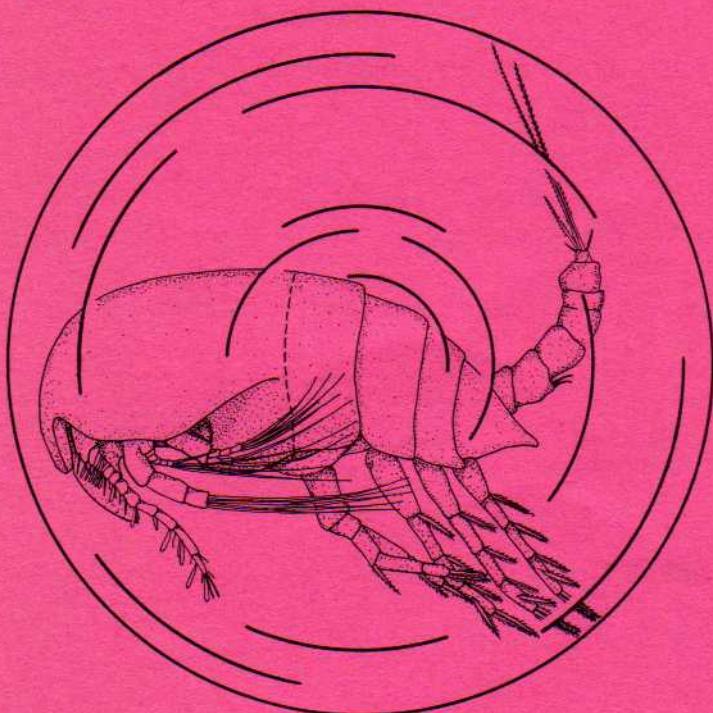


MONOCULUS

Copepod Newsletter



Nr. 12

April 1986



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MONOCULUS

Copepod Newsletter

Number 12

April 1986

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This issue has been typed by: Angelika Sievers, Fachbereich 7 (Biologie), Universität Oldenburg.

(This document is not part of the scientific literature and is not to be cited, abstracted or reprinted as a published document.)

Birthdays this year

70: A. Humes

75: C. Cheng

T. Chiba

C.C. Davis

J.P. Harding

Deadline for the next issue of *MONOCULUS*: 15 September 1986

E d i t o r i a l

It is a great fun reading older literature. Those articles allow the author's personality to shine through. They don't only give results but almost invariably also the whole story how these results were obtained. They allow for personal comments and judgements, for enthusiasm and denigration. As time goes by, many of these judgements and circumstances tend to lose their original seriousness until they are so distant that today they start to amuse us. This will always be so, only that our modern scientific articles have lost any entertaining personality. However, who knows, perhaps we are only lacking the necessary distance and in a hundred years' time people will be as amused about us as we are about our innocent forbears.

Going through the literature on copepods on her search for correct keywords for the computerized bibliography Mrs. Juhl has come across several such entertaining pieces of scientific prose. Unfortunately, most of them are in German and we are quite unable to translate them such that the original flavour is not lost, but some are in English and these we shall start today to intersperse among our lists of current literature under the heading of "Excerpt from the literature". Should anyone of you also ever stumble upon such treasures please let us share your astonishment and hilarity.

THE WORLD ASSOCIATION OF COPEPODOLOGISTS is starting to take shape. Dues will be levied from now on. Yes, it is serious. There is hardly any escape. But why struggle when the dues are so modest? You have opened your little savings account, haven't you? It will last for long and not be drained all at once. Please pay your dues to Gerd and make sure that any charges are paid by the payee.

The "Proceedings of the Second International Conference on Copepoda" are out. It is a heavy volume of 662 pages including an index of 16 pages. If you want to secure a free copy there is the unique chance of ordering it by filling in the questionnaire which you find as the middle pages of this issue and by returning it completed to Kurt. First come, first served. This questionnaire aims at updating our survey of copepodologists

which has been rather superficial so far. We need more detailed information. Those who will have returned the questionnaire before the next issue of the newsletter will receive *MONOCULUS* No. 13 on top of the Proceedings, those who won't, will remain without both of them. So don't forget the questionnaire!

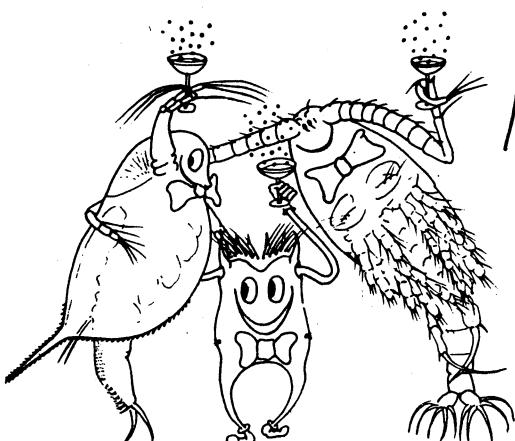
MONOCULUS has received a donation of 30,000 yen (about US \$ 110.00) made during the "Second Japanese Conference on Copepoda" in 1985 (read report below). About 20 anonymous copepodologists from various parts of Japan have contributed, we were told, to this generous gift. We thank everyone of them for this sign of sympathy and encouragement.

This issue of *MONOCULUS* has been produced with the help by several colleagues who have made either written or drawn contributions. We thank C. Bakker, G. Boxshall, H. Juhl, S. Nishida, M. Omori, J.C. Paggi, J. Stock, and W. Wägele for their cooperation. Also we have received several greeting cards for Christmas and New Year one of which is reproduced below. It is always a great pleasure to receive these greeting cards. Thank you very much.

REMEMBER: DUES AND QUESTIONNAIRE.

J.K. Murray

J. Schramm



Happy New
Year!

Juan Carlos Paggi

THE WORLD ASSOCIATION OF COPEPODOLOGISTS

WAC WAC WAC WAC

1. Dues

With January 1st this year we have entered the founding phase of THE WORLD ASSOCIATION OF COPEPODOLOGISTS. What had to be left open last time can now be disclosed. The Executive Council has fixed the annual dues at US \$ 7.00 for everybody.

2. Membership

Provided your name has been registered in the "Directory of Copepodologists" (see list further below) all of you have so far been ordinary members of the *MONOCULUS* community. With the beginning of this year all of you have turned overnight into founder members of the WAC (Article 1 of the By-laws), and unless you inform the General Secretary (K. Schminke) by letter that you don't wish to be a member you will remain in this status. This means that your first membership fees are now due.

Unless you have reasons to ask the Executive Council to have your dues waived or reduced (Article 10 of the By-laws) and let the Founder-President (Dr. Z. Kabata, Pacific Biological Station, Nanaimo, B.C., Canada V9R 5K6) know what these reasons are, please pay the amount of US \$ 7.00 into the following account:

No. 7233 190, Commerzbank Kiel

Make your cheque payable to WAC, c/o Dr. G. Schriever, Zoologisches Museum, Hegewischstr. 3, D-2300 Kiel, W. Germany.

No new founder members will be created after January 1st, 1987. From then until the business meeting of the WAC in London in August 1987 members of the WAC will therefore consist of:

- a. Founder members in good standing (i.e. having paid dues until December 31st, 1986)
- b. Founder members whose dues have been waived by the Executive Council
- c. Candidate members

Finally, from the business meeting of the WAC in August 1987 onwards membership of the WAC will consist of:

- a. Founder members in good standing (and whose dues will be due before January 1st of each following year)
- b. Founder members who have had their fees waived
- c. Active members (whose dues will be due before January 1st of each following year)
- d. Active members who have had their dues waived
- e. New candidate members

This leaves you only with this year to become a founder member. So don't hesitate to plunder your little savings account immediately in order to pay your dues.

3. Nominations

Proposals are invited for the next slate of officers. The first business meeting of the WAC in London will have to elect a new President, General Secretary/Treasurer and two Council Members (Article 3 of the By-laws). As the Executive Council "must ascertain that each candidate is willing to stand for office and serve if elected" (Article 7) don't hesitate to name your candidate(s) in a letter to the Founder-President (Z. Kabata) as soon as you have become a founder member of the WAC by paying your dues. "Nomination ... may be made in writing by any two members of the WAC" (Article 7).

Business ssenisuB

1. MONOCULUS-Library/Bibliography

As pointed out last time the MONOCULUS-Library and the project of a computerized bibliography of copepod literature are from now on so intimately connected that the success and completeness of the latter depend on the contributions to the first. So please keep on sending your latest reprints as soon as they become available and help with the recruitment of older literature so crucial for our bibliography project.

In this respect we can again acknowledge the receipt of several parcels with old reprints some dating from the last century. J. REID (Washington) sent a further batch of duplicates from the Wilson-Library, D. TRANTER (Hobart) had a firm box with older reprints mailed to us and T. WOLFF (Kopenhagen) announced: "Your touching request for reprints to the MONOCULUS-Library has caused me to go through our rather extensive collection of duplicates left by P.E. Heegaard. These have so far been available for copepodologists visiting the museum (the Zoologisk Museum, København) I can also let you have an almost complete set of Heegaard's (own) copepod papers and should like you to announce that we have a fair number of duplicates of most of them. These are available for anyone who might be interested." The MONOCULUS-Library has received its share in the meantime and thanks for these three particular contributions as well as for the regular ones which form the list of current literature further below.

Nothing is more contagious than good examples. So we haste to repeat our appeal to all of you in the hope that it might again be found touching and stimulate further beneficial action.

- Please reduce your stocks of older publications or, if possible, make xerox copies of them and deposit them in the reference library of all copepodologists.
- Please instigate the staff of your departmental library to screen the reprint stocks for leftovers with copepodological contents and mail them straight to the MONOCULUS-Library.
- Please don't discard duplicates in your own reprint collection but make them available to the MONOCULUS-Library.

2. MONOCULUS-Museum

M. and R. Holyński (Tiszavasvári, Hungary) express concern: We would probably be able to send some material from Hungary or Poland to the MONOCULUS-Museum. In our opinion, it is an excellent idea, and we are deeply disappointed, reading the dry "No news" in your report and finding probable explanation

to this in the letter by R. Hamond ("I am deeply sorry to hear that what I thought was a good idea has had so little success.")! Having not seen No. 10 of *MONOCULUS*, we do not know the real meaning of these words - whether there are but "normal" initial difficulties, a temporary crisis, or real danger of failure of the idea? - but we firmly hope the situation is not irretrievably lost, and the "patient" (Museum) will recover and flourish!"

3. Mailing

Our copy of *MONOCULUS* No. 11 for T.E.V. Forsberg, Marine Biological Association, Citadell Hill, Plymouth, England, has been returned with the remark "No longer works here." Who knows the new address?

4. Current research activities

M. DOJIRI from Washington, D.C., USA:

I am currently involved in five projects.

- 1) I am employed by the Minerals Management Survey/Bureau of Land Management in which I identify all crustaceans and pycnogonids from the North Carolina, South Carolina, and Georgia area. Several interesting specimens have been uncovered including an ingolfiellid amphipod.
- 2) I have recently completed the revision of the Taeniacanthidae, poecilostome copepods parasitic in sea urchins and on marine fishes, with Dr. Roger Cressey of the Smithsonian Institution. This manuscript is an extension of my Postdoctoral Fellowship project at the Smithsonian. This revision will be in press sometime in early 1986.
- 3) I am investigating the dimorphic spermatophore and spermatophore placement of the calanoid copepod Euchaeta antarctica with Dr. Frank Ferrari of the Smithsonian Oceanographic Sorting Center. We have found that the correctly placed spermatophore (over the genital orifice) is approximately half the size of the alternately placed spermatophore. The

correctly placed spermatophore not only has a smaller diameter, but a much shorter neck and much thinner wall than the alternately placed spermatophore. We have examined the genital area of the females with SEM, made camera lucida drawings, and taken counts of correctly versus alternately placed spermatophores. In addition we are studying the seasonal distribution of stage V and stage VI copepodids of this species from specimens obtained from the USARP (United States Antarctic Research Program).

- 4) I am also conducting a taxonomic investigation of a poecilostome copepod belonging to the Lichomolgidae found living in a gall on the scleractinian coral Seriatopora hystrix. The lichomolgid appears to be a species of a new genus. This is the first record of a poecilostome copepod inhabiting a gall of a scleractinian.
- 5) My fifth project does not involve copepods. It is a study of the Tanaidacea found along the northeastern coast of the United States, primarily the North Carolina, South Carolina, Georgia area from the MMS/BLM collections. This work is being conducted with Dr. Jürgen Sieg, currently a Smithsonian Postdoctoral Fellow.

D. MARCOGLIESE from Winston-Salem, North Carolina, USA:
My Ph.D. dissertation involves investigation of the zooplankton community (where cyclopoids play an important part!) in a thermally-altered reservoir in North Carolina.

I also am concerned with the role of cyclopoids as intermediate hosts of fish tapeworms. We are currently attempting to evaluate the role cyclopoid intermediate hosts play in the seasonal dynamics of these cestodes.

G. PAUL from Madurai, India:

As a part-time study, I'm working for my research study on the topic "The Biology of Mesocyclops leukarti (Claus), the cyclopoid copepod in the fresh water". My study on the biology includes the morphology and anatomy. I have taken sections-transverse, sagittal and coronary - of the animal for the study of internal anatomy.

F.R. ROUBAL from Oban Argyll, UK:

Roubal, F.R. 1985. Histological, cytological and morphometric aspects of ectoparasite pathology on the marine bream, Acanthopagrus australis (Family Sparidae). Ph.D. Thesis, University of New England, Armidale, NSW 2351, Australia.

The study dealt with the histopathology of ectoparasitic copepods on the gill filament (Alella macrotrachelus, Lernanthropus atrox, Ergasilus sp.) gill arch (Clavellopsis parasargi), mouth cavity (Neobranchiella lata, Caligus pagrosomi), pseudobranch (Ergasilus australiensis), nasal and opercular cavities (Par ergasilus acanthopagri) of the sparid Acanthopagrus australis. The effects of monogeneans and other ectoparasites was also examined. A detailed transmission and scanning electron microscope study was made of the gill parasites in order to identify infiltrating cell types and determine the alterations in resident cell types within the epithelial and subepithelial tissue. Based on multiple regression equations, a morphometric model was derived that related respiratory surface area per length of gill filament to fish head length and filament length. It was then a straightforward matter to measure the length of filament(s) affected by an individual ectoparasite and convert this to surface area. This allowed me to quantify the pathogenicity (surface area loss) of ectoparasites on a wide range of host size. The relevant papers are in press or under review. At present I am working at SMBA on the ultrastructural aspects of feeding and pathogenicity of the protozoan ectoparasite, Ichthyobodo necator, on Atlantic salmon and rainbow trout.

5. Questionnaire

You have long not been bothered with a questionnaire, but today you will be asked to reserve 10 minutes for *MONOCULUS* in order to help us with our new survey of copepodologists. Our knowledge of who specializes in which discipline of copepodology is rather superficial. For our next "Directory of Copepodologists" we want more detailed information than has been customary on the postcards that have served as entry to *MONOCULUS* so far. The first directory was published in August 1981 and contained

information on 357 copepodologists. In the meantime *MONOCULUS* is delivered to 583 addresses. It is time therefore to update the directory and for this we need your cooperation. We have designed a detailed questionnaire which you will find as the middle pages of this issue.

You have now received 12 free issues of *MONOCULUS* irrespective of whether you have ever contributed to its contents or to the other activities connected with it. No. 13 (a number with superstitious connotations in European folklore) will only reach you provided you have returned the completed questionnaire. Our experience from previous questionnaires is that about 90 will be returned. This is not enough for our present purpose and we hope therefore that you will understand that a sanction is needed together with a bait. The questionnaire also serves as order form for a free copy of the "Proceedings of the Second International Conference on Copepoda, Ottawa 1984". So there are two compelling reasons not to forget to return the completed questionnaire to Kurt Schminke.

When filling in the questionnaire please make sure:

1. that you begin with that part of your name which in lists of cited literature appears first. You will have noticed that we tend to have difficulties with names from China, Spain and South America and partly also from India, so that some of these don't appear in the correct alphabetical order. We want to rectify this and need your help.
2. that the information on the taxonomic group you are working with is as specific as possible. If you study the biology of one species just give the name of that species and not that of a higher category. It is the quality of your work that counts, not whether you study all copepods or just one or a few. Please use an extra sheet if there is not enough space to account for your particular situation.
3. that the information pertaining to geographic and ecological area is also as specific as possible.

As a general rule try to avoid vague statements and unless not strictly appropriate refrain from using broad generalizations

like worldwide, marine, Harpacticoida (when only two families are studied) etc. Be as precise as possible. Thank you.

Don't forget: we shall skip you with the next issue of *MONOCULUS* unless you have returned the completed questionnaire before the deadline for this issue: 15 September 1986.

The letter box

R. GOODING (St. Michael, Barbados) writes: You may like to know that I left my job with the Caribbean Examinations Council in late 1984 as one result of a long illness. Now recovered, I am trying for a grant to enable me to get back to working on copepods, at home. I am also planning to attend the 3rd International Conference in London next year. ... Continued thanks also to you and your colleague for the excellent work on *MONOCULUS*. It is a great help to us 'out in the sticks' to be able to keep in touch in this way.

R. HAMOND (Morston Holt, Norfolk, UK) asked us to print the following note: After the acceptance of a monograph (to be published late next year as a supplement to the Australian *Journal of Zoology*) on the freshwater harpacticoids of Australia, with nearly a thousand figures, Dick Hamond made his long-delayed return to his former home in England (Scaldbec House, Morston, Holt, Norfolk) on Oct. 15th. His main necessity is to get his house and garden in order, and since both of them are very large, he may have to make the bitterly unwelcome decision to sell them and move to somewhere smaller but easier to manage. He also may have to earn a living at something other than science, in which case he hopes to practise taxonomy as an amateur. In giving his friends the explanation that he feels they deserve, he asks for their good wishes, and their understanding of his inability to examine copepods until his personal affairs have been straightened out, which may well take until mid-1986 or even later. However, he would like to receive reprints of all papers on harpacticoid taxonomy, and of papers

containing lists of harpacticoids found in ecological or other surveys, as well as specimens from all marine and freshwater habitats preserved in dilute formalin.

J.H. STOCK (Amsterdam, The Netherlands) sent us the copy of his letter to J.B. JONES (Wellington, New Zealand): I noticed your request (in *MONOCULUS* no. 11) about the initials of Eugène HESSE. Like mentioned in the previous sentence, his given name is Eugène. He was a naval officer (not a biologist at all) in the French Navy and spent the greater time of his life in the naval base of Brest in Brittany. The indication "M. Hesse" in most of his papers published in the *Annales des Sciences Naturelles*, is an abbreviation for Monsieur (= Mr.). In the same issues of this journal, the "M" returns for many other authors (M. Thorell, the well-known Scandinavian copepodologist for instance, in Hesse's 3rd article (1864: 333); sometimes accompanied by the true initials ("M. R. Owen" for R. Owen). There was only one Hesse (*Dieu Merci*). As to the date of publication of Hesse's work(s), I cannot tell you anything that you did not know (the paper mentioned in *MONOCULUS* no. 11 bears in printing the date Octobre 1878, but may have been published later, of course).

NEWS NEWS News News news news news neWS nEWS nEWs NEWS

THE SECOND JAPANESE CONFERENCE ON COPEPODA

The Second Japanese Conference on Copepoda was successfully held on 27-28 November 1985 at the Ocean Research Institute (ORI), University of Tokyo (organizer: Prof. T. Nemoto, ORI). The first meeting on Copepoda in Japan was held in 1976 under the title of "Symposium on Taxonomy of Copepods" and reported by M. Omori in *MONOCULUS* No. 2. Following the general consent of Japanese copepodologists obtained in 1976 meeting, the conference of this time was convened by M. Omori (Tokyo Univ. of Fisheries) and S. Nishida (ORI) aiming to review the progress of copepodology in Japan during the last 10 years and to discuss current topics and problems in copepodology. It was

very fortunate that the total number of the participants reached to 124 including some eminent scientists such as Drs. O. Tanaka, S. Motoda and I. Yamazi. Thus, nearly all copepodologists in Japan gathered together. The Conference was composed of 22 papers, a panel discussion and reports. The details are as follows.

SECOND JAPANESE CONFERENCE ON COPEPODA

November 27-28, 1985

(Ocean Research Institute, University of Tokyo)

Programme

Nov. 27 (Wed)

Opening Address T. Nemoto (Ocean Research Institute)

A. Phylogeny and Taxonomy

Chairman: M. Omori (Tokyo Univ. of Fisheries), T. Minoda
(Hokkaido Univ.)

1. Terminology in copepod taxonomy and morphology - its status and prospect of unification.

S. Nishida (Ocean Research Institute)

2. Phylogeny

a) Origin of Copepoda

T. Itoh (Kyoto Univ.)

b) Cladistic methods in copepod phylogenetics

S. Nishida

c) Phylogenetic features in ontogeny

K. Izawa (Mie Univ.)

3. Problems in taxonomy and identification of Japanese copepods

a) Calanus

S. Kadota (Nihon Univ.)

b) Calanoida

Y. Kotani, K. Odate (Tohoku Regional Fisheries Research Laboratory)

c) Mesocalanus

T. Toda (Hokkaido Univ.)

d) Paracalanidae

J. Hiromi (Nihon Univ.)

e) Acartia

H. Ueda (Univ. of the Ryukyus)

f) Oithona

S. Nishida

g) Microsetella

R. Hirota (Kumamoto Univ.)

h) Longipedia

T. Itoh

B. Production and Behaviour - Methodology and Problems in the
Production Ecology of Copepods
Chairman: H. Sekiguchi (Mie Univ.)

1. Estimation of production

S. Uye

2. Production of Acartia in a saline pond

J. Ohno, Y. Okamura (Tokyo Univ. of
Fisheries)

3. Behaviour and crowding effect in the population fluctua-
tion of Oithona

M. Uchima (Tokyo Univ.)

Reception (dinner)

Nov. 28 (Thurs)

C. Research Trend in Copepodology and its Status in Japan,
with Special Reference to Subjects with Few Investigators
Chairman: S. Kadota

1. Life history of Eodiaptomus japonicus in the Lake Biwa
K. Kawabata (Kyoto Univ.)

2. Life history of a parasitic copepod Pseudomyicola spinosus
T.T. Do, T. Kajihara, K. Nakamura
(Ocean Research Institute)

3. Postembryonic development in a parasitic copepod Pseudo-
caligus fugu

T. Takegami (Kyoto Univ.)

4. Ecology of benthic copepods

F. Koga (Nansei Regional Fisheries
Research Laboratory)

5. Distribution of interstitial harpacticoids

Y. Kitajima (Hiroshima Univ.)

6. Research of near-bottom calanoids in Japan

S. Ohtsuka (Hiroshima Univ.)

7. Research of terrestrial harpacticoids

Y. Kikuchi (Ibaraki Univ.)

D. Problems and Future Prospect in Copepod Research -

Panel Discussion

Chairman: S. Uye

Panelists: K. Izawa, T. Itoh, M. Omori, K. Kimoto (Seikai
Regional Fisheries Research Laboratory), A.
Tanimura (National Institute of Polar Research),
K. Furuhashi (Japan Meteorological Agency)

E. The Third International Conference on Copepoda

Chairman: M. Omori, S. Nishida

1. The Third International Conference on Copepoda; Information
2. The Fourth Conference; Possibilities

Closing Address

M. Terazaki (Ocean Research Institute)

(S. Nishida, M. Omori)

DUTCH-BELGIAN DISCUSSION GROUP ON GRAZING

Vol. 19(1) of the HYDROLOGICAL BULLETIN (1985) has appeared. All the papers in this issue are grouped under the title "The measurement of ingestion of phytoplankton by zooplankton: techniques, problems and recommendations". The articles are the result of a series of 20 meetings in the years 1981-1984 by a number of Dutch and Belgian ecologists studying the grazing by copepods in natural waters (varying from freshwater lakes to North Sea). Most attention goes to problems associated with the particle technique (6 papers), while also the ^{14}C method (2 papers, and another coming in the next issue), chlorophyll and gut fluorescence (2 papers) and digestive enzyme activity (1 paper) are treated.

Requests for reprints of separate articles (listed in the literature of this *MONOCULUS*) can be sent to C. Bakker if the address of the author is unknown but complete copies of this issue can also be ordered by paying Dfl 10 or \$ 5 to C. Bakker, Delta Institute for Hydrobiological Research, Vierstraat 28, 4401 EA YERSEKE, Netherlands.

A new series of discussions will start spring 1986, now concerning the fate of material ingested by copepods: assimilation, faecal pellet production, respiration, growth, egg production.

Meetings will usually be held at the Royal Academy of Science in the centre of Amsterdam (Kloveniersburgwal 29), every month during the period September-May. Scientists in neighbouring countries who want to attend (part of) these meetings, and those who want to give an oral review on one of the topics listed above during a temporary stay in West-Europe, are kindly requested to get in contact with Dr. M.A. Baars, Neth. Inst. for Sea Research (tel. 02226-541) to fit their attendance in the programme schedule.

C. Bakker, Yerseke

JANICKI MEDAL FOR KABATA

In recognition of his outstanding contributions to parasitology Dr. Z. Kabata (Nanaimo, B.C., Canada) has been awarded the Konstanty Janicki Medal by the Polish Parasitological Society some time ago. This medal was struck in commemoration of the renowned Polish parasitologist Professor Janicki who is known for the cercomer theory.



SIXTH INTERNATIONAL MEIOFAUNA CONFERENCE

The Sixth International Meiofauna Conference (SIMCO) will be held July 13-19, 1986 at the University of South Florida, Tampa. A special session on freshwater meiofauna will be included. Contact: Dr. Susan S. Bell, Department of Biology, University of South Florida, Tampa, FL 33620 (813) 974-2677.

THIRD INTERNATIONAL CONFERENCE ON COPEPODA

British Museum (Natural History), London
10th - 14th August 1987

ANNOUNCEMENT

The Third International Conference on Copepoda will be held at the Natural History Museum in South Kensington, London and

be the first to be organized under the auspices of the WORLD ASSOCIATION OF COPEPODOLOGISTS, which was set up after the Second Conference in Ottawa in 1984 (as outlined in issue Nos. 10 and 11 of *MONOCULUS*). The Conference will run from Monday 10th to Friday 14th August 1987 inclusive, and the lectures will be held in the Natural History Museum and the Geology Museum which share the same site in South Kensington. The Conference will be partly sponsored by the British Museum (Natural History) but must be largely self-financing through registration fees and support from the WAC.

The programme is being coordinated by Dr. Geoff Boxshall on behalf of the Organizing Committee which comprises Dr. Chang-tai Shih (Ottawa), Dr. Gerd Schriever (Kiel), Dr. Kurt Schminke (Oldenburg), Dr. Gustav Paffenhofer (Skidaway Institute of Oceanography, Savannah), Dr. Howard Roe (Institute of Oceanographic Sciences) and Dr. Geoff Boxshall (British Museum). The formal programme consists of:

1. Three half-day symposia of invited papers on the following themes
Oceanic and deep-sea copepods (chaired by Howard Roe)
Experimental Biology of Copepods (chaired by Roger Harris)
Biology and Taxonomy of Calanus (chaired by Bruce Frost)
2. Two review lectures on the theme of Copepods and light:
Copepod eyes (by M.R. Land)
Bioluminescence in Copepods (by P.J. Herring)
3. Contributed paper sessions:
It is expected that there will be at least 10 contributed paper sessions. These will be organized around common themes wherever possible as in previous conferences.
4. Poster Presentations
There will be a poster session similar to that held in Ottawa.

CALL FOR PAPERS

Persons who wish to present a paper in the contributed paper sessions and/or poster sessions are asked to complete and return the Call for Papers form, with an abstract of not more than 200 words, before the beginning (First) of MARCH 1987. The Call for Papers form will be enclosed in the NEXT ISSUE of *MONOCULUS*.

The Organizing Committee will accept as many contributed papers as possible. Papers which have already been published or presented at another meeting are not acceptable. If there are more contributed papers than time allows the Committee may have to accommodate some of these papers in poster sessions. Each presenting author of a paper will be notified by mail during April 1987 of the session for which the paper was accepted.

Each contributed paper will be allowed 15 minutes for oral presentation and 5 minutes for discussion.

INSTRUCTIONS FOR MANUSCRIPT PREPARATION

All papers presented at the Conference will be published in the Proceedings, subject to the usual refereeing procedures. The manuscript should be prepared according to the format of manuscripts published in *Crustaceana* or *Journal of Crustacean Biology*. The manuscript should be typed, double-spaced on white A4 sized paper and must not exceed 8 pages (including figures, tables, and references) for contributed and poster session papers, or 20 pages for invited symposium papers. Authors are encouraged to prepare the manuscript in English, French or German.

Black and White drawings and Photographs must be clean and ready for publication (inclusive of all necessary lettering). Lettering and figures should have been prepared to permit reduction without loss of clarity. Each figure should be numbered and marked with the author's name. All captions should be typed on a separate sheet. Colour photographs can be published only at the author's expense.

The manuscript must be handed to the chairperson at the end of the session during which the paper was presented. Failure to do so will mean that only the abstract will be published.

EVENING DISCUSSIONS

It is hoped to provide facilities for informal meetings in the evening at which participants can discuss common problems or areas of interest in copepod research.

REGISTRATION

The organization of the Conference is based on advance registration prior to and including 31st May 1987. Registration fees will be £ 90 (pounds sterling) for regular participants and £ 45 for students. Please register as early as possible - the forms will be in the NEXT ISSUE of *MONOCULUS*.

Registrations received on or after 1st June 1987 will be subject to a late registration supplementary fee of £ 10 (pounds sterling). On-site registration will be available at the start of the Conference and will be subject to the late registration supplement.

PAYMENT

Money orders and cheques should be made payable to the order of the Third International Conference on Copepoda.

United Kingdom residents: Bank drafts, personal cheques and money orders are acceptable.

Overseas residents: Please pay by Bank Draft or International Money Order made out in pounds sterling, and with charges paid by payee. Your name and address must be clearly marked on the draft or money order.

Those delegates from countries experiencing difficulties with international financial exchange may pay their registration fees upon arrival in London. Late registration will not be charged where this has been agreed in advance.

ACCOMODATION

The Organizing Committee has reserved up to 120 single rooms at the student hall of Residence of Imperial College (University of London). This is within easy walking distance of the Museum. The price for a single room, including bed and breakfast, will be approximately £14 (pounds sterling) per night. The student residence has single rooms only. Participants requiring double or twin rooms will have to be booked into local hotels.

A list of hotels within walking distance of the Museum will be supplied if requested. The 1986 rates of single and double rooms in these hotels range from £ 20 to £ 45 and from £ 28 to £ 60 per night respectively.

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IV. The Netherlands

There is no simple procedure for foreign scholars to obtain funds for a research visit to the Netherlands.

Three different categories can be distinguished:

1. Students on the M.Sc. level (or equivalent) desiring to obtain a Ph.D. degree. These should write first to the University of their choice, if possible directly to the Department or Professor through which they want to graduate, and ask for an official permit or invitation. With this document applications can be sent to NUFFIC (Netherlands Universities Foundation for International Co-operation), P.O.Box 90734, 2509 LS The Hague. NUFFIC has also a brochure available (in English) on "Admission of foreigners to University Education in the Netherlands".

2. Scholars at D.Sc. or Ph.D. level wishing to conduct research in the Netherlands in cooperation with (and of mutual benefit to Dutch scholars). The Dutch participant in the cooperative study has to apply for a grant from ZWO (Netherlands Foundation for the Advancement of Research), P.O.Box 93138, 2509 AC, The Hague.

3. Scholars wishing to conduct research on their own. Depending on their nationality, they can apply for a grant through the Ministrie van O & W (Ministry of Education and Science), Dept. Bilaterale Betrekkingen, P.O.Box 25000, 2700 LZ Zoetermeer. Many countries have Cultural Agreements with the Netherlands, allowing for grants to foreigners. The Ministry will be able to provide information as to the possibilities, so state your nationality clearly in your request for information.

Jan H. Stock, Amsterdam

Publications by Friedrich K i e f e r (Part II)

(Whenever possible the titles of journals have - in contrast to Kiefer's manuscript - been quoted in full.)

- 1953 Das Bodenseegebiet. In: "Heimat" (Ausgabe für Deutschland), 505-521, Faunus-Verlag, Basel
- 1954 Zur Kenntnis der freilebenden Ruderfußkrebse des Bodensees. Beiträge zur naturkundlichen Forschung in Südwesterdeutschland 13(2): 86-92
- 1954 Drei neue Ruderfußkrebse (Crustacea Copepoda) aus Venezuela. Zoologischer Anzeiger 153(7/8): 170-174
- 1954 Einige Cyclopiden aus südfranzösischen Höhlen. Notes Biospéologiques 9: 157-165
- 1954 Neue Cyclopoida Gnathostoma (Crustacea Copepoda) aus Madagaskar. I. Cyclopinae und Halicyclopinae. Zoologischer Anzeiger 153(11/12): 308-313
- 1955 Freilebende Ruderfußkrebse (Crustacea Copepoda) aus türkischen Binnengewässern. II. Cyclopoida und Harpacticoida. Publications de l'Institut de recherches hydrobiologiques de la Faculté des Sciences, Université d'Istanbul, Ser.B. 2

- 1955 Eine kleine Cyclopiden-Ausbeute aus norditalienischen Subterraneengewässern. *Memorie del Museo civico di storia naturale di Verona* 4: 163-165
- 1955 Neue Cyclopoida Gnathostoma (Crustacea Copepoda) aus Madagaskar. II. Cyclopinae. *Zoologischer Anzeiger* 154(9/10): 222-232
- 1955 Naturkunde des Bodensees. "Bodensee-Bibliothek" 1, Thorbecke Verlag, Konstanz und Lindau. 169 pp.
- 1955 Freilebende Ruderfußkrebse (Crustacea Copepoda) aus Binnengewässern Marokkos. *Bulletin de la Société des Sciences naturelles du Maroc* 34: 317-336
- 1955 Die Lebensgemeinschaft "Plankton" des Bodensees. "Aus der Heimat" 63(11/12): 201-211
- 1956 Vergleichend-morphologische Untersuchungen an Diaptomus cyanus Gurney 1909. (Ein Beitrag zur Frage der Rassenbildung bei Diaptomiden). *Memorie dell' Istituto italiano di idrobiologia* 9: 49-60
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- 1956 Freilebende Ruderfußkrebse (Crustacea Copepoda) I. Calanoida und Cyclopoida. *Ergebnisse der deutschen limnologischen Venezuela-Expedition* 1: 233-268
- 1956 Ein neuer Fundort von Lartetia rhenana R.LAIS. Beiträge zur naturkundlichen Forschung in Südwestdeutschland 15(2): 125
- 1956 Ruderfußkrebse aus dem Tanganjikasee. *Revue de zoologie et de botanique africaines* 54: 241-266
- 1957 Höchst-, Mittel- und Niedrigstwasserstände des Bodensees im Zeitraum 1871-1955. Beiträge zur naturkundlichen Forschung in Südwestdeutschland 16(1): 39-43
- 1957 Ruderfußkrebse (Crustacea Copepoda) aus dem Grundwasser des südlichen Oberrheingebietes. Mitteilungen des Badischen Landesvereins für Naturkunde und Naturschutz N.F. 7(1): 53-68
- 1957 Freilebende Ruderfußkrebse (Crustacea Copepoda) des Titicacasees. *Veröffentlichungen der Zoologischen Staats-sammlung München* 4: 125-150
- 1957 Freilebende Ruderfußkrebse (Crustacea Copepoda) aus einigen ostanatolischen Seen. *Zoologischer Anzeiger* 159(1/2): 25-33
- 1957 Ein seltener Cyclopide (Crustacea Copepoda) aus dem Tanganjikasee. *Revue de zoologie et de botanique africaines* 56: 4-8
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- 1957 Die Grundwasserfauna des Oberrheingebietes mit besonderer Berücksichtigung der Crustaceen. Beiträge zur naturkundlichen Forschung in Südwestdeutschland 16(2): 65-91
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During the spring of 1887, in company with Mr. W.S. McMillan, of Liverpool, I visited Madeira and the Canary Islands with the object of collecting and examining the pelagic fauna at the various convenient stopping-places.

We longed to cast a tow-net while traversing the fifteen hundred miles of Atlantic waters that intervened before reaching our first destination, Madeira, and improvised a long tough canvas bag, weighted, with a wide-necked bottle at the bottom end, for the purpose; but the speed of the vessel was too great to allow of any captures. The mails could not give way to the study of biology, so our genial captain would not allow any temporary stoppage; but the death of a poor fireman on the fourth day out necessitating a funeral pause of a few minutes, we took advantage of the opportunity by getting a haul; and the tow-net brought up sufficient to occupy us and relieve the monotony of the rest of the voyage. The haul was almost entirely composed of Copepoda: Calanus finmarchicus, Centropages typicus and C. brachiatus, Dias longiremis, and a few other species, nearly all found on our British coasts.

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From: WILSON, C.B. - 1938: A new copepod from Japanese oysters transplanted to the Pacific coast of the United States. J.Wash.Acad.Sci. 28(6): 285-288 (Mytilicola ostreeae)

Fortunately as stated above there is nothing in the presence of these copepods that is deleterious either to the oysters themselves or to the consumption of them. Recognition of this fact ought to remove any prejudice against their use for food just as it has done in the case of our fish. There is scarcely a single species of food fish that is not more or less infested with parasitic copepods, and these copepods are the genuine parasites feeding on the blood and fluids of the fish. The swordfish is one of the most completely parasitized, both externally and internally; it is safe to say that not a single one of them found in our markets was free from such infection at the time of its capture. And yet they still remain among the fish commanding the highest market prices and are savory to hundreds of thousands of palates including that of the author. Let the oysters join the fish and exclude all remembrance of the copepods.

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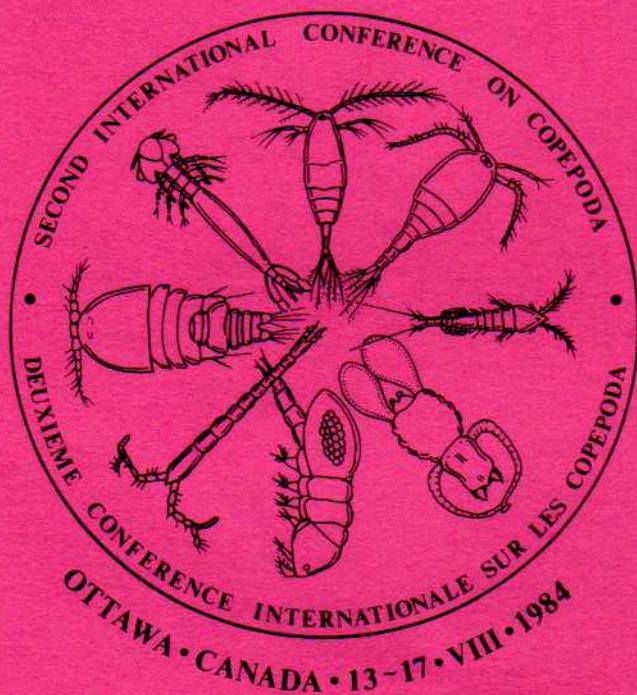
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