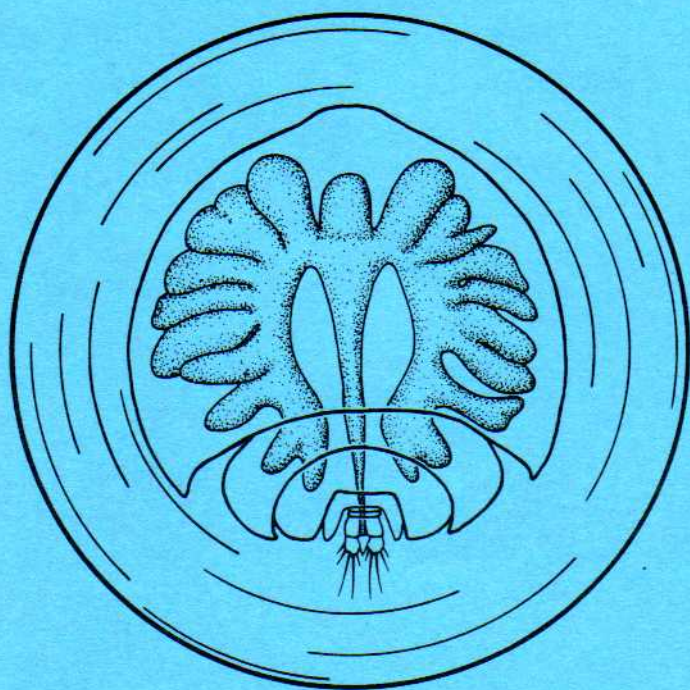


# MONOCULUS

Copepod Newsletter



Nr. 26

December 1993



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MONOCULUS  
Copepod Newsletter

Number 26

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This issue has been typed by: Dinah George-Henning, Arbeitsgruppe Zoomorphologie, Fachbereich 7 (Biologie), Universität Oldenburg.

Cover: Gross morphology of the digestive tract of *Artotrogus orbicularis* Boeck (after BOXSHALL 1986 - Syllogeus 58: 167)

Deadline for the next issue of MONOCULUS: 1st March 1993

---NEW MEMBERS OF WAC---

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## EDITORIAL

A year with an exciting International Copepod Conference has passed by. The highlights of the Baltimore meeting will be outlined in this issue by the local secretary of the conference Brian Bradley.

MONOCULUS 26 is reaching you late. We are not even sure whether it will be on everybody's Christmas plate. This delay is mainly due to the change in editorship. The new main editor has just returned from a stay abroad, the old main editor is on sabbatical leave, so the relay took some time. I shall keep the tradition of size, format and lay-out basically. However, I would like to extend the literature section to all papers dealing with any aspect of copepods, not only those sent to the MONOCULUS library (these will be marked by an asterisk in the future). For this goal I shall ask the current officers (as well as volunteers) for a copy of their literature entries. We are also going to publish a list of copepodologists with e-mail addresses.

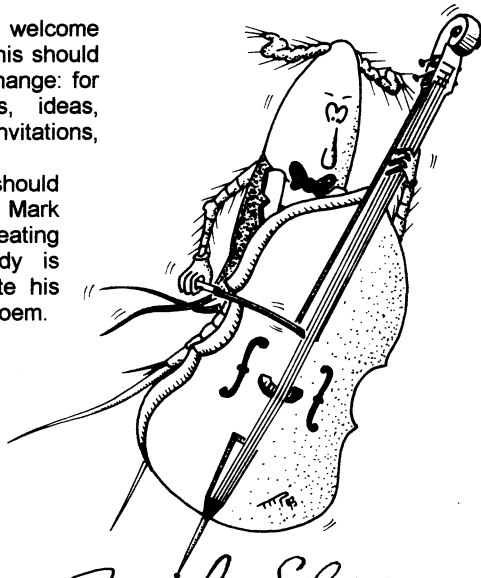
Being concerned about financial support for copepod research worldwide we consider a series of contributions on applied copepod studies starting in 1994. We want experts to report on the contents, methods and goals of their applied copepod research. We are interested in an evaluation of the (potential) role of copepods, e.g. in pest control, fisheries (as parasites or food) and as tools for environmental assessment studies. We would like to provide recommendations for fund raising proposals and on funding agencies (experienced colleagues are welcome to contribute). We also want to provide an information platform for any kind of scholar exchange programme, research projects with job opportunities, stipends etc. There is much more on the marked than most of us are aware of!

. Most important: everybody is welcome to contribute to MONOCULUS. This should be our forum for information exchange: for news on results and failures, ideas, requests, announcements, invitations, opinions, controversies.

Last not least, MONOCULUS should continue providing some fun. Mark Pottek promised not to cease creating new caricatures. And everybody is welcome to try and to contribute his own original cartoon, limerick or poem.

A Merry Christmas  
and a Happy New Year,

*Hans-U. Jahnig*



*J. K. M. J. Schmitt*

**BALTIMORE COPEPODA CONFERENCE**

(b y Brian Bradley, Baltimore, USA)

The V stage of Copepoda is now complete and as far as we know everyone has gone home. Those of you who attended were among 168 people from 34 countries. Hopefully most of the attendees felt it was worthwhile. Perhaps with time you will remember the good times and will forget the hot weather, prank phone calls in the dorm, problems with the projector, all the announcements and everything else that was annoying at the time. See, you'd forgotten already!

We are still working on Conference business and this letter is intended to answer some questions you may have.

Frank Ferrari is working hard on the manuscripts. He would like to get responses from reviewers as soon as possible so we can make the very tough decisions about which mss. are included. Some excellent papers may not be included because of the tight restraints imposed by the publisher. So, please be patient.

When the last participants have been identified on the group photo, it will be sent to all who ordered. The informal pictures are being sent now.

T-shirts will also be sent when available to those who ordered later.

One disappointment was the video record of the conference. I had hoped it would be sufficiently uniform in quality to formally offer edited versions to participants. Instead, I'm asking you to let me know if you'd like your talk, your session or the whole conference, without captions or editing. The conversion to other systems is too expensive one at a time, so we can only offer NTSC (The American/Japanese System).

Chad has something to add about the copepod researcher list. He is giving you one last chance to add to or correct the list started at the V International Conference, which includes all known Copepodologists. So please send any names, addresses, phones, fax, E-mail #, and topics of research that you deal with. These will be included in the listings. Chad's address is:

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**PRESENT KNOWLEDGE OF MARINE PLANKTONIC AND BRACKISH  
WATER COPEPODS. CORRECTIONS AND COMPLEMENTARY REMARKS.**

(by Claude Razouls  
Laboratoire Arago, 66650 Banyuls-sur-mer, France)

This work is an updating of the exhaustive inventory of marine planktonic and brackish water copepods published in 1982 (1).

Based on later publications, the author gives the references concerning new species and reexamines the taxonomic positions of the species, making corrections and giving complementary information.

250 genera distributed in 62 families are recorded. The total number of species is close to 1950.

\* This document appears as microfiche with the reference:

Razouls Claude SN 91 400 537 - microfiche 91 05 37 - (its cost is about 60 Frs)

\* It may be obtained by sending an order to:

Mme G. DEBREGEAS - LAURENIE, Institut d'Ethnologie, Musée de l'Homme Palais de Chaillot, Place du Trocadéro, 75 116 Paris. France.

\* On receipt of an order, the payment of the invoice should be made to:

Agent Comptable du Museum National d'Histoire Naturelle (Institution d'Ethnologie) at the address above.

(1) Taxonomic world-wide repertory and provisional bibliography of planktonic Copepoda from both the sea and brackish water. Various systems of classification. Vol I (pages 1 to 394): Razouls Claude SN 82 400 339 - microfiche 83 03 39 cost Vol. II (pages 395 to 781 + bibliography pages 782-875): Razouls Claude SN 82 400 340 - microfiche 83 03 40.

#### ADVANCES IN COPEPODOLOGY

(by Horst Kurt Schminke and Gustav-Adolf Paffenhöfer)

In the last issue of MONOCULUS suggestions have been made to strengthen the cohesion among copepodologists. Copepodology unites a wide variety of biological disciplines under the common roof of a particular group of organisms. These disciplines have gathered a great wealth of information on copepods but this information has hardly been assimilated beyond the limits of each of these disciplines. Most of this information is also widely dispersed in the literature. Therefore a need for review articles is undeniable. Such articles could stimulate interdisciplinary contacts and be of practical use for those writing grant proposals and in need of references for the current state of the art. It has been suggested to initiate a regular series of volumes under the title "Advances in Copepodology" to create a forum for such review articles.

We have decided to take the initiative and to act as editors (hopefully together with a third volunteer) and probably also as producers of such a series. We want to produce one volume a year and to devote every third volume to the Proceedings of our International Conferences of Copepoda. It is our intention to publish the first volume in 1995 or 1996 depending on the response to this announcement. We need volunteers with interesting and timely topics.

This is the first call for contributions. If you feel you have something to offer, please contact one of us.

-TIC OR -TONIC  
(a replic by Bernard Dussart)

In fact, we must differentiate several concepts inside what is called planktonic or planktic, sensu H.K.S. If planktic derives from "planktos", floating around, we have to give a name to the community which is "floating around" and another name to the space where this community is living (deriving from "pelagos"). Floating around is a static and individual approach. I suggest to call planktonic the community deriving from a greek term for this community: plankton. Is it acceptable? Moreover, "planktic species" is based on a notion, whereas "planktonic individuals" are living realities. The first are not restricted to time and space but the second are... Idem for benthic/ benthonic (bentic/ bentonic ?) of course ... What could be true in paleontology is not always true for the contemporary biosphere.

### CURRENT RESEARCH ACTIVITIES

Frank D. Ferrari; USA, Washington, D. C.:

In the next number of the Proceedings of the Biological Society of Washington, 106(3), I describe several copepodid stages of the calanoid copepod *Scopalatum vorax* (Scolecitrichidae). I differentiate the exopod and endopod of pre-maxillipedal legs and the maxilliped by analysing setal developmental patterns (the stages at which various setae are added to segments of an appendage). In a manuscript now in preparation describing all copepodids of a new species of Ridgewayia, I extend the analytical technique to differentiate internal lobes of pre-maxillipedal legs and the maxilliped. The purpose of these analyses is to use setal developmental patterns to examine segment homologies among copepod appendages.

### ANNOUNCEMENT

"ZOEAE": A newsletter on Crustacean larvae

"ZOEAE" is a newsletter intended for all workers interested in Crustacean larval development. This newsletter will serve as a forum to share results, to exchange ideas, and report on successes and failures. Interested carcinologists are encouraged to send us their address for the mailing list, short articles for publications, other items of interest, recent publications (since 1992), and suggestions for topics for us to consider. Publication will start in January 1994. Addresses of the editors are:

J. A. CUESTA, Departamento de Ecología, Facultad de Biología, Apdo. 1095, E-41080 Sevilla, Spain. (FAX (95) 4615780)

and

J. I. GONZALEZ-GORDILLO, Laboratorio de Biología Marina, Facultad de Biología, Apdo. 1095, E-41080 Sevilla, Spain. (FAX (95) 4233480).

## LITERATURE

1991

- ANDRONOV, V.N. - 1991: On Renaming of some taxa in Calanoida (Crustacea). Zool. Zh. 6: 133-134 (In Russian with English abstract)
- ISHIDA, T. - 1991: Variation in the species of freshwater harpacticoid copepods in Japan. I. *Canthocamptus mirabilis* Sterba. Bull. Plankton Soc. Japan, Spec. Vol.: 391-396
- KOOMEN, P. - 1991: Integumental organs in the oral cavity of *Euchirella messinensis* (Claus, 1863) (Copepoda, Calanoida). Bull. Plankton Soc. Japan, Spec. Vol.: 437-450

1992

- ANDRONOV, V.N. - 1992: *Ryocalanus admirabilis* sp.n. (Copepoda, Calanoida, Ryocalanidae). Zool. Zh. 71: 140-144 (In Russian with English abstract)
- BELMONTE, G. & C.N. BIANCHI - 1992: Zooplankton structure and distribution in a brackish-water basin. Oebalia 18: 1-15
- BELMONTE, G. - 1992: Diapause egg production in *Acartia* (*Paracartia*) *latisetosa* (Crustacea, Copepoda, Calanoida). Boll. Zool. 59: 363-366
- BÖTTGER-SCHNACK, R. - 1992: Community structure and vertical distribution of cyclopoid and poecilostomatoid copepods in the Red Sea. III. Re-evaluation for separating a new species of *Oncaea*. Mar. Ecol. Prog. Ser. 80: 301-304
- BOXSHALL, G.A. - 1992: Copepoda. In: HARRISON, F.W. (ed.), Microscopic Anatomy of Invertebrates. Vol. 9, HARRISON, F.W. & A.G. HUMES (eds.). Crustacea: 347-384
- HOLMES, J.M.C. & R.V. GOTTO - 1992: A list of the Poecilostomatoida (Crustacea, Copepoda) of Ireland. Bull. Ir. biogeogr. Soc. 15: 1-33
- HUYS, R., G.A. BOXSHALL & R. BÖTTGER-SCHNACK - 1992: On the discovery of the male of *Mormonilla* Giesbrecht, 1891 (Copepoda, Mormonilloidea). Bull. Br. Mus. nat. Hist. (Zool.) 58 (2): 157-170

- KABATA, Z. - 1992: Copepods parasitic on fishes. Synopses of the British fauna (N.S.). 47: 1-264
- KOOMEN, P. - 1992: The integumental perforation pattern of the *Euchirella messinensis* female (Copepoda, Calanoida): corrections, additions, intraspecific variation, and a checklist of pore sites. Crustaceana 63 (2): 113-159
- MACKINNON, B.M. & W. PIASECKI - 1992: Reproduction in *Caligus elongatus*, or: "How sea lice become so numerous!". Bull. Aquacul. Assoc., Canada 3: 20-21
- OTHMAN, B.H.R. & J.G. GREENWOOD - 1992: *Paramisophria fosshageni*, a new species of Copepod (Calanoida, Arietellidae) from the Gulf of Carpentaria. Proc. Royal Soc. Queensland 102: 49-56
- ROUCH, R. - 1992: *Parastenocaris mangini* n. sp., nouvel Harpacticoïde (Copépodes) stygobie des Pyrénées. Crustaceana 63 (3): 306-312 (In French with English abstract)
- ROUCH, R. - 1992: Un nouveau genre d'Ameiridae (Copepoda, Harpacticoida) dans le milieu hyporhéique d'un cours d'eau de l'Arizona. Stygologia 7 (3): 149-157 (In French with English abstract)
- ROUCH, R. & F. LESCHER-MOUTOUÉ - 1992: Structure du peuplement des Cyclopidés (Crustacea, Copepoda) dans le milieu hyporhéique d'un ruisseau des Pyrénées. Stygologia 7 (4): 197-211 (In French with English abstract)
- SOLOKHINA, E.V. - 1992: Two forms of *Eurytemora pacifica* (Crustacea, Copepoda, Calanoida) from the lagoon Gladkovskaya (the Commandor Islands). Zool. Zh. 8: 137-139 (In Russian with English abstract)
- STOCK, J.H. - 1992: A new species of *Hemicyclops* (Crustacea, Copepoda, Poecilostomatoida, Clausidiidae) associated with hermit crabs in Curaçao. Stud. Nat. Hist. Caribbean Region 71: 69-78
- STOCK, J.H. - 1992: Entomolepididae (Copepoda - Siphonostomatoida) from the Antilles. Stud. Nat. Hist. Caribbean Region 71: 53-68



1993

- DAHMS, H.-U. - 1993: Internal anatomy of female *Paramphiascella fulvofasciata* (Copepoda, Harpacticoida). Can. J. Zool. 71: 1242-1250
- DAHMS, H.-U. - 1993: Pictorial keys for the identification of crustacean nauplii from the marine meiobenthos. J. Crust. Biol. 13 (3): 609-616
- DAHMS, H.-U. - 1993: Copepodid development in Harpacticoida (Crustacea, Copepoda). Microfauna Marina 8: 195-245
- DAHMS, H.-U. - 1993: Meiofaunauntersuchungen in der Hochantarktis. 123 (1): 1-13
- DAHMS, H.-U. & J. BRESCIANI - 1993: Naupliar development of *Stenhelia* (D.) *palustris* (Copepoda, Harpacticoida). Ophelia 37 (2): 101-116
- DAHMS, H.-U. & C.H. FERNANDO - 1993: Naupliar development of *Phyllodiaptomus annae* (Apstein, 1907) (Copepoda, Calanoida) from Sri Lanka. Zool. J. Linnean Soc. 108: 197-208
- DAHMS, H.-U. & H.K. SCHMINKE - 1993: Mate guarding in *Tisbe bulbisetosa* (Copepoda, Harpacticoida). Crustaceana 65 (1): 7-12
- ISHIDA, T. - 1993: Rare copepods from fresh and brackish waters in Japan. Jpn. J. Limnol. 54 (3): 163-169 (In Japanese with English abstract)
- ISHIDA, T. - 1993: *Attheyella yesoensis*, a new harpacticoid copepod (Crustacea) from Hokkaido, Northern Japan. Proc. Japan. Soc. Syst. Zool. 49: 13-19
- ISHIDA, T. & T. KOBAYASHI - 1993: Copepods from waters around Ozerki Hatchery, Kamchatka, Russia. Sci. Rep. Hokkaido Salmon Hatchery 47: 109-112 (In Japanese with English abstract)
- ITOH, H. & S. NISHIDA - 1993: A new species of *Hemicyclops* (Copepoda, Poecilostomatoida) from a dredged area in Tokyo Bay, Japan. Hydrobiologia 254: 149-157
- KAWABATA, K - 1993: Mortality rate of *Eodiaptomus japonicus* (Copepoda, Calanoida) in Lake Biwa. Jpn. J. Limnol. 54 (2): 131-136
- KLEIN BRETELER, W.C.M. & M. LAAN - 1993: An apparatus for automatic counting and controlling density of pelagic food particles in cultures of marine organisms. Mar. Biol. 116: 169-174

- KUNZ, H. - 1993: Beitrag zur Kenntnis von zwei *Psammopsyllus*-Arten (Copepoda, Harpacticoida, Cylindropsyllidae). *Crustaceana* 64 (2): 143-154
- MIELKE, W. - 1993: Species of the taxa *Orthopsyllus* and *Nitocra* (Copepoda) from Costa Rica. *Microfauna Marina* 8: 247-266
- OHTSUKA, S., A. FOSSHAGEN & T.M. ILIFFE - 1993: Two new species of *Paramisophria* (Copepoda, Calanoida, Arietellidae) from anchialine caves on the Canary and Galápagos Islands. *Sarsia* 78: 57-67
- OHTSUKA, S., H.S.J. ROE & G.A. BOXSHALL - 1993: A new family of calanoid copepods, the Hyperbionycidae, collected from the deep-sea hyperbenthic community in the northeastern Atlantic. *Sarsia* 78: 69-82
- OHTSUKA, S., N. KUBO, M. OKADA & K. GUSHIMA, - 1993: Attachment and feeding of pelagic copepods on larvacean houses. *J. Oceanography* 49: 115-120
- OHTSUKA, S., S. OHAYE, A. TANIMURA, M. FUKUCHI, H. HATTORI, H. SASAKI & O. MATSUDA - 1993: Feeding ecology of copepodid stages of *Eucalanus bungii* in the Chukchi and northern Bering Seas in October 1988. *Proc. NIPR Symp. Polar Biol.* 6: 27-37
- PARK, T. - 1993: Calanoid copepods of the genus *Euaugaptilus* from Antarctic and Subantarctic waters. *Biology of the Antarctic Seas* 22, Antarctic Res. Ser. 58: 1-48
- PIASECKI, W. - 1993: *Neobrachiella hoi* n.sp. (Crustacea: Copepoda: Lernaepodidae) parasitic on spotted cusk-eel *Chilara taylori* off the Southern California Coast. *J. Parasitol.* 79 (3): 331-336
- PIASECKI, W. - 1993: Interantennary organ of *Achtheres percarum* von Nordmann, 1832 (Copepoda, Siphonostomatoida, Lernaepodidae) and some other new details of its external morphology. *Acta Parasitologica* 38 (1): 36-40
- PIASECKI, W. - 1993: Redescription of *Tracheliastes gigas* Richiardi, 1881 from the type-specimens, and its relation to synonymy with *Pseudotracheliastes stellatus* (Mayor, 1824) (Copepoda: Siphonostomatoida: Lernaepodidae). *Syst. Parasitology* 25: 153-157
- PIASECKI, W. & B.M. MACKINNON - 1993: Changes in structure of the frontal filament in sequential developmental stages of *Caligus elongatus* von

Nordmann, 1832 (Crustacea: Copepoda: Siphonostomatoida). Can. J. Zool. 71: 889-895

REID, J. W. - 1993: *Fimbricyclops jimhensoni* n. g., n. sp. (Copepoda: Cyclopoida: Cyclopidae), from Bromeliads in Puerto Rico. J. Crust. Biol. 13 (2): 383-392

ROUCH, R., A. PITZALIS & A. DESCOUENS - 1993: Effets d'un pompage à gros débit sur le peuplement des Crustacés d'un aquifère karstique. Annls. Limnol. 29 (1): 15-29 (In French with English abstract)

VAUPEL-KLEIN, von, J.C. & P. KOOMEN - 1993: An aberrant A1 in *Euchirella pseudopulchra* (Copepoda, Calanoida). Crustaceana 64 (1): 122-126

WEISSMAN, P., D.J. LONSDALE & J. YEN - 1993: The effect of peritrich ciliates on the production of *Acartia hudsonica* in Long Island Sound. Limnol. Oceanogr. 38 (3): 613-622

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THE WORLD ASSOCIATION OF COPEPODOLOGISTS (WAC)  
 (updated September 1993)

**1. Description, Activities, and History:**

The World Association of Copepodologists was founded in 1987. The WAC's general aim is to promote research on the Copepoda through facilitating communication among interested specialists. The WAC is an unincorporated nonprofit international association governed under the Bylaws. The WAC's main activities are sponsorship of the biannual MONOCULUS-Newsletter and of triennial International Conferences on Copepoda.

The Conferences and the Newsletter were initiated before the founding of the WAC. The First International Conference on Copepoda was held in 1981 in Amsterdam. Subsequent Conferences were held in 1984 (Ottawa, Canada), 1987 (London, UK), 1990 (Karuizawa, Japan) and 1993 (Baltimore, USA). Proceedings volumes have been published for each Conference. Publication data for the 1981 Conference: 1984, Crustaceana Supplement 7, Studies on Copepoda II; for 1984: 1986, Syllogeus 58; for 1987: 1988, Developments in

Hydrobiology, *Hydrobiologia* 167/168; for 1990: 1991, Bulletin of Plankton Society of Japan, Special Volume. The proceedings of the 1993 Conference will be published in *Hydrobiologia*.

The MONOCULUS-Newsletter first appeared in 1980, edited by Horst Kurt Schminke and produced by Gerd Schriever. In 1993 Kurt Schminke became Local Secretary for the Sixth International Conference and Hans-Uwe Dahms assumed the position of Editor. The history of the WAC has been described in several articles in the Newsletter.

## **2. Current Officers (1993-1996):**

Dr. Gustav-A. Paffenhofer (President)  
Skidaway Institute of Oceanography  
PO Box 13687  
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Tel: (912) 598-2489 Fax: (912) 598-2310  
OMNET: G. PAFFENHOFER

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California State University  
Department of Biology  
1250 Bellflower Blvd.  
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Tel: (310) 985-4812 Fax: (310) 985-8887  
e-mail: GALT@CSULB.EDU

Dr. Janet W. Reid (General Secretary)  
National Museum of Natural History  
Smithsonian Institution  
Department of Invertebrate Zoology, MRC 163  
Washington DC 20560 USA  
Tel: (202) 357-4674 Fax: (202) 357-3043  
Bitnet: MNHIV035@SIVM.SI.EDU (c/o Chad Walter)

Dr. Gerd Schriever (Treasurer)  
Universität Hamburg  
Institut für Hydrobiologie und Fischereiwissenschaft  
Zeiseweg 9  
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Tel. & Fax: +49-40-41236670

Dr. H. Kurt Schminke (Local Secretary, Sixth International Conference, Oldenburg, 1996)  
Universität Oldenburg  
Arbeitsgruppe Zoomorphologie, Fachbereich 7 (Biologie)  
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Dr. Ruth Böttger-Schnack (Member, Executive Council)  
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Dr. J.G. Greenwood (Member, Executive Council)  
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Dr. Shin-ichi Uye (Member, Executive Council)  
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Dr. Hans-U. Dahms (Editor, MONOCULUS-Newsletter)  
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Arbeitsgruppe Zoomorphologie, Fachbereich 7 (Biologie)  
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D-26111 Oldenburg, Germany  
Tel: (0441) 798-3369 Fax: +49-441-798-3250  
e-mail: HUDAHMS@HRZ1.(PCNET.)UNI-OLDENBURG.DE

### **3. Founder Members:**

At the beginning of August 1987, all members who were on the MONOCULUS-Newsletter mailing list became Founder Members (Article 1 of the By-laws). This was an unique event and it is not now possible for others to join the WAC as Founder members.

### **4. Active and Candidate Members:**

Any person interested in any aspect of the study of the Copepoda is eligible for membership in the WAC. An applicant for membership must be nominated by two active and/or founder members of the Association; those who have completed this application process become Candidate Members. A list of



Candidate Members will be presented to the membership by the Executive Council during each business meeting of the WAC, and Candidate Members whose applications are ratified by a quorum of the business meeting then become Active Members. If you are interested in becoming a member of the WAC, write to the General Secretary (Jan Reid) for an application form and other information.

Note that application requires the signature of two members. If this causes difficulty, please send the application form and a copy of your curriculum vitae to the General Secretary, who will assist in obtaining the signatures.

A list of Founder and Active Members is available from the General Secretary.

#### **5. Dues:**

Dues are payable by Founder, Active, and Candidate Members. Members who have difficulty paying dues may apply to the President and the Executive Council for a waiver or reduction (see Article 10 of the By-laws).

Dues were set at US \$ 12.00 (DM 20,00) by approval of the quorum of the business meeting at the Fifth International Congress, June 1993. Dues may be paid up to two years in advance, in person at WAC conferences, or by mail to the Treasurer (Gerd Schriever). Europeans may send their personal Euro-Cheques in German Marks. Americans and Canadians should send their personal checks, while all others should use international money orders or bank drafts (cash) in US \$ and make these payable to the following account:

No. 7233190, Commerzbank Kiel, mark "WAC, c/o Dr. G. Schriever"

Those who want to pay by postal money order may use the following account:

No. 346508-303, Postgiroamt Hannover, mark "c/o Dr. H.K. Schminke"

Dues may also be paid in US \$ cash.

Members who are more than two years in arrears will automatically have their membership terminated and will no longer receive the MONOCULUS-Newsletter.

#### **6. Mailing List:**

Gerd Schriever keeps the official mailing list of members and the names of those who have paid their dues. If you change your address or have a question about your dues you should contact Gerd.

#### **7. Bylaws:**

The original and updated versions of the Bylaws appear in various issues of the MONOCULUS-Newsletter. The latest revisions were approved at the Fourth International Conference, Karuizawa, Japan, 1990. The complete Bylaws as amended then are available from the General Secretary.

#### **8. MONOCULUS-Newsletter:**

All Founder, Active, and Candidate Members receive the MONOCULUS-Newsletter, which is normally issued twice yearly in spring and fall. The newsletter is the chief means of communication among members of the WAC

and contains articles, news, biographies, address changes, and lists of reprints donated to the Monoculus-Library. The newsletter may be sent gratis to individuals in countries where obtaining foreign currency is difficult, upon application and approval by the President and Executive Council.

#### **9. Monoculus and Wilson Libraries:**

Two extensive collections of literature on the Copepoda are available as public resources. The "Monoculus Library" is maintained at the Universität Oldenburg, Germany; contact Kurt Schminke for more information. The "C. B. Wilson Copepod Library" is maintained at the National Museum of Natural History, Smithsonian Institution, USA; contact Jan Reid.

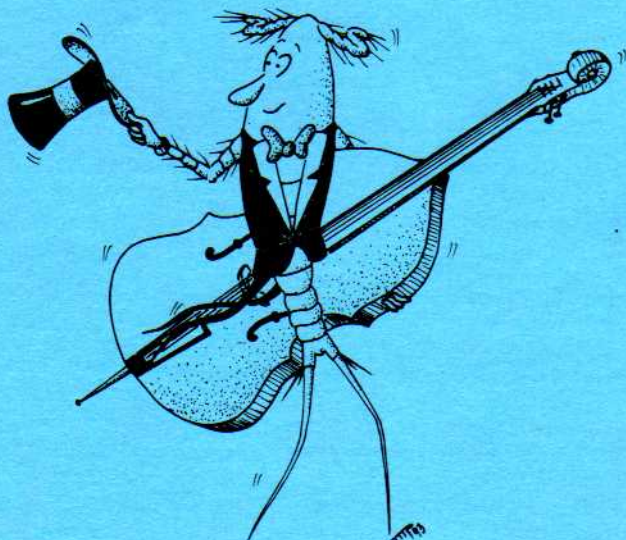
#### **10. Survey of Copepodologists of the World:**

Copies of "Survey of Copepodologists of the World" were sent free to members in 1990. Copies will be sent to new members while supplies last. Nonmembers may obtain copies for US \$ 10.00 by contacting Kurt Schminke. A less completely cross-referenced survey was developed for the Fifth International Conference in 1993, and is being constantly updated. This survey is available for the cost of photocopying; contact Jan Reid.

#### **11. Crustacean Database:**

The Crustacean Database currently contains about 28,000 documents, mainly dealing with the Copepoda and Tanaidacea. Persons interested in using the database may contact the following institution for more information:

DIMDI, Postfach 420580, D-50939 Köln, Germany.





**The World Association of Copepodologists**  
Application for Membership

I, \_\_\_\_\_, hereby apply for membership in the World  
Last Name (Family Name) First

Association of Copepodologists (WAC), recommended by the following two Active or Founder Members:

1. \_\_\_\_\_  
Last Name (Family Name) First (Signature)

2. \_\_\_\_\_  
Last Name (Family Name) First (Signature)

Mailing address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail address(es): \_\_\_\_\_

Date of Birth: \_\_\_\_\_ Highest Academic Degree: \_\_\_\_\_

Field(s) of interest: \_\_\_\_\_

I authorize my name, address, and data regarding my research interests to be entered in the database maintained by the WAC and made available to interested colleagues.

Signature and Date: \_\_\_\_\_

**Nominations:** Mail this form to: Dr. Janet W. Reid  
General Secretary, WAC  
Dept. Invertebrate Zoology, MRC-163, National Museum of Natural History  
Smithsonian Institution, Washington DC 20560 USA

Upon receipt of this form, payment of one or more year's dues, and approval by the Executive Council, each applicant will be considered a Candidate Member and will begin receiving the *MONOCULUS*-Newsletter. A list of Candidate Members will be presented to the general membership at the next regular business meeting (at the Sixth International Conference on Copepoda, Oldenburg, Germany, 1996). Candidates approved by the general membership become Active Members.

**Dues:** Dues (US \$12.00 or DM 20.00 per annum) payable by Founder, Active and Candidate Members may be paid up to two years in advance. Dues may be paid in person at WAC conferences, or by mail to:

Dr. Gerd Schriever  
Treasurer, WAC  
Universität Hamburg  
Institut für Hydrobiologie und Fischereiwissenschaft  
Zeiseweg 9  
D-22 765 Hamburg, Germany

Europeans may send their personal Euro-Cheques in German Marks. Americans and Canadians should send their personal checks payable to WAC, while all others should use international money orders or bank drafts (cash) in US \$ and make these payable to the following account: No. 7233190, Commerzbank Kiel, mark "WAC, c/o Dr. G. Schriever". Dues may also be paid in US \$ cash.

Updated September, 1993