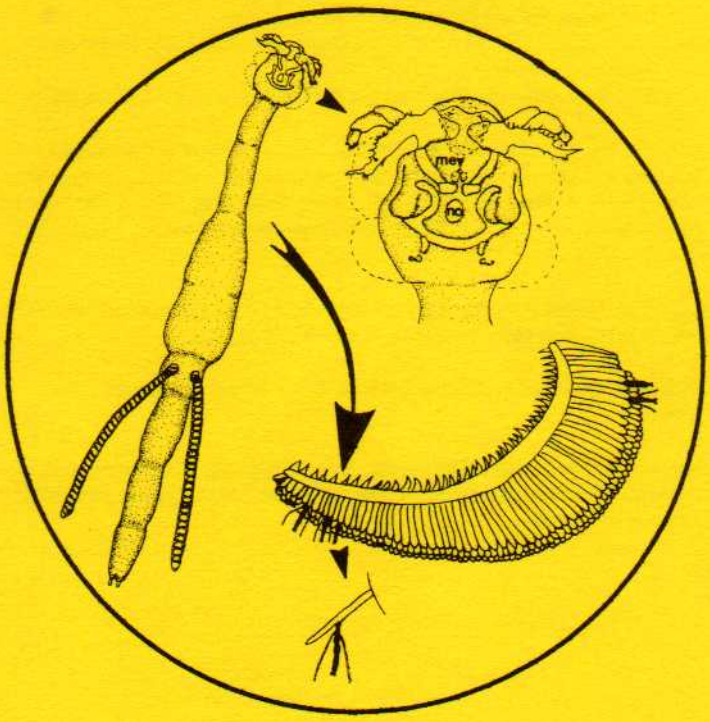
ISSN 0722-5741

MONOCULUS

Copepod Newsletter



Nr. 40

OCTOBER 2000

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Bibliotheks- und Informationssystem der Universität Oldenburg
North American Edition distributed by National Museums of Canada

MONOCULUS

Copepod Newsletter

Number 40 October 2000

Edited by: Hans-U. Dahms and H. Kurt Schminke, Fachbereich 7 (Biologie), Universität Oldenburg, D-26111 Oldenburg, Germany.
Produced by: Bibliotheks- und Informationssystem (BIS) der Universität Oldenburg, Ammerländer Heerstr. 67/99, D-26111 Oldenburg, Germany.
Distributed in Canada by: E.J. Maly, Concordia University, Biology Dept. 1455 de Maisonneuve Blvd. W, Quebec H3G IM8 Montreal, Canada.
Distributed in Europe and overseas by: H.-U. Dahms, Universität Oldenburg, Fachbereich Biologie, D-26111 Oldenburg, Germany.
Distributed in India by: M. Madhupratap, National Institute of Oceanography, Dona Paula, Goa 40 3004, India.
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The following colleagues are acknowledged for substantial help in providing literature sources: Anna F. Pasternak (Russia), Shin-ichi Uye (Japan), Chad Walter (U.S.A.).

This issue has been typed by: Herta Sauerbrey. Cartoons by M. Pottek (Fachbereich 7, Universität Oldenburg).

Cover: Redescription of *Lamproglena clariae* Fryer, 1956 (Copepoda, Lernaeidae), with notes on its occurrence and distribution (after Hazel M. Marx and Annemarie Avenant-Oldewage 1996. Crustaeana 69 (4): 509-523).

Birthdays in 2000:

75: Tagea Kristina Simon Björnberg

70:

Roger Cressey	Ai-yun Dai
Kenzo Furuhashi	Robert Hamond
Thomas L. Hopkins	Guy Lacroix
Bernard S. McAlice	Gloria Soares Moreira
T. Nemoto	Takashi Onbé
Elizabet Pavlova	Eve C. Southward

The MONOCULUS homepage is available from the www-server under:
http://www.hrz.uni-oldenburg.de/monoculus.
Deadline for the next issue of MONOCULUS: 30th September 2000.

EDITORIAL

This time the MONOCULUS editorial is written at the "Marine Biological Station Helgoland" (BAH) off the German coast while H.-U. D. is organizing a "Marine Biological Excursion" together with 24 life science students from the University of Oldenburg. I was thinking about the words I want to write during a short break the students are offering while pursueing projects of their own in the vast field of marine biology. Of cause, various aspects of marine life have to be tackled in nowadays biological excursions to the marine realm: system and oranismic biology of both, plants and animals, their life habits, and biogeography are only some of the aspects being considered in such a curriculum. However, as a copepod researcher interested in different aspects of freeliving benthic and pelagic copepods one is tempted to drag the students' interest to the "microcosmic world" of these small crustaceans. My experience with students shows that a major impediment to overcome is the small size - students have to use optical gear to be successful in proper identification and the observation of copepod life habits. For those who get used to binocular and microscope copepods then will offer a fascinating world of aquatic invertebrates with swimming or crawling locomotion, various modes of feeding performances, sensory biology and reproductive behaviour. Above all, they show a fantastic diversity of body as well as limb architecture and sometimes colourful display providing a rich source for morphological investigations. This way students learn that many different characters can be used for the analysis of the evolution and phylogenetic relationships of the Copepoda - which are certainly the most integrative disciplines of copepod research. Subsequently, some motivated students will foster a renaissance of systematic science which has begun already allover the world. This is certainly due to the increasing importance of "applied systematics", such as organismic records or community surveys in field ecology, natural conservation, environmental and natural resources assessement studies etc. Moreover, public opinion more and more considers the richness of organismic life as a natural heritage of cultural value. Especially so since mass extinction - this time man-made - due to exploitation, environmental deterioration and phenomena of global change is becoming a threat for biodiversity worldwide. This consequently is raising the need for diversity assessments and, hopefully, will create many new jobs for a coming generation of experts for certain groups of organisms - analysing their phylogeny, skilled in their identification, and knowledgeable in their biology, ecology and distribution.

Some sad news also - Helmut Kunz has passed away on the 30th April 2000, half a year before he would have reached his 90th anniversary this October.

A compilation of all WAC-member addresses is available upon request from Hans-U. Dahms. The MONOCULUS 39 spring issue has been transfered to the MONOCULUS homepage (http://www.hrz.uni-oldenburg.de/monoculus). We acknowledge in particular the contributions of J. A. Fornshell, Gary Poore and Teresa Radziejewska.

We are very thankful to Herta Sauerbrey, but also to Angelika Sievers and Hilde Juhl for substantial help with the text, and Mark Pottek for inventing neverending new variations of copepods cartoons.

As readers of the MONOCULUS newsletter, please don't hesitate to send us all information that you consider as interesting. Candidate members - without further notice - are requested to send a short biography.

For some time MONOCULUS has been gathering reprints in the MONOCULUS library. You will find these here under "LITERATURE" marked by an asterisk. Therefore, keep or put MONOCULUS as well as the WILSON LIBRARY on your mailing list.

IN MEMORIAM

Helmut Kunz

*** 25th October 1910 ✞ 30th April 2000**

Dr. Helmut Kunz passed away on the evening of the 30th April 2000 in his house in Bischmisheim (Germany) surrounded by his family, his wife Trude, 2 sons and their wifes, and 4 grandchildren. He was suffering from a longlasting inflamation of his liver he got already when being a soldier during the Second World War. Until his last days he was mentally active and providing most of his scientific friends, with a personal letter and a book-present from his archive.

Dr. Kunz was born on the 25th of October 1910 at Saarbrücken. He studied biology, geography, and chemistry in München, Göttingen, Halle and Kiel, where he passed his teacher examination in 1935, before finishing a pre-examination at the veterinary institute at the University of Munich. At the University of Kiel he became the scholar of the famous German zoologist Professor Adolf Remane, and studied copepods, mainly harpacticoids and cyclopoids for a Ph. D. thesis which he defended in 1937. Then he started a major ecological research project funded by the German Science Foundation located on the northfrisian island Amrum. This was suddenly interrupted by the Second World War. H. Kunz then had to serve in the "Wehrmacht" from the very beginning to the end of the war (1939-45), being heavily wounded near St. Petersburg where he had to stay in hospital for nine months. He should not be allowed to practice scientific research until 1949. The war left him physically and mentally exhausted as prisoner of war after more than four years in Russian captivity until 1948, when he was finally released.

Due to the lack of posts at the University of Kiel in those days, he accepted a job as a chemist at the coal mines "Saarbergwerke", which were under French administration near his Saarbrücken hometown. He married his wife Trude Herrmann in 1952 who is a botanist and a teacher of biology. But Helmut Kunz never turned his back to taxomomy and biology of copepods. Until his last days he was working on a revision of *Nitocrella* (Ameiridae, Harpacticoida). He was the first scientist I asked for help in identifying marine harpacticoids during my student times. Many other colleagues as well will never forget this helpful, friendly and knowledgeable man. No less than twelve Crustacean taxa are named after Helmut Kunz. Sad that he was not allowed to celebrate his 90th anniversary (that he would have had on the 25th October this year).

Hans-U. Dahms, Oldenburg

... ANNOUNCEMENTS ANNOUNCEMENTS ...

THE WORLD OF COPEPODA
http://www.nmnh.si.edu/iz/copepod/

The World of Copepoda website has been re-furbished and all the data have been updated as of 28 Jul 2000. There are now over 38.000 literature citations on copepods. The Taxonomy database is current for many of the species described in the first quarter of 2000. We have updated the researcher database, but still lack e-mail addresses for many copepod researchers.

There is a new database at this site on the genera of copepods, which provides all the known genera including the author of the genus, data described, family, order and synonym if it is an invalid genus. Copepod researchers are encouraged to visit the site and see what information is available. We welcome all comments, criticism, and needed corrections or additions of data.

T. Chad Walter
Smithsonian Institution
MRC-163
Washington, DC 20560-0163

phone 202-786-2126
fax 202-357-3043
WALTER.CHAD@NMNH.SI.EDU

... CONFERENCES ...

MELBOURNE VICTORIA AUSTRALIA
invites all carcinologists to the
FIFTH INTERNATIONAL CRUSTACEAN CONGRESS
and
'SUMMER' 2001 MEETING OF THE CRUSTACEAN SOCIETY
9-13 July 2001
University Melbourne

Dear Colleagues
In Amsterdam in July 1998 at The Fourth International Crustacean Congress I invited the 500 carcinologists present to come to Melbourne in three years time to meet again. Half of the three years interval has passed already and it is time to call expressions of interest, actually *more* expressions of interest as many individuals have indicated they are already planning a visit down-under.
This congress follows four others, the first in Ernakulam, India in 1965, second in Sydney, Australia in 1980, third in Brisbane, Australia in 1990, and the last in Amsterdam, The Netherlands, in 1998. The congresses are becoming more frequent but this is matched by the increasing interest in crustacean biology.
The theme of The Fourth International Crustacean Congress was "Crustacea and the Biodiversity Crisis." Perhaps there is still a crisis but no theme is being specified this time. We invite contributions in all areas of crustacean evolution, biology, fisheries and culture. Already several individuals have contributed ideas for symposia and offered to coordinate speakers. Get in touch with the convenors to offer your paper. More contributions along these lines are welcome.
A week has been scheduled for the meeting, enough time to share ideas, meet colleagues and explore parts of Melbourne. In the week before or after I invite you to visit the rest of Victoria or Australia - but do not attempt it all. Australia is a big country! Visit the website linked to this one to discover more about Melbourne, the state of Victoria, and Australia.
The Congress will incorporate the annual 'Summer' meeting of The Crustacean Society. Remember it will be winter in Australia in July, but hopefully the weather and temperatures will be no worse than a European summer. It may rain, it could be as warm as 15° C but it will not snow! I urge you to think early about coming to Australia. It may be on the other side of the Earth from you and although flights are frequent many cheap fares go early. Be sure to be thinking about booking seats six months in advance.
Between now and July 2001 the Congress website will be updated at frequent intervals. I invite you to register an interest in the congress.
Conference website: **http://www.unihouse.org.au/ICC5**

Gary Poore, Melbourne

ELIMCO Planned for Boston, USA, JULY 16-20, 2001

The Eleventh International Meiofauna Conference "ELIMCO" will be held July 16 - July 20, 2001. The meeting will held on the campus of Boston University (BU). BU is a good location, right on Back Bay, on a trolley line, close to downtown Boston, three miles from Logan International Airport, and can be reached by subway <http://www.bu.edu>.

The conference organizing committee is headed by Paul Montagna paul@utmsi.utexas.edu, who will organize the overall schedule and oversea registration. The program and program booklet will be produced by John Fleeger zoflee@lsu.edu. The logo and t-shirts will be produced by Joan Bernhard jmbernha@sophe.sph.sc.edu and one of her students. Keith Walters kwalt@mtsu.edu will update the IAM website with conference information and facilitate abstract submission and registration over the website http://www.mtsu.edu/meio/meeting.html. Please feel free to contact any member of the organizing committee if you have suggestions, or want to volunteer to help organizing the conference.

The conference theme will be "Meiofauna Studies for the New Millenium". The meeting will solicit oral and poster presentations. Session on the following topics are expected:

ecotoxicology, experimental models in population and community ecology, microbial food webs, and biotic and environment interactions. Suggestions for further topics should be addressed to John Fleeger.

A special session on meiofaunal diversity is planned to estimate how many species of meiofauna exist. This session will help to hightlight the great diversity of meiofaunal taxa, to help promote meiobenthology in biodiversity studies. So far, speakers have agreed to present papers on harpacticoids (Rony Huys and Sophie Conroy-Dalton), ostracods (C. Annapurna), nematodes (John Lamdshead), and protozoa (David Patterson), and freshwater meiofauna (Jenny Schmidt Araya). There is a desperate need for participation by turbellarian, oligochaete or other "worm" specialists. Most of the "lesser known" taxa are not represented either. So, if you would like to participate please contact Paul Montagna.

The schedule will be similar to past conferences. There will be a welcome reception Sunday evening, opening session Monday morning, a poster session/reception Tuesday afternoon, a free day Wednesday, oral sessions Thursday and Friday, and a conference close out banquet on Friday evening. To participate in all events, you should arrive Sunday and depart Saturday.

Final costs (US$ only) for the conference are not available, but it is estimated they will be very reasonable. Registration will be around $ 250. Dorm rooms will be about $ 50 per night. A breakfast and lunch meal plan will be offered for about $ 14 per day. Parking is available for about $ 7 per day. The next announcement will detail exact prices and other registration information. You will be required to pay for room, meals, and registration in advance, by April 1, 2001.

The executive committee has decided to offer three Swedmark Travel awards. The awards are made possible because of the income from raffles at the two previous meetings. The awards will cover the registration fee. Another raffle of meiofaunal memorabilia is planned to benefit the Swedmark fund. Instructions on who is eligible and how to apply for the award will be in the next newsletter.

... ACTIVITIES ACTIVITIES ACTIVITIES ...

Census of Marine Life

The Census of Marine Life has begun in earnst with 8 projects recently funded that contribute to the development of electronic system development, and data compilation; all part of the Ocean Biogeographical Information System (OBIS). While the programme is dominated by USA groups, 2 projects (fish, molluscs) include the Paris Museum, one the Swedish museum, and taxonomists in Frankfurt, Marseille, and Banyuls and Villefranche-sur-mer laboratories are involved in a project on Zooplankton.

For details of the projects see www.nopp.org, of CoML see **www.coml.org**

... REPORT REPORT REPORT ...

9th Deep-Sea Biology Symposium, Galway, Ireland

The 9th Deep-Sea Biology Symposium, organized by Dr. John Patching and his crew of the Marine Microbiology group at the Martin Ryan Marine Science Institute, was held within 25-30 June, 2000 at the National University of Ireland in Galway, Ireland. The Symposium was extremely interesting and tightly packed with presentations and events. I am pleased to report that the meiofaunal research was fairly well represented, as a number of papers and posters dealing directly or indirectly with deep-sea meiobenthos were presented. Among the oral contributions of interest to IAM members were (listed in order of presentation):

"Responses of the main components of the sediment community to trophic changes at the Porcupine Abyssal Plain" (J. Galeron, A. Vangriesheim, M. Sibuet, A. Vanresusel, K. L. Mackenzie, A.J. Gooday, G.A. Wolff).
"How similar are nematode communities from diverse bathyal sites" (A. Vanreusel, A. Muthumbi, S. Vanhove, M. Vincx).
"Genus-level biodiversity of deep-sea meiobenthic nematodes and harpacticoid copepods: a Clarion-Clipperton Fracture Zone (NE Pacific) example" (T. Radziejewska, V.V. Galtsova, I. Drzycimski, L. Kulangieva, V. Stoyanova).
"Monterey Bay meiofauna: quantitative estimates along a depth gradient" (K.R. Buck).
"Trends in the taxonomic composition of deep-sea benthic Foraminifera with increasing bathymetric depth" (J.A. Hughes, A.J. Gooday, J.W. Murray)
"Benthic Foraminifera along an offshore-fjord gradient: a comparison with amphipods and molluscs" (D. Klitgaard-Kristense, L. Buhl-Mortensen)
"Sessile suspension feeders as a source of habitat heterogeneity - a hint from the Arctic deep-sea meiofauna" (K. Vopel, T. Soltwedel)
"Smallest benthic biota under the perennial ice coverage of the central Arctic Ocean" (I. Schewe, T. Soltwedel)
"Nematode community structure at the Arabian Sea Oxygen Minimum Zone" (A.A. Cook, P.J.D. Lambshead, L. E. Hawkins, N. Mitchell, L. Levin).

"The Trans Mediterranean Cruise (June 1999) of the MTP II project MATER. Major objectives and preliminary results from the deep benthic environment of the Mediterranean Sea" (A. Tselepides, N. Lampadariou, T. Polychronaki, E. Hatziyiyanni).
"Metazoan meiobenthos responses to sedimentation events in the deep northwestern Mediterranean" (L. Guidi-Guilvard, J.-C. Miquel, A. Khripounoff).

The Symposium programme can still be viewed at http:www.marinemicro.nuigalway.ie, while the book of abstracts can be purchased from Dr. John Patching at Marine Microbiology Section, Marti Ryan Institute, NUI, Galway, Ireland at £ 8.

Teresa Radziejewska
(Szczecin)

... LETTERS LETTERS LETTERS ...

POINT OF VIEW
The Impending Extinction of Natural History
by DAVID S. WILCOVE and THOMAS EISNER

Imagine you are a naturalist with a liking for insects. You are interested in how insects make a living, in how they are fit for survival. You marvel at how protected they are as adults, when they are able to fly. And you think of how helpless they are as eggs and pupae, when they are stuck in place, unable to take evasive action. True, pupae are sometimes enclosed in protective cocoons, or hidden in dugouts in the soil, but some live out in the open, where they are exposed to a world of predators. How, for instance, do the pupae of ladybird beetles (family Coccinellidae) manage to survive? They are typically affixed to stems or leaves, where one would imagine they don't stand a chance against ants. Might they have special weaponry? You look closely and find that they do. They have what are essentially biting devices, in the form of clefts along the backs of their abdomens that they can open and close and use to snap at ants that come too close.
As a naturalist with a Darwinian bent, you wonder whether such snapping devices are present in every ladybird-beetle pupa or whether, in the best evolutionary tradition, different ladybird species have come to possess variants of this defense. You look at different species and find that, yes indeed, the beetles of one genus, Epilachna, which includes among others the Mexican bean beetle and the squash beetle, have evolved a remarkable alternative defense. Instead of the pinching devices, Epilachna pupae have a dense covering of tiny glandular hairs, the secretion of which forms a potent deterrent to ants.

You get in touch with chemists, whom you provide with a sample of the secretion, and in due course you find out that you have stumbled upon a unique group of chemicals. The substances include some fascinating new ring structures of enormous size -- so novel, in fact, that the paper you eventually write on the secretion with your colleague chemists attracts wide attention.

The discovery may look serendipitous, but it was not. It was driven by rational inference from pure, old-fashioned natural history, the close observation of organisms -- their origins, their evolution, their behavior, and their relationships with other species. That kind of close,

scrupulous observation of nature has a long and illustrious history, but it is now sliding into oblivion.

The scenario we describe actually happened to one of us (Thomas Eisner). The impending extinction of natural history is very real as well. In schools and universities, in government agencies and research foundations, natural history has fallen out of favor. What was once considered a noble field of inquiry -- no less a figure than Charles Darwin proudly called himself a natural historian -- is now viewed as a relict discipline, a holdover from the era of Victorian cabinets and private butterfly collections. A knowledge of, or even an avowed interest in, natural history is no longer a prerequisite for admission to a graduate program in ecology or any other branch of biology. Financial support for basic natural-history research has all but evaporated. Even the field trip, long a staple of science education from the primary grades through graduate school, has become increasingly uncommon.

This deinstitutionalization of natural history looms as one of the biggest scientific mistakes of our time, perpetrated by the very scientists and institutions that depend upon natural history for their well-being. What's at stake is the continued vibrancy of ecology, of animal behavior and botany, of much of molecular biology, and even of medicine and biotechnology. A knowledge of natural history enables the professional ecologist to see functional relationships in nature, to uncover the broader patterns that lead to critical scientific advances. Natural history also provides the "nuts and bolts" information necessary for managing wildlife and other natural resources. As the president of the Society for Conservation Biology recently lamented, "How can we possibly construct ... a successful recovery plan for an endangered bird when we lack basic information on such things as what it eats, where it nests, and so on?" For the molecular biologist, natural history is often the path to finding something truly strange and wonderful, like the elaborate chemicals that protect the pupae of certain ladybird beetles. Even the search for new medicines can benefit from natural history. Was it not in his capacity as a natural historian that Alexander Fleming saw significance in the observation of a zone of bacterial inhibition around a Penicillium mold growing in a petri dish, a discovery that launched the era of antibiotics?

Perhaps the strongest argument in support of natural history is simply the magnitude of our current ignorance about nature. To date, scientists have discovered and described approximately 1.5 million species. That tally represents only a small fraction of the total number, perhaps less than a tenth. Even in the United States, where approximately 200,000 species (terrestrial, freshwater, and marine) have been described to date, an additional 100,000 to 400,000 may await discovery. And only a tiny fraction of the described species have been studied in any detail. Given how little we know about nature, it hardly makes sense to discourage its further exploration.

Several factors have contributed to the demise of natural history. As any field of scientific inquiry matures, it has a tendency to become more theoretical. Previously unconnected observations are brought together under the mantle of a set of unifying principles. Scientists who contribute to that body of theory emerge as the leaders in the field; they are the ones who are hired by research universities, who receive tenure, and who then encourage their graduate students to follow in their footsteps. (This is not to say that one cannot be both a first-rate natural historian and a first-rate theoretician, but such individuals are the exception rather than the rule. Most scientists tend to be strong in one or the other.) No one can blame the universities for wanting to hire the rising stars in each discipline, but with respect to the natural sciences, the practice has led to an unanticipated but regrettable result:

The traditional natural historian has been pushed to the margins of academe. Moreover, the institutions that finance scientific research, be they governmental or private, are drawn to the leaders in any given field and may wrongly assume that the natural historian has comparatively little to contribute. Unable to obtain support for their research, the natural historians drop even lower in the academic pecking order.

At universities, the key to reversing the situation lies in hiring (and eventually granting tenure to) scientists with an abiding affection for natural history. Unfortunately, a Catch-22 applies here. Administrators and senior professors who are uninterested in or even hostile to natural history are not likely to value it when judging candidates for junior faculty positions. And without access to entry-level positions, a new generation of natural historians will never emerge to become tomorrow's administrators and senior faculty members. The institutions that pay for research, however, could assume a leadership role in rescuing natural history. Were more money available for basic natural-history studies, we are convinced that more graduate students and faculty members would incorporate natural history into their researching and teaching.

An even more fundamental step would be to reinstate natural-history studies in elementary and secondary schools. Most children are fascinated by plants and animals -- from dandelions to dinosaurs. That seemingly innate interest, if nurtured by adults, can become a lifelong joy or even the path to a career. Untended, it usually atrophies as a child grows older. For the price of a stereo microscope, now less than $250, a science teacher can turn a pinch of soil into a bustling world of springtails, oribatid mites, and nematodes, creatures as bizarre and engaging as anything to appear in a Star Wars movie.

The current push to connect every classroom in America to the Internet demonstrates how quickly elected leaders and the public can be galvanized to address what is rightly perceived to be a critical educational need.
Meanwhile, the demise of natural history goes unnoticed, increasing the likelihood that future generations of schoolchildren will spend even more time indoors, clicking away on their plastic mice, happily viewing images of the very plants and animals they could be finding in the woods, streams, and meadows they no longer visit.

David S. Wilcove is senior ecologist at Environmental Defense. Thomas Eisner is Schurman Professor of Chemical Ecology at Cornell University.

http://chronicle.com
Section: The Chronicle Review
Page: B24

... OFFERS OFFERS OFFERS ...

- FOR SALE -

Those interested in any of these titles should contact Dr.Corneliu Plesa at the mail address below: Str.Gh.Dima 28/27, 3400 Cluj-Napoca 6, Romania or e-mail plesa@mail.excite.com (or) plesa@personal.ro

C.L. HERRICK and C.H.TURNER, Synopsis of the Entomostraca of Minnesota with description of related species comprising all known forms from the United States included in the orders. Saint Paul, Minnesota, November 1895.

WILLEM VERVOORT, Free-living Copepoda from Ifaluk Atoll in the Caroline Islands. Smiths. Inst. USNM, Washington, D.C.,1964

R.B. SEYMOUR SEWELL, The littoral and semi-parasitic Cyclopoida, the Monstrilloida and Notodelphyoida (in) The John Murray Expedition 1933-34, Sci.Rep. Vol.IX, No.2, 1949.

WILHELM LILLJEBORG, Synopsis specierum hus usque in Suecia observatarum generis CYCLOPIS. Kungl. Sv.Vetensk.-Akad.Handl., Bd.35, No.4, Stockholm, 1901.

W.A. JASCHNOV, Crustacea von Nowaja Zemlja Moskva, 1925 (in russian and german !)

- REPRINTS -

After over 25 years in the field of meiofauna, microbiology and phytoplankton, I will hang my labcoat on the nail and retire in June 2001. during my active years, I have accumulate numerous reprints, many of which may now be considered literature classics and difficult to obtain again. Before these treasures end in the paper shredder or in some dusty boxes never to be seen again, I would like to offer them to any interested students, colleagues, institutes or libraries. Unfortunately a list of the literature is not available. Requests may be sent to:

Dr. Marianne Kirchner (née Rieper)
Biologische Anstalt Helgoland
Stiftung Alfred-Wegener-Institut für Polar- und Meeresforschung
D-27498 Helgoland, Germany
Fax (+49) 4725 819 283
e-mail: mkirchner@awi-bremerhaven.de

... LITERATURE LITERATURE LITERATURE ...

(Sources marked by an asterisk* have been donated to the MONOCULUS library)

1994

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... CANDIDATE MEMBER ...

DIPPENAAR, S. M.
University of North
Department of Zoology & Biology
Private Bag X1106
Sovenga 0727
SOUTH AFRICA
Tel: +27 15 2683112
Fax: +27 15 2682303

... CHANGE OF ADDRESS ...

DUTZ, Jörg
Nioz
P.O. Box 59
1790 AB den Burg, Texel
THE NETHERLANDS
E-mail: jdutz@nioz.nl
Phone: ++31-222-369-509

ESKINAZI, Eneida
Sant 'Anna
R. Contria, 1463/303
Grajau-Belo Horizonte
MG-Brazil
30430-460

GAVIRIA, Santiago, (Dr.)
University of Vienna
Institute of Ecology and Conservation Biology
Department of Limnology
Althanstraße 14
A-1090 Vienna
AUSTRIA
E-mail: Santiago.gaviria@univie.ac.at

KAMAUCHI, Hiromitsu
Graduate School of Environmental Earth Science
Hokkaido University
kita10-nisi5, Kita-ku
Sapporo 060-0810
JAPAN
phone and fax: 011-706-2245
e-mail: kamacho@ees.hokudai.ac.jp

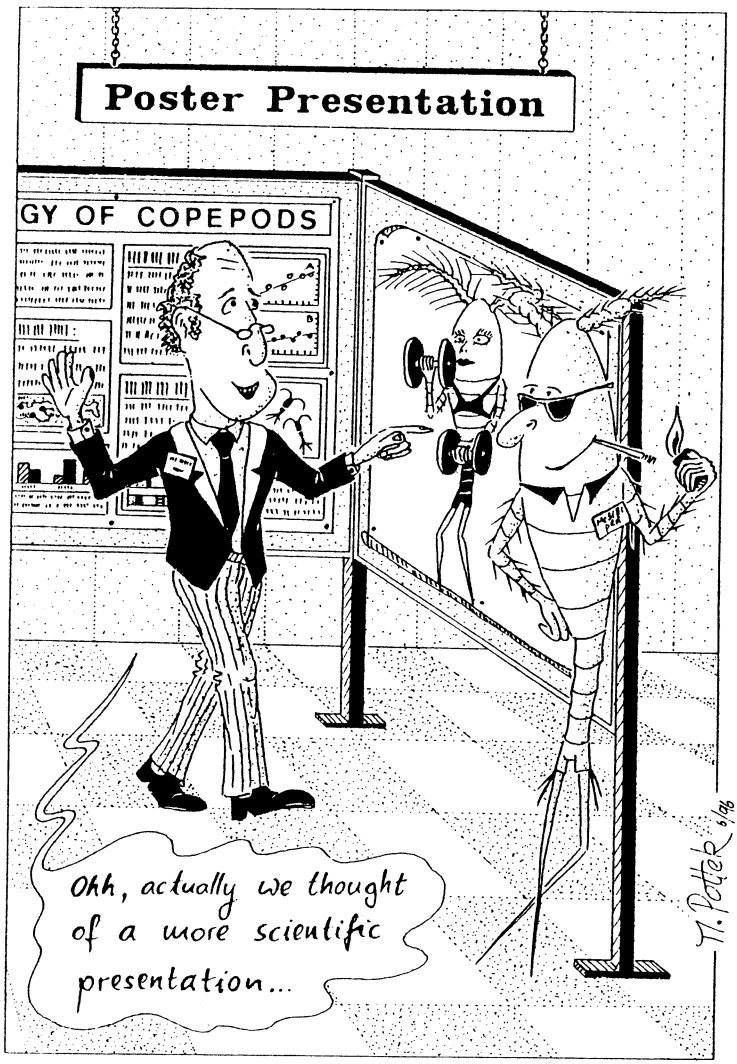
KARAYTUG, Suphan, (Dr.)
Balikesir Universitesi
Fen-Edebiyat Fakultesi
Biyoloji Bolumu 10100 Balikesir
TURKEY
Tel.: +90 266 2493358-59
Fax: +90 266 2456366
E-mail: suphank@balikesir.edu.tr

LEE, Wonchoel, (Dr.)
Marine Science Institute
University of Texas at Austin
750 Channel view drive
Port Aransas, Texas 78373
U.S.A
Tel. 361-749-6717
Fax: 361-749-6777
E-mail: wlee@utmsi.utexas.edu

LOTUFO, Guilherme, R.
Universidade de Sao Paulo
Departamento de Zoologia,
Inst. Biociencias
Caixa Postal 11461
Sao Paulo, SP, 05422-970
BRAZIL
E-mail: lotufog@yahoo.com

MONCHENKO, V.I.
Schmalhausen Institute of Zoology
B. Khmelnitsky Str. 15
01601, Kiev
UKRAINE
E-mail: dovgal@dovgal.kiev.ua
Phone: (380-44) 224-3237
Fax: (380-44) 224-1569

RAYNER, N. A., (Dr.)
Zoology Dept.
School of Life and Environmental Sciences
University of Durban-Westville
P. Bag X54001
Durban 4000
SOUTH AFRICA
Tel.: (H): 27-31-7645315
Cell: 083 2537040
Fax: 27-31-2044790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Updated March, 1997