOV, A.YU. (1995): [Bottom zoocoenoses and estimation of the environmental condition of the Lower Kolyma River (Far East)]. — *Hydrobiol. Zh.* 31: 10-16. In Russian.
- GUMIERO, B.; SALMOIRAGHI, G. (1998): Influence of an impoundment on benthic macroinvertebrate habit utilization. — *Verh. Internat. Verein. Limnol.* 26: 2063-2069.
- HAASE, P.; REUSCH, H. (2000): Die Eintags- und Steinfliegenfauna Niedersachsens (Insecta: Ephemeroptera et Plecoptera). / The mayfly and stonefly fauna of Lower Saxony (Insecta: Ephemeroptera et Plecoptera). — *Lauterbornia* 37 (1999): 177-186. [published 12 Febr. 2000].
- HAASE, P. (1999): Zoozoenosen, Chemismus und Struktur regionaler Bachtypen im niedersaechsischen und hessischen Bergland [Zoozoenoses, chemistry and structure of regional stream types in Lower Saxonian and Hessian foothills]. — *Oekologie und Umweltsicherung* 18: X + 158 pp., 17 pp. in appendix.
- HAM-SOON, A.; LEE-JONG, B. (1998): *Nemoura gemma*, a new species of the Nemouridae (Insecta: Plecoptera) from Korea. — *Korean J. Syst. Zool.* 14: 357-360.
- HAM-SOON, A.; LEE-JONG, B. (1999): Four new species of Nemouridae (Plecoptera: Insecta). — *Korean J. Biol. Sci.* 3: 119-125.
- HANADA, S.; TAKAI, M. (1999): Adult stoneflies crawling into the water. — *Bull. Tokushima Prefectural Museum* (In Japanese with English abstract). 9: 49-51.
- HARDING, J.S.; YOUNG, R.G.; HAYES, J.W.; SHEARER, K.A.; STARK, J.D. (1999): Changes in agricultural intensity and river health along a river continuum. — *Freshw. Biol.* 42: 345-357.



- HASEBORG, E. ter; KRAFT, C.; HAASE, P. (1999): Faunistische und strukturelle Untersuchungen an naturnahen Waldbaechen des Weser-Leine- und des noerdlichen osthessischen Berglandes. / Faunistical and structural investigations on upper courses of near natural brooks of the Weser-Leine and northern East-Hessian mountainous area. — Goettinger Naturkundliche Schriften 5: 71-87.
- HAYASHI, Y.; ISOBE, Y.; OISHI, T. (1996): Daily emergence of *Sweltsa* sp. (Insecta : Plecoptera). (Abstract) Proc. 67<sup>th</sup> Ann. Meeting Zool. Soc. Japan. — Zool. Sci. 13 Suppl.: 60.
- HENRY, M.; STEVENS, H.; CUMMINS, K.W. (1999): Effect of long-term disturbance on riparian vegetation and in-stream characteristics. — J. Freshw. Ecol. 14: 1-18.
- HETRICK, N.J.; BRUSVEN, M.A.; BJORN, T.C.; KEITH, R.M.; MEEHAN, W.R. (1998): Effects of canopy removal on invertebrates and diet of juvenile Coho Salmon in a small stream in southeast Alaska. — Trans. Amer. Fisheries Soc. 127: 876-888.
- HICKEY C.W.; GOLDING, L.A.; MARTIN, M.L.; CROKER, G.F. (1999): Chronic toxicity of ammonia to New Zealand freshwater invertebrates: A mesocosm study. — Arch. Environmental Contamination & Toxicology: 37: 338-351.
- HUGHES, J.M.; MATHER, P.B.; SHELDON, A.L.; ALLENDORF, F.W. (1999): Genetic structure of the stonefly, *Yoraperla brevis*, populations: the extent of gene flow among adjacent montane streams. — Freshw. Biol. 41: 63-72.
- HUHTA, A.; MUOTKA, T.; JUNTUNEN, A.; YRJOENEN, M. (1999): Behavioural interactions in stream food webs: the case of drift-feeding fish, predatory invertebrates and grazing mayflies. — J. Anim. Ecol. 68: 917-927.
- HUMPESCH, U.H.; ELLIOTT, J.M. (1999): Egg hatching: one mechanism for life cycle partitioning in aquatic insects. — pp. 53-66 in WHITFIELD, M. ; MATTHEWS, J.; REYNOLDS, C. (eds), *Aquatic life cycles strategies*, ed. Marine Biological Association of the United Kingdom, Plymouth.
- HUNTSMAN, B.O.; BAUMANN, R.W. ; KONDRATIEFF, B.C. (1999): Stoneflies (Plecoptera) of the Black Hills of South Dakota and Wyoming, USA: Distribution and zoogeography affinities—Great Basin Nat. 59:1-17.
- HUTCHENS, J.J., Jr.; CHUNG, K.; WALLACE, B.C. (1998): Temporal variability of stream macroinvertebrate abundance and biomass following pesticide disturbance. — J. N. Am. Benthol. Soc. 17(4):518-534.
- INADA, K. (1999): Stoneflies from the Ibo River System, Part 1. — Hyogo Freshw. Biol. 50: 61-86. (In Japanese).
- INADA, K. SOTA, S. (1999): A preliminary report on stonefly fauna of Hiikawa River Basin, Shimane Prefecture. — Bull. Hushizaki Green Foundation, Kisuki 3: 131-140. (In Japanese with English abstract).

- INADA, K.; UENO, T.; KUGO, C. (1998): Aquatic Insects from Oya-cho, Yabugun, Hyogo Prefecture, Honshu, Part 1. — Hyogo Freshw. Biol. 49: 46-61. (In Japanese).
- INADA, K.; UENO, T.; TOMITA, K. (1998): *Megaperlodes niger* (Plecoptera, Perlodidae) from Okayama Prefecture, Honshu, Part 1. — Hyogo Freshw. Biol., 49: 39-45. (In Japanese).
- INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE (1999): Opinion 1916. Brachypterinae Zwick, 1973 (Insecta: Plecoptera): spelling emended to Brachypterainae, so removing homonymy with Brachypterinae Erichson, [1845] (Insecta: Coleoptera); Kateretidae Erichson in Agassiz, [1846]: given precedence over Brachypterinae Erichson. — Bull. Zool. Nomencl. 56: 82-86.
- JOHNSTON, T.A.; CUNJAK, R.A. (1999): Dry mass-length relationships for benthic insects: a review with new data from Catamaran Brook, New Brunswick, Canada. — Freshwat. Biol. 41: 653-674.
- JONAS, D. (1998): Effects of a benthivorous and a drift-feeding fish on a benthic stream assemblage. — Oecologia 16: 426-432.
- JOOST, W. (1998): Die Steinfliegen (Plecoptera) in der Emergenz von zwei Fallenstandorten an der Vesser 1987 [The stoneflies (Plecoptera) emerging at two trap sites on the river Vesser, 1987]. — Abh. Ber. Mus. Natur Gotha, 20: 61-72.
- JULKA, J.M.; VASISHT, H.S.; BALA, B. (1999): Distribution of aquatic insects in a small stream in northwest Himalaya, India. — J. Bombay Nat. Hist. Soc. 96: 55-63.
- KAZANCI, N. (1999): A new apterous *Leuctra* (Plecoptera) species from Turkey. — Aquatic Insects 21: 267-271.
- KIM, J.K.; BAE, Y.J.; ZHILTZOVA, L.A. (1998): Bibliographic review, systematic status, and biogeographic notes on Korean and Far East Russian stoneflies (Insecta: Plecoptera) with their new Korean records. — Korean J. Biol. Sci. 2: 419-425.
- KIRCHNER, R.F.; KONDRATIEFF, B.C. (1998): A new species of *Sweltsa* from West Virginia (Plecoptera: Chloroperlidae). — Ent. News 99: 233-236.
- KLASS, K.-D. (1999): The pregenital abdomen of a mantid and a cockroach: musculature and nerve topography, with comparative remarks on other Neoptera (Insecta: Dictyoptera). — Dtsch. Entomol. Z. 46: 3-42.
- KONAR, M. (2000): Die Larvaldetermination der Arten der Gattung *Isoperla* in Kaernten (Oesterreich). / The identification of *Isoperla*-larvae in Carinthia (Austria). — Lauterbornia 37 (1999): 57-62. [published 12 Febr. 2000].
- KONDRATIEFF, B.C.; BAUMANN, R.W. (1999): Studies on stoneflies of North Dakota with the description of a new *Perlesta* species (Plecoptera: Perlidae). — Proc. Entomol. Soc. Wash. 101: 325-331.

- KREUTZWEISER, D.P.; CAPELL, S.S.; SCARR, T.A. (1999): Acute lethal and sublethal effects of a neem-based insecticide on nontarget aquatic insects in stream channels. — *Bull. Environ. Cont. Toxicol.* 63: 365-371.
- KRNO, I.; VALACHOVA, S. (1999): Changes in macrozoobenthos of the Revuca river basin (the Velka Fatra Mountains) during the period 1971-1993. — *Ekologia-Bratislava* 18: 310-324.
- KUTSCHER, M. (1999): Bernstein [Amber]. — Ed. Verein Freunde Foerderer Nationalparkes Jasmund, Ruegendruck Putbus, 64 pp. FOSSILS.
- KUETTNER, R. (1999): Rote Liste Steinfliegen [Red List Plecoptera]. — *Materialien Naturschutz Landschaftspflege 1999*, Saechsisches Landesamt f. Umwelt u. Geologie (ed.), Dresden, 12 pp.
- KUETTNER, R.; BRAASCH, D. (1998): Das Bachsystem der Großen Mittweida - ein Gewaesser mit besonderer Bedeutung fuer die Entomofauna Sachsens (Insecta: Plecoptera). [The stream system of the Great Mittweida – a water course of special significance for the entomofauna of Saxony]. — *Mitt. Saechs. Entomol.* 41:3-5.
- LANCASTER, J. (1999): Small-scale movements of lotic macroinvertebrates with variations in flow. — *Freshwat. Biol.* 41: 605-619.
- LANG, C. (1998): Biological quality of 29 Swiss rivers in 1997 indicated by diversity of Zoobenthos. — *Bull. Soc. Vaudoise Sci. Natur.* 86: 61-71.
- LELAND, H.V.; FEND, S.V. (1998): Benthic invertebrate distributions in the San Joaquin River California in relation to physical and chemical factors. — *Can. J. Fish. Aquat. Sci.* 55: 1051-1067.
- LIETZ, J. (2000): Langfristige Veraenderungen der Eintags- und Steinfliegenfauna (Ephemeroptera, Plecoptera) in einem naturnahen Tieflandbach in Schleswig-Holstein. / Longtermed changes of mayflies and stoneflies (Ephemeroptera, Plecoptera) in a semi-natural lowland stream in Schleswig-Holstein. — *Lauterbornia* 37 (1999): 215-222. [published 12 Febr. 2000].
- LOPEZ, E.S.; FELPETO, E.; PARDO, I. (1997): Comparisons of methods to study the processing of *Alnus glutinosa* and *Eucalyptus globulus* leaves in a forested headwater stream. — In: POZO, J.; ELOSEGI, A. (eds), *Litter breakdown in rivers and streams*. *Limnetica* 13(2): 13-18.
- LOZANO-QUILIS, M.A.; MARTÍNEZ LÓPEZ, F.; PUJANTE, A. (1996): Estudio de los macroinvertebrados y calidad de las aguas de los pequeños rios y arroyos de las comarcas de la Provincia de Valencia: L' Horta, la Foia de Bunyol y La Ribera Alta. [Study of macroinvertebrates and water quality of the small rivers and streams in the region of the Province of Valencia: Horta, Foia de Bunyol and Ribera Alta]. — *Ecología* 10 : 137-159 ; in Spanish, untitled English summary.

- LUZÓN-ORTEGA, J.M.; TIERNO DE FIGUEROA, J.M.; SÁNCHEZ-ORTEGA, A. (1998): Faunística y fenología de los Plecópteros (Insecta: Plecoptera) de la Sierra de Huétor (Granada, España). Relación con otras áreas del sur de la Península Ibérica y norte de África [Faunistics and phenology of stoneflies (Insecta: Plecoptera) from Sierra de Huétor (Granada, Spain) and their relationship with other areas of the Iberian Peninsula and North Africa]. — Zool. Baetica 9: 91-106.
- LUZÓN-ORTEGA, J.M.; TIERNO DE FIGUEROA, J.M.; SÁNCHEZ-ORTEGA, A. (1999): Estudio de variabilidad morfológica en una población de *Leuctra maroccana* Aubert, 1956 (Plecoptera, Leuctridae). / Study of the morphological variability in a *Leuctra maroccana* Aubert, 1956 population (Plecoptera, Leuctridae). — Boln Asoc. esp. Entomol 23: 9- 13.
- LUZÓN-ORTEGA, J.M.; TIERNO DE FIGUEROA, J.M.; SÁNCHEZ-ORTEGA, A. (1999): The nymphs of *Capnioneura* Ris, 1905 (Plecoptera: Capniidae) of the Iberian peninsula and northern Africa. Description of *Capnioneura gelesae* Berthélemy and Baena, 1984 and *C. libera* (Navás, 1909) nymphs. — Ann. Soc. Entomol. Fr. (N.S.) 35(3-4): 295-301.
- MANGUM, F.A.; MADRIGAL, J.L. (1999): Rotenone effects on aquatic macroinvertebrates of the Strawberry River, Utah: a five-year summary. — J. Freshw. Ecol. 14: 125-136.
- MARCHANT, R.; HIRST, A.; NORRIS, R.; METZELING, L. (1999): Classification of macroinvertebrate communities across drainage basins in Victoria, Australia: consequences of sampling on a broad spatial scale for predictive modelling. — Freshwat. Biol. 41: 253-268.
- MARCHANT, R.; HEHIR, G. (1999): A method for quantifying hand-net samples of stream invertebrates. — Mar. Freshw. Res. 50: 179-182.
- MARTEN, M.; HACKBARTH, W.; OTTO, C.-J. (2000): Neue Ephemeroptera- und Plecoptera-Nachweise aus Baden-Wuerttemberg und Stand der derzeitigen Erfassung im Rahmen der biologischen Umweltbeobachtung an Fließgewässern. / New records of Ephemeroptera and Plecoptera in Baden-Wuerttemberg/Germany and state of faunal survey within the scope of environmental monitoring at running waters. — Lauterbornia 37 (1999): 63-86 [published 12 Febr. 2000].
- MARTINS, N.R.G. (1999): Present knowledge of Brazilian paleontomo fauna. — Rivista Soc. Entomol. Argentina 58: 71-85.
- MARUYAMA, H. (1998): Record of stoneflies in Wakayama Prefecture, Japan. — Nankiseibutsu, 40:123-127. (In Japanese with English summary).
- McINTOSH, A.R.; PECKARSKY, B.L. (1999): Criteria determining behavioural responses to multiple predators by a stream mayfly. — Oikos 85: 554-564

- McLELLAN, I.D. (1999): Plecoptera — In: Insects and other Arthropods of Hinewai Reserve, Banks Peninsula, New Zealand. — Records of the Canterbury Museum 13: 97-121.
- McLELLAN, I.D. (1999): A revision of *Zelandoperla* Tillyard (Plecoptera: Gripopterygidae: Zelandoperlinae). — New Zealand J. Zool. 26: 199-219.
- McLELLAN, I.D. (2000): Additions to New Zealand Notonemourid Stoneflies (Insecta : Plecoptera). — New Zealand J. Zool. 27: 21-27.
- MEMBIELA, P. VIDAL, M. (1998): The mating calls of *Isoperla grammatica* (Poda, 1761) (Plecoptera: Perlodidae). — Bol. Asoc. Esp. Entomol. 22: 15-21.
- MILLETT, M.C.; LEARNER, M. A. (1998): Plecoptera and Ephemeroptera species assemblages in the Usk river system, Wales. — Arch. Hydrobiol. 143: 307-334.
- MINAKAWA, N.; GARA, R.I. (1999): Ecological effects of a chum salmon (*Onchorhynchus keta*) spawning run in a stream of the Pacific Northwest. — J. Freshw. Ecol. 14: 327-335.
- MINAKAWA, N.; KRAFT, G.F. (1999): Fall and winter diets of juvenile coho salmon in a small stream and an adjacent pond in Washington state. — J. Freshw. Ecol. 14: 249-254.
- MISRA, J.K. (1998): Trichomycetes: Fungi associated with arthropods: Review and world literature. — Symbiosis 24: 179-219.
- MOCHIZUKI, A. (1998): Characteristics of digestive proteases in the gut of some insect orders. — Appl. Entomol. Zool. 33: 401-407.
- MODENUTTI, B.E.; BALSEIRO, E.; del CARMEN DIEGUEZ, M.; QUEIMALINOS, C.; ALBARINO, R. (1998): Heterogeneity of fresh-water Patagonian ecosystems. — Ecol. Austral. 8: 155-165.
- MOEBES-HANSEN, B.; WARINGER, J.A. (1998): The influence of hydraulic stress on microdistribution patterns of zoobenthos in a sandstone brook (Weidlingbach, Lower Austria). — Intern. Rev. Hydrobiol. 83: 381-396.
- MOLLOY, D.P.; VINIKOUR, W.S.; ANDERSON, R.V. (1999): New North American records of aquatic insects as paratenic hosts of *Pheromermis* (Nematoda: Mermithidae). — J. Invert. Pathol. 74: 89-95.
- MORI, C.; ORSINI, A.; MIGON, C. (1999): Impact of arsenic and antimony contamination on benthic invertebrates in a minor Corsican river. — Hydrobiologia 392: 73-80.
- NOVOKSHONOV, V.G. (1998): New insects (Insecta: Hypoperlida, Mischopterida, Jurinida) from the Lower Permian in the Middle Urals. — Paleontologischeskii Zhurnal 0: 50-57. FOSSILS.
- NOVOKSHONOV, V.G.; PANKOV, N.N. (1999): A new aquatic insect larva (Plecopteroidea) from the Lower Permian of the Ural. — N. Jahrb. Geologie Palaontologie, Monatshefte 1999(4): 193-198. FOSSILS.

- OLIVEIRA, L.G.; CONCEICAO BISPO, P. DA; SA, N.C. DE (1997): Ecologia de comunidades de insectos bentonicos (Ephemeroptera, Plecoptera e Trichoptera), em correços do parque ecologico de Goiania, Goias, Brasil. / Ecology of benthic insects communities (Ephemeroptera, Plecoptera and Trichoptera) in streams at parque ecologico de Goiania, Goias, Brazil. — Revista Brasileira de Zoologia 14: 867-876.
- PAGELS, J.F. (1998): The water shrew, *Sorex palustris* Richardson (Insectivora: Soricidae), and its habitat in Virginia. — Brimleyana 25: 130-134.
- PARDO, I.; ARMITAGE, P.D. (1997): Species assemblages as descriptors of mesohabitats. — Hydrobiologia 344: 111-128.
- PETERSEN, I.; WINTERBOTTOM, J.H.; ORTON, S.; FRIBERG, N.; HILDREW, A.C.; SPIERS, D.C.; GURNEY W.S.C. (1999): Emergence and lateral dispersal of adult Plecoptera and Trichoptera from Broadstone Stream, U.K. — Freshwat. Biol. 42: 401-416.
- PICKER, M.D.; STEVENS, D.M. (1999): Revision of *Desmonemoura* Tillyard, *Aphanicercia* Tillyard, *Afrenemoura* Illies and *Aphanicercopsis* Barnard (Plecoptera: Notonemouridae), with a key to males. — Afr. Entomol. 7: 211-223.
- PLAGUE, G.R.; WALLACE, J.B.; GRUBAUGH, J.W. (1998): Linkages between trophic variability and distribution of *Pteronarcys* spp. (Plecoptera: Pteronarcyidae) along a stream continuum. — Amer. Midl. Natur. 139: 224-234.
- POND, G.J. (1999): New records of stoneflies (Plecoptera) from Kentucky. — Entomol News. 110: 315-316.
- POTIKHA, E.V.; ZHILTOVA, L.A. (1996): On the fauna and ecology of stoneflies (Plecoptera) of the Sikhote-Alinski Biosphere Nature Reserve. — Entomol. Obozr. 75: 567-573. In Russian.
- POULTON, B.C.; CALLAHAN, E.V.; HURTUBISE, R.D.; MUELLER, B.G. (1998): Effects of an oil spill on leaf-pack-inhabiting macroinvertebrates in the Chariton River, Missouri. — Environ. Pollut. 99: 115-122.
- PRENDA, J.; GALLARDO-MAYENCO, A. (1999): Distribution patterns, species assemblages and habitat selection of the stoneflies (Plecoptera) from two Mediterranean river basins in southern Spain. — Internat. Rev. Hydrobiol. 84: 595-608.
- PUIG, A. (1999): Els macroinvertebrats dels rius catalans Guia ilustrada [The invertebrates of Catalanian streams An illustrated guide]. — Ed. by Generalitat de Catalunya, Dep. De Medi Ambient, Barcelona, ISBN 84-393-4828-2, 251 pp. (In Catalan, Spanish and English).

- QUINN, J.M.; COOPER, A.B.; DAVIES-COLLEY, R.J.; RUTHERFORD, J.C.; WILLIAMSON, R.B. (1997): Land use effects on habitat, water quality, periphyton, and benthic invertebrates in Waikato, New Zealand, hill-country streams. — *N. Z. J. Marine Freshwat. Res.* 31: 579-597.
- RA, Chul-Ho; BAIK, Soon-Ki; CHO, Young-Gwan (1991): A new species of *Pteronarcys* (Pteronarcyidae, Plecoptera, Insecta) from Korea. — *Korean J. Syst. Zool.* 7: 117-126.
- RABENI, C.F.; WANG, N.; SARVER, R.J. (1999): Evaluating adequacy of the representative stream reach used in invertebrate monitoring programs. — *J. N. Am. Benthol. Soc.* 18: 284-291.
- RADER, R.B.; BELISH, T.A. (1999): Influence of mild to severe flow alterations on invertebrates in three mountain streams. — *Reg. Riv. Res. Mgmt.* 15: 353-363.
- RAVIZZA, C.; FOCETTI, R. (1999): I Plecotteri Taeniopterygidae della regione italiana (Plecoptera). — *Mem. Soc. Entomol. Ital.* 77(1998): 123-129. [published July, 1999].
- RAVIZZA, C.; VINÇON, G. (1999): Les Leuctridés (Plecoptera: Leuctridae) des Alpes. — *Mitt. schweiz. entomol. Ges.* 71(1998): 285-342. [published 26.01.1999].
- REHFELD, K. (1999): Neue Erkenntnisse ueber die Evolution der Flugfaehigkeit bei Insekten. [New insights in the evolution of flight ability in insects]. — *Naturw. Rdsch.* 52: 49-53.
- REUSCH, H.; WEINZIERL, A. (2000): Regionalisierte Checkliste der aus Deutschland bekannten Steinfliegenarten (Plecoptera). / Check-list of stonefly species (Plecoptera) known from different regions in Germany. — *Lauterbornia* 37 (1999): 87-96 [published 12 Febr. 2000].
- RIBEIRO-FERREIRO, A.C.; FROEHLICH, C.G. (1999): New Species of *Macrogynoplax* Enderlein, 1909 from North Brasil (Plecoptera, Perlidae, Acroneuriinae). — *Aquatic Insects* 21: 133-140.
- ROBINSON, C.T.; BURGHER, P. (1999): Seasonal disturbance of a lake outlet benthic community. — *Arch. Hydrobiol.* 145: 297-315.
- RODRIGUES, C.A. (1999): The macroinvertebrates as indicators of water quality in Pampean rivers. — *Rev. Soc. Entomol. Argentina.* — 58: 208-217.
- RODRÍGUEZ, S.E.; BÉCARES, E.; SOTO, F.; PACHO, R. (1998): Colonization of aquatic macroinvertebrates in a high mountain stream using artificial substrates. — *Verh. Internat. Verein. Limnol.* 26: 1120-1124.
- RODWAY, M.S. (1998): Habitat use by Harlequin Ducks breeding in Hebron Fiord, Laborador. — *Can. J. Zool.* 76: 897-901.

- ROSCISZEWSKA, E.; SOLDÁN, T. (1999): Morphology of accessory ovaries in adult males of *Perla marginata* (Plecoptera: Perlidae). — Eur. J. Entomol. 96: 45-51.
- RUFFIEUX, L.; ÉLOUARD, J.-M.; SARTORI, M. (1998): Flightlessness in mayflies and its relevance to hypotheses on the origin of insect flight. — Proc. R. Soc. Lond. B 265: 2135-2140.
- SÁNCHEZ-ORTEGA, A.; AZZOUZ, M. (1999): Faunistique et phénologie des Plécoptères (Insecta, Plecoptera) du Rif marocain (Afrique du Nord). Relations avec les autres aires de la région méditerranéenne occidentale [Faunistics and phenology of stoneflies (Insecta, Plecoptera) of the Moroccan Rif (North Africa). Relations with the other areas of the west mediterranean region]. — Mitt. schweiz. entomol. Ges. 71(1998): 449-460. [published 26.01.99].
- SÁNCHEZ-ORTEGA, A.; PICAZO MUÑOZ, J. (1997): *Marthamea selysii* en el sur de la Península Ibérica / *Marthamea selysii* in the South of the Iberian Peninsula. — Zool. baetica 8: 249-250.
- SANTAMARIA, S.; GIRAL, J. (1998): Two new species of *Orphella* from Spain. — Mycol. Res. 102: 174-178.
- SCHARF, R.; BRAASCH, D. (1998): Die sensiblen Fliessgewaesser und das Fliessgewaesserschutzsystem im Land Brandenburg [Sensitive running waters and the system of running water protection in the State Brandenburg]. — Studien Tagungsber., Schriftenr. Landesumweltamt. Brandenburg, 15: 132 pp.
- SCHOENBAUER, B. (1999): Spatio-temporal patterns of macrobenthic invertebrates in a free-flowing section of the River Danube in Austria. — Arch. Hydrobiol., Suppl. 115 (Large Rivers 11): 375-397.
- SELONG, J.H.; HELFRICH, L.A. (1998): Impacts of trout culture effluent on water quality and biotic communities in Virginia headwater streams.--Progressive Fish-Culturist 50: 247-262.
- SHELDON, A.L. (1999): Emergence patterns of large stoneflies (Plecoptera: *Pteronarcys*, *Calineuria*, *Hesperoperla*) in a Montana river. — Gt Basin Natur. 59: 169-174.
- SHIEH, S.-H.; KONDRATIEFF, B.C.; WARD, J.V.; RICE, D.A. (1999): The relationship of macroinvertebrate assemblages to water chemistry in a polluted Colorado plains stream. — Arch. Hydrobiol. 145: 405-432.
- SHIMIZU, T. (1998): The genus *Protonemura* in Japan (Insecta: Plecoptera: Nemouridae). — Species Diversity 3: 133-154.
- SHIMIZU, T. (1998): The group of *Amphinemura megaloba* (Plecoptera, Nemouridae). — Jap. J. Syst. Entomol. 4: 227-236.
- SHUBINA, V.N. (1998): Benthos of salmon rivers of the mountain zone of the pre-polar Urals. — Russian J. Ecol. 29: 264-269. In Russian



- SIEBERT, M.; WANGEMANN-BUDDE, M. (1999): 4.8.3 Steinfliegen (Plecoptera) [Stoneflies (Plecoptera)]. — pp. 147-157 in: Niedersächs. Landesbetrieb Wasserwirtschaft Küstenschutz, Betriebsstelle Verden (ed.): *Verbreitungsatlas der Fließgewässerfauna fuer den Dienstbezirk des Niedersächsischen Landesbetriebes fuer Wasserwirtschaft und Küstenschutz –Betriebsstelle Verden*. [Distributional atlas of running water fauna for the district of the Lower Saxonian State Office for Water Management and Coast Protection, Branch Verden] 372 pp.; Verden/Aller.
- SIVEC, I.; ZHILTZOVA, L.A. (1996): Description of *Neoperla ussurica* sp. n., from the Russian Far East (Plecoptera: Perlidae). — *Acta entomol. Slovenica* 4: 13-18.
- SIVEC, I.; YANK, P.; LEE, C. (1997): Name lists of insects in Taiwan — Plecoptera — *Zong. Kunch.* 17: 188-194.
- SMITH, A.D.; STARK, B.P. (1998): *Neoperla coosa* (Plecoptera : Perlidae), a new stonefly species from Alabama. — *Entomol. News.* 109: 153-158.
- SOMERS, K.M.; REID, R.A.; DAVID, S.M. (1998): Rapid biological assessments: how many animals are enough? — *J. North Amer. Benthol. Soc.* 17: 348-358.
- SPEITH, S.; BRINKMANN, R. (2000): Zum Vorkommen seltener Eintags- und Steinfliegen in Fließgewässern Schleswig-Holsteins (Insecta, Ephemeroptera, Plecoptera). / Rare mayflies and stoneflies from running waters in Schleswig-Holstein/Germany (Insecta, Ephemeroptera, Plecoptera). — *Lauterbornia* 37 (1999): 223-235. [published 12 Febr. 2000].
- STARK, B.P. (1999): *Anacroneuria* from northeastern South America (Insecta: Plecoptera: Perlidae). — *Proc. Biol. Soc. Wash.* 112(1): 70-93.
- STARK, B.P.; SZCZYTKO, S.W.; NELSON, C.R. (1998): American stoneflies: A photographic guide to the Plecoptera. — *The Caddis Press, Columbus, Ohio*, IV+126 pp.; ISBN 0-9667982-0-1.
- STARK, B.P.; ZUÑIGA, M.DE C.; ROJAS, A.M.; BAENA, M.L. (1999): Colombian *Anacroneuria*: Descriptions of new and old species (Insecta, Plecoptera, Perlidae). — *Spixiana* 22: 13-46.
- STARK, B.P.; SIVEC, I. (1999): *Peltoperlopsis malickyi*, a new species of Oriental Peltoperlidae (Plecoptera). — *Aquatic Insects* 21: 235-240.
- STEVENS, D.M.; PICKER, M.D (1999): A revision of *Aphanicerella* Tillyard (Plecoptera: Notonemouridae) including the *A. barnardi* (Tillyard) species-complex. — *Afr. Entomol.* 7: 197-209.
- STEWART, K.D.; DUFFIELD, R.M. (1999): *Sialis vagans* (Ross) (Megaloptera: Sialidae) and *Amphinemura nigritta* (Provancher) (Plecoptera: Nemouridae) trapped by mountain laurel (*Kalma latifolia* L.) (Ericaceae) flowers. — *Proc. Entomol. Soc. Wash.* 101: 459-460

- SWEENEY, B.M. (1993): Effects of streamside vegetation on macroinvertebrates communities of white clay creek in Eastern North America. — Proc. Acad. Nat. Sci. Philadel. 144: 291-340.
- TAYLOR, B.W.; ANDERSON C.R.; PECKARSKY, B.L. (1999): Delayed egg hatching and semivoltinism in the Nearctic stonefly *Megarcys signata* (Plecoptera: Perlodidae). — Aquatic Insects 21: 179-185.
- TESLENKO, V.A.; MINAKAWA, N. (1999): Two new species of the genus *Stavsolus* Ricker from the Asian Far East (Plecoptera: Perlodidae). — Aquatic Insects 21: 19-32.
- THOMPSON, R.M.; TOWNSEND, C.R. (1999): The effect of seasonal variation on the community structure and food-web attributes of two streams: implications for food-web science. — Oikos 87: 75-88.
- TIERNEY, K.; KELLY, Q.M.; BRACKEN, J.J. (1998): The faunal communities of upland streams in the eastern region of Ireland with reference to afforestation impacts. — Hydrobiologia 39: 115-130.
- TIERNO DE FIGUEROA, J.M.; SÁNCHEZ-ORTEGA, A. (1999): Imaginal feeding of certain systellognathan stonefly species (Insecta: Plecoptera). — Ann. Entomol. Soc. Am. 92: 218-221.
- TIERNO DE FIGUEROA, J.M.; SÁNCHEZ-ORTEGA, A. (1999): The Male Drumming Call of *Isoperla nevada* Aubert, 1952. — Aquatic Insects 21: 33-38.
- TIMM, T. (1993): Einzigartige Biozönose. Erhalt des gering belasteten Wienbaches Herausforderung fuer den Naturschutz [A unique biocenosis. Conservation of the little charged stream Wienbach, a challenge for nature conservation]. — Landesanstalt fuer Oekologie, Landschaftsentwicklung und Forstplanung Nordrhein-Westfalen -Mitt. 4: 19-23.
- TOMITA, K. INADA, K. (1998): Records of stoneflies from Miyazaki Prefecture, Kyushu, Part 2. — Hyogo Freshw. Biol., 49: 62-67. (In Japanese).
- TONIOLLO, V.; NADOLNY, L.; DA GRACA, R. (1998): Benthic macroinvertebrates in rivers of the coastal basin of Parana State, Brazil. — Verh. Internat. Verein. Limnol. 26: 1150-1154.
- TOWNSEND, G.D.; PRITCHARD, G. (1998): Larval growth and development of the stonefly *Pteronarcys californica* (Insecta: Plecoptera) in the Crownsnest River, Alberta. — Can. J. Zool. 76: 2274-2280.
- TURAK, E.; FLACK, L.K.; NORRIS, R.H.; SIMPSON, J.; WADDELL, N. (1999): Assessment of river condition at a large spatial scale using predictive models. — Freshwat. Biol. 41: 283-298.
- UCHIDA, S.; INADA, K.; SOTA, S. (1999): Abundant occurrence of *Miniperla japonica* (Plecoptera, Perlidae) along the Hii River, Shimane Prefecture, western Honshu, Japan. — Hyogo Freshw. Biol., 50: 87-90. (In Japanese with English abstract).

- UIEDA, V.S.; GAJARDO, I.C.S.M. (1997): Macroinvertebrados perifíticos encontrados em poços e corredeiras de um riacho / Periphytic macroinvertebrates in running water stream pools and riffles. — *Naturalia* 22: 31-47.
- USSEGLIO-POLATERA, P.; THOMAS, S.; BEISEL, J.-N.; MORETEAU, J.-C. (1999): Illustration de la valeur indicatrice des caractéristiques biologiques des macroinvertébrés d'une communauté benthique à différentes échelles d'observation. / Biological trait structure of macroinvertebrate benthic communities. — *Annls Limnol.* 35: 71-80.
- VARYKHANOVA, K.V.; ZHILTZOVA, L.A. (1984): The fauna of stoneflies (Plecoptera) of the Lake Khubsugul basin in Mongolia. — 13<sup>th</sup> Internat. Sci. Conference on the results of works on the joint Mongolian-Soviet Khubsugul expedition, Ulan Bator, Theses and Abstracts pp. 21-22 (in Russian).
- VEINBERG, I.V.; KAMALTYNOV, R.M. (1998): Zoobenthos communities at stony beach of Lake Baikal, I. Fauna. — *Zool. Zhurnal.* 77: 158-165.
- VINÇON, G.; RAVIZZA, C. (1999): Three new *Protonemura* species from the Cordillera Cantabrica, Spain (Plecoptera: Nemouridae). — *Nouv. Rev. Ent. (N.S.)* 15 (1998): 249-255.
- VINÇON, G.; RAVIZZA, C. (2000): The genus *Rhabdiopteryx* in the Iberian Peninsula, with the description of *R. antoninoi* sp. n. (Plecoptera, Taeniopterygidae). — *Nouv. Rev. Ent. (N.S.)* 16: 187-193. [published 4. Febr. 2000].
- VINÇON, G.; SANCHEZ-ORTEGA, A. (1999): *Protonemura berberica*, a new species of Nemouridae from North Africa (Insecta, Plecoptera). — *Aquatic Insects* 21: 231-234.
- VINSON, M.R.; HAWKINS, C.P. (1998): Biodiversity of stream insects: Variations at local, basin, and regional scales. — *Ann. Rev. Entomol.* 43: 271-293.
- VUORI, K.M.; LUOTONEN, H.; LILJANIEMI, P. (1999): Benthic macroinvertebrates and aquatic mosses in pristine streams of the Talvajarvi region, Russian Karelia. — *Boreal Environ. Res.* 4: 187-200.
- WAGNER, F. (1998): Aufenthalt und Flugverhalten von Imagines merolimnischer Insekten mit dem Schwerpunkt Plecoptera in der Bach-Aue am Beispiel der Leutra (Thuringen) [Location and flight behaviour of adult merolimnic insects with emphasis on Plecoptera in the floodplain in the case of the Leutra (Thuringia)]. — Master Thesis, Friedrich-Schiller-Univ. Jena, 58 pp.
- WANTZEN, K.M. (1998): Effects of siltation on benthic communities in clear water streams in Mato Grosso, Brazil. — *Verh. Internat. Verein. Limnol.* 26: 1155-1159.

- WEIGELHOFER, G.; WARINGER, J.A. (1999): Woody debris accumulations - important ecological components in a low order forest stream (Weidlingbach, Lower Austria). — *Internat. Rev. Hydrobiol.* 84: 427-437.
- WEINZIERL, A. (2000): Nachweise von *Isoperla albanica*, *Brachyptera starmachi* und *Brachyptera trifasciata* (Plecoptera) aus Niederbayern. / Records of *Isoperla albanica*, *Brachyptera starmachi* and *Brachyptera trifasciata* (Plecoptera) from Bavaria Inferior. — *Lauterbornia* 37 (1999): 19-22. [published 12 Febr. 2000].
- WEISSMANN, M.J.; KONDRATIEFF, B.C. (1999): An inventory of arthropod fauna at Great Sand Dunes National Monument, Colorado. — *Univ. Kansas Nat. Hist. Mus. Spec. Publ.* 24:57-68.
- WEITSCHAT, W.; WICHARD, W. (1998): Atlas der Pflanzen und Tiere im Baltischen Bernstein. [Atlas of the animals and plants in Baltic amber]. — Verlag Dr. Friedrich Pfeil, Muenchen, ISBN 3-931516-45-8, 256 pp.
- FOSSILS.
- WESTERMANN, F. (1999): Restpopulationen von *Taeniopteryx nebulosa* (Plecoptera: Taeniopterygidae) in unbelasteten Berg- und Flachlandbaechen des Pfaelzerwaldes und Bienwaldes (Rheinland-Pfalz) / Residual populations of *Taeniopteryx nebulosa* (Plecoptera: Taeniopterygidae) in unpolluted mountain- and lowlandbrooks of the Pfaelzerwald and Bienwald in Rhineland-Palatinate. — *Lauterbornia* 35:1-7.
- WICHARD, W.; ARENS, W.; EISENBEIS, G. (1995): 2.4 Ordnung: Plecoptera – Steinfliegen. — pp. 62-83 in: *Atlas zur Biologie der Wasserinsekten [Atlas on the biology of water insects]*. — G. Fischer Verlag, Stuttgart etc., ISBN 3-437-30743-6, 338 pp. plus several unnumbered pages.
- WILLIAMS, D.D. (1998): The role of dormancy in the evolution and structure of temporary water invertebrate communities. — *Arch. Hydrobiol., Spec. Issues Advanc. Limnol.* 52: 109-124.
- WINTERBOURN, M.J. (1997): New Zealand mountain stream communities: Stable yet disturbed? — pp. 31-54 in: STREIT, B.; STAEDLER, T.; LIVELY, C.M. (eds), *Evolutionary ecology of freshwater animals*, Birkhaeuser Verlag Basel.
- WINTERBOURN, M.J. (1998): Insect faunas of acidic coal mine drainages in Westland, New Zealand. — *N. Z. Entomol.* 21: 65-72.
- WIPFLI, M.S.; HUDSON, J.; CAQUETTE, J. (1998): Influence of salmon carcasses on stream productivity: Response of biofilm and benthic macroinvertebrates in southern Alaska, USA. — *Can. J. Fish. Aquat. Sci.* 55: 1503-1511.
- WRIGHT, J.F.; MOSS, D.; FURSE, M.T. (1998): Macroinvertebrates richness at running-water sites in Great Britain: a comparison of species and family richness. — *Verh. Internat. Verein. Limnol.* 26: 1174-1178.

- YANG, D.; YANG, C.-K. (1998): Plecoptera; Styloperlidae, Perlidae and Leuctridae. — Insects of Longwangshan 1998 (8): 40-46. In Chinese, English abstract.
- YIYIT, S.; TOSUNOGLU, M.; ARIKAN, H. (1999): Feeding biology in *Bufo viridis* (Anura: Bufonidae) populations of the vicinity of Izmir. — Turkish J. Zool. 23(Suppl. 1): 279-287.
- YOSHIMURA, M.; ISOBE, Y.; OISHI, T. (1998): The incubation periods of eggs and the relation to the patterns of life cycle in some species of stonefly (Plecoptera). (Abstract) Proc. 69<sup>th</sup> Ann. Meeting Zool. Soc. Japan. — Zool. Sci 15 Suppl.: 52.
- ZHILTZOVA, L.A. (1974): [A review of Plecoptera of family Leuctridae of the USSR fauna]. — The 7<sup>th</sup> Congress of the All-Union Entomol. Soc., Abstracts, First part, Leningrad, 1974: 37-38. In Russian.
- ZHILTZOVA, L.A. (1977): [Order Plecoptera - Stoneflies]. — In: KUTIKOVA, Ya.; STAROBOGATOV, I. (eds): *Contributions to the freshwater invertebrates of the European part of the SSSR*, Leningrad, 1977: 303-319. In Russian.
- ZHILTZOVA, L.A. (1993): [Order Stoneflies - Plecoptera]. — Insects of Usbekistan, Acad. Sci. of the Usbekistan Republic, Tashkent, 1993: 28-33. In Russian.
- ZHILTZOVA, L.A. (1999): New data on the fauna of stoneflies (Plecoptera) of Sakhalin. II. — Ent. Obozr. 78: 316-323. In Russian, Engl. summary.
- ZWICK, P. (1999): Egg diapause, egg swelling and mother-child size relationships in Plecoptera (Insecta). — Arch. Hydrobiol. Spec. Issues Advanc. Limnol. 54: 373-386.
- ZWICK, P. (1999): Notes on Plecoptera (22) *Rauserodes* nom. n. Replacement Name for *Rauserella* Zwick (Plecoptera: Perlodidae). — Aquatic Insects 21(3): 168.
- ZWICK, P. (2000): Historische Dokumente zur Fauna der Elbe bei Dresden vor hundert Jahren. / Historical documents on the fauna of the river Elbe at Dresden, a hundred years ago. — Lauterbornia 37 (1999): 97-112. [published 12 Febr. 2000].



**Standing Committee  
International Society of Plecopterologists**

***John Brittain***  
Zoologisk Museum  
University of Oslo, Sarsgt. 1.  
N-0562 Oslo, NORWAY

***C. G. Froehlich***  
Department of Biology, Philosophy Faculty  
University of Sao Paulo  
14049 Ribeirao, Preto, SP, BRAZIL

***Peter P. Harper***  
Département de Sciences biologiques  
Université de Montréal  
C.P. 6128, Succ. "Centre-Ville"  
Montréal, Québec, H3C 3J7, CANADA

***T. Kawai***  
Biological Institute  
Nara Women's University  
Kitauoya nishi-machi  
Nara City, 630 JAPAN

***Ian D. McLellan***  
P. O. Box 95  
Westport, NEW ZEALAND

***Ignac Sivec***  
Prirodoslovni Muzej Slovenije  
Prevernova 20, POB 290  
YU- 61001 Ljubljana, SLOVENIA

***Kenneth W. Stewart***  
Department of Biological Sciences  
University of North Texas  
Denton, Texas 76203, USA

***Stanley W. Szczytko***  
University of Wisconsin  
College of Natural Resources  
Stevens Point, Wisconsin 54481, USA

***Peter Zwick***  
Limnologische Fluss-Station  
Max-Planck-Institut für Limnologie  
Postfach 260  
D-36105 Schlitz, GERMANY

