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## CURRENT RESEARCH ON PLECOPTERA

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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 (20).

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**Ian McLellan of Westport, New Zealand** has completed and has in press a new genus and species of Gripopterygidae (Plecoptera) from the Falkland Islands and a revision of South American Austroperlidae. He is writing up an article on stoneflies of Stewart Island (the smallest and southernmost of New Zealand's main islands) and will present this at the Symposium at Perugia. Other projects are a revision of the New Zealand gripopterygid genera *Nesoperla*, *Megaleptoperla* and *Vesicaperla*. An ongoing project is the work on South American Gripopterygidae with Peter Zwick.

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**The Swiss Stonefly key** is about to be completed. Keys have been tested by both specialists and non-specialists. A few drawings and texts have to be completed, and then the final version will be ready for page setting. The key is going to be published in a volume of Fauna Helvetica, together with the distribution atlas of the Swiss Plecoptera. **Dr. Verena Lubini, Sandra Knispel.**

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

1. Dr. Richard Lechleitner and Boris Kondratieff are continuing their survey of the stoneflies of Mount Rainier National Park. Currently, 75 species are known from the Park.
2. Ralph F. Kirchner and Boris Kondratieff are continuing their inventory of the stoneflies of Smoky Mountain National Park, a project associated with ALL TAXA BIODIVERSITY INVENTORY of the Park. They have completed a successful winter stonefly trip into the Park at the end of February and early March 2001, collecting adults of at least 14 species.
3. Ralph F. Kirchner and Boris Kondratieff are completing several manuscripts describing new species of *Perlesta* and other groups.

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

1. Doctoral student John Sandberg continues his study of the systematics, behavior and ecology of the stonefly genus *Isogenoides*. Goals are to describe all life stages and record drumming from reared fresh material. Drumming signals of *I. krumholzi*, *I. olivaceous*, *I. varians*, *I. colubrinus*, *I. elongatus* and *I. frontalis* have been recorded and nymphs of *I. hansonii* are being reared from spring, 2001 collections. Bill Stark, Boris Kondratieff, Stan Szczytko and Fred Kirchner have helped in collection of nymphs.
2. Ken Stewart and Stan Szczytko have recently reared the nymphs of five previously unknown western North American *Isoperla* species (*I. decolorata*, *I. katmaiensis*, *I. denningi*, *I. rougensis* and *I. baumanni*), and have submitted a manuscript describing them. A collecting trip to Oregon is planned by Ken Stewart and Bill Stark in May, 2001 to obtain for rearing nymphs of the remaining three species whose nymphs are unknown. The objective is to develop an illustrated key to nymphs of all western species.
3. Ken Stewart and Bill Stark have completed the manuscript for the 2<sup>nd</sup> Edition of "Nymphs of North American Stonefly Genera (Plecoptera)", that is scheduled to be published by Fall, 2001.
4. Ken Stewart and Mark Oswood have received funds through a National Science Foundation Arctic Archival Observatory Grant to the University of Alaska, Fairbanks, to complete their book on "Stoneflies of Alaska and Northwestern Canada". They have been working on the project since 1980. The book is scheduled for completion by late 2002.

Other projects recently completed include the Plecoptera Chapter in the upcoming Encyclopedia of Insects (Academic Press), study of the life history of *Kogotus modestus* (with John Sandberg) and review and description of the eggs and females of *Setvena* species (with Bill Stark).

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## Dr. Claudio G. Froehlich, University of São Paulo

The State of São Paulo, through its Research Support Foundation, is sponsoring a program (BIOTA/FAPESP) on studies of the State's biodiversity. Several studies are in progress, including those on aquatic insects and other invertebrates. For these, the main collecting area is the Intervales State Park, a well-preserved area 41705 ha in extent. Information may be obtained at [www.biotasp.org.br](http://www.biotasp.org.br).

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In co-operation with several other institutions and with funding from the European Union, we have been studying the macroinvertebrates of glacial-fed rivers across Europe from the Pyrenees in the south to Spitsbergen in the north, also including sites in the Alps and on Iceland. The fauna is of course dominated by chironomids, but we have also found stoneflies to be quite common, especially in the lower reaches and in non-glacial tributaries. Generalised Additive Models have been developed to express the relationships between macroinvertebrate taxa and environmental variables. The models demonstrated clear responses of stonefly taxa to gradients in water temperature, substrate stability and several other environmental variables such as tractive force and suspended sediment as these changed downstream of glacial sources. As a follow-on from these studies Sandra Knispel, a doctoral student at the Museum of Zoology, Lausanne, Switzerland, has been investigating habitat, life cycles and egg development in several plecopterans in the alluvial flood-plain below the Rhône glacier. Together with Emmanuel Castella of the University of Geneva, who has been responsible for the model development, we plan to present some of these results at the Perugia meeting in August.

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**Dr. Eduardo Dominguez, Universidad Nacional de Tucumán, Argentina**

Student Mariana Orce, under a current fellowship, has associated the nymphs of two *Anacroneuria* species from Argentina. She plans to visit Bill Stark's lab in Clinton, Mississippi in July, 2001.

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**Maria del Carmen Zuñiga, Universidad del Valle, Colombia**

Maria's field work on stoneflies has been temporarily suspended because of knee replacement surgery in December, 2000. She hopes to be collecting again soon and plans to be in Perugia in August, 2001. She has been studying nocturnal emergence patterns of a species of *Anacroneuria* with a student and has recently associated the nymphs of 2 Colombian *Anacroneuria* species.

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**Jane Earle, Pennsylvania Department of Environmental Protection**

Jane is continuing studies of Pennsylvania stoneflies, with major emphasis on the distribution and tolerance of species, especially the tolerance to coal mine drainage and natural acidity/acid precipitation.

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Andy has been on sabbatical, hosted by the U.S. Forest Service in Oxford, Mississippi, working on stoneflies, mussels and stream fishes. He has collected stoneflies at 38 sites in two forested catchments near Hot Springs, Arkansas, in the Ouachita Mountains. The project concerns monitoring the effects of experimental and industrial timber harvest on regional streams. He says the project is going well and he is gaining appreciation for seasonally dry streams. The ecological generalizations of Poulton & Stewart (1991) seem to be standing up pretty well. He will return to Montana in early August, 2001 to pursue other stonefly projects and publish his work with Dick Baumann on biogeography of Great Basin Plecoptera.

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**Shurenkhorloo Purevdorj "Puje"**

"Puje" is a masters' student in the Department of Ecology at the national University of Mongolia. He has studied under John C. Morse. His thesis work is on aquatic insects of Southeastern Mongolia, useful for monitoring water quality relating to gold mining. He wants to study Plecoptera of Mongolia and hopes to participate in our international symposia.

**REPORT ON RECENT ACTIVITIES OF NOEL HYNES**

Editors note: The following is response to my inquiry to Noel Hynes about his activities over the past year.

Thank you for the inquiry, and for your appreciation of my chapter in the Eastern North American stonefly book. It is good to see that appearing now.

The short answer to you query is that I am getting older and less active, but I have had a good year. I am no longer able to scramble about on stream banks, but I do get around a bit. A few weeks ago I was at Tulum in Mexico with my daughter and her husband, walking around the ruins that spooked the Conquistadores and snorkelling in the Carribean, and I have recently returned from California, where I was invited by Ken Cummins to talk to his students at Humboldt University. It was a joy being back in a classroom with a bunch of good grad students, and I was able to spend a day or two with my grandson who is now an architect in San Francisco. It was the first long journey I have done alone since Mary died, and it did me a power of good.

I have little to report on accomplishments, but I did complete a 200 page autobiography, which has now been published in Holland by Backhuys. But that was only a couple of weeks ago so I have not yet seen it. There is also talk of another publisher's wishing to reissue my Ecology of Running Waters, which still seems to be in much demand despite being very out of date. Otherwise I continue to be around, contributing very little to the world and being well looked after by friends, particularly my neighbour Karin Barton (Davis' wife) who is like a daughter to me.

I look forward to Perla 19 and the new edition of the nymph book, but I doubt I shall make it to the Italian meeting, although I may get to Schlitz later in the year. I have friends in Freiburg whom I would like to visit before I am too old to do so. I do not possess the remarkable toughness of Bill Ricker!

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Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Perla](#)

Jahr/Year: 2001

Band/Volume: [19](#)

Autor(en)/Author(s): Redaktion

Artikel/Article: [Current research on Plecoptera 15-18](#)