

## CHIRONOMUS NEWSLETTER ON CHIRONOMIDAE RESEARCH

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### CONTENTS

16th International Symposium on Chironomidae – Announcement .....	1
Professor Dr. hab. ZDISLAW KAJAK (1929 – 2002) .....	2
The Newsletter Grant.....	3
Current Research.....	3
Theses .....	6
Short – Communications .....	8
List of regional representatives 2003.....	10
Current Bibliography .....	14



CEM - Centro de Estudos da Macaronésia  
ciências da vida e da terra

### *XVI International Symposium on Chironomidae MADEIRA 2006*

It is with great pleasure that the University of Madeira (UMa) and the Centro de Estudos da Macaronésia (CEM) invite you to the Island of Madeira for the XVI International Symposium on Chironomidae, to be held in 2006.

UMa and CEM have a growing international reputation for studies in island ecology as well as experience in organising international symposia and conferences on Madeira. The Chironomidae comprise, without doubt, the largest and most diverse dipteran group on Madeira, providing a wealth of study in several key areas, including biomonitoring and systematics. We hope that your contributions via the symposium will help to promote the value and fascinating areas of study involving this group.

Madeira, known as “the Floating Garden of the Atlantic”, is an autonomous region of Portugal, with a strong tradition of quality tourism. The largest remaining area of relict laurel forest or *laurisilva* in the world is found on Madeira. It is a UNESCO World Heritage site, protected by the Parque Natural da Madeira (PNM).

We hope that we will make your visit to Madeira in 2006 a memorable one.

Ruben Antunes Capela  
Dean of the University of Madeira

Professor Miguel Angelo Carvalho  
Director of CEM

## Professor Dr. hab. ZDISLAW KAJAK (1929 – 2002)



Polish science has met with a severe loss. On 16<sup>th</sup> July 2002 Professor Zdzislaw Kajak died, one of the most eminent Polish hydrobiologists, whose scientific activity was known not only in Poland but also in Europe.

The second half of the 20<sup>th</sup> century witnessed a dynamic development of Polish hydrobiology. Its rank was established not only by a few distinguished professors, Marian Gieysztor, Kazimierz Pawlowski, Karol Starmach, Marian Stangenberg, who survived the Second World War, but also by young hydrobiologists completing their studies in the 50s. One of the most outstanding representatives of this group was Professor Zdzislaw Kajak, who graduated in 1954 at the Faculty of Biology of Warsaw University, and who had undertaken research as a student in the Institute of Ecology of the Polish Academy of Science. He worked there till his last days. From the very beginning his scientific interests concentrated on benthic invertebrates, especially the Chironomidae. At first he carried out his research on old river beds (classical series of works concerning Chironomidae Lachy Konfederatka), then on lakes, rivers and reservoirs. He did not only collect data and describe the observations but first of all tried to explain the underlying mechanisms. That is why so many of his works concern not only field and laboratory experiments, but also methodology. Later on, as an Associate Professor (1968) and Professor (1988), he coordinated the research of large scientific groups and the research carried out within projects. His interests concentrated on the explanation of energy function and its transmission in the ecosystems of lakes and on the effect of pollution and basin management on ecosystems of rivers and reservoirs.

The results of his long scientific activity were published in over 250 publications including many books. Many times he was invited to participate in publications of collective, international works, and he himself initiated some of them. Among others, he was the main organizer of IBP/UNESCO Symposium on the Productivity of Inland Water, held in Kazimierz Dolny in 1970, and then co-editor of the works of the symposium, which gathered the most outstanding hydrobiologists of the world.

He was also very active in teaching, lecturing at Warsaw University and its branch in Białystok, at the University of Silesia and at the University of British Columbia, of which he was a visiting professor. He was a supervisor, or a referee, of many M. Sc. and Ph.D. dissertations. The activity in many Polish and foreign societies and committees was another domain where he showed his talent and energy. He was a founder-member of the Polish Hydrobiological Society, its president for many years and representative of Poland on the committee of the regional representatives of SIL.

Professor Kajak was a distinguished scientist opening new horizons in science. His works have a fundamental impact on hydrobiological science, especially on the ecological aspect of studies of Chironomidae larvae. For his pupils and followers he was kind, but, at the same time, a demanding Master.

## “THE NEWSLETTER GRANT”

We hereby would like to express our thanks for receiving the CHIRONOMUS NEWSLETTER grant which enabled us to participate the XV International Symposium on Chironomidae held at the University of Minnesota. Without this grant none of us would have attended this important meeting on Chironomidae. The grant thus enabled us not only to participate in the International Symposium, but also to meet many researchers in person and set up contacts which will prove very important for our future work.

Once more, thank you,

Alberto Araneda  
Universidad de Concepción, Concepción, Chile

Fábio de Oliveira Roque  
Universidade Federal de São Carlos, São Carlos, Brazil

Humberto Fonseca Mendes  
Universidade de São Paulo, Ribeirão Preto, Brazil

## *CURRENT RESEARCH*

### CHIRONOMIDAE OF THE BAIKALIAN REGION

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**Key words:** Chironomidae, Angara River, Angara Reservoirs

#### Abstract

The results of an investigation into the Chironomidae fauna of the Baikalian region (Angara River, Irkutsk, Bratsk, Ust'-Ilim Reservoirs) are presented. 144 species were discovered in the Angara River, 126 in the Irkutsk Reservoir, 132 in the Bratsk Reservoir, 92 in the Ust'-Ilim Reservoir. The regulation of the Angara River outflow resulted in a sharp change of environmental conditions, that caused changes in the Chironomidae fauna. In the Angara rheophilic species dominated (from subfamilies Diamesinae and Orthocladiinae), whereas in the reservoirs – pelophilic species from the subfamily Chironominae. In water bodies of the region 10 species of Baikalian endemics were discovered. The most endemic species (10) were found in the Irkutsk reservoir, the fewest(2) in the Ust'-Ilim reservoir.

#### Introduction

The most important features of the Angara River and its reservoirs are the conditions of water quality formation – the input of waters from the oligotrophic Lake Baikal, with low mineralization and very poor in organic substances.

The Angara is an outflow of Lake Baikal and joins with the Yenisey 1779 km away. The total outflow of the Angara includes 45% of originally Baikalian water. According to R. A. GOLYSHKINA (1970) the river sediments, resulting from the relief and geological structure of the valley, is mainly stony. Before regulation

the Angara River was a mountainous river with high flow (from 7 to 15 km h<sup>-1</sup>). The minimum water level was about 2 m, the most widely distributed depths were 4-7 m.

Concentration of gases in the Angara is very favorable for aquatic animals. Oxygen content during the open water season was 100-145% of saturation and only under ice decreased to 80-96%. The hydrochemical condition in the reservoirs differs insufficiently from that of the river and is favorable for animals (NIKOLAEVA, 1964, Primary..., 1982, Plankton..., 1982). The oxygen content is about 100% of saturation.

## Materials and methods

Published data on the Chironomidae and our own material from the Angara River and its reservoirs are analyzed. Samples were collected in 1957-1998. Over 1,000 quantitative and 500 qualitative samples are included. Qualitative

samples were collected with a net near the shore, quantitative samples with a Petersen sampler.

## Results

The Chironomidae fauna of the Angara River according to the literature (GRESE, 1953, VERSHININ, 1967, LINEVICH 1981) and our data includes 144 species (Table 1).

Table 1: The number of Chironomidae species in Baikalian region

Subfamily	Angara River	Irkutsk Reservoir	Bratsk Reservoir	Ust'-Ilim Reservoir
Tanypodinae	10	5	8	8
Diamesinae	10	8	4	4
Prodiamesinae	2	2	2	2
Orthoclaadiinae	63	45	43	26
Chironominae	59	68	75	52
Total	144	128	132	92

5 species – *Diamesa baicalensis* TSHERNOVSKIJ, *Orthocladus compactus* Linevitsh, *O. gregarius* LINEVITSH, *O. setosus* and *Neozavrelia minuta* LINEVITSH – are endemics of Baikal, *Cricotopus angarensis* LINEVITSH – endemic of Angara. Dominating species are *Diamesa baicalensis* TSHERNOVSKIJ, *Orthocladus olivaceus*

KIEFFER, *Eukiefferiella coeruleascens* KIEFFER, *O. thienemanni* KIEFFER, *Parorthocladus tridentifer* LINEVITSH, *Pseudodiamesa nivosa* GOETGHEBUER. The further from the inflow it acquires more features of usual Siberian rivers.

After outflow regulation there was created a cascade of reservoirs (Table 2).

Table 2: Characteristics of Angara Reservoirs

Reservoir	Start of filling	Finish of filling	Volume, km <sup>3</sup>	Maximal depth	Length
Irkutsk	1956	1958	2.1	35	55
Bratsk	1961	1967	179.0	100	570
Ust'-Ilimsk	1975	1977	59.4	90	302

The biological regime of the River has been changed: rheophilic species of Chironomidae have disappeared. Now the reservoirs are populated by pelophilic species.

Irkutsk Reservoir is an oligotrophic-mesotrophic water body with high water replacement velocity (24 times year<sup>-1</sup>). Now there are 126 species recorded, 10 of them are endemics of Baikal (*Diamesa baicalensis* TSHERNOVSKIJ, *Orthocladus setosus*, *O. gregarius* LINEVITSH, *O. compactus* LINEVITSH, *Paratanytarsus baicalensis* TSHERNOVSKIJ, *Sergentia (Baicalosergentia) baicalensis* TSHERNOVSKIJ, *S. (B.) rynocephala* LINEVITSH, *S. (B.) flavodentata* TSHERNOVSKIJ, *S. (B.) kozhowi* Linevitsh, and *Neozavrelia minuta* LINEVITSH). The main species near the beginning of the

reservoir is *Diamesa baicalensis* Tshernovskij, in the middle and near the outflow are *Chironomus rusticus* MEIGEN, *Ch. solitus* LINEVITSH et ERBAEVA, *Sergentia bauri* WUELKER et al., and *Microsetra sp.* Sandy and silt sediments near the dam are occupied by larvae of *Baicalosergentia* (LINEVITSH, 1981, PROVIZ, PROVITSH, 1999): *S. (B.) rynocephala* LINEVITSH, *S. (B.) flavodentata* TSHERNOVSKIJ, *S. (B.) kozhowi* LINEVITSH, and *S. (B.) colecta* PROVIZ V. et PROVIZ H.

Bratsk Reservoir is a mesotrophic water body with some eutrophy. Unlike Irkutsk Reservoir it is characterized by slight water flow (2 times year<sup>-1</sup>). Throughout the time of the investigation (1964-1998) there were 132 species of Chironomidae, including *Diamesa baicalensis*

TSHERNOVSKIJ, *Paratanytarsus baicalensis* TSHERNOVSKIJ, *Sergentia (Baicalosergentia) baicalensis* TSHERNOVSKIJ – Baikalian endemics. The main species are *Procladius ferrugineus* KIEFFER, *Tanytarsus gr. gregarius* Kieffer, *Cladotanytarsus gr. mancus* WALKER, *Endochironomus albipennis* MEIGEN, *Glyptotendipes paripes* EDWARDS, *Polypedilum nubeculosum* MEIGEN, *Chironomus plumosus* Linne. Of special interest is the discovery of Baikalian endemics *Paratanytarsus baicalensis* TSHERNOVSKIJ and *Sergentia (Baicalosergentia) baicalensis* TSHERNOVSKIJ in the Balagansk part of it in 1991-1998. The last species dwells in the deeper parts and near the dam.

Ust'-Ilimsk Reservoir is a mesotrophic-eutrophic water body. The water retention time is 1.5 times year<sup>-1</sup>. There are 92 species of Chironomidae. Baikalian endemics *Diamesa baicalensis* TSHERNOVSKIJ and *Sergentia (Baicalosergentia) baicalensis* TSHERNOVSKIJ are present there. As with Bratsk Reservoir the dominant species are *Procladius ferrugineus* KIEFFER, *Tanytarsus gr. gregarius* KIEFFER and *Chironomus plumosus* LINNE with the addition of *Microtendipes pedellus* DE GEER.

#### Discussion

The chironomid fauna of the Angara River is the direct continuation of the littoral fauna of the Lake Baikal. Among Baikalian endemic species *Diamesa baicalensis* TSHERNOVSKIJ was observed in all sites investigated on stony ground. *Orthocladius setosus*, *O. gregarius* LINEVITSH, *O. compactus* LINEVITSH, and *Neozavrelia minuta* LINEVITSH were discovered from inflow as far as Irkutsk dam. The water regulation by dam construction has caused the changes of living conditions and consequently species composition. Whereas the Angara River was characterized by rheophilic Diamesinae and Orthoclaadiinae, the reservoirs are characterized by pelophilic forms of Chironominae.

Some Baikalian species of Chironomidae have found acceptable conditions in the Reservoirs. *Diamesa baicalensis* TSHERNOVSKIJ, *O. gregarius* LINEVITSH, *O. compactus* LINEVITSH, and *Neozavrelia minuta* LINEVITSH were discovered in stony sediments in Irkutsk Reservoir. *Paratanytarsus baicalensis* TSHERNOVSKIJ, *Sergentia (Baicalosergentia) baicalensis* TSHERNOVSKIJ, *S. (B.) rynocephala* Linevitsh, *S. (B.) flavodentata* TSHERNOVSKIJ and *S. (B.) kozhowi* LINEVITSH occupy sandy and silt sediments in its central part. *Paratanytarsus baicalensis* TSHERNOVSKIJ in

Baikal inhabits silty sediments of the littoral (0-20 m), *Sergentia (Baicalosergentia) baicalensis* TSHERNOVSKIJ, *S. (B.) flavodentata* TSHERNOVSKIJ and *S. (B.) kozhowi* LINEVITSH occupy silty sediments at 20-50 and 50-400 m depth in Lake Baikal.

The Baikalian endemic *Diamesa baicalensis* TSHERNOVSKIJ inhabits stones in the bottom of Bratsk Reservoir. *Paratanytarsus baicalensis* TSHERNOVSKIJ was observed on silt in the littoral zone of Bratsk Reservoir and *S. (B.) baicalensis* occupies the profundal zone of this reservoir.

*D. baicalensis* was found in near dam zone of Ust'-Ilim Reservoir, as in Bratsk Reservoir. In some places of this reservoir *S. (B.) kozhowi* is found occasionally.

In comparison with the previous chironomid fauna of the Angara River, there are 4 more species. It can be connected with siltation unusual for the river bottom. The most Baikalian endemics are discovered in the Irkutsk Reservoir and only 2 species in Ust'-Ilimsk.

The Angara endemic *Cricotopus angarensis* LINEVITSH previously found from the Kitoy River to the Oka River now only inhabits plants in Irkutsk Reservoir.

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## *THESES*

### DOCTORAL THESES ON CHIRONOMID MIDGES IN THE UNIVERSITY OF BURDWAN SINCE 2000.

#### ASSESSMENT OF BIOLOGICAL WATER QUALITY OF THE RIVER DAMODAR OF BURDWAN DISTRICT, WEST BENGAL BASED ON CHIRONOMID COMMUNITY (DIPTERA: CHIRONOMIDAE).

by Dr. Goutam Bhattacharyay

#### Abstract

The river Damodar originating from Chhotanagpur Hills of Bihar traverses through the "Ruhr of Bengal" before pouring into the Bay of Bengal. It receives considerable amount of pollutant from coal mines and several industries i.e. Steel, Chemicals, Thermal Power plants, Coal washeries, cement plants, fertilizers etc. during its course through Asansol-Durgapur industrial area. The river receives heavy metallic pollutants such as Pb, Zn, Cu, Hg and Cd from the effluents of factories. Biological assessment of the water quality based on chironomid midges was undertaken. Samplings were done from the four sampling stations with suitable samplers to collect and to record the physiochemical characteristics like air and water temperature, water current, pH, DO, BOD, concentrations of Pb, Zn, Cu, Hg and Cd, sediment texture and the midges (eggs, larvae, pupae and adults). The data were analyzed statistically to correlate the individual and synergistic impact of pollutant on chironomid midges. The concentrations of Lead, Zinc and Copper were found to occur far above the permissible limit. Significant positive correlation was established between concentrations of heavy metals in water and sediment. Chironomid species, *Chironomus circumdatus* Kieffer *C.samoensis* (Edwards), *C.stratipennis* Kieffer *Kiefferulus barbatitarsis* (Kieffer) *K.calligaster* (Kieffer) *Stictochironomus polystictus* (Kieffer), *Cladotanytarsus gloveri* Chaudhuri & Das, *Procladius noctivagus* (Kieffer) and *Tanytus bilobatus* (Kieffer) were dominant species throughout the study area. Similarity index (Ss) calculated with the presence/absence data of chironomid larvae and adults showed that three polluted zones were to some extent dissimilar to pollution free reference zone. Diversity (D) and equitability (E) seemed to reflect the higher load of pollutants in the first three points rather than the fourth point. Diversity (D) was viewed to correlate negatively with the concentration of heavy metals in water and sediment showing their toxic effects. Deformities of the larvae of *Crytochironomus judicious* Chaudhuri & Chattopadhyay *Polypedilum nubifer* (Skuse), *Cladotanytarsus gloveri*, *Tanytarsus vinculus*, *Stictochironomus polystictus*, *Kiefferulus barbatitarsis*, *K.calligaster*, *Cricotopus sylvestris* Kieffer *Procladius noctivagus* and *Tanytus bilobatus* were noticed. Percentage of deformity did correlate positively with concentrations of Pb in water and sediment. The severity of deformity was also recorded higher in the larvae of chironomid collected from confluence point of polluted zones rather than from the reference point. A new proposed severity index, SISS(antenna) was also used for assessment of deformity in family or subfamily level as this index was made by summing up of severity of antennal deformity of larvae.

#### Adjudicators

Prof. Arshad Ali, University of Florida, Sanford, USA.  
Prof. K.Vijaykumar, University of Gulbarga, Gulbarga, India.  
Prof. A.Mukherjee, University of North Bengal, India.  
Dr.A.Hazra, Jt.Director, Zoological Survey of India, Calcutta.

#### Supervisors

Prof.P.K.Chaudhuri, University of Burdwan, India.  
Dr.A.K.Sadhu, Burdwan Raj College, University of Burdwan, India.

Year of Award: 2000

**MORPHOLOGY AND DIVERSITY OF CHIRONOMID COMMUNITIES OF DARJEELING-SIKKIM HIMALAYAS OF INDIA (DIPTERA: CHIRONOMIDAE)**

by Dr.Niladri Hazra.

**Abstract**

Morphology of sixty-three species belonging to twenty-five genera under four sub families has been worked out. Of them, 11 species and one genus have been proposed here as new to science and three previously described species from other countries be reported for the first time in this subcontinent. Descriptions of the life stages of the following species: *Ablabesmyia alba* Chaudhuri, Debnath & Nandi, *Coffmania adiecta* n.sp., *Coffmania animispina* n.sp., *Macropelopia amplituberculata* n.sp., *M.nebulosa* (Meigen), *Paramerina ampliseta* n.sp., *P.clara* n.sp., *P.inficia* Chaudhuri & Debnath, *Rheopelopia lenicornuta* nom.nov., *Brillia teretuba* n.sp., *Corynoneura centromedia* n.sp., *C. incidera* n.sp., *Corynoneura nasuticeps* n.sp., *Metriocnemus albolineatus* (Meigen), *Paracricotopus spinicornis* n.sp., *Parametriocnemus ornaticornis* (Kieffer), *Paraphaenocladus impensus albusalatus* Chaudhuri & Sinharay, *Polypedilum (Pentapedilum) convexum* John., *P.(Pentapedilum) centisetum* n.sp., *P. (Pentapedilum) unispinum* nom. nov., *P.(Pentapedilum) yapensis* Tokunaga and *Rheotanytarsus pellucidus* Chaudhuri & Datta. Diversity index and percentage of relative abundance of immature stages from springs at three different altitudes have been measured a studied. Physico-chemical parameters like temperature, DO, pH and conductivity of habitats of ecology of several species have also been recorded and correlated with abundance of the species stated in the thesis.

**Adjudicators**

Prof. Xinhua Wang, University of Nankai, P.R.China.

Dr. J.R.B. Alfred, Director, Zoological Survey of India, Calcutta.

**Supervisor**

Prof.P.K.Chaudhuri, University of Burdwan, India.

Year of award: 2000

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**CYTOTAXONOMIC CATEGORIZATION OF A SPECIES OF CHIRONOMUS MIEGEN AND KIEFFERULUS GOETHEBUER (DIPTERA-CHIRONOMIDAE).**

by Dr.Ms. Basuli Maitra

**Abstract**

The cytological studies were performed in the polytene chromosomes from the salivary glands of the five chironomid species namely, *Chironomus circumdatus* Kieffer *C.stratipennis* Kieffer *C.javanus* Kieffer *Kiefferulus barbatitarsus* (Kieffer) and *K.calligaster* (Kieffer). The morphometric analyses on the adult, pupa, larva and egg mass of the above noted species were carried out. Polytene chromosomes of each of the species have been used to frame a cytological key of the species as an additional clue for identification of the species. Processing for C-bandings have helped to construct the cytological maps of the polytene chromosomes of the species, which appeared to be useful in categorization of the species. The polytene chromosome of the following species *Chironomus circumdatus*, *C. stratipennis* Kieffer and *C. javanus* appear to belong to *pseudo-thummi* complex having the chromosomal combination BF, CD, AE and G. Four Polytene chromosomes in *C. circumdatus* showed the key features as slender first chromosome, broad highly active fourth chromosome and less intercalary distribution of constitutive heterochromatin. The key cytological features of *C.stratipennis* are compact as well as slender fourth chromosome associated with NOR, moderate activity of 1st and 2nd chromosome, high active status of 3rd chromosome and moderate response of the intercalary position of the chromosomes to C-banding. The main features of *C. javanus* are slender fourth chromosome lacking a NOR, first chromosome with highest activity level with a large Balbiani ring, second and fourth chromosome both having NOR with compact organisation and considerable amount of C-band terminal and intercalary chromatin material. *Kiefferulus barbatitarsis* fusion of three chromosome arms was noticed and represents a new complex i.e. duplex with arm combination AEG,BF and CD. Besides the fusion of three chromosome arms to produce a very large first chromosome. It includes presence of NOR in the first chromosome and third

chromosome with occasional terminal or intercalary asynapsis, lack of C-positive region in the intercalary positions in the chromosomes. In *K.calligaster* showed chromocentric organisation of the chromosome arms. Seven chromosome arms could be recognised as A,B,C,D,E,F and G. Presence of massive chromocenter, presence of NOR in the arm G and higher activity level of arm B and C distinguishes it from other *Kiefferulus* species.

#### Adjudicators

Prof. Odwin Hoffrichter, University of Freiburg, Germany.

Prof.A.L.Bhatia, University of Rajasthan, India.

Prof.R.N.Chatterjee, University of Calcutta, Calcutta.

#### Supervisors

Prof.P.K.Chaudhuri, University of Burdwan, Burdwan, India.

Prof.T.Midya, Presidency College, Calcutta.

Year of award: 2001

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### SYSTEMATICS AND BIOLOGY OF SOME CHIRONOMIDS MIDGE (DIPTERA: CHIRONOMIDAE) OF EAST-SIKKIM HIMALAYAS OF INDIA.

**Dr.Surendra K. Pradhan**

#### Abstract

The thesis includes systematics and biology of 34 species under 21 genera of Chironomids from the east Sikkim Himalayas of India. Life stages of 11 Indian species have also been put on record for the first time with biology of some aspects of four Orthoclad species have also been written in the thesis.

#### Adjudicators

Prof.Haruo Fukuhara, Niigata University, Igarashi, Japan.

Prof. M.Vikram Reddy, Kakatiya University, Andhra Pradesh, India.

Prof.Samiran Chakravorty, Kalyani University, Kalyani, India.

#### Supervisor

Prof.P.K.Chadhuri, The University of Burdwan, Burdwan, India.

Year of award: 2002.

## ***SHORT-COMMUNICATIONS***

### **Chironomidae exuviae**

#### **A key to pupal exuviae of the West Palaearctic Region**

Peter H. Langton & Henk Visser 2003

The updated key to pupal exuviae of the West Palaearctic region (Langton 1991) is now available in CD-ROM. This has been achieved with the collaboration of Henk Visser at the Biodiversity Centre of ETI at the University of Amsterdam as part of ETI's Interactive Identification System for the European Limnofauna (IISEL). All described West Palaearctic species are included with complete and up to date synonymy and distribution data. The key to nearly 1000 taxa and descriptions are illustrated by more than 1,500 drawings and the text is hyperlinked to a glossary of scientific terms. The disc requires Windows 95, 98 or ME, Pentium processor, 16MB RAM, 4x CD-ROM player, 16 bit colour monitor or Macintosh computer with PowerPC processor, MacOS 8.x or 9.x, 16MB RAM, 4x CD-ROM player, 16 bit colour monitor. See [www.eti.uva.nl](http://www.eti.uva.nl) for details of cost and supply.



## On the exuviae of *Cricotopus ephippium* (Zett.) and *polaris* (Kieffer)

Peter H. Langton

I have seen a number of *C. polaris* misidentified as *ephippium*. Some *polaris* exuviae have the anterior thorax quite rugose towards the suture, but they can be easily distinguished from *ephippium* by the armament of tergites III and IV extending past the anterior muscle marks into the antero-lateral corners; in *ephippium* the point patches are trapezoidal.

### Request for material

At the beginning of August I will start my PhD programme at Museum of Zoology, University of Bergen under the guidance of Prof. Ole A. Sæther and Ass. Prof. Trond Andersen. My theme for the thesis will be a revision of the subgenus *Pentapedilum* Kieffer of the genus *Polypedilum* Kieffer. I will appreciate a loan of reared or other associated material of *Pentapedilum*, but also of *Polypedilum* s. str. as *Pentapedilum* is likely not to be monophyletic.

The material can be sent either to me or to Ole A. Sæther at the Museum of Zoology in Bergen. I do not have an e-mail in Bergen as yet so any messages can be sent to Prof. Sæther (e-mail [ole.sather@zmb.uib.no](mailto:ole.sather@zmb.uib.no))

Thank you in advance

Emmanuel A. Oyewo  
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Norway

### News from India

Prof. P. K. Chaudhuri has been entrusted with the Co-ordinatorship of five centres working with the "TAXONOMY OF DIPTERA" funded by the Department of Environment & Forest, Govt. of India. under All India coordinated project of Insect Taxonomy (AICOPTAX) and the University of Burdwan has been marked as LEAD INSTITUTE. The part of chironomids is being investigated in the University of Burdwan under Prof. P.K. Chaudhuri (Principal Investigator) and Dr. Abhijit Mazumdar (Co-Principal Investigator).

Dr. Abhijit MAZUMDAR has joined a post of Reader in the Department of Zoology, University of Burdwan in September 2002. Dr. Mazumdar, an worker in Chironomids was a faculty member in Arunachal University (India) has resumed working in Chironomids in the state of Arunachal of the eastern Himalayas adjacent to China together with the material being gathered from the field surveys of the above project.

The chironomid midges (both dried and microslide-mounts) and the recent literature dealing with the above of the Afrotropical, Australasian, Palaearctic and the Oriental realms will thankfully be acknowledged.

Checklist on Indian chironomids is available at <http://www.ncbi.org.in/dit/>

### Ersatz techniques for rabid collectors

Peter H. Langton

I suppose that there are those chironomists that do not know of my use of neat Gin for preserving specimens when abroad. Air lines have no reservations about transporting a large bottle of duty free, but try taking a litre of isopropanol and you could find boarding the plane a trifle complicated! I prefer Gin for the olfactory ambience when sorting the specimens later, but I have used Vodka and White Rum equally successfully. For those who recoil in horror at the thought of using these chemicals for any purpose other than consumption, alternatives I have found adequate for the short term are mild, non-bleach disinfectants that do not turn white in water (e.g. Milton) or salt solution. The samples are sorted in much water and transferred to alcohol for storage or mounting.

Killing adults for dry mounting (rarely practised by chironomists these days) can also be a problem abroad, but painting the bottom of a champagne cork with nail varnish makes a very effective killing bottle when pushed into the top of a 3x1" glass specimen tube. It works well for much larger insects as well. Unaccompanied males could find this a novel introduction to the attractive lady at the next table!

One can feel strangely naked when deprived of one's collecting net, but all is not lost. Here are five tested solutions:-

1) Exuviae floating on the surface of a water butt or small pond, or fetched up on the strand of a lake or river can be scooped up in a handkerchief, which is then folded to enclose the catch. The exuviae can be floated off in water later and transferred to preservative. (In the absence of a handkerchief, I suppose any other dispensable article of clothing will do - be original!)

2) Leaves caught in a stream or at the outlet of a lake or pond can be transferred to a plastic bag, a sock (not woollen) or even an empty pocket. These leaf packs release exuviae, pupae and larvae when agitated in water.

3) Spiders' webs containing trapped adults can be detached from their supports and stored in any available receptacle (an empty crisp packet will do). When transferred to alcohol the web's adhesive dissolves and careful teasing apart of the adults provides specimens which tend to be in excellent condition with all appendages still attached

4) The Hoffrichter technique (I am indebted to Odwin for introducing this to me): swarms are swatted with the hand thoroughly moistened with saliva - the adhering adults are then transferred carefully with a finger tip to a similarly moistened container, to be washed out later with preservative.

5) At times and in places where the adults are roosting in brambles or other thorny vegetation, the modern 'beating tray' (umbrella held upside down) can be effective. It needs an accomplice to hold the umbrella and beat the bush above it with a stick. Poised with a pooter, there is much sport to be had trying to suck up the beasts before they fly off!

Finally, it may not be common knowledge that empty photographic film canisters make excellent containers for small collections as they are leak proof, light in weight and resist damage.

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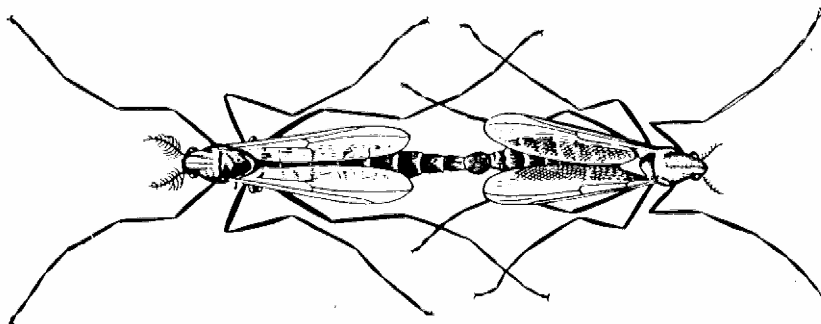
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**Deadline for CHIRONOMUS 17  
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Current Bibliography: 1 Jan. 2002 - 31 Dec. 2002

by Odwin Hoffrichter

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This listing is compiled, as usual, from many sources: databases, tables of contents of journals, references and citations of papers, autopsy of many periodicals, lists provided by authors (thanks to you!). As not all titles of a particular year can be reported the following year, the current titles are preceded by supplementary of the earlier year (2 years at most). Only printed titles are reported here. Online publications should be retrieved differently, in particular, check the chironomid home page for eventual references.

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Supplement to 2001 Current Bibliography:  
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