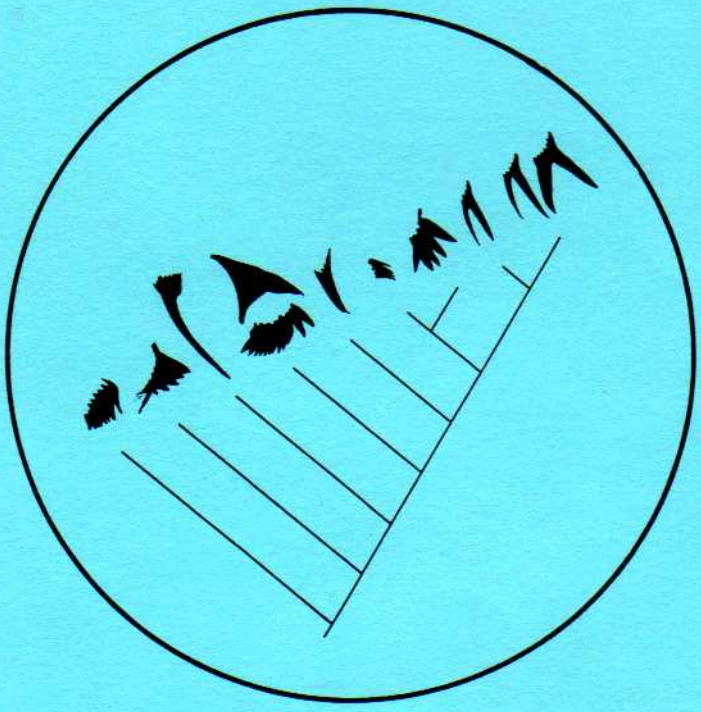
ISSN 0722-5741

MONOCULUS

Copepod Newsletter



Nr. 36

OCTOBER 1998

Bibliotheks- und Informationssystem der Universität Oldenburg

North American Edition distributed by National Museums of Canada

MONOCULUS

Copepod Newsletter

Number 36 October 1998

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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.
Distributed in Japan by: S.-i. Uye, Hiroshima University, Faculty of Applied Biological Science, 4-4 Kagaeniyama 1-chome, 724 Higashi-Hiroshima, Japan.
Distributed in the U.S. by: Frank D. Ferrari, National Museum of Natural History, Smithsonian Institution, Department of Invertebrate Zoology, MRC 534, Washington D.C. 20560, U.S.A.

The following colleagues are acknowledged for substantial help in providing literature sources: Sophie Conroy-Dalton (United Kingdom), Adrianna Ianora (Italy), Anna F. Pasternak (Russia), Shin-ichi Uye (Japan), Chad Walter (U.S.A.).

This issue has been typed by: Herta Sauerbrey. Brigitte Hülsmann was responsible for some of the editing. Cover as well as cartoons by Mark Pottek (Fachbereich 7, Universität Oldenburg).

Cover: Cladogram of *Euchirella* with character (sub) states of spines on P4Ba1 plotted on phylogenetic scheme, with *Gaetanus miles* Giesbrecht, 1888, taken as outgroup (after von Vaupel Klein, 1998. Journal of Crustacean Biology 18 (1): 153-160).

Birthdays in 1998:

70
Sigeo Gamô
Gotram Uhlig
Desmond Eugene Hurley

75
Bruno Battaglia
Gayle A. Heron
Yoshifumi Miura
M.P. Rangnekar

Deadline for the next issue of MONOCULUS: 31st March 1999

EDITORIAL

The autumn issue of MONOCULUS let us think back to the most important events of this year. Everybody of us will have had his own highlights in scientific meetings. Of central relevance for the WAC community was certainly the International Workshop on "New Methods in Copepod Taxonomy" held in St. Petersburg in May - a more detailed account is given in this issue of MONOCULUS. There was the "Fourth International Crustacean Congress" held in Amsterdam in July with many interesting topics on Copepoda, in particular a "Workshop on Sealice Biology" within this conference. Also in July, there was the "Tenth International Meiofauna Conference" in Plymouth with several contributions on Copepoda - a more detailed account of this will follow hereafter.

Next year we will have the "Seventh International Conference on Copepoda" in Curitiba - Brazil. This has got a quite detailed and interesting shape already.

The "Proceedings" of the last copepod conference in Oldenburg have been available in the libraries for a couple of weeks already. This accommodates a number of outstanding contributions enhancing our knowledge of copepod biology in various fields. Horst Kurt Schminke in particular had a good share in its success: *e.g.*, by asking several invited speakers to provide manuscripts of their plenary talks, rewriting the text of colleagues with limited skills in English, insisting on the suggestions of the referees etc. However, we have not got the volumes we ordered for all paying participants as yet - this is a question of days now as we were assured. But it may take a couple of weeks until they will get shipped to your place - we want to apologize for this! You can find the abstracts of the separate contributions free on the www under: >http://www.elsevier.nl/locate/jmarsys<.

The creation of a "Copepoda-list" - you will find details below in the text - provides a new electronic forum for swift and multilateral exchange of information which will enhance knowledge, collaboration and ties - not only - among copepodologists.

Kuni Hulsemann after her retirement felt that her remarkable collection of scientific reprints should be curated by a group of experts, who will use, catalogue and key-word them in a way that future generations of copepodologists will have proper access to this unique collection of papers. She donated this to the MONOCULUS Library. We can only hope that this generous gesture will be followed by others. In any case, please, send one copy of your reprints to the MONOCULUS Library (Oldenburg) and do remember the Wilson Library as well.

In view of the fact that about 350 colleagues are receiving the MONOCULUS newsletter, much more active participation would be desirable. Please, don't hesitate to send us all information that you consider interesting. Candidate members are requested to send their biography.

A main failure occurred not mentioning Dr. Jack Greenwood in the current list of WAC-Officers. Jack is a member of the Executive Council of the WAC since 1990.

Mailing

Looking at your address label you will find some additional information. This is to remind you of your status in relation to WAC and when to pay the next dues:

89-98 = WAC member, dues paid including printed year
W = Membership dues waived
NM = New member, no dues paid
NM98 = New member, dues paid including 98
CM = Candidate member, no dues paid
CM98 = Candidate member, dues paid including 98

OBITUARIES

Helmut Kukert
1963-1998

On the 25th of March Helmut Kukert from the "Alfred Wegener Institute for Polar and Marine Research" (AWI/Bremerhaven) passed away. Dr. Kukert began his studies of biology in Tübingen and changed after his "Vordiplom" in 1985 to the University of Kiel where he studied Marine Science as a major. From 1986 to 1989 he studied at the "School of Oceanography at the University of Washington, Seattle". There he got his Masters in Biological Oceanography with a thesis entitled "In situ experiments on the response of deep-sea macrofauna to burial disturbance". Thereafter he started his Ph. D. work at the University of Hawaii on the topic "Vent fauna on whale remains". Since November 1992 he worked at the section "Biologische Meereskunde" at the AWI. He studied buoyancy mechanisms of pelagic diatoms, and later carried out isotope fractionation experiments with marine phytoplankton.
All colleagues in - and outside the institute remember him as a helpful colleague and an enthusiastic scientist.

Publications

Allsion, P. A., C. R. Smith, H. Kukert, J. W. Deming, and Bennett, B. A. (1991). Deep-water taphonomy of vertebrate carcasses: A whale skeleton in the bathyal Santa Catalina Basin. Palaeobiology, 17 (1), 78-89

Gleitz, M., Kukert, H., Riebesell, U. and Dieckmann, G.S. (1996). Carbon acquisition and growth of Antarctic sea ice diatoms in closed bottle incubations. Marine Ecology Progress Series: 135, 169-177

Kukert, H. and Smith, C. R. (1992). Disturbance, colonization and succession in a deep-sea sediment community: artificial-mound experiments. Deep-Sea Research 39 (7/8), 1349-1371

Kukert, H. and Riebesell, U. (in press). Phytoplankton carbon isotope fractionation during a spring bloom in a Norwegian fjord. Marine Ecology Progress Series

Smith, C.R. and Kukert, H. (1996). Macrobenthic community structure, secondary production and rates of bioturbation and sedimentation at the Kane'ohe Bay Lagoon floor. Pacific Science 50, 211-229

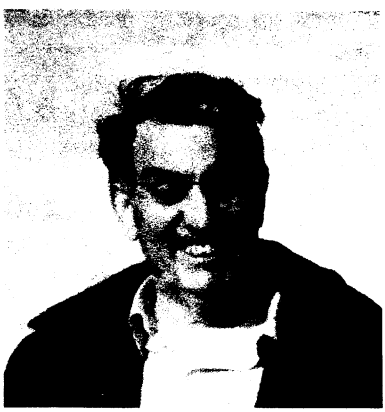
Smith, C.R., H. Kukert, R.A. Wheatcroft, P. A. Jumars and Deming, J. W. (1989). Vent fauna on whale remains. Nature 341, 27-28

Ulf Riebesell

Paul Louis Illg

(1914-1998)

On 10 May 1998, Paul L. Illg, Professor of Zoology at the University of Washington, passed away at his home in Seattle after a long illness. His many friends, students, and colleagues are grateful for his life of enthusiasm, counsel, and thoughtful contributions. "Papa" Illg to his lucky students, he imparted endless gems of information from an immense storehouse of knowledge, covering especially the whole of invertebrate zoology, native flora and fauna, and, of course, Copepoda. His numerous correspondents, young and old alike, received long letters fully focused on their concerns, conveying the certainty that they and their work were the most interesting in all the world.



Illg was born in Pinole, California, northeast of San Francisco, on 23 September 1914. An early interest in nature directed him to the Zoology Department of the University of California at Berkely where, between 1931 and 1936, he earned a BA, followed by an MA in 1941. His path there was most influenced by Professor Sol Felty Light (1886-1947), invertebrate zoologist and copepodologist, for whom he was a research assistant from 1940 to 1943. Illg was encouraged as well by fellow student Mildred Stratton Wilson (1909-1973). Illg therefore, through Light and Light's professor Charles Atwood Kofoid (1865-1947), continued the direct academic line from Rudolf Leuckart (1823-1898, University of Leipzig) to Edward Laurens Mark (1847-1946, Harvard University) to Kofoid. Another University of California professor having significant and long influence was Richard Benedikt Goldschmidt (1878-1958). At the University, Illg met his wife to be, Ruth, an illustrator for researchers in the Zoology Department. He remained at the University pursuing graduate studies until 1944, when he worked at a private research laboratory and taught at San Francisco Junior College until 1947.

In 1947, Illg joined the staff of the U.S. National Museum in Washington D.C. as an associate curator for marine invertebrates. There he had extraordinary opportunities with collections, literature, and affiliations with systematists. He completed his graduate studies in a cooperative program with the Smithsonian Institution and George Washington University, earning his Ph.D. in 1952. Foremost among his faculty advisors were Waldo LaSalle Schmitt (1887-1977) and Fenner Albert Chace (1908- ?), who were lifelong friends as well as

colleagues. This academic line stemmed from Louis Agassiz (1807-1873) through Richard Rathbun (1852-1918) and William Keith Brooks (1848-1908) to Charles Branch Wilson (1961-1941), Schmitt, and Chace.

In February 1952, Illg accepted an assistant professor position at the University of Washington. He advanced rapidly to full professor from which he retired in 1982. During that time he was an essential member of a faculty that made the University of Washington and its Friday Harbor Laboratories world-famous in invertebrate zoology and marine biology.

Illg had numerous successful students of various branches of zoology; his well-known doctoral students investigating the natural history and life histories of copepods were Patricia L. Dudley, Wolf Henner Fahrenbach, Richard U. Gooding, and Tai Soo Park.

Widely traveled, Illg took advantage of these occasions to meet and work with foreign scientists. He had sabbatical years in Hawaii (1958/9) and France (1977/8) and spent teaching years at Woods Hole (1969), Bamfield, B.C. (1976), and Palau (1983), in addition to shorter research trips to Japan and Tunesia. Of copepodologists who remained close and lifelong friends, I recall Thomas Bowman, Clifford Carl, Claude Delamare-Deboutteville, Gayle Heron, Lipke Holthuis, Arthur Humes, Trevor Kincaid, Eugene Kozloff, George and Nettie MacGinitie, Sheina Marshall, Claude Monniot, Sigeru Motoda, Makoto Omori, Shigeko Ooishi, Sueo Shiino, Jan Stock, Takasi Tokioka, and Mildred Wilson.

After an early and disheartening study of freshwater cyclopoids of California, Illg turned to the copepods parasitic on fish, and then found his life-work in the copepod associates of molluscs, worms, and (especially) tunicates. His model studies of natural history, morphology, and zoogeography yielded several monographs and classic papers. These were vital contributions to our field, emphasizing in particular the systematics of groups at the genus and family levels. Illg focused on the range and significance of variability in his subjects, preparing a reliable foundation for embryological, physiological, ecological, and fisheries applications to follow.

Illg was a member of several professional groups, including the Society of Systematic Zoology, American Microscopical Society, Marine Biological Association of the UK, World Association of Copepodologists, Crustacean Society, and Biological Society of Washington. He was also a Correspondent of the Museum National d'Histoire Naturelle de Paris.

Dr. Illg was an interdepartmental advisor for my early graduate studies and we had an unforgettable 40-year conversation about the history of the study of copepods and the finest literature from our field.

David M. Damkaer. [photo by G.A. Heron, 1973]

Paul Illg

University of Washington Emeritus Professor of Zoology Paul Illg died on May 10, 1998 at the age of 83. He was a notable scholar of invertebrate zoology, and a life-long worker on parasitic copepods. A Californian native, he came under the tutelage in the 1930s at the University of California at Berkeley of the legendary professor S. F. Light (for whom Light's Manual is named, and to which Paul contributed the copepod (free-living and parasitic) chapter for the Third Edition in 1975). From 1947 to 1952 he was Associate Curator of Crustacea at the Smithsonian Institution, during which time he also earned his Ph. D. at George Washington University. He was a member of the UW faculty since 1952, and taught for many years at the Friday Harbor Laboratories on San Juan Island, where he also maintained a beach home.

According to the Seattle Times of 16 May, after retired in 1983, "he taught marine biology in eastern Micronesia. He considered teaching native people the relationships between reef plant and animals one of his most rewarding experiences". One of his many life-long interests was art, and he collected both Asian and Native American works. His survivors include his wife of 51 years, Ruth, his son Joseph Illg of Seattle, and his daughters Elizabeth

Illg of Friday Harbor and Maliki Tara of Maui, Hawaiian Islands. A memorial gathering will be held August 8 on Illg Beach at Friday Harbor.

In a letter that Paul wrote to me on February 4, 1998, he expressed his regrets at not being able to participate in contributing to the Fourth Edition of Light's (now The Light and Smith) Manual. As always, it was a kind, thougtful, and gentlemanly letter.

Jim Carlton (Mystic, Connecticut)

In memoriam
MIHAI SERBAN
(1921-1997)

Décédé après une longue souffrance à Cluj (Roumanie), le 22 novembre 1997, Mihai Serban faisait partie de l'ancienne génération de copépodologistes dont la jeune géneration d'aujourd'hui ne se souvienne presque pas. "The new wave" extrapolé au copépodes détermine parfois les plus jeunes de recommencer tout "à partir de zéro" et de faire tomber les plus anciens dans l'oubli... Mais, quoi qu'il en soit, vénerer les anciens reste toujours un grand signe de noblesse.

J'étais dans la deuxième année de la Faculté des Sciences Naturelles de l' Université de Cluj, quand j'ai connu Mihai Serban. Il était chef de travaux à l'Institute de Spéologie qui appartenait alors à l'Université: c'était le premier institut de Spéologie du monde, fondé en 1920 par le professeur Emile Racovitza lors de la réorganisation de l'Université Roumaine après la deuxième guerre mondiale. Mihai Serban avait fait deux facultés: la Polytechnique et les Sciences Naturelles. Parce qu'il était passioné pour les sciences du vivant, il s'était élu comme métier la deuxième bien que en tant qu'ingénieur constructeur il aurait pu mieux gagner et vivre. Engagé à l'Institut de Spéologie, il a eu la chance detravailler sous la direction du grand savant qui était spécialiste en Isopodes, et le privilège d'être initié dans l'étude de la stygofaune par le grand spécialiste le Dr. Pierre-Alfred Chappuis. Chassé de Roumanie par les "communistes", Chappuis s'est réfugié en France. C'est ainsi que Mihai Serban était resté seul en Roumanie pour continuer l'étude des Harpacticoïdes à partir de 1949.

En 1952 ont pris naissances dans les Facultés roumaines les "cercles scientifiques des étudiants". C'était alors quand je me suis inscrit dans le cercle de biospéologie qui était dirigé par Mihai Serban. Jovial, trés aimable et toujous disposé de sacrifier son temps aux autres, Mihai Serban m'a initié dans l'étude de la stygofaune et tout particulierement de la recherche des Copépodes. Mais... contrairement à son désir ardent de la seconder dans l'étude de ses chers Harpacticoides, j'ai gagné l'indépendance en extrapolant mon intérêt envers les Cyclopoides gnathostomes. Et mon maitre a été quand même très content.

Mihai Serban a été toujours passioné pour une étude pluridisciplinaire: il a poursuivi d'intéressantes recherches dans la botanique, la génétique, la taxonomie numérique, et il a été également un excellent photographe. Il lisait beaucoup et était toujours au courant dans les progrès dans n'importe quel domaine de la science.

En tant que copépodologiste, il a publié seul ou en collaboration des ouvrages sur les Diaptomides, les Cyclopoides, les Harpacticoides tant dulcicoles que marins. Il était en correspondance et en échange de publications avec tous les copépodologistes du monde entier qui ont travaillé pendant ce temps là et avec lesquels il a eusouvent aussi des contacts directs en Allemagne, en France, l'ancienne Yougoslavie, etc. Ses dernières publications copépodologiques se rapportent à certains études statistiques laborieuses.

Il va sans dire que tous qui l'ont connu lui gardent le meilleur souvenir, en temoignant le plus grand regret pour sa disparition.

Travaux de M. SERBAN concernant les Copépodes:

01.1953 P.A. Chappuis et M. SERBAN, Copépodes de la nappe phréatique de la plage d' Agigea prés Constanza. Notes Biospéologiques, VIII: 91-102.

02.1954 P. Banarescu si M. SERBAN, Nota preliminara asupra Copepodelor Diaptomide ale faunei române. Bul. Inst. de Cercet. Pisc. XIII (3): 39-52.

03.1956 C. Plesa si M. SERBAN, Copepodele din apele Dobrogei: Ciclopide. Bul. Inst. de Cercet. Pisc., XV (2): 91-94.

04.1956 M. SERBAN, Pontocyclops bacescui n. g., n. sp. (Crustacea, Copepoda), ein neuer Cyclopide vom Schwarzen Meere. Izdanija, Inst. Piscic. de la R.P. Macédoine, I (7): 169-184.

05.1957 M. SERBAN et C. Plesa, Notes sur les Copépodes de la Mer Noire. Izdanija, Inst. Piscic. de la R. P. Macédoine, I (10): 229-254

06.1959 M. SERBAN, Les Copépodes de la Mer Noire. Note préliminaire sur les Harpacticides de la côte roumaine. Lucr. ses. st. Stat. zool. marine "Prof. Ioan Borcea", 15-17 sept. 1956, Agigea: 259-302

07.1960 M. SERBAN, Notes sur les Copépodes. Description de Parastenocaris chappuisi n. sp., nouvel Harpacticide phréatobie de la côte roumaine de la Mer Noire. Ann. Spéléol., IV (1): 117-126.

08.1960 M. SERBAN, La néotenie et le problème de la taille chez les Copépodes. Crustaceana, 1 (2): 77-83.

09.1961 M. SERBAN, Die Entstehung der Copepodenfauna der unterirdischen Gewässer. Zusammenf. d. Vorträge beim 3. Internat. Kongr. f. Speläol. Die Höhle, 12 (2/3): 86.

10.1962 A. Georgesco, A. Marcus et M. SERBAN, Les Harpacticides de la Republique Populaire Roumaine. Trav. Mus. Hist. Nat. "Grigore Antipa", III: 75-92.

11.1964 C. Bodea, E. Nicoara, G. Illyes and M. SERBAN, The Carotenoids from Arctodiaptomus salinus (Crustacea, Copepoda). Sixth Internat. Congr. Biochemistry, July 26-August 1, 1964, New York City, 32 (VII): 565.

12.1965 C. Bodea, E. Nicoara, G. Illyes si M. SERBAN, Carotinoidele din Arctodiaptomus salinus (Daday). Stud. si Cercet. Biochimie, 8 (3): 271-276.

13.1965 C. Bodea, E. Nicoara, G. Illies and M. SERBAN, Carotinoids from Arctodiaptomus salinus (Daday). Rev. Roumaine de Biochemie, 2 (3): 205-211.

14.1968 M. SERBAN, Description de l'éspèce Paramesochra pontica Serban (Copepoda, Harpacticoida) de la nappe phréatique de la côte d'Agigea, Mer Noire. Lucr. ses. st. Stat. cercet. marine "Prof. Ioan Borcea" Agigea, 1-2 noiembrie 1966: 203-208.

15.1976 M. SERBAN, M. Alb et L. Neagu, La relation entre la taille et le nombre de phanères chez Copépodes. Note 1. Les dents operculaires chez Bryocamptus (Copepoda, Harpacticoida). Trav. Inst. Spéol. "Emile Racovitza" XV: 153-163.

16.1978 M. SERBAN, L. Neagu si M. Alb., Concluzii asupra evolutiei Harpacticoidulu Bryocamptus caucasicus (Copepoda), bazate pe unele date biometrice. Simpoz. Probl. de biologie evolutionista, Bucuresti 16-17 dec. 1976: 110-113

17.1978 M. Serban, L. Neagu et M. Alb, Relation entre la taille et le nombre de phanéres chez les Copepodes. Note 2. Les dents operculaires chez Bryocamptus (Harpacticoida) et les différences de taille dans une populat de femelles. Trav. Inst. Spéol. "Emile Racovitza", XVII: 39-59.

18.1979 M. SERBAN, L. Neagu, M. Alb et Gh. Racovita, Application des méthodes numériques à la systématique des Harpacticoides. I. Analyse des formules d'armature des pattes natatoires en tant que critère taxonomique. Trax Inst. Spéol. "Emile Racovitza", XVIII: 33-52.

19.1980 M. SERBAN, M. Alb, L. Neagu et Gh. Racovita, Application des méthodes numériques à la systématique des Harpacticoides. Note 2. Essai de dressere une liste por les différents caractères de l'armature des pattes P_1 préhensiles. Trav. Inst. Spéol. "Emile Racovitza", XIX: 53-75.

20.1981 M. SERBAN, M. Alb, L. Neagu et Gh. Racovita, Essai de taxonomie numérique chez les Harpacticoides. First Internat. Conf. on Copepoda, Amsterdam, 28 Aug. 1981, Collected Abstracts: 73.

21.1983 M. SERBAN, L. Neagu, M. Alb et Gh. Racovita, Application des méthodes numériques à la systématique des Harpacticoides. Note 3. Les caractères quantitatifs à variation continue des pattes P_1. Trav. Inst. Spéol. "Emile Racovitza", XXII: 21-31.

22.1986 M. SERBAN, L. Neagu, Gh. Racovita et M. Alb, Involution de l'exopodite de la deuxième antenne des Harpactioides, analysée par les méthodes de taxonomie numérique. Trav. Inst. Spéol. "Emile Racovitza", XXV: 17-31.

Corneliu Plesa (Cluj, Rumania)

Third Circular

7th International Conference On Copepoda
25-31 July 1999
Curitiba - Brazil

***** New conference web site *****
http://www.ufpr.br/eventos/icoc

Call for papers

Papers are invited on all aspects of copepod research. The contributed papers will be published on the international journal Hydrobiologia and on the corresponding book series, Developments in Hydrobiology. Guest editors for this volume are Rubens Lopes, Janet Reid and Carlos Rocha. We invite you to submit manuscripts directly to one of the guest editors, in the conference address, or during the conference itself. Submission deadline is July 30, 1999. Instruction for authors can be obtained on a recent issue of the journal or preferably on the journal web page, at the following Internet address:
http://kapis.www.wkap.nl/kaphtml.htm/IFA0018-8158

Calendary

15 December 1998
Expression of interest
(form on the conference web page)

28 February 1999
Final registration, payment of registration fee,
booking of hotels and post-conference excursions,
application for financial assistance. Submission of abstracts.
** Registration procedures available on the conference web site. **

16 April 1999
Deadline for cancellation with refund of conference fee

1 May 1999
Notification of acceptance of contributed papers and posters

1 June 1999
Notification of travel scholarships recipients
Final circular and program
(on the conference web page)

30 July 1999
Submission of manuscripts for review and publication

Abstract submission

All persons wishing to contribute an abstract must send a registration form with full payment when submitting their abstract. Each person can submit two abstracts as first author, and additional two abstracts as co-author. You will receive confirmation of abstract acceptance by e-mail. If confirmation by this method is not possible, please indicate the preferred method by fax or regular mail.

*** All abstracts must be received by the submission deadline of February 28, 1999. ***

Instructions for submission of abstracts

Submission via the internet is highly preferred. Please attach your abstract to a message and send it to the conference e-mail address. All files must be submitted in either WordPerfect for Windows or Microsoft Word for Windows file formats. Abstracts submitted in any other format are not acceptable and will be returned. Please remind yourself to attach the file: we will not be able to handle abstracts sent directly in the body of a message.
Another alternative is to save your abstract (Word or WordPerfect formats) on a 3.5" floppy disk (formatted for DOS) and send it by express mail, accompanied by one original hard copy of the abstract on white paper. Disks must be clearly and fully labeled with the name of the author to contact, institution name, mailing address, phone number, and e-mail address. Send originals and diskettes to the conference mail address (printed in the end of this circular) by mid-February 1999, to assure that all materials will reach the local organizing committee by the submission deadline of 28 February 1999.

Important note:
Please follow the samples and procedures described on the conference web site to format and submit your abstract.

Program
7th International Conference On Copepoda
Curitiba, Brazil
25-31 July 1999

Sunday, 25
15:00-19.00 Registration
19:30-21:30 Informal cocktail with live music

Monday, 26
9:00- 9:30 Opening session of the conference
9:30-12:25 Symposium I - Copepod development: its evolutionary and ecological implications
9:30- 9:35 Opening by Hans-Uwe Dahms (University of Oldenburg)
9:35-10:10 Adrianna Ianora: Copepod life history traits: the trade-off between physiological, ecological and evolutionary processes
10:10-10:45 Bill Peterson: Patterns in stage durations and development among free-living copepods - rules, physiological constraints, and evolutionary significance
10:45-11:15 Coffee break
11:15-11:50 Frank D. Ferrari: Segmental homologies of copepod swimming leg rami and their correlation to copepod habitat
11:50-12:25 Rony Huys: Heterochrony in copepods - pattern, process and significance
12:25-14:00 Lunch
14:00-14:50 Plenary lecture: On the ecology of tropical copepods
Gustav-Adolf Paffenhöfer, University of Georgia
14:50-18:30 Poster and oral presentations (with coffee break)
18:30-19:00 Copepod spotlights: video about places of touristic interest in Brazil

Tuesday, 27
9:00-11:20 Symposium II - Copepods in Antarctic and Subantarctic ecosystems
9.00- 9:05 Opening by Victor Marin (University of Chile)
9:05- 9:40 Sigrid Schiel: Approaches to the study of the life cycle of antarctic copepods
9:40-10:15 Peter Ward: Deep-water copepods in the Southern Ocean - patterns and processes
10:15-10:45 Coffee break
10:45-11:30 Anna F. Pasternak: Feeding patterns of dominant Antarctic copepods - an interplay of diapause, selectivity, and availability of food
11:30-12:30 Plenary lecture: Modelling as a tool for understanding copepod life history
Dr. Francois Carlotti, Universite P. et M. Curie
12:00-13:30 Lunch
13:30-18:00 Poster and oral presentation (with coffee break)
20:00 Visit to a local pub

Wednesday, 28
Whole day Mid-conference excursion
16:00-18:20 Symposium III - Copepods in challenging environments
16:00-16:40 Janet Reid and Carlos Rocha: A human challenge - discovery and understanding continental copepod habitats
16:40-17:15 Diana M.P. Galassi: Groundwater copepods - diversity pattern over evolutionary and ecological scales
17:15-17:45 Coffee break
17:45-18:20 David Thistle: Is the deep-sea a challenging environment for harpacticoids?

Thursday, 29

9:00-11:55	Symposium IV - Sexual dimorphism in copepods
9:00- 9:05	Opening by Geoffrey Boxshall (The Natural History Museum)
9:05- 9:40	Rony Huys: Sexual dimorphism - kingpin of harpacticoid evolution
9:40-10:15	Geoffrey Boxshall: Dwarf males and sexual dimorphism in parasitic copepods
10:15-10:45	Coffee break
10:45-11:20	Susumu Ohtsuka: Sexual dimorphism in calanoid copepods - morphology and function
11:20-11:55	J. Rudi Strickler: Is there sexual dimorphism in the behavior of free-swimming copepods?
11:55-13:30	Lunch
13:30-16:00	Poster and oral presentations
16:00-16:30	Coffee break
16:30-17:30	Maxilliped Lecture (by the WAC president, Ju-shey Ho)
17:30-18:30	WAC Plenary Session
21:00-22:30	Musical evening: A major Bazilian musician will play for conference participants, in a very special concert

Friday, 30

9:00:11:55	Symposium V - Biogeography of copepods: a cross-section of the major taxa
9:00- 9:05	Opening by Dov Por (Hebrew University)
9:05: 9:40	Audun Fosshagen: Two cave-loving families of calanoids - the Ridgewayiidae and the Epacteriscidae
9:40:10:15	Gisela Moura: Usefulness of freshwater harpacticoid copepods biogeographical reconstructions - examples from some monophyletic taxa
10:15-10:45	Coffee break
10:45-11:20	Dov Por: The Palearctic-Ethiopian interphase, as expressed in the freshwater copepod fauna of Israel
11:20-11:55	Fourth lecture to be confirmed
11:55-13:30	Lunch
13:30-16:00	Poster and oral presentations
16:00-16:30	Coffee break
16:30-18:30	Forum "Copepoda 2000"
20:30-	Conference dinner

Saturday, 31

Daytime	Post conference workshops and excursions
21:00	Forró do Ceará-Brazilian dance

Oral and poster sessions will be organized according to the major topics of submitted abstracts (details on the final program, by 1 June 1999). Please note that the organizing committee invites abstracts and contributed papers on all aspects of copepod research.

Additional conference workshops
Please contact the Local Secretary if you would like to suggest and organize a post-conference workshop.

Update on a pre-conference workshop

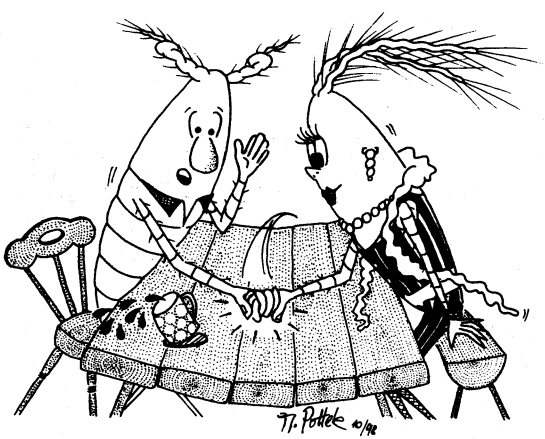
Copepod Diversity in Neotropis: Present knowledge and new directions for research
20 - 23 July 1999
Sao Sebastiao (SP)

Convener: Carlos E. F. da Rocha, Depto de Zoologia - IBUSP, Caixa Postal 11461, 05422-970 - S„o Paulo, Brazil; e-mail: cefrocha@usp.br; Telephone: (011) 8187617; Fax: 55 11 8187802 / 8187513
The following colleagues have already confirmed their presence in this workshop: Dr. Tagea K.S. Björnberg (CEBIMar-USP, Sao Sebastiao), Dr. Janet W. Reid (Smithsonian Institution, Washington), Dr. Silvina Menu-

Marque (Universidad de Buenos Aires, Argentina), Prof. G.A. Boxshall and Dr. R. Huys (The Natural History Museum, England), Dr. Eduardo Suarez Morales (ECOSUR, Mexico), Dr. Frank Fiers (Koninklijk Belgisch Institut voor Natuurwetenschappen, Belgium), Dr. Juan Cesar Paggi (INALI, Argentina), Dr. Luis Moreno (CIRA/UNAN, Nicaragua), Prof. Dr. Damia Jaume (IMEDEA, CSIC, Spain), Prof. H.K. Schminke (University of Oldenburg, Germany), Dr. Danielle Defaye (Museum national d'Histoire naturelle, France), Graciela Cicchino (Universidad Central de Venezuela), Luis Zuniga (Universidad Catolica de Valparaiso, Chile), Prof. Ju-shey Ho (California State University, U.S.A.), among others. Workshop fees will be US$ 50. Boarding charges will be determined at a later stage. Whoever is interested in participating, please contact the organizer at their earliest convenience (by January 15, 1999).
Working language: English.

The tentative program of the workshop is the following:

Tuesday, 20 July 1999
13:00 - Departure from Sao Paulo to Sao Sebastiao
17:00-18:00 - Registration
18:00-19:00 - Informal cocktail
19:00 - Dinner
Wednesday, 21 July 1999
8:00 - Official Opening of the Workshop
8:15-12:20 - Oral presentations
12:20-13:20 - Lunch
13:30-18:25 - Oral presentations
18:30-19:30 - Dinner
20:00-22:00 - Informal discussions / practical laboratory work
Thursday, 22 July 1999
8:00-12:00 - Group discussion
12:00-13:30 - Lunch
13:30-18:00 - Group Discussion
18:00-19:30 - Dinner
20:00-22:00 - Informal discussions / practical laboratory work
Friday, 23 July 1999
7:00-19:00 - Excursion along the northern riviera of the State of Sao Paulo
Saturday, 24 July 1999
9:00 - Departure from Sao Sebastiao to Curitiba, through the Cumbica International Airport in Sao Paulo.



Programmed tours & Travel information

Mid-conference excursion

The Local Organizing Committee of the 7th ICOC will arrange a whole-day visit to the coastal mountain range (the "Serra do Mar") and the coastal lowland, by a tourist train. The railroad crosses the well-preserved Atlantic rainforest, and reaches the colonial towns of Morretes and Paranaguá. Symposium III will be held after lunch time, in one of the available auditoriums of the region. We will return to Curitiba after the symposium.

Short post-conference tours

Depending on the number of interested participants, two post-conference tours will be organized on Saturday, 31 July 1999:

1) Paraná shoreline and Mel Island; and
2) Vila Velha State Park.

Long-distance tours

Guided excursions to the Iguaçu Falls, the Pantanal (the world's largest wetlands), the Amazon, and seaside resorts of the Northeast are under consideration. Final prices of hotels and air tickets will heavily depend upon number of confirmed participants. The organizing committee will also be glad to help you individually with all the information and help to travel in Brazil just after or before the conference.

Flight connections and transportation

There are a number of daily flights from Rio de Janeiro, São Paulo and Porto Alegre International Airports to Curitiba International Airport. Ticket prices to Brazil vary widely within the same season. Therefore, we suggest that you make a careful price assessment, preferably with different airlines carriers, before purchasing your ticket (ask for promotional ones). Please refer to the conference web page for more details on transportation.

Visas

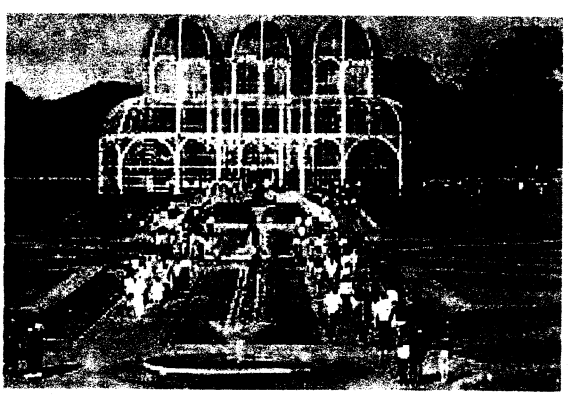
Brazilian visas are necessary for citizens of countries which require visas from Brazilian citizens. Participants requiring a visa for entry in Brazil are strongly advised to make their application in their home country at least two or three months before the date of travel. Tourist visas are valid for a 90-day stay in Brazil. In case of doubt, additional information can be obtained at the nearest Brazilian Embassy or Consulate or from travel agencies. If you are not going to fly directly to Brazil, please check if you will need a transit visa.

Money

US cash dollars and traveler's checks are easy to trade. Several other currencies are also accepted at the exchange offices (ask the organizing committee for further details).

International credit cards

Visa, American Express and Mastercard are widely accepted at restaurants, hotels and shops.



Insurance
A travel insurance policy to cover medical problems, theft and loss is a wise idea.

Vaccinations
If you plan to visit the Amazon, a yellow fever vaccination is mandatory.

Registration

We are ready to receive your registration through the conference web page. Other registration procedures can be arranged upon request. Please contact the organizing committee in case you are not able to access the Internet to register.

Fees
US$ 220 for participants until 28 February 1999, US$ 260 later. US$ 120 for students, irrespective of registration date. The registration fee will entitle you to admittance to the conference, conference materials, one copy of the abstract book and final program, reception cocktails, coffee breaks, conference dinner and mid-conference tour. US$ 80 for accompanying spouses, friends and children until 28 February 1999, US$ 100 later. The registration fee will entitle accompanying persons to attend the scheduled social program (price of tickets to trips and tours will be kept to a minimum), mid-conference tour, social receptions and the scientific program. Details of the social program will be provided in the fourth circular and on the conference web page.

Payment options
1. Money order or identified deposit
Transfer the total amount of your conference fee to the following bank acount:
Bank: Banco do Brasil
Agency name: Curitiba Centro
Agency code: 0009-4
Account number: 5828-9
Account holder: VII Int. Conf. on Copepoda
2. Check (Brazilian bank)
Make your check payable to "VII Int. Conf. on Copepoda" and return it by express mail to the conference address
3. Credit card (Visa only)
Please check the conference web page for instructions on how to pay the conference fee by credit card. We are currently negociating other agreements with Mastercard and American Express (updated information on the web page).

Travel Scholarship
The Local Organizing Committee will accept applications from all interested persons who wish to apply for a travel scholarship to attend the 7th International Conference on Copepoda. The purpose of the award is to defray some of the travel expenses, rather than to pay for them entirely.Applicants must submit the following information to the committee before February 28, 1999:
1) name and date of birth;
2) mailing address (including telephone/fax numbers, and e-mail);
3) affiliation and present position;
4) reason(s) for the application;
5) title and summary of proposed presentation; and
6) a resume and a list of publications.
Selection criteria are:1) financial need, 2) topic of proposed presentation, 3) directions of previous research and 4) geographical location of applicant.
Recipients of Scholarships will be notified on or before June 1, 1999.

Accommodations
The Organizing Committee will be ready to arrange your hotel accommodation. Please check the conference web page for pricing information.

Welcome to Curitiba!

Curitiba, the capital of Paraná State, with about 1,6 million inhabitants nowadays, is a city with many attractions for all tastes. It is situated in the south of Brazil next to the seacoast mountain ridge. The city has a rich colonization history which began in the 17th century. Due to its origins and its recent past of planned urban development Curitiba became a permanent place of interest. A mosaic of landscapes, typical of the agitated metropolitan life, coexist harmoniously there.

The main characteristic of Curitiba is soon discovered by visitors: the innovative way in which old urban problems were resolved, starting from the road network system. The planned urban growth development anticipated not only the physical infrastructure but also the environmental and cultural preservation.

During the 70's, Curitiba protected and refurbished the centenary buildings within the Historic Sector. Together with museums, cinemas and theatres such as the Guaíra and Paiol, an integrated concern with a cultural revival was implemented. The curitibanos also received pioneer pedestrian areas, like the famous Flowers Street - the more central avenue of the downtown area became the first pedestrian street in the country, as a meeting and leisure point. The capital of Paraná was also pioneer in creating the 24 Hour Street - an open space with dozens of shops for the most varied needs. The creation of parks and the preservation of woods guaranteed at the same time protection against floodings and the additional benefit of 50 m2 of public green areas per inhabitant, a rate which is well above the United Nations recommendations.

Curitiba is a synthesis of many cultures, brought by immigrants from all over the world, who helped to build every bit of the city from the second half of last century. Welcome by this land which, at the time, had plenty of space to offer, they retributed with their hard work, knowledge, culture and traditions. This is why Curitiba is formed by bits of many countries.

The organizing committee is looking forward to your visit. Hope you enjoy Curitiba and its many attractions!
(Original text available on the conference web page)

Updated information on the 7th International Conference on Copepoda

You can easily obtain updated information on the 7th ICOC by either checking the conference web page at frequent intervals or by subscribing to the Copepoda List (please send a message to the conference e-mail address asking so). The Copepoda List is a e-mail discussion forum opened to all aspects of copepod research.

Conference address

7th ICOC
Centro de Estudos do Mar
Universidade Federal do Paraná
Trav. Alfredo Bufren 140 (anexo PRPPG)
Curitiba, PR - 80020-240
Brazil

Rubens M. Lopes
Local Secretary
Phone: +55 (0) 41 455-1333
Fax: +55 (0) 41 455-1105
email addresses:
icoc@cce.ufpr.br
copepoda@cem.ufpr.br

Web site:
http://www.ufpr.br/eventos/icoc

WAC-TREASURER'S STATEMENT

This is Treasurer's Statement for June 6 - Dec 31 1997

Balance Transferred to New Treasurer	DM 26,200.54
Deposits	$ 1,011.00
Bank Fees	$ 89.67
Balance	$ 15,427.49

With the account for the WAC in a US bank the balance will now be given in US dollars. A credit card account for the WAC would entail added expenses for the Association. There would be a 5% fee for each credit card transaction plus a monthly fee and an initiation fee. These fees are negotiated for each account based on the volume. Credit card accounts are normally set up for organizations with much larger amounts of money being collected. It woud be less expensive for the WAC if individuals were to continue paying in US currency. If this is a significant hardship, then we must ask that foreign currency payments, preferably by check or money order, be for at least 3 calander years. The bank fees for a currency transaction of that size are less than the credite card charges.

John A. Fornshell, Ph.D.
Treasurer

COPEPODA-LIST

Welcome to the Copepoda List ! About 300 scientists from all over the world have subscribed to this list so far and the number is increasing on a daily basis. I would like to invite all of you to take part in the discussions that will follow. The usefulness and longevity of this mailing list depend entirely on the degree of participation of each one of us.

It's quite easy to post messages to the list. All you have to do is write your message and send it to the following e-mail address:
copepoda@sciencenet.com. Your message reaches the SCIENCEnet server first, then it is automatically redirected to the list moderator for his approval. Finally the message returns to the SCIENCEnet server for distribution to all subscribers.

Please note that the moderator will simply check whether or not messages are related to the main objective of our mailing list, that is, copepod research. The list moderator, Dr. Jefferson Turner, is out on a cruise until next Saturday. His duties are temporally covered by the SCIENCEnet staff.

Several copepodologists have sent their initial suggestions of topics for discussion. Here's the list:

Topic 1: Novel methods
Technologies/protocols/tools/equipment/etc... that are about to "hit the market", that can (and perhaps should) be used worldwide for:
- the identification of species and/or other taxonomic levels;
- measurements of various rate processes such as grazing/ingestion rate,

production/growth rate, etc...
- more automated assessment of abundance (undulating vehicles, acoustic technology combined with bio-optics, moored equipment, etc...),
- more automated analysis of species composition (image analysis technology, biochemical make-up, etc..).
Questions: how far could/should automation go in this regard? Will we forever have to collect samples using conventional net sampling and analyze samples using traditional microscope analysis techniques?

Topic 2: International research programs
- List participants could discuss the different efforts of various nations in the framework of international research programs that are at some degree to copepod science. A good example is GLOBEC (since the interactions of zooplankton - mainly copepods - and fish are the focus of this project): how the efforts in different areas will be synthesized on a global scale (US GLOBEC at Georges Bank, southern Ocean GLOBEC, various activities and methods of nations in Europe etc...). What about JGOFS, biodiversity studies, etc?

Topic 3: Modelling as a tool for understanding individual bioenergetics and population dynamics
- How many copepodologists are currently involved in modelling efforts?
- Which are the projects being held at the moment and the perspectives and future challenges of this research area?

Topic 4: Copepod ecology and ecophysiology, including...
- grazing impact of copepods;
- copepod interaction & competition with other grazers;
- reproductive/overwintering strategies and diapause of high-latitude copepods;
- copepods-doc-bacteria interaction;
- secondary production (including planktonic and meiobenthic copepods); - reproduction, growth, egg production rates;
- copepod ecotoxicology;
- feeding on microzooplankton by different copepod developmental stages;
- feeding and reproductive rates with respect to food quality (e.g., the diatom vs. dinoflagellate topic);
- the role of the feeding current in remote detection of food particles;
- copepod swimming behavior at different environmental conditions;
- the physiological aspects of acclimation of copepods;
- physiological and biochemical indices of copepod feeding.

Topic 5: Copepods and environmental change
- can copepods be used as "indicators" of atmospherically/climatologically/anthropologically driven environmental change?
-effects of natural and anthropogenic environmental disturbances on the abundance, structure and dynamics of zooplankton.

Topic 6: Copepod taxonomy, phylogeny and biogeography
- Is taxonomy of crucial importance for ecological research?
- What has priority: "simple" surveys of little investigated areas/habitats or detailed research on cosmopolitan widespread species?
- Are there accurate, easy to be followed keys dealing with regional copepod faunas? What regions? What copepod groups?

- Are the morphological features traditionally used so far good enough for the characterization of the species? If not, which other methods could be recommended? For example, new non-morphological characters proved to be helpful in recognizing copepods.
- Is there a need for new training programs and centres on copepod taxonomy in addition to those now in operation?
- Is there a need for an on-line database of freshwater and marine copepods (nomenclature, distribution, bibliography, new species in press)?
- Is the position of Copepoda among the Maxillopoda clear enough?
- Importance of appendage development in nauplii and copepodids (or only the latter) to track homologies used in phylogenetic studies.
- Biogeography of marine and freshwater copepods

Topic 7: Copepods as biological invaders
How to face the problem of introduced species? Any recommendation to eliminate or diminish the number of biological invasions? What actions could be suggested in order to call the attention of government authorities for the potential danger of biological invasions?

Thanks to those who have sent the suggestions:
Dieter Wallosek, University of Ulm, Gemany
Sergio Bonecker, Rio de Janeiro, Brasil
Fabio Stoch, Muggia (Trieste) Italia
Frederika Norrbin, Tromsø, Norway
Carlos Rocha, Sao Paulo, Brazil
Wen-tseng Lo, Taiwan, ROC
Juanita Urban-Rich, Chauvin, USA
Jack Greenwood, Brisbane, Australia
Bernadette Pinel-Alloul, Montreal, Canada
Marie H. Bundy, St. Leonard, USA
L. Svetlichny, E. Hubareva, T. Yuneva, N. Shadrin, G. Finenko and Z. Romanova, IBSS, Ukraine
Motohiro Shimanaga, Tokyo, Japan
Hans Verheye, Cape Town, South Africa
Frank Kurbjeweit, Tübingen, Germany
Francois Carlotti, Université P. et M. Curie, France
Ivan Pandourski, Sofia, Bulgaria

That's it! The copepodologist community awaits your opinions, suggestions, research accounts, criticisms, etc., not only on the subjects mentioned above, but also on whatever relates to copepod research.

See you there

Rubens M. Lopes
Local secretary,
7th International Conference on Copepoda
Curitiba, Brazil
25-31 July 1999

COPEPODA-LIST: How is it operating?

Dear Copepoda List Member,

The Copepoda mail list is managed by Omnet, in conjunction with their SCIENCEnet site. Below are instructions for using the list, as well as information about how to get a free SCIENCEnet account.

*POSTING TO COPEPODA MAIL LIST
Just write your message and send it to:

copepoda@sciencenet.com

Each message must be approved by the list moderator before it will be directed to the list. Messages sent to the list are also automatically posted to the Copepoda Bulletin Board on the SCIENCEnet site. That means you may read messages individually as they come in, inside your e-mailbox, or you may go to the SCIENCEnet site (http://www.SCIENCEnet.com) to read them as a group, once a week, for example. It's your choice.

If you would like to use the bulletin board instead of the list, send a message to Omnet.Service@Omnet.com and I will set you up with a free account and delete you from the list so that you don't get duplicate messages.

If you would like to experiment, using both the Copepoda Bulletin Board and the mailing list, let us know and we'll set you up with a free account but leave you on the mailing list as well.

Do *NOT* post messages directly to the bulletin board! Messages posted there will not be seen by anyone just getting the Copepoda mailing list.

If you have questions or want a SCIENCEnet account, I'll be happy to help. Be sure to send me your complete "signature" tag, if I don't already have it!

Best,
Tonya Taylor for Omnet Service
****

Omnet, Inc., 21 North Central Ave., Staunton, VA 24401 USA
Phone: 540.885.5800 E-mail: Omnet.Service@omnet.com
WWW Address: http//www.SCIENCE.net.com

Suggestions to the topics, mentioned above

Topic 1: novel methods

Suggestion 1 - Create and develope an international data base for copepods, under email and internet network, incorporating basic informations on the taxonomy, description of all life stages, distribution of all life stages, distribution, genetic, ecological, physiological rates, biochemistry and behavioural characteristics of major/most abundant species, belonging to genus "important genus", say: *Calanus* sp., *Acartia* sp., *Centropages* sp., *Oithona* sp. etc... See also Topic 6.

Suggestion 2 - Define and explore new issues related to the potential of copepods for biotechnology, such as aquaculture, extraction of valuable molecules, bioassay tolls for ecotoxycology.

Topic 2: International research programs

Suggestion 1 - Promote a "blank", or "lobbying" for doctoral and post-doctoral grants allowing young, promising scientists, to participate and be part of international programmes focused on copepods.

Suggestion 2 - Promote "unformal" links between copepodologists focused on practical questions which needs to exchange the state of the art on specifics via "workshop", or "large scale investigation", following one of my recent initiative with "the paradox of diatoms" (see the paper by Ban et al. 1997, Mar. Ecol. Prog. ser 157: 287-293).

Topic 6: Copepod taxonomy, phylogeny and biogeography

Suggestion 1 - Incorporate tools and concepts used in genetic science, to define species, population genetics at the large scale, in relation to global change, and/or large scale oceanographic events.

Suggestion 2 - Develope, in parallel to phylogenic studies, new approach for the description and understanding of copepod embryology.

Serga A. Poulet (Roscoff)

... REPORTS REPORTS REPORTS...

Special International Conference "New methods in copepod taxonomy"

The meeting took place at the famous Zoological Institute of the Russian Academy of Science (RAS) in St. Petersburg in May 1998. It was conference and workshop at the same time (workshop on hybridization in Fisher's species convened by Victor Alekseev and workshop on chromatin diminution in Copepoda convened by Grace Wyngaard and Andrej Grishanin). Due to the restless efforts of Victor Alekseev and his colleagues and students it became a stimulating event with many opportunities for colleagues from "the West" to get introduced to Russian copepodologists and their research and *vice versa.*

As the title implies, this meeting centered around taxonomy: the systematics of certain groups as well as methods and techniques of estimating phylogenetic relatedness. Among the latter were so-called "classical" as well as "modern" approaches. Characters of phylogenetic importance were deduced *e.g.* from the external morphology (of larvae and adults), caryology, statistical approaches to morphological variation, genome size, hybridization experiments, molecular biology and computer analysis of characters.

Shortcomings and advantages of each of these approaches depending on the questions posed became apparent. Prevailing, however, was an open intellectual atmosphere, suggesting that no mode of character should be ignored from the onset when evolutionary transformations are in the focus.

Hans-U. Dahms (Oldenburg)

"Tenth International Meiofauna Conference"

The XIMCO was held at the University of Plymouth in the week from the 27th to the 31st of July 1998. It was hosted by the "International Association of Meiobenthologists" and was organized by the "Centre for Coastel and Marine Sciences" (Plymouth Marine Laboratory) and the University of Plymouth, Department of Biological Sciences. About 130 colleagues and students attended and participated in six symposia entitled: Size and scale/ biodiversity and biogeography/ pollution and disturbance/ biotic and environmental interactions/ systematics and phylogenetics/ community dynamics and species biology.
As in previous conferences most of the scientific questions addressed upon had their roots in ecology and tackled many other meiofauna taxa besides the Copepoda. However, besides many studies in community related fields, where copepods were considered among other taxa, there were contributions particularly devoted to meiobenthic Harpacticoida and Cyclopoida.
Gritta Veit-Köhler gave indications of the ecological and in particular reproductive peculiarities of Antarctic shallow water harpacticoids. Keith Walters and M. Nunley tested whether metapopulation dynamics regulate harpacticoid assemblages in a saltmarsh situation. Marlen de Troch and coworkers recovered global regional patterns of biodiversity by studying harpacticoid copepods in tropical seagrass beds. Ahmed Ahnert and G. Schriever gave indications of possible effects on harpacticoid communities after anthropogenic physical disturbance. Evidence for competition between nematodes and copepods was reported by John Fleeger and coworkers, while Philippe Bodin summarised the systematic work on the Harpacticoida for the last 60 years. Kai Vopel and coworkers showed effects of anoxia and sulphide on the population dynamics of the harpacticoid *Cletocamptus confluens*.
Lilia de Souza-Santos et al. provided the following oral contribution "Carbon budgets of the harpacticoid *Amonardia normani* in the laboratory and a discussion of the ingestion rate estimate method and values", while Paulo dos Santos and coworkers demonstrated evidence for the secondary production of the harpacticoid *Nannopus palustris* in the Gironde estuary, France. During the poster sessions N. Pounds et al. reported on impacts of steroid hormones on the survival, development and reproduction of *Tisbe battagliai* and A. Arshad et al. gave an account on the temporal and spatial changes in the meiobenthic copepod communities along an environmental gradient of upper estuaries, while Kai Vopel and coworkers asked the question: "Why do benthic harpacticoids emigrate to the bottom water during night?" Finally, there was a redescription given of the common harpacticoid *Pseudobradya arctica* (Olofsson 1917) from the Baltic Sea with some ecological notes by Michel Clement and Emil Olaffson.

Hans-U. Dahms (Oldenburg)

... LETTERS LETTERS LETTERS ...

I woulds like to correct the most recent MONOCULUS ' 35, page 6, top line (from Dov Por) "Brazil has much to offer. Zoology started here with O.F. Mueller, Darwin's friend and correspondent".
The Danish zoologist O.F. Mueller (1730-1784) would have been 79 years old when Charles Darwin was born in 1809. Fritz Mueller (1822-1897) left Germany to settle in Rio de Janeiro where, among other things, be studied crustacean development. In his book (1864) in defense of darwinism, "Fuer Darwin", [translated by W.S. Dallas into English as "Facts and Arguments for Darwin" in 1869, John Murray, publisher] Fritz Mueller presents his results and is the first naturalist to argue for a relationship between larval development and a phylogeny based on adult morphology. The concept fascinated, among others, Ernst Haeckel. Fritz Mueller was a friend and correspondent of Charles Darwin. When Mueller's house in Rio was lost in a flood,

Darwin gave him 1,000 English pounds, at that time not a trivial sum, to purchase books for a new library.

Frank D. Ferrari (Washington D.C.)

SCIENTIFIC MEETING LIST

I have a list of scientific meetings (conferences, symposiums, etc.) at the following address:

Http://www.geocities.com/CollegePark/Quad/4386/meetings.htm

Also, please tell me about upcoming meetings that are not currently listed. Even an e-mail address of the organiser would be useful.

Alfred Low (Kuala Lumpur)

Dear fellow copepodologists,

I would like to invite you to visit the new web site of the 7th International Conference On Copepoda, at the Internet address http://www.ufpr.br/eventos/icoc

The conference is sponsored by the World Association of Copepodologists and will be held in Curitiba, Brazil, from 25 to 31 July 1999. The deadline for registration and abstract submission is 28 February 1999. Online registration procedures are available on the web site.

Best wishes,

Rubens Lopes
Local Secretary for the 7th ICOC
Center of Marine Studies
Federal University of Parana
Pontal do Sul/Curitiba, Brazil

INTERVIEWING COPEPODOLOGISTS

JÜRGEN LENZ

Professor Jürgen Lenz retired from his position in the Planktology Department at the Institute for Marine Research, Kiel, in April 1998.

"I am not a true copepodologist" was his first statement, when I visited him in his almost empty room at the institute: "I am an ecologist interested in copepods as well as in all other organisms of marine life". Well, this is not a flaw, is it ? Read the following review of his scientific life and you can judge for yourself.

Jürgen Lenz was born in Mitau (Latvia) in 1933. When he was six, his family with the majority of the German population in Latvia and Estonia returned to Germany after the beginning of World

War II. Finally, in 1946 the family settled as refugees in a small village near the town of Stade in Lower Saxony in North Germany. Already as a schoolboy, he became interested in ornithology and worked as a bird ringer for the Ornithological Station Heligoland at Wilhelmshaven. After finishing the classical secondary school Athenaeum in Stade in 1954, he started with the study of biological sciences at the Universities of Göttingen and Munich, where he also learnt to stuff birds at the Zoologische Staatssammlung. Being particularly interested in animal behaviour, he spent one breeding season at the seabird sanctuary Scharhörn, a small uninhabited island in the Elbe estuary, observing and ringing seabirds for the Ornithological Station. After this year out in nature, he continued his studies at the University of Kiel and concentrated on the topics of marine ecology. His teachers (among others) were Wolfram Noodt and Adolf Remane. He became specifically interested in aspects of marine plankton ecology and looked for a Ph.D. subject, in which he could utilize his diving experience. At the Institute for Marine Research he studied scattering layers in the western Baltic Sea and finished his thesis on this topic in 1963 under the supervision of Professor Johannes Krey. Soon afterwards, he was given a position as assistant professor at this institute.

In 1964/65, he participated along with Professor Krey in the International Indian Ocean Expedition (IIOE) on R.V. METEOR. This was the first in a long series of national and international expeditions Jürgen Lenz has participated in during his career. During the IIOE, he shared a cabin with Krey, and they allocated the working hours according to their "biorhythm", with Krey taking the early morning/day period and Lenz working during the evening and night. Apart from zooplankton sampling with the Indian Ocean Standard Net, he filtered thousands of litres of water from different depth layers for seston analyses. Usually filtration times were short because of the low seston content in deeper waters. But one day they encountered an unusually high seston content on one filter from the mesopelagic layer and - after being puzzled by this unexpected result - Professor Krey had an excellent explanation: they had found a turbidity layer, which develops after an underwater landslide at the continental slope and sometimes spreads out widely into the mesopelagic zone ! This sensational discovery was immediately made known to all cruise members via the ship's loud-speaker and everybody congratulated until, suddenly, 2 young assistants from the chemical department (whose names will not be given here...) admitted that they had put rusty

METEOR-tap water into the water sampler before the sample was taken. Everybody laughed at this joke, except for Professor Krey, who was not amused at all. (He believed that the innocent Jürgen Lenz had been the wire-puller behind the joke.)

[Could it be that even more spectacular scientific discoveries may have upon closer examination turned out to be a bit rusty..?]

In the years after the expedition, Jürgen Lenz was involved in the evaluation of the zooplankton material collected during the IIOE and published parts of the results in the well-known monography "The Biology of the Indian Ocean" (1). Cooperation with Indian scientists from the Sorting Centre at Cochin was one major aim of the post-expedition period and J.L. took this cooperation very seriously: a young Indo-German lady named Shamim Smetacek, who came from India on a temporary assignment to work for Professor Krey caught his attention so deeply that after a while they got married. The couple has three children and their daughter Victoria - together with her attractive mother - charmingly hosted the guests at the reception buffet to celebrate his retirement this year in spring.

Besides his scientific studies and teaching duties J.L. was also involved in many organizational tasks at the institute, including the drafting of the basic requirements for a long-planned new building on Düsternbrooker Weg 20, which was completed in 1972.

His next expedition (1968) took him to the Weddell Sea, Antarctic, and was undertaken with an Argentinian ice-breaker. This was one of the first marine scientific expeditions to the Antarctic area after the war and the beginning of development towards the present Antarctic research focus.

Later on, J.L. returned to the warmwater biosphere and participated in 3 METEOR expeditions, investigating the upwelling area off North-West Africa (1972, 1975) and in the equatorial Atlantic (1979). His main research topics during these expeditions were the study of the food web structure of plankton communities in relation to different environmental conditions (light, nutrients, temperature, water stratification), and the relationships between primary and secondary production in various oceanic regions. Particular interest was paid to the contribution of different size classes of the plankton by fractionated samples.

In 1974, he achieved his 'Habilitation' with a thesis on the foodweb structure in Kiel Bight. For this study he had designed a specific vacuum plankton pump (2), which allowed him to take samples from discrete depth layers in the water column without mechanical damage to the organisms. In cooperation with his colleagues Peter Koske, a physical oceanographer, and Walter Nellen, a fishery biologist, he participated in the development of an aquaculture research station at Bülk, near Kiel, where they established a planktonic food web from phytoplankton via rotifers and copepods to turbot larvae on a large scale.

Between 1983 and 1991, J.L. became attracted by the coldwater biosphere again, but this time he went to the north: together with his students, he participated in a total of 4 expeditions with R.V. POLARSTERN to the Greenland Sea (Fram Strait), studying the food web structure in different

water masses in the open sea and under the ice with special attention to species composition of phytoplankton, ciliates and copepods. A highlight was the participation in the first international JGOFS study in the North Atlantic aboard R.V. METEOR together with R.V. DISCOVERY and R.V. ATLANTIS II in spring 1989 (3). The METEOR cruise was planned to commemorate the centenary of Victor Hensen's famous "Plankton Expedition".

The most extreme tropical area of the world ocean, the Red Sea, was visited by him and his team in 1987, this time with the new R.V. METEOR. This cruise No. 5 will always have a tragic undercurrent for those who participated on account of the dreadful accident that happened during its course: in March 1987 a terrorist bomb exploded in Djibouti, killing 4 young scientists from the Kiel Institute and injuring 4 other members.
The last METEOR expedition in which he participated studied the extreme oligotrophic ecosystem of the Levantine Sea, Eastern Mediterranean in 1993 with special emphasis on the ecological role of the 'microbial loop' and microbial food web (4).

Over 20 students have written their Ph.D. thesis (and even more their diploma thesis) under the supervision of Jürgen Lenz. Their research fields cover a wide scope of scientific topics reaching from the `microbial loop' to *Calanus* species of the Arctic. Four of them (Sigrid Schnack-Schiel, Hans-Jürgen Hirche, Klaus-Günther Barthel and Alvaro Morales) have studied copepods in particular, but in many of the other studies, copepods were also involved directly or indirectly.

Maybe you now can agree with me that Jürgen Lenz is at least in part a true copepodologist. I am sure he will continue his successful work on marine research in his new room at the Hohenbergstrasse. For many years, he has been a member of the ICES working groups "Phytoplankton ecology" and "Zooplankton ecology" and one of his forthcoming publications will be the ICES "Zooplankton Methodological Manual" (5), which is co-edited by him.

We all wish him good luck for the future.

R. Böttger-Schnack, (Kiel)

P.S.
Jürgen Lenz is one of the most often baptized marine scientists, I know of: he had to endure the (most uncomfortable) ceremony of a ship's baptism 4(!) times, twice at the equator and twice in the polar regions because he always forgot to bring his baptism certificate with him...

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Copepods interest me since the year 1994 when I participated in a six months' training course on "Freshwater Management" at the University of Ghent (Belgium). For my Ph. D. dissertation I am working on the genus *Thermocyclops* and I hope I will yield some interesting results.

It was a great pleasure for me to receive a correspondence from the Editor of the MONOCULUS newsletter of the W.A.C- as I need to know the other Copepodologists and have some knowledges about their experience in working on Copepods.

My hope for the future is of course to go on doing my investigations in Copepods; trying to survey the ecological, taxonomical, genetical, ... aspects.

Deo BARIBWEGURE (Gent)

Kerrie Swadling - ***Curriculum Vitae***

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Areas of interest: Polar copepods, life-cycle strategies of copepods, lipid biochemistry, the role of sea ice in the ecology of copepods.

Field sampling: Lakes of northern Québec (June to September 1998). Nearshore waters and lakes of the Vestfold Hills, eastern Antarctica (1987/88, 1993/94/95/96). Coastal waters of the northern Gulf of Mexico (1989 to 1992). Coastal South-eastern Australia (1984).

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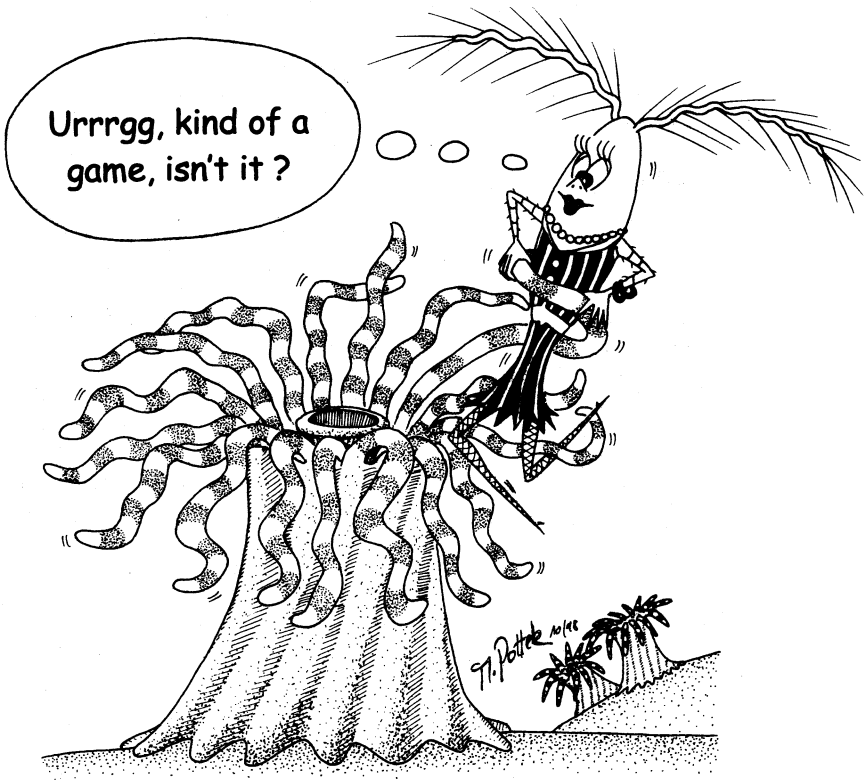
Urrrgg, kind of a game, isn't it ?