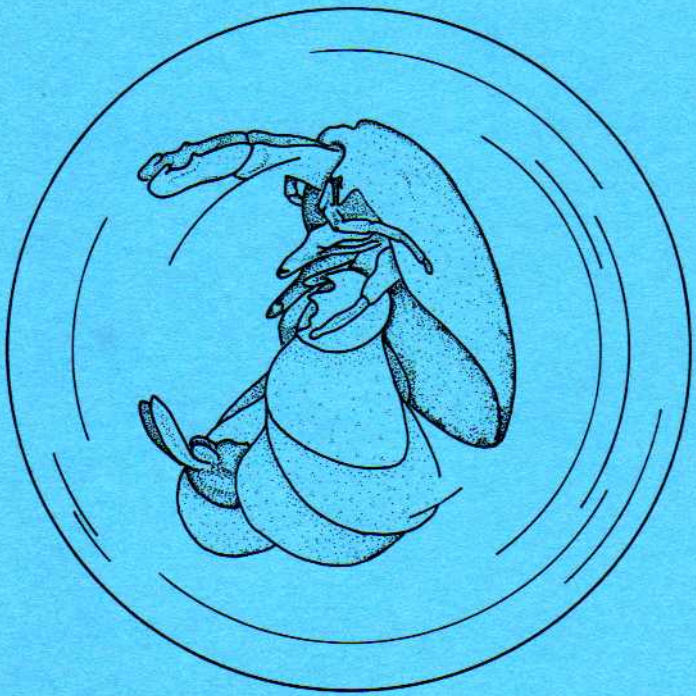
ISSN 0722-5741

# MONOCULUS

## Copepod Newsletter



Nr. 11

October 1985

bis

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

# MONOCULUS

Copepod Newsletter

Number 11 October 1985

Edited by: H. Kurt Schminke, Fachbereich 7 (Biologie), Universität Oldenburg, Postfach 2503, D-2900 Oldenburg, W. Germany.

Gerd Schriever, Zoologisches Museum der Universität Kiel, Hegewischstr. 3, D-2300 Kiel, W. Germany.

Cover by: A. Salewski, Kiel

Produced by: H. Kurt Schminke and Bibliotheks- und Informationssystem (BIS) der Universität Oldenburg, Ammerländer Heerstr. 67/99, D-2900 Oldenburg, W. Germany.

Distributed in North America by: National Museums of Canada (Chang-tai Shih, National Museum of Natural Sciences, Ottawa, Ontario, Canada K1A OM8).

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




---

Our little quiz of nauplii on the front cover of *MONOCULUS* No. 10 has had two participants: K. Izawa (Tokyo, Japan) and K. Purasjoki (Helsinki, Finland). Both have done remarkably well, K. Izawa almost hitting the bull's-eye with 4 correct answers and K. Purasjoki partly knowing, partly guessing with 3 to 4 correct answers depending on how specific you want the answers to be.

As stated by Tagea Björnberg, the artist of the medaillon of nauplii, the correct solution in a clockwise sequence starting with 12 o'clock is: Misophria, Longipedia, Stenhelia, Pontella, Calanus, Oithona.

Both participants, we feel, qualify for the bottle of white wine since they have done better than both of us and it would have been less fun if we had had to play the game alone. The bottles will be posted soon.

Deadline for the next issue of *MONOCULUS*: 1 March 1986

# MONOCULUS

Copepod Newsletter

Number 11

October 1985

Edited by: H. Kurt Schminke, Fachbereich 7 (Biologie), Universität Oldenburg, Postfach 2503, D-2900 Oldenburg, W. Germany.

Gerd Schriever, Zoologisches Museum der Universität Kiel, Hegewischstr. 3, D-2300 Kiel, W. Germany.

Cover by: A. Salewski, Kiel

Produced by: H. Kurt Schminke and Bibliotheks- und Informationssystem (BIS) der Universität Oldenburg, Ammerländer Heerstr. 67/99, D-2900 Oldenburg, W. Germany.

Distributed in North America by: National Museums of Canada (Chang-tai Shih, National Museum of Natural Sciences, Ottawa, Ontario, Canada K1A OM8).

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



---

Our little quiz of nauplii on the front cover of *MONOCULUS* No. 10 has had two participants: K. Izawa (Tokyo, Japan) and K. Purasjoki (Helsinki, Finland). Both have done remarkably well, K. Izawa almost hitting the bull's-eye with 4 correct answers and K. Purasjoki partly knowing, partly guessing with 3 to 4 correct answers depending on how specific you want the answers to be.

As stated by Tagea Björnberg, the artist of the medaillon of nauplii, the correct solution in a clockwise sequence starting with 12 o'clock is: Misophria, Longipedia, Stenhelia, Pontella, Calanus, Oithona.

Both participants, we feel, qualify for the bottle of white wine since they have done better than both of us and it would have been less fun if we had had to play the game alone. The bottles will be posted soon.

Deadline for the next issue of *MONOCULUS*: 1 March 1986

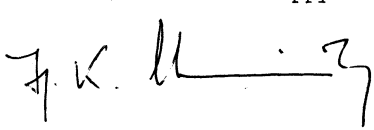
# Editorial

The most important information of this issue is stuck away somewhere at the end. It is the draft of the statute of the "World Association of Copepodologists" to be founded officially at the next meeting in London in 1987. When the draft arrived this issue of *MONOCULUS* was almost finished already. But the members of the provisional Executive Council had been contacted by Kurt rather late to voice their opinion on an earlier version. The draft published on p. 25 has been prepared by the Founder-President after he had received the reactions of the members of the provisional Executive Council. We are glad that all of them did respond quickly enough to enable inclusion of the draft still into this issue. Don't forget to have a look at it! It is now open for discussion. All commentaries and suggestions should be addressed to our Founder-President, Dr. Z. Kabata, Pacific Biological Station, Nanaimo, B.C., Canada V9R 5K6.

*"Armies march on their stomachs and organizations on money. A membership fee will be asked for"*, announced Z. Kabata in his open letter last time. We have not yet reached agreement on how wise we should be. Disclosure of our proposal will therefore have to be postponed until next time. As a precaution, however, you may open a little savings account already.

A few colleagues have contributed to this issue. We thank T. Bowman, F. Ferrari, A. Fleminger, and J. Greenwood for their help. We have also received many letters some of which are partly or entirely reproduced under "Current research activities" or "The letter box". Finally we have to thank also for an anonymous donation of US $ 100.00 to support our activities. This was a great encouragement!

We hope you had a successful year. To make sure that *MONOCULUS* is among the gifts on your Christmas table we had better hurry up now. For those without a Christmas table we connect with this issue our best wishes for a Happy New Year.



Business ssenisuB

## 1. Bibliography

There is good news, maybe something like a breakthrough. Our project of a computerized bibliography of the copepod literature has good chances of being supported by funds from the German government next year. This, undoubtedly, will greatly accelerate our endeavours in this field. The count down has already begun. Dr. Juhl has joined our team to help with keywording. But for keywording we need the publications themselves not just the titles. From now on the bibliography will depend more than ever on the *MONOCULUS*-Library. The more complete the Library is, the better and more versatile the bibliography will be.

## 2. *MONOCULUS*-Library

There has been a normal influx of current literature to the *MONOCULUS*-Library as is documented in the list further below. What the list does not show is the increase in reprints of older publications. Our appeal in the last issue of *MONOCULUS* has not been in vain. O. TANAKA (Tokyo), A. HUMES (Woods Hole), and W. NOODT (Kiel) have sent us complete sets of their publications. To K. IZAWA (Edobashi) we owe a good collection of S.M. Shiino's papers of which he had duplicates, J. REID (Washington) took the trouble of going through the extensive collections of the Wilson Library to hunt for duplicates, and J. STOCK (Amsterdam) added "some old-timers from our shelves". We are very grateful for all these invaluable contributions to the *MONOCULUS*-Library and we feel encouraged to repeat our appeal to all of you:

- Please plunder your stocks of older publications and make yourself immortal by depositing these works in the reference library of all copepodologists.
- Please ask your librarian to screen the reprint stocks of your Department for left-overs with copepodological contents from erstwhile members of your staff and expedite them straight to the *MONOCULUS*-Library.
- Please don't throw away duplicates of older publications that you might come across while searching in or tidying up your own reprint collection. For the benefit of all post them to us whenever they turn up.

For the bibliography project we need copies of all publications on copepods. What is not available in the *MONOCULUS*-Library will cause us extra tedious work in the attempt to obtain it through the public library system. We are investing a good deal of our time into activities that are beyond our own immediate needs. We are convinced, however, that in a not too distant future they will pay off not for us alone but for the whole community of copepodologists. Please join us in this enterprise by contributing to the *MONOCULUS*-Library copies of copepod literature that are in your reach. Thank you.

3. *MONOCULUS*-Museum

No news.

4. Mailing

A new staff member of the Oldenburg University Library has taken over the responsibility for producing *MONOCULUS*. There have been a few misunderstandings at the start with the result of a delay in the distribution of the newsletter in North America. We are no professionals, we are sorry to admit, but we hope that you hail *MONOCULUS* all the same whenever it happens to arrive.

5. Current research activities

M.P.J. ALVAREZ (Sao Paulo, Brazil):
1. Taxonomic studies on harpacticoids.
2. Cyclopoid copepods of the genera Euryte, Pterinopsyllus and Rhynchomyzon.

M.A. BAARS (Texel, The Netherlands):
Vertical and horizontal distribution of zooplankton in the upper 300 m of tropical waters (Atlantic, Indonesia) in relation to hydrographic and biological variables. Grazing experiments, diurnal feeding rhythms and respiration of copepods from tropical waters compared with similar studies on North Sea copepods.

K. HIRAKAWA (Tokyo, Japan):
Taxonomy and ecological distribution of zooplankton, especially copepods in the Patagonian fjords, southern Chile on the pro-

ject "Introduction of Pacific Salmon into Aysen Chile" proposed by the Japan International Cooperation Agency (JICA). I am very interested in introductions of the North Pacific neritic copepods into Chilean waters because of the first discovery of Centropages abdominalis Sato and Oithona davisae Ferrari and Orsi from the coastal waters of South America.

N. REVIS (Brussel, Belgium):
My research fits in with the co-operation project Belgium-Kenya. Three main objectives can be distinguished:
- to get a better knowledge of mangal and estuaria in order to be able to do research about the two estuaria situated around Mombasa.
- to study the synecology and changes of tropical plankton throughout a year, as well qualitatively as quantitatively. More attention will be paid to the Copepoda as they form a big part of the zooplankton.
- to study the autecology of Crassostrea,

by: - defining the moment of spawning of the oyster larvae,
- observing the growth of the larvae,
- defining the moment of metamorphosis.

J.C. VON VAUPEL KLEIN (Leiden, The Netherlands):
I am working on a long-term project, which involves a revision of the calanoid family Aetideidae, specifically on a phylogenetic basis. My current research concerns the genus Euchirella, type-genus of the Euchirellinae, the first subfamily to be dealt with. So far, I have (1) given a detailed description of the external anatomy of the female of E. messinensis (the type-species), including mapping and characterizing integumental organs and -structures; (2) prepared an initial, numerical/cladistic analysis of the genus, resulting in a cladogram resolved at the level of species-groups. Whenever possible, I try to relate structures found to homologies at generic and higher levels, and to the biology of the living animal.
My next interests are (1) to describe the male of E. messinensis in the same detail as the female; (2) to present concise, but all the same comprehensive, (re-)descriptions of all (presently 23) species of Euchirella; (3) to describe the type-species of the

other genera of the Euchirellinae (and, preferably, also some of the Aetideinae as well as some stand-alone aetideid genera), in detail as well; (4) to use integumental perforation patterns in extending the cladogram of Euchirella to resolution at the (infra-)specific level.
I hope to finish a monograph on Euchirella, in several parts, in the coming 25 years myself (cf. items 1 and 2), while I hope to gather a small research team around me to deal with items 3 and 4, as stated above.

J. VIJVERBERG (Oosterzee, The Netherlands):
- population dynamics and production of copepods
- the role of freshwater copepods in the food web of eutrophic lakes.

## 707070707070707070 B I R T H D A Y S 707070707070707070

Siegfried Husmann Siegfried Husmann

### Interviewing copepodologists

Reading his Ph.D.-thesis on the groundwater fauna along three rivers in North Germany I had always been wondering what the scientific reasons might have been for the selection of his sampling sites. Why just these spots and not others? "Well, I had an aunt living in a little town on one of the rivers and another aunt in a little town on the second river. In between my parents lived in a small town on the third river. These places I could reach by train and from there I could continue on foot or by bike. So the sampling sites had to be in walking distance or in reach by bike from my aunties' or my parents' home. This was after the war, you know. I always carried a binocular microscope around with me in a suitcase so that I could sort all my samples alive."
It was in a lecture of his zoology professor at Braunschweig University that he had heard of the existence of a groundwater fauna for the first time, and Professor Boettger had also added that it would be a fine Ph.D.-project to have a look at this

fauna in the area around Braunschweig. "I knew on the spot that this was exactly what I would very much like to do but it was impossible for me to go and ask him for it. I was not advanced enough in my studies yet. So I lived two years in fear that somebody else might become interested and was glad that this had not been the case when I finally went to see him."
There had been an interest in microfauna since his school time. His biology teacher at intermediate school had introduced him into the study of planktonic organisms in lakes and ponds and had taught him histological techniques. Later when he was trained as a merchant to take over his parents' shop he kept up his interests in biology and wrote his first little publication on the microflora and -fauna of a particular pond. There was a sparkle in his blue eyes when he put the old volume before me and when I opened it to have a look at the article. "I finally left home and went to school again, this time in Heidelberg, to obtain the qualifications for admission to university." His studies there were interrupted by the Second World War from which he returned seriously injured by a bullet through his head. The left side of his body was completely paralysed and for months he had to live in a darkened room "sensing in those days the normal conditions under which the fauna lives which I was to study later."
When he started with this investigation there was the general belief that those areas that had been covered by ice during the pleistocene only have a greatly impoverished groundwater fauna. He was able to show that this is not necessarily so. While working for his Ph.D. he met Klie and Kiefer who later studied some of his copepod material since, due to his war injury, he himself was not able to work at the microscope for longer periods of time. Thus he probably is not what one would call a genuine copepodologist even though he had to do with copepods all the time. He is more aptly called a groundwater ecologist and as such will always be remembered as the organizer of the splendid "First International Symposium on Groundwater Ecology" at Schlitz where the burgomaster offered a cold buffet that the combined forces of the amphipodologists and the groundwater biologists of this world were not able to clear away!

From Schlitz he did extend his groundwater research to the Alps and to Scandinavia including Spitsbergen and Greenland. Whoever met him in the field or elsewhere will not have realized that once he had been so seriously handicapped. With strict discipline and tenacious exercise he mastered the ill effects of his injury. The same qualities made him recover from three heart attacks. "When I walked along the road to one of the sampling sites during my Ph.D. study a pedlar came along on the other side. Loaded as I was with a knapsack and my sampling gear he mistook me for one of his peers and when he heard me stumbling he turned back and shouted at me 'Seven steps backwards please, dear colleague, or you face bad luck otherwise'." Do you think he did these seven steps?

*MONOCULUS* wishes Dr. Husmann well and congratulates him (a little late though) on his 70th birthday.

H.K.S.

## MARTIN WIGGO JOHNSON (1893-1984)

### An appreciation and bibliography of his works

Professor Martin Johnson's contributions to marine biology, biological oceanography, and copepodology reach far beyond that which can be gleaned from his 100+ publications listed below. He is perhaps most widely known for his chapters in "The Oceans" (1942), a book that has been in print and in demand for more than 40 years and which has introduced large numbers of students to an interdisciplinary approach to oceanography.
Dr. Johnson received his bachelor's, master's and Ph.D. degrees from the University of Washington, the last in 1931. After working for short periods for the Passamaquoddy International Fisheries Commission and at the University of Washington Friday Harbor Laboratories, he joined the faculty of the Scripps Institution of Oceanography in 1934, serving until his retirement in 1969. As Professor Emeritus he continued to be active in research until shortly before his death in November 1984.

During World War II he made major contributions. He discovered that a crackling noise that interfered with the detection of submarine or ship propellers was caused by concentrations of snapping shrimp. He prepared charts of snapping shrimp distribution that were used for finding hiding places for U.S. submarines in enemy waters. Johnson also discovered that false seafloor readings on depth recorders, known as "deep scattering layers", were caused by concentrations of vertically migrating pelagic animals.

His work on copepods included descriptions of new taxa, descriptions of the developmental stages of a number of species, the effect of oceanographic variables on the distribution of pelagic species, and evolution within the genus Eucalanus. His studies associating the evolution of species of the Eucalanus elongatus group with the great clockwise circulation in the North Pacific are recognized as an important contribution to the zoogeography of pelagic marine animals.

The bibliography that follows includes his works on copepods as well as his numerous publications on other subjects, and reveals the breadth of his interests. In the years following his retirement he turned his attention increasingly to the study of phyllosoma larvae of spiny lobsters, their morphology, sequences of development, and the effect of hydrographic features on their distribution.

His published works show the high standards that he set for himself and required of his students, who were also the recipients of many kindnesses from him. Martin Johnson will be greatly missed, and remembered with admiration and affection by those who knew him.

Thomas E. Bowman, Frank D. Ferrari,
and Abraham Fleminger

## Publications by Martin W. Johnson

1928. Thompson, T.G., MWJ and S.P. Todd. Sea water at the Puget Sound Biological Station from September 1926 to September 1927. Publications of the Puget Sound Biological Station 6:371-391.

1929. MWJ and T.G. Thompson. Sea water at the Puget Sound Biological Station from September 1927 to September 1928. Publications of the Puget Sound Biological Station 7: 119-128.

1929. Thompson, T.G. and MWJ. Sea water at the Puget Sound Biological Station from September 1928 to September 1929. Publications of the Puget Sound Biological Station 7: 345-368.

1930. Notes on the larval development of Strongylocentrotus franciscanus. Publications of the Puget Sound Biological Station 7:401-411.

1932. Seasonal distribution of plankton at Friday Harbor, Washington. University of Washington Publications in Oceanography 1(1):1-38, figures A-C.

1934. The developmental stages of the copepod Epilabidocera amphitrites (McMurrich). Biological Bulletin 67:466-483, 3 plates, 15 figures.

1934. The life history of the copepod Tortanus discaudatus (Thompson & Scott). Biological Bulletin 67(1):182-200, 4 plates, 2 tables.

1935. The developmental stages of Labidocera. Biological Bulletin 68(3):397-421, plates 1-5, 2 tables.

1935. Seasonal migrations of the wood-borer Limnoria lignorum (Rathke) at Friday Harbor, Washington. Biological Bulletin 69(3):427-438, figure 1.

1935. MWJ and R.C. Miller. The seasonal settlement of shipworms, barnacles and other wharf-pile organisms at Friday Harbor, Washington. University of Washington Publications in Oceanography 2(1):1-18, figure 1, tables 1-2.

1936. Pachyptilus pacificus and Centraugaptilus porcellus, two new copepods from the North Pacific. Bulletin of the Scripps Institution of Oceanography 4(2):65-70, 3 text figures.

1937. The developmental stages of the copepod Eucalanus elongatus Dana, var. bungii Giesbrecht. Transactions of the American Microscopical Society 56(1):79-98, plates 1-4.

1937. Notes on the final metamorphosis of the male Aegisthus mucronatus Giesbrecht, and its bearing on the status of some uncertain species. Transactions of the American Microscopical Society 56(4):505-509, figures 1-12.

1937. The production and distribution of zooplankton in the surface waters of Bering Sea and Bering Strait, with special reference to copepods, Echinoderms, Mollusks, and Annelids. Report of Oceanographic Cruise U.S. Coast Guard Cutter Chelan, 1934, pt. II(B), pages 45-82, tables 1-2.

1937. Notes on the culture of S. franciscanus, E. excentricus and Cucumaria. In Culture Methods for Marine Animals, Needham, J.G. et al. (editors). Comstock Publishing Company, 558-559.

1937. Fish, C.J. and MWJ. The Biology of the zooplankton population in the Bay of Fundy and Gulf of Maine with special reference to production and distribution. Journal of the Biological Board of Canada 3(3):189-322, figures 1-45, tables 1-28.

1938. Concerning the copepod Eucalanus elongatus Dana and its varieties in the Northeast Pacific. Bulletin of the Scripps Institution of Oceanography, Technical Series 4(6):165-180, 28 figures.

1938. The effect of light on the vertical movements of Acartia clausi (Giesbrecht). Biological Bulletin 75:106-118, 6 figures.

1939. MWJ and J.E.G. Raymont. The reactions of the planktonic copepod, Centropages typicus, to light and gravity. Biological Bulletin 77(2):200-215.

1939. Pseudodiaptomus (Pseudiaptallous) euryhalinus, a new subgenus and species of Copepoda with preliminary notes on its ecology. Transactions of the American Microscopical Society 28(3):349-355, plates 1-2, figures 1-20.

1940. The correlation of water movements and dispersal of pelagic, littoral stages of animals, especially the sand crab, Emerita. Journal of Marine Research 2(3):236-245, figures 68-71.

1941. The study of species formation in certain Eucalanus copepods in the North Pacific. Proceedings of the Sixth Pacific Scientific Congress, California, 1939, volume 3: 565-568.

1942. Concerning the hitherto unknown males of the copepods Microsetella rosea (Dana), Vettoria granulosa (Giesbrecht), and Corissa parva Farran. Transactions of the American Microscopical Society, 41(4):430-437, plates 1-3.

1942. Some observations on the feeding habits of the octopus. Science 95(2471):478-479.

1942. Notes on zooplankton. Oceanographic observations of the "E.W. Scripps" cruises of 1938. Records of Observations, Scripps Institution of Oceanography 1(1):27-30.

1942. MWJ and W.M. Lewis. Pelagic larval stages of the sand crabs Emerita analoga (Stimson), Blepharipoda occidentalis Randall, and Lepipoda myops Stimson. Biological Bulletin 83(1):67-87, 1 text figure, 1 table, plates 1-5.

1942. Sverdrup, H.U., R.H. Fleming, and MWJ. The Oceans. New York: Prentice Hall, i-x and 1087 pages.

1943. Studies on the life history of the marine annelid, Nereis vexillosa. Biological Bulletin 84(1):106-114.

1943. Underwater sounds of biological origin. UCDWR No. U28, Feb. 15, 20 pp. (incl. suppl.), Declassified Confidential Report.

1943. Preliminary survey of certain biological underwater sounds on the east coast of North America. UCDWR No. U63, May 25, 5 pp. Declassified Confidential report.

1943. A survey of biological underwater noises off the coast of California and in upper Puget Sound. UCDWR No. U100, September 10. Declassified Confidential Report.

1943. With R.H. Fleming. Ambient noise survey out of Miami. UCDWR Report, File No. 01.331. May 11.

1943. With H.J. Mann and R.A. Wagner. Ambient Noise Survey, Miami area, suppl. D46A/R532, Jan. 14, 14 pp. Confidential Report.

1944. Underwater noise and the distribution of snapping shrimp with special reference to the Asiatic and Southwest and Central Pacific area. UCDWR No. U146, Jan. 15, 3 pp. Declassified Confidential Report.

1944. The prediction of ambient noise level in or near shallow water. UCDWR No. M205, April 21, 4 pp. Confidential Report.

1944. Ambient water noise in the central and southwest Pacific, based on observations made by W.E. Loomis. UCDWR No. M284, Dec. 28, 10 pp. Confidential Report with T.R. Johnston.

1945. Bioluminescence (Phosphorescence) in the sea. Navy-Information Bulletin, 4 pp. Confidential Report.

1945. Concerning the word "Echolocation". Science, March 23.

1946. Underwater noise caused by snapping shrimp. UCDWR No. U337, April 1. Confidential Report.

1946. H.U. Sverdrup, R.H. Fleming, and MWJ. Ocean and Oceanography. Encyclopedia Britannica.

1946. Marine Biology. Encyclopedia Britannica.

1946. Zoological collecting - marine collecting. Encyclopedia Britannica.

1947. MWJ, F.A. Everest, and R.W. Young. The role of snapping shrimp (Crangon and Synalpheus) in the production of underwater noise in the sea. Biological Bulletin 93(2): 122-138, 8 figures, 1 table.

1948. The postembryonic development of the copepod Pseudodiaptomus euryhalinus Johnson, and its phylogenetic significance. Transactions of the American Microscopical Society 67(4):319-330, plates 1-4.

1948. The postembryonic development of the copepod Pseudodiaptomus euryhalinus Johnson, and its phylogenetic significance. Transactions of the American Microscopical Society 67(4):319-330, plates 1-4, table 1.

1948. MWJ and J.B. Olson. The life history and biology of a marine harpacticoid, Tisbe furcata (Baird). Biological Bulletin 95(3):320-332, plates 1-2, table 1.

1948. Everest, F.A., R.W. Young and MWJ. Acoustical characteristics of noise produced by snapping shrimp. Journal of the Acoustical Society of America 20(2):137-142.

1948. Sound as a tool in marine ecology, from data on biological noises and the deep scattering layer. Journal of Marine Research, Sverdrup 60th Anniversary 7(3):443-458.

1949. Relation of plankton to hydrographic conditions in Sweetwater Lake. Journal of the American Water Works Association 41(4):347-356, figures 1-12.

1949. Zooplankton as an index of water exchange between Bikini Lagoon and the open sea. Transactions of the American Geophysical Union 30(2):238-244, 15 text figures.

1949. Zooplankton. In: LaFond, E.C., Dietz, R.S. and Pritchard, D.W. Oceanographic Measurements from U.S.S. Nereus on a cruise to the Bering and Chukchi Seas, 1948. U.S. Navy Electronics Laboratory Report No. 91. Citation incomplete.

1950. MWJ and Lelia T. Johnson. Early life history and larval development of some Puget Sound echinoderms - with special reference to Cucumaria spp. and Dendraster excentricus. Studies Honoring Trevor Kincaid 1950, pp. 74-84.

1951. A giant phyllosoma larva of a loricate crustacean from the tropical Pacific. Transactions of the American Microscopical Society 70(3):274-278, 2 plates.

1951. Sverdrup, H.U., MWJ and R.H. Fleming. Ocean and Oceanography. Encyclopedia Britannica.

1953. The copepod Cyclops dimorphus Kiefer from the Salton Sea. American Midland Naturalist 49(1):188-192, figures 1-18.

1953. Studies on plankton of the Bering and Chukchi seas and adjacent areas. Proceedings of the 7th Pacific Scientific Congress, 1953, volume 4:480-500, 7 figures.

1954. Plankton of Northern Marshall Islands. In: Bikini and nearby Atolls. Part II. Oceanography (Biologic). Geological Survey Professional Paper 260-F:301-314, figures 101-115, table 1.

1954. McEwen, G., MWJ and T. Folsom. A statistical analysis of the performance of the Folsom plankton sample splitter, based on test observations. Archiv für Meteorologie, Geophysik und Bioklimatologie, Ser. A Met. and Geoph. 7: 502-527.

1955. Boden, B.P., MWJ and Brinton, E. The Euphausiacea (Crustacea) of the North Pacific. Bulletin of the Scripps Institution of Oceanography 6:287-400, 55 figures.

1956. The plankton of the Beaufort and Chukchi Sea areas of the Arctic and its relation to the hydrography. Arctic Institute of North America Technical Paper No. 1:1-32, figures 1-11, tables 1-15.

1956. Some outlines of plankton concentration in the Eastern and Tropical Pacific. Proceedings of the Eighth Pacific Science Congress - Oceanography, volume 3:379-390, figures 1-6, table 1.

1956. The larval development of the California spiny lobster, Panulirus interruptus (Randall), with notes on Panulirus gracilis (Streets). Proceedings of the California Academy of Sciences, 4th series, 29(1):1-19, 22 text figures.

1956. Deterioration due to marine borers. Report, Conference April 18-20, 1956 on Marine Corrosion and Fouling, U. California, Scripps Institution of Oceanography.

1956. MWJ and R.J. Menzies. The migratory habits of the marine gribble Limnoria tripunctata Menzies in San Diego Harbor, California. Biological Bulletin 110(1):54-68, 5 figures, 8 tables.

1956. With Goldberg, Folsom and Jennings. Classified Report - Radioactivity-Plankton.

1957. Copepods (Annotated Bibliography). Geological Society of America, Memoir 67, volume 1:1165-1170.

1957. Plankton. (Chapter 16) - Geological Society of America, Memoir 67, volume 1:443-460.

1957. The copepod, Choniosphaera cancrorum parasitizing a new host, the green crab Carcinides maenas. Journal of Parasitology 43(4):470-473, figures 1-7.

1957. Report on the Scripps Institution of Oceanography, 1953-57. Proceedings 9th Pacific Science Congress, volume 16, pp. 51-56.

1958. Bathycalanus sverdrupi, n.sp., a copepod crustacean from great depths in the Pacific Ocean. Proceedings of the California Academy of Sciences, 4th series 29(6):257-265, 15 figures.

1958. Observations on inshore plankton collected during summer 1957 at Point Barrow, Alaska. Journal of Marine Research 17:272-281.

1960. Production and distribution of larvae of the spiny lobster Panulirus interruptus (Randall) with records on P. gracilis (Streets). Bulletin of the Scripps Institution of Oceanography 7(6):413-462, 36 figures.

1960. Calanoida. McGraw-Hill Encyclopedia of Science and Technology, volume 2, pp. 392-393.

1960. Copepoda. McGraw-Hill Encyclopedia of Science and Technology, volume 2, pp. 462-463.

1960. The oceans: realm of wonder. Science Newsletter 5(1).

1960. The offshore drift of larvae of the California spiny lobster Panulirus interruptus. CalCOFI Reports, volume 7, January 1958 to June 1959, pp. 147-161.

1961. On zooplankton of some Arctic coastal lagoons of northwestern Alaska, with description of a new speices of Eurytemora. Pacific Science 15(3):311-323, tables 1-2.

1963. Zooplankton collections from the high polar Basin with special reference to the copepoda. Limnology and Oceanography 8(1):89-102.

1963. Arctic Ocean plankton. Proceedings of the Arctic Basin Symposium, Hershey, Pa. October 1962, pp. 173-183.

1963. MWJ and E. Brinton. Biological species, water masses and currents. The Sea, Ideas and Observations on Progress in the Study of Seas, chapter 18, pp. 381-313 (sic).

1963. Boyd, C.M. and MWJ. Variations in the larval stages of a decapod crustacean Pleuroncodes planipes Stimpson (Galatheidae). Biological Bulletin 124(2):141-152.

1964. On a new species of Pseudodiaptomus from the west coast of Mexico, Costa Rica and Ecuador (Copepoda). Crustaceana 7(1):33-41.

1965. The nauplius larvae of Pontellopsis occidentalis Esterly (Copepoda, Calanoida). Transactions of the American Microscopical Society 84(1):43-48.

1966. MWJ and M. Knight. The phyllosoma larvae of the spiny lobster Panulirus inflatus (Bouvier). Crustaceana 10(1): 31-47, figures 1-42, tables 1-2.

1966. The nauplius larvae of Eurytemora hermani Thompson & Scott, 1897 (Copepoda, Calanoida). Crustaceana 11(3):307-313.

1966. Zooplankton of some Arctic coastal lagoons. In: N.J. Wilimovsky and J.N. Wolfe, eds., Environment of the Cape Thompson region, Alaska. U.S. Atomic Energy Commission, Oak Ridge, Tennessee: 679, figures 1-7, tables 1-2.

1967. Some observations on the hatching of Tortanus discaudatus eggs subjected to low temperatures. Limnology and Oceanography 12(3):405-410.

1968. On phyllamphion larvae from the Hawaiian Islands and the South China Sea (Palinuridea). Crustaceana, Supplement 2: 38-46, figures 1-14.

1968. Palinurid phyllosoma larvae from the Hawaiian Archipelago (Palinuridea). Crustaceana, Supplement 2:59-79, figures 1-42, tables 1-2.

1968. The phyllosoma larvae of scyllarid lobsters in the Gulf of California and off Central America with special reference to Evibacus princeps (Palinuridae). Crustaceana, Supplement 2, Studies on Decapod Larval Development: 98-116, figures 1-38, 1 table, charts 1-2.

1969. Two chelate palinurid larvae from Hawaiian and Philippine waters (Decapoda, Palinuridea). Crustaceana 26(2):113-118, figures 1-13.

1970. On the phyllosoma larvae of the genus Scyllarides Gill (Decapoda, Scyllaridae). Crustaceana 18(1):13-30, figures 1-16.

1970. MWJ and Ph.B. Robertson. On the phyllosoma larvae of the Genus Justitia (Decapoda, Palinuridae). Crustaceana 18(3): 283-292, figure 1-24, tables 1-2.

1971. The phyllosoma larva of slipper lobsters from the Hawaiian Islands and adjacent areas. Crustaceana 20(1):77-103, figures 1-92, 1 table.

1971. On palinurid and scyllarid lobster larvae and their distribution in the South China Sea (Decapoda, Palinuridea). Crustaceana 21(3):247-282, figures 1-92, 1 table, charts 1-4.

1971. The palinurid and scyllarid lobster larvae of the tropical Eastern Pacific and their distribution as related to the prevailing hydrography. Bulletin of the Scripps Institution of Oceanography 19:1-36, figures 1-9, 1 table, charts 1-13.

1971. The phyllosoma larva of Scyllarus delfini (Bouvier) (Decapoda, Palinuridea). Crustaceana 21(2):161-164, figures 1-8.

1973. Bowman, T.E. and MWJ. Distributional atlas of calanoid copepods in the California Current region, 1949 and 1950. CalCOFI Atlas no. 19: i-vii and 1-239.

1974. On the dispersal of lobster larvae into the east Pacific barrier (Decapoda, Palinuridea). Fisheries Bulletin 72(3): 639-647, 4 figures.

1975. The postlarvae of Scyllarides astori and Evibacus princeps of the eastern tropical Pacific (Decapoda, Scyllaridae). Crustaceana 28(2):139-144, 13 figures.

1975. MWJ and Margaret Knight. A supplementary note on the larvae of Scyllarides astori Holthuis (Decapoda, Scyllaridae). Crustaceana 28(1):109-112, 5 figures.

1977. On a hitherto unknown phyllosoma larval species of the slipper lobster Scyllarus (Decapoda, Scyllaridae) in the Hawaiian Archipelago. Pacific Science 31(2):187-190, figures 1-2.

1977. The final phyllosoma larval stage of the slipper lobster Scyllarides squamosus (H. Milne Edwards) from the Hawaiian Islands (Decapoda, Scyllaridae). Bulletin of Marine Science 27(2):338-340.

1978. On scyllarid lobster larvae of the South China Sea (Decapoda, Scyllaridae). Crustaceana 34(3):269-274, 14 figures.

1979. On a North Pacific Scyllarus phyllosoma larva with a forked telson (Decapoda, Scyllaridae). Bulletin of Marine Science 29(4):592-597, figures 1-14.

## FRIEDRICH KIEFER (1897-1985)

Friedrich Kiefer died on the 18th of April 1985. He was 87 years old. In his will he ruled that his scientific legacy including his library, the collection of specimens, correspondence etc. be deposited in the Landessammlungen für Naturkunde, Museum am Friedrichsplatz, Erbprinzenstr. 13, D-7500 Karlsruhe, W. Germany.

Instead of an obituary we refer to the short account of his life given in *MONOCULUS* No. 5 (1982). The list of his publications contains over 280 entries. This is too much for one issue of *MONOCULUS*. Hence we shall publish the list as he himself submitted it to *MONOCULUS* a few years ago in two parts. The latest publications since 1977 have been added with the help of U. Einsle (Konstanz, Germany). Part I is to be found at the end of this issue.

H.K.S.

## The letter box

F. Ferrari (Washington, USA) sent us this piece from a letter he received from L. Markhaseva (Leningrad, USSR):

*I have got "MONOCULUS" with the photo of members of Ottawa's meeting. It was very interesting to see copepodologists, whom we know by their papers. It was pleasant to solve some curious problems - for example - sometimes we are not sure how to address a person in the text of a paper (in discussion) - He or She? Thanks to the "MONOCULUS", now we know!*

An anonymous note from the USA had the following content:

*I would like you to know that I appreciate receiving MONOCULUS very much. I have been impressed at the amount of time some of you have spent on the newsletter with no request for financial assistance. Nr. 10 arrived last week and the wonderful Copepodologist picture gave me such pleasure that I am sending a check to help defray some of your expenses.*

J. Reid (Washington, USA) sent the following comment:

*The latest issue of MONOCULUS finally arrived. I very much enjoyed the report of the conversations with Tagea Björnberg. When I was initiating my own studies on Brazilian Copepoda, I rapidly realized the significant contributions she and her students have made to knowledge of the marine and estuarine faunas of that part of the world. Her work is especially outstanding for its high level of what I can only call scholarship.*

Here is a long letter by R. Hamond (Melbourne, Australia) which could have been split to appear under several headings:

*On p. 13 of MONOCULUS no. 10, I am not revising the pelagic harpacticoids in themselves; it would be more true to say that I would like to obtain well-preserved species belonging to certain rare families, many of which happen to be planktonic, for detailed comparative studies on the prosomal limbs and integumental structures (which are the least-known hard parts of harpacticoids), in order to:*

*(1) To extend to all families the new system of symbols and abbreviations, first put forward in my monographs (both now submitted for publication) on the Harpacticidae of Western Europe (to Marine Invertebrates of Scandinavia) and on the freshwater Canthocamptidae of Australia (to Australian Journal of Zoology, as a Supplement). Up to today, I had not heard that either of these had been accepted, but I live in hope!*
*(2) To develop this system to cover every part of every limb, instead of just the setal formula of the legs, and also those integumental structures which are usually disregarded.*
*(3) To use the extra information thus gathered to revise the key to families. That of Lang (1948), partly revised in the tabular keys of Wells (1967), nevertheless still has weaknesses.*

*As to pp. 14-23 of the same issue, my own system will be published elsewhere in due course, as will a large paper on my methods of studying preserved harpacticoids. The figures in Campaner's article are fine for calanoids, but we should all remember that they are of modern forms, which may well be specialised in one way or another; I rather doubt whether a truly primitive copepod is still around today, but must leave this to be decided by others.*
*Pages 12-14. I have some Antarctic harpacticoids already, and would like to keep in touch with anyone else who hopes to describe species from there.*
*Pages 2-3. This photograph is far too crowded! they should have taken about half of the total number of participants in a picture such as this, and the rest of them in a second photo.*
*Page 27. MONOCULUS Museum. I am deeply sorry to hear that what I thought was a good idea has had so little success!*
*Page 35. How nice to see such a fine drawing!*

*I would also like to ask your readers to send me Canthocamptidae from any habitat whatever, anywhere in the world; this is because, while writing the above-mentioned Australian paper (and its sequel, to be completed later, and dealing with genera not covered in the first part) I have come to the conclusion that the entire taxonomy of this family is in an utter and complete mess, which needs to be completely re-studied ab initio.*

*Finally, does anyone know for certain just how Sars (1903, 1911, Harpacticoida, in An Account of the Crustacea of Norway) and Canu (1892, Les Copepodes du Boulonnais) drew their figures? All information on their artistic and microscopical techniques would be gratefully received!*

## REQUEST CORNER

J.B. Jones, Fisheries Research Division, P.O.Box 297, Wellington, New Zealand, has a little problem:

*I have come across a problem with the initials of Hesse. My copy of his 187(9)? paper 'Description des crustacés rares ou nouveaux des côtes de France' 29th article in Ann.Sci.Nat., October 1878: 1-34 clearly has the initial M. Hesse.*
*Since at least 1900 the date has been consistantly cited as 1879 (I assume publication was delayed), but Brian (1906), Scott & Scott (1913) and Wilson (1922) cite E. Hesse while Kabata (1979) and Yamaguti (1963) both cite C.E. Hesse. Is the confusion caused by two Hesse's perhaps?*

Nathalie Revis, Vrije Universiteit Brussel, Dienst Ecologie en Systematik, Pleinlaan 2, B-1050 Brussel, Belgium, participates in a project on tropical plankton and is in search for literature. She has already contacted several copepodologists but wants to reach them all:

*I would greatly appreciate receiving information and literature about tropical plankton, in particular about Copepoda (also not specifically tropical information) ranging from the purely systematic approach to quantitative analysis. Information concerning oysters, their systematics, ecology and cultivation and also about estuaria and mangroves are welcome.*

Greg Deets and George Benz, Department of Zoology, The University of British Columbia, 6270 University Boulevard, Vancouver, British Columbia, Canada V6T 2A9, are in need of material:

*We are in the process of revising and phylogenetically analyzing all the parasitic copepod taxa attacking the elasmobranch fishes*

*(rays and sharks). We are immediately interested in the gill dwelling Eudactylinidae and Kroyeriidae, and the Pandaridae found in the mouth and body surface. However, we more than welcome all the other families into our collection (Trebiidae, Taeniacanthidae, Sphyriidae, Lernaeopodidae, Dissonidae, Euryphoridae) for our continuing research program. We would be forever grateful if fellow researchers around the globe could send us any material they come in contact with. Thank you.*

## DISCUSSION GROUPS

### Open discussion group: A report on the discussion at the 2nd International Conference on Copepoda held in Ottawa on Tuesday, August 14, 1984

Several months before II COPEPODA, Mark Shih asked me to coordinate an evening session. Its purpose was to allow participants to raise and discuss questions or topical issues related to research on copepods. Attendees of II COPEPODA would represent a broad spectrum of the biological sciences. If the session was to be useful and hold participant interest, the coordinator should develop questions of a broad nature to which several kinds of scientists might respond.

In a letter July 9 announcing this session I solicited discussion topics and included two questions from my own research - one ecological in nature and one phylogenetic. I had hoped these questions would be broad enough to engage a sustained discussion by participants. I subsequently found they were not. Given the speed of international mail, I was quite surprised to receive about 10 responses from about 100 letters sent. During the first two days of the conference several attendees suggested still other questions.

This session was held on Tuesday evening August 14. I believe it failed to achieve its goal. No more than fifteen individuals attended. Few scientists who submitted oral or written questions bothered to come. The discussions, which lasted less than an hour, were congenial but hardly substantive.

Are such sessions useful? I still believe they can be, although my belief is obviously not supported by this episode. Why was

this one unsuccessful and how could the situation be corrected? The competence of the coordinator will remain a point outside my critique. I continue to believe topics and questions should be broad in scope to stimulate and sustain discussion from the various scientists that can be expected at an international meeting of copepodologists. I suggest there was one ingredient missing from this session - preparation.
I do not believe substantive discussion can evolve spontaneously, except under unusual circumstances. The coordinator should begin preparing for an open session 8-12 months in advance by asking potential participants about questions or topics germane to their interests. Based on results of this inquiry the coordinator should decide if there are four or five common themes that can be developed into broad, stimulating questions. If this answer is yes, the coordinator should then write back to several potential participants and ask each to come prepared to contribute to a particular question. If contributors can be arranged for several questions, then the session should be scheduled.

Frank Ferrari, Washington

## Quality of descriptions

There are moments where I wish I still were on my sabbatical tour through Australia, Papua New Guinea and New Zealand hunting for interstitial copepods and having stimulating talks with fellow copepodologists every now and then. Jack Greenwood in Brisbane, Wen-Young Tseng in Lae, Dick Hamond and David McKinnon (unfortunately missing Ian Bayly) in Melbourne, Maureen Lewis in Auckland, Janet Bradford, John Wells and Geoff Hicks in Wellington, it was great fun talking to all of them and exploring with them various aspects of copepodology.

One topic that sooner or later crept up in all of these conversations was the quality of descriptions published on copepods. Going through the reprints I receive for the *MONOCULUS*-Library I have the impression that the standards are highest among those working on parasitic or associated copepods. In the other groups the standard appears to be lower or let us say more variable.

There are first class descriptions on the one side and disturbing examples of what should never be done on the other. The unanimous opinion in my conversations was that most descriptions could be better than they actually are. Is it worth bothering about it? I think it is. Have we not learned in the last issue of *MONOCULUS* that the guesses are that at least another 10,000 species or so are still left to be described? In this situation it seems worth while defining what a good description should look like.

I have the intention to organize an evening discussion on this at the next meeting in London and I would like to invite opinions on this matter to be published in *MONOCULUS* before the meeting as was done for the terminology discussion last time. It is my hope that this discussion may result in a written document to be sent to all editors of journals known to accept species descriptions. Agreement? Objections? Propositions? Speak up. I wouldn't mind a lively debate.

Kurt Schminke

---

B O O K  Book review  R E V I E W

---

Studies on Copepoda II (Proceedings of the First International Conference on Copepoda, Amsterdam, The Netherlands, 24-28 August 1981), Crustaceana, Suppl. 7, E.J. Brill, Leiden, 1984: I-IX, 1-435, Dutch Gld. 168.00

Who never had the honour and pleasure of being singled out as editor of the proceedings of a conference will hardly imagine the nightmares and struggles these brave men have to go through in their endeavour to make the best of their honourable task. Has not every author submitted a neat, almost perfect little manuscript at the end of the conference? Why, the hell, should it take longer than a few months to bind these together and produce a decent volume with them for a reasonable price?

Sure, at first sight most manuscripts look rather nice and one has the impression that there is not much to be desired. But when you inspect two of them side by side you discover differences in format, in style, in the quality of illustrations, and in the way the literature is cited. On closer inspection inconsistencies are revealed between tables or illustrations and the text, between citations in the text and the bibliography, between summaries and results. All this has to be smoothed out, preferably in close contact with the author which can mean that you have to wait weeks for an answer. The lists of references can be particularly vicious and make you spend hours on end in the library checking on titles, volume numbers, years of publication. Pity we don't have the computerized bibliography yet. Finally typing can start and endless hours of proof reading ensue. Organizational and financial problems may crop up and have retarding effects. At the same time your normal tasks require continuous attention.

Taking all this into account one cannot but admire the achievement by C. von Vaupel Klein and W. Verwoort who produced a perfect volume on the scientific results of the First International Conference on Copepoda. By adding the discussion that followed every presentation they managed to convey some of the atmosphere of the conference with the result that the volume is not only instructive but also very lively reading. What a job though to compile these discussions, but how rewarding! Chang-tai, Gerd and I who are just editing the proceedings of the Second Conference have left out the discussions except for the panel discussion on phylogeny because we opted for quick publication. Perhaps we have made the wrong sacrifice, yet we are still in schedule. The proceedings are to appear at the end of this year or at least very early in 1986. However, next time the discussions should again be included. It makes such a difference!

C. von Vaupel Klein and W. Verwoort have produced a historic document and they have to be thanked for the energy, the expertise and the accuracy with which they have done the job. Carel has to be thanked in particular if it is true what I have heard that he has done most (or all?) of the typing himself.

Good things have their price. In this case the price is particularly good, but I have heard from several colleagues that they have not regretted the investment.

H.K.S.

**********

exchange service exchange
*M O N O C U L U S* *M O N O C U L U S* *M O N O C U L U S*
service exchange service

**********

## III. Australia

A copepodologist seeking funds to assist a period of study in Australia has several avenues to explore, most of which are probably best done via direct contact with colleagues in Universities, Museums, Fisheries Laboratories and other research institutions in the country.

The prospects for fund assistance fall broadly into two categories. Firstly, those which may be funded under one of several schemes for which grant applications are called annually. In most such cases funds to support a visiting expert would be sought under the umbrella of a team-study conducted by a research group within Australia. Secondly, there are a number of bodies to whom application may be made for individual short-term study visits.

Detailed information on many of these schemes is available in such volumes as Study Abroad (UNESCO) and the Grants Register (MacMillan).

Most funding in Australia for biological research likely to include copepod studies in their orientation comes from five sources. Some of these sources are more specific than others.

1) The Australian Research Grants Scheme (ARGS) is by far the major source, providing funds for equipment, travel and research assistance. This scheme also currently allows for up to 50 post-doctoral Australian National Research Fellowships each year.

2) The Marine Science and Technology (MST) Grants Scheme which, as the name implies, limits its funding to marine-oriented research, though that is broadly based.

More specifically oriented grant schemes also provide funds for the following types of studies.

3) Medically-oriented - the National Health and Medical Research Council (NHMRC). A current copepod study funded under

this scheme, for example, is one on copepods as predators on larvae of disease-vector mosquitoes.

4) Taxonomically-oriented - the Australian Biological Resources Study Scheme (ABRS) aims to document the flora and fauna of Australia, and is interested in proposals for comprehensive taxonomic study. The organising body defines "target" taxa each year, but sound proposals based on non-target taxa are considered.

5) Fisheries-oriented - the Fishing Industry Research Council (FIRC) administers a research fund aimed at supporting projects which have some clear industry-benefit.

In addition to these Australia-wide schemes, many institutions have limited numbers of Travel Grants, Visiting Research Fellowships, Visiting Professorships etc. available. These institutions include:

- most Museums (there is one in the capital city of each state)
- major Universities
- the Commonwealth Scientific and Industrial Research Organisation (CSIRO - various divisions, including biological oceanography and fisheries, Tasmania based)
- the Australian Institute of Marine Science (Townsville based, emphasis on coral reef and tropical ecosystem studies)
- the Great Barrier Reef Marine Park Authority (Townsville).

Again, requests for information and application are best made direct to the various institutions, preferably following contact with colleagues/other copepodologists in the region. Many of these positions are filled by invitation only.

Jack Greenwood, Brisbane

## THE WORLD ASSOCIATION OF COPEPODOLOGISTS

NAME

The name of the association shall be The World Association of Copepodologists, hereinafter referred to as the WAC.

PURPOSE

The general objective of the WAC shall be the promotion and support of interest in all aspects of research on Copepoda.

BY-LAWS

Article 1: Membership

Any person interested in any aspect of the study of Copepoda is eligible for membership of the WAC. Applicants for membership must be nominated by two members of the Association. The nomination is sent to the Executive Council for approval. The approval of the Council confers on the applicant the status of a candidate member. A list of candidate members shall be presented by the Executive Council to the membership during the business meeting of the WAC, to be ratified or rejected by its quorum (defined for the purpose of this statute as at least 30 active members in addition to the officers of the Council). Candidates approved by the meeting become active members. Candidates not so approved will be informed by the General Secretary/Treasurer in writing. Should the period between a membership application and the next business meeting exceed three years, the approval of candidates will be carried out by mail.

All persons placed on the mailing list of *MONOCULUS* shall be deemed founder members of the WAC, unless they express in writing their wish not to become members.

Article 2: Governing body

The governing body of the WAC shall be the quorum of membership assembled at business meeting during periodic symposia. Should such meetings be impossible, the membership shall exercise its authority by mail ballot, organized by the Executive Council.

Article 3: Officers

The officers of the WAC shall be: a President, a Vice-President, a General Secretary/Treasurer, a Local Secretary and up to four

Members, comprising the Executive Council. The term of office of all officers will be coincident with the interval between two successive meetings of the WAC. At each meeting half of the slate of officers shall be replaced. The Local Secretary will not be an elected officer, but be appointed by the Executive Council. All officers of the Executive shall be eligible for re-elections. The first slate of officers shall be appointed by the Founder-President. The first meeting shall elect a new President, General Secretary/Treasurer and two Council Members, to stagger the terms of office and to ensure the continuity of the Executive Council.

Article 4: Executive Council
The Executive Council shall determine general policy on the basis of input from the membership and shall conduct the business affairs of the WAC. The Executive Council is chaired by the president of the WAC. In his absence, the Council is chaired by the Vice-President and in his absence by the General Secretary/ Treasurer.

Article 5: The General Secretary/Treasurer
The General Secretary/Treasurer shall keep the financial records of the WAC and shall present an annual report at the end of each calendar year to be included in the first issue of the newsletter of the succeeding year.

Article 6: The Local Secretary
The Local Secretary shall be appointed by the Executive Council during the WAC meeting from among members living in the locality designated as the venue for the next meeting. The Local Secretary shall take a leading role in organizing that meeting, in close cooperation with the President and the Executive Council.

Article 7: Nominations
Nominations for any office, with the exception of that of the Local Secretary, may be made in writing by any two members of the WAC not later than six months in advance of an election. The Executive Council must ascertain that each candidate is willing to stand for office and serve if elected. Additional nominations may be made by the Executive Council and during business meetings of the WAC.

Article 8: Elections
Elections shall be conducted by direct ballot at the business meetings of the WAC. Should the interval between meetings exceed five years, the Executive Council shall arrange a mail ballot elections. In that case the Executive Council shall mail ballots to the membership in an issue of the newsletter before October 1 in the election year. A brief biographical sketch of each candidate shall accompany the ballots. The Executive Council shall appoint a scrutinizing committee of three to count and record votes received by November 1. The candidates receiving the greatest number of votes shall be elected. When the vote results in a tie, the Executive Council shall vote to resolve it. Should a tie still persist, the President shall have the casting vote.

Article 9: Finance
The expenses of the WAC shall be paid from the funds of the WAC, within the limits of its budget. The capital and income of the WAC shall be devoted solely to the furtherance of the objectives of the WAC, as stated in its constitution.

Article 10: Dues
The annual dues shall be fixed by the Executive Council. They shall be payable in the currency used by the treasury of the WAC or by International Money Order in advance before January 1 to the General Secretary/Treasurer. Dues may be paid two years in advance. At the discretion of the Executive Council, dues of some members may be waived or reduced.

Article 11: Newsletter
The WAC shall publish a newsletter called *MONOCULUS*. This newsletter shall be published at least once a year. The responsibility for its publication shall devolve upon an Editor, appointed by the Executive Council for a period equal to the interval between successive meetings. The Editor may be one of the officers of the Executive Council and shall be eligible for re-election.

Article 12: Meetings
The WAC shall sponsor an international symposium every three years, if possible. The purpose of these conferences shall be the promotion of the Association's objectives. They will also provide

a platform for the conduct of the Association's business, including nomination and election of officers, adoption of by-laws and amendment of the constitution and/or by-laws. All business decisions shall be taken by the vote of the membership quorum. Financial responsibility for the conferences shall rest with the local organizers.

Article 13: Amendments
The constitution and by-laws of the WAC can be amended only by two-thirds majority of members in good standing present at a business meeting or voting in a mail ballot. Amendments may be proposed by any two members in writing to the General Secretary/ Treasurer for appropriate transmission to the membership.

Article 14: Dissolution
In the event that WAC is dissolved for any reason, the surplus funds remaining after payment of debts and liabilities shall be transferred to some institution or organization approved by the Executive Council that has objectives similar to those of the WAC. Any outstanding liabilities at dissolution shall be shared equally among the members.

| | |
|---|---|
| Founder-President: | Z. Kabata |
| General Secretary: | H.K. Schminke |
| Local Secretary: | G. Boxshall |
| Treasurer: | G. Schriever |
| Executive Council: | P.I. Blades-Eckelbarger |
| | C. Heip |
| | C.-t. Shih |

(The functions of General Secretary and Treasurer are to be combined in future, see statute.)

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

1921 Zwei neue Fundorte von Cyclops crassicaudis Sars. Mikrokosmos 14: 206

1923 Beitrag zur Kenntnis von Cyclops crassicaudis Sars. Zoologischer Anzeiger 56: 283-289

1923 Zur Kenntnis der Süßwasser-Harpacticiden Deutschlands: Maraenobiotus vejdovskyi Mràzek. Zoologischer Anzeiger 57: 122-124

1924 Zur Kenntnis der languidus-ähnlichen Cyclopiden: Cyclops languidus Sars var. intermedia nov.nom. Zoologischer Anzeiger 58: 279-283

1924 Beiträge zur Copepodenkunde I. Zoologischer Anzeiger 59: 200-204. 1. Canthocamptus pygmaeus Sars. 2. Ein neuer Fundort von Diaptomus denticornis Wierz. im Schwarzwald. 3. Epactophanes richardi Mràzek.

1924 Eine neue Harpacticidenform des Süßwassers: Canthocamptus cuspidatoides nov.spec. Zoologischer Anzeiger 59: 304-307

1924 Beiträge zur Copepodenkunde II. Zoologischer Anzeiger 61: 218-221. 4. Cyclops gibsoni Brady und Cyclops nubicus Chappuis. 5. Cyclops planus Gurney, ein circummediterraner Copepode.

1925 Ruderfußkrebse aus dem Gebiet der oberen Donau. Mitteilungen des Badischen Landesvereins für Naturkunde. N.F. 1: 339-347

1925 Copepoden aus Bulgarien. Zoologischer Anzeiger 61: 297-302

1925 Ein neuer Süßwasser-Copepode aus Südamerika: Cyclops delachauxi n.sp. Zoologischer Anzeiger 63: 46-47

1925 Moraria duthiei (Scott), ein neues Glied der deutschen Copepodenfauna. Zoologischer Anzeiger 63: 329-332

1925 Über einen neuen Fundort von Bathynella (Syncarida). Zoologischer Anzeiger 64: 101-102

1925 Über einige Ruderfußkrebse aus Kleingewässern. Mikrokosmos 18: 239-243

1925 Über die Mikrofauna unterirdischer Gewässer. Mikroskopie für Naturfreunde 3: 257-266

1926 Nitocrella chappuisi n.sp., eine neue Harpacticidenform aus dem Grundwasser. Zoologischer Anzeiger 66: 252-256

1926 Die languidus-Gruppe der Gattung Cyclops (Copepoda). Internationale Revue der gesamten Hydrobiologie 14: 341-370

1926 Über einige Süßwasser-Cyclopiden aus Peru. Archiv für Hydrobiologie 16: 494-507

1926 Diagnosen neuer Süßwasser-Copepoden aus Afrika. Zoologischer Anzeiger 66: 262-269

1926 Über moosbewohnende Ruderfußkrebse. Mikrokosmos 19: 171-174

1926 Beiträge zur Copepodenkunde III. Zoologischer Anzeiger 67: 103-107. 6. Cyclops kieferi Chappuis, ein weiteres neues Glied der deutschen Grundwasserfauna. 7. Canthocamptus laccophilus Keßler und Canthocamptus cuspidatoides Kiefer. 8. Cyclops diaphanus var. dengizica Lepeschkin und Cyclops buxtoni Gurney.

1926 Zwei neue Ruderfußkrebse aus Südamerika. Zoologischer Anzeiger 67: 221-223

1926 Über einige Krebse aus der Wasserleitung von Öfingen. Schriften des Vereins für die Geschichte und Naturgeschichte der Baar und der angrenzenden Landesteile in Donaueschingen 16: 273-283

1926 Beiträge zur Copepodenkunde (IV). Zoologischer Anzeiger 69: 21-26. 9. Neue Cyclops-Arten. 10. Ein neuer Diaptomus aus Westafrika.

1927 Kleinkrebse in Wasserleitungen. Mikrokosmos 20: 140-141

1927 Copepoden und Rotatorien aus den Kiemenhöhlen des Flußkrebses. Mikrokosmos 20: 155

1927 KIEFER, F. & W. KLIE, Zur Kenntnis der Entomostraken von Brunnengewässern. Zoologischer Anzeiger 71: 5-14

1927 Freilebende Süßwasser-Copepoden aus Nordamerika. Zoologischer Anzeiger 72: 262-268

1927 Beiträge zur Copepodenkunde (V). Senckenbergiana 9: 104-105. 11. Diaptomus pontifex BREHM und D. incrassatus SARS

1927 Versuch eines Systems der Cyclopiden. Zoologischer Anzeiger 73: 302-308

1927 Beiträge zur Copepodenkunde (VI). Zoologischer Anzeiger 74: 116-122. 12. Über einige südamerikanische Cyclopiden. 13. Ein neuer Cyclopide aus Indien.

1928 Neue Untersuchungen über die Süßwasser-Cyclopiden. Mikrokosmos 21: 71-75

1928 Beitrag zur Kenntnis der freilebenden Copepoden Ungarns. Archivum balatonicum 1: 400-420

1928 Beiträge zur Copepodenkunde (VII). Zoologischer Anzeiger 75: 216-223. 14. Über einige Boeckelliden. 15. Zur Nomenklatur zweier Halicyclops-Arten. 16. Über Systematik der Oithona- und Cyclopina-Ähnlichen.

1928 Crustacea I. Copepoda aquae dulcis. Faune des Colonies françaises 1: 535-570

1928 Über Morphologie und Systematik der Süßwasser-Cyclopiden. Zoologisches Jahrbuch (Systematik) 54: 495-556

1928 Beiträge zur Copepodenkunde. (VIII). Zoologischer Anzeiger 76: 5-18. 17. Neue Cyclopen aus Neuseeland. 18. Diaptomiden und Cyclopiden aus Südafrika.

1928 Beiträge zur Copepodenkunde. (IX). Zoologischer Anzeiger 76: 99-110. 19. Über drei Bryocyclops-Arten aus Java. 20. Ein neuer Diaptomus von den Philippinen. 21. Zur Copepodenfauna Südostchinas. 22. Zur Kenntnis eines japanischen Diaptomus.

1928 Die deutschen Arten der Süßwasser-Cyclopiden. Mikrokosmos 21: 199-203

1928 Beiträge zur Copepodenkunde. (X). Zoologischer Anzeiger 78: 169-174. 23. Zur Kenntnis des Cyclops crassicaudoides Kiefer. 24. Zur Synonymie zweier Diaptomus-Arten aus Südamerika. 25. Diaptomus "Zichyi" Daday 1908. 26. Diaptomus insulanus Wright und D. sensibilis Kiefer.

1928 Zur Kenntnis der geographischen Verbreitung von Bathynella chappuisi Delachaux (Syncarida). Zoologischer Anzeiger 78: 123-125

1928 Beiträge zur Copepodenkunde. (XI). Zoologischer Anzeiger 79: 244-250. 27. Eine neue Unterart des Cyclops crassicaudis Sars. 28. Ein Paracyclops fimbriatus mit außergewöhnlich gebautem fünften Fußpaar. 29. Die Gattungsnamen Paracyclops Claus, Ectocyclops Brady und Platycyclops Sars.

1928 Zur Kenntnis der Mikrofauna von Britisch Indien. IV. Copepoda Cyclopoida. Record of the Indian Museum 30: 387-398

1928 Beitrag zur Kenntnis der freilebenden Copepoden Marokkos. Bulletin de la Société des sciences naturelles du Maroc 8: 87-108

1929 Zur Kenntnis einiger Artengruppen der Süßwasser-Cyclopiden. Zeitschrift für wissenschaftliche Zoologie 133: 1-56

1929 Beiträge zur Copepodenkunde. (XII). Zoologischer Anzeiger 80: 305-309. 30. Zur Kenntnis der Cyclopiden Nordamerikas. 31. Ein neuer Diaptomus aus Südamerika. 32. Zur Geographie des Diaptomus zachariasi Poppe.

1929 Neue und wenig bekannte Süßwasser-Copepoden aus Südafrika. Zoologischer Anzeiger 80: 309-316

1929 Beiträge zur Copepodenkunde. (XIII). Zoologischer Anzeiger 83: 319-325. 33. Bemerkenswerte Canthocamptiden aus dem Hochschwarzwald. 34. Attheyella willeyi nom.nov. 35. Über einige morphologische Besonderheiten. 36. Zwei neue Harpacticoiden-Formen aus Südafrika.

1929 Eine neue Harpacticoiden-Form aus Südafrika: Cletocamptus trichotus n.sp. Zoologischer Anzeiger 84: 21-23

1929 Neue Ruderfußkrebse von den Sunda-Inseln. (I). Zoologischer Anzeiger 84: 46-49

1929 Cyclopoida Gnathostoma. In: Das Tierreich 53. Lieferung, Berlin und Leipzig 1929. XVI und 102 pp.

1929 Zur Kenntnis der freilebenden Copepoden Nordamerikas. Zoologischer Anzeiger 86: 97-100

1930 Neue Ruderfußkrebse von den Sunda-Inseln. (II). Zoologischer Anzeiger 86: 185-189

1930 Zur Kenntnis der freilebenden Copepoden Madagaskars. Zoologischer Anzeiger 87: 42-46

1930 Beiträge zur Copepodenkunde. (XIV). Zoologischer Anzeiger 87: 118-124. 37. Die prasinus-Gruppe (Untergattung Tropocyclops) der Gattung Eucyclops. 38. Zur Kenntnis des Diaptomus orientalis Brady-Sars. 39. Zur Kenntnis des Paradiaptomus aethiopicus (Daday). 40. Eine neue Cyclops-Form aus Algerien. 41. Ein neuer Diaptomus aus dem Sudan.

1930 Neue höhlenbewohnende Ruderfußkrebse. Zoologischer Anzeiger 87: 222-228

1930 Beiträge zur Copepodenkunde. (XV). Zoologischer Anzeiger 87: 315-318. 42. Zwei bemerkenswerte Diaptomiden aus Südfrankreich. 43. Zur Kenntnis des Diaptomus lamellatus SPANDL. 44. Zur Kenntnis des Ectocyclops phaleratus (KOCH).

1930 Neue Cyclopiden von den Sunda-Inseln. (I). Zoologischer Anzeiger 89: 319-322

1930 Neue Cyclopiden von den Sunda-Inseln. (II). Zoologischer Anzeiger 90: 55-58

1930 Ein neuer Mesocyclops aus Java. Zoologischer Anzeiger 90: 86-92

1930 Zur Kenntnis des Diaptomus lauterborni Kiefer. Zoologischer Anzeiger 92: 187-189

1930 Zur Kenntnis der Copepodenfauna Palästinas. Zoologischer Anzeiger 92: 242-246

1930 Süßwasser-Copepoden (Calanoida und Cyclopoida) von der Insel Luzon, Philippinen. The Philippine Journal of Science 41: 151-157

1931 Die Untergattung Tropocyclops der Gattung Eucyclops (Copepoda Cyclopoida). Zeitschrift für wissenschaftliche Zoologie 138: 487-514

1931 Kurze Diagnosen neuer Süßwasser-Copepoden. Zoologischer Anzeiger 94: 219-224

1931 Zur Kenntnis der in unterirdischen Gewässern lebenden Copepoden. Mitteilungen über Höhlen- und Karstforschung, Jahrgang 1931, 2-7

1931 Zur Kenntnis der freilebenden Süßwassercopepoden, insbesondere der Cyclopiden Nordamerikas. Zoologisches Jahrbuch (Systematik) 61: 579-620

1931 Wenig bekannte und neue Süßwasser-Copepoden aus Italien. Zoologisches Jahrbuch (Systematik) 61: 697-712

1931 Neuseeländische Süßwassercopepoden. Zoologischer Anzeiger 96: 273-282

1931 Report on a collection of fresh-water Cyclopidae from New-Zealand. Transactions of the New Zealand Institute, Sep., 1-5

1932 HEBERER, G. & F. KIEFER, Zur Kenntnis der Copepodenfauna der Sunda-Inseln. Archiv für Naturgeschichte, N.F. 1: 225-274

1932 Neue Diaptomiden und Cyclopiden aus Französisch-Westafrika. Buletinul Societatii de stiinte din Cluj 6: 523-528

1932 Ein weiterer neuer Cyclopide aus Französisch-Westafrika. Buletinul Societatii de stiinte din Cluj 6: 552

1932 Eine neue Cyclops-Art (Copepoda) aus Ostafrika. Zoologischer Anzeiger 100: 1-3

1932 Versuch eines Systems der altweltlichen Diaptomiden. (Vorläufige Mitteilung). Zoologischer Anzeiger 100: 213-220

1932 Ein neuer Mesocyclops (Copepoda Cyclopoida) aus der Mandschurei. Zoologischer Anzeiger 100: 234-237

1932 Zwei neue Diaptomiden (Copepoda Calanoida) aus Indien. Zoologischer Anzeiger 100: 265-270

1932 Versuch eines Systems der Diaptomiden (Copepoda Calanoida). Zoologisches Jahrbuch (Systematik) 63: 451-520

1933 Neue Süßwassercopepoden aus Jugoslawien. I. Zoologischer Anzeiger 101: 49-60

1933 Die Ruderfußkrebse der unterirdischen Gewässer Deutschlands. Mikrokosmos 25: 60-65

1933 Neue Süßwassercopepoden aus Jugoslawien. II. Zoologischer Anzeiger 101: 277-279

1933 Neue Süßwassercopepoden aus Jugoslawien. III. Zoologischer Anzeiger 101: 309-318

1933 Ruderfußkrebse (Copepoda) aus der Adelsberger Höhle. Mitteilungen über Höhlen- und Karstforschung, Jahrgang 1933, 36-39

1933 Zwei neue Tropodiaptomusarten aus Ostafrika. Buletinul Societatii de stiinte din Cluj 7: 364-366

1933 Die Entomostrakenfauna des Schluchseemoores und seiner Umgebung. Beiträge zur naturwissenschaftlichen Erforschung Badens, Heft 11, 173-188

1933 Süß- und Brackwasser-Copepoden von Bonaire, Curacao und Aruba. II. Cyclopoida. Zoologisches Jahrbuch (Systematik) 64: 405-414

1933 Karl van Douwe$^{+}$. Archiv für Hydrobiologie 25: 699-701

1933 Beiträge zur Copepodenkunde. (XVI). Zoologischer Anzeiger 104: 289-296. 45. Ein neuer Arctodiaptomus aus Bulgarien. 46. Eine neue Hemidiaptomus-Art aus Ungarn. 47. Zur Kenntnis der Diaptomiden Südamerikas. 48. Attheyella ekmani, nom.nov. pro Canthocamptus crassus EKMAN, non G.O.SARS.

1933 Freilebende Binnengewässercopepoden. Diaptomiden und Cyclopiden aus Franz. Westafrika. Archiv für Hydrobiologie 26: 121-142

1933 Süßwassercopepoden aus Brasilien. Zoologischer Anzeiger 105: 38-43

1933 Die freilebenden Copepoden der Binnengewässer von Insulinde. Archiv für Hydrobiologie, Suppl.-Bd. 12 (Trop. Binnengewässer, 4), 519-621

1934 Über zwei Arten der Gattung Cletocamptus Schmankewitsch (Copepoda Harpacticoida). Zoologischer Anzeiger 105: 141-144

1934 Die freilebenden Copepoden Südafrikas. Zoologisches Jahrbuch (Systematik) 65: 99-192

1934 Neue Ruderfußkrebse aus Nordamerika. I. Cyclopiden. Zoologischer Anzeiger 107: 269-271

1934 Neue Ruderfußkrebse aus Nordamerika. II. Canthocamptiden. Zoologischer Anzeiger 108: 206-207

1934 Neue Ruderfußkrebse von der Insel Haiti. Zoologischer Anzeiger 108: 227-233

1934/35 Über die Ruderfußkrebse der deutschen Binnengewässer. Mikrokosmos 28: 47-50 und 63-66

1935 Beiträge zur Copepodenkunde. (XVII). Zoologischer Anzeiger 109: 88-93. 49. Cyclops (s.str.) tatricus KOZMINSKI, ein neues Glied der deutschen Copepodenfauna. 50. Ein neuer deutscher Fundort von Nitocra inuber (SCHMANKEW.). 51. Cyclops venustoides COKER und Cyclops pilosus KIEFER. 52. Ein neuer Heliodiaptomus aus Hinterindien.

1935 Neue Süßwassercyclopiden (Crustacea Copepoda) aus Ostafrika. Buletinul Societatii de stiinte din Cluj 8: 237-242

1935 Fünf neue Ruderfußkrebse aus Indien. Zoologischer Anzeiger 109: 113-121

1935 Neue Süßwassercyclopiden (Crustacea Copepoda) aus Uruguay. Zoologischer Anzeiger 109: 181-188

1935 Zur Kenntnis der Halicyclopen (Crustacea Copepoda). Zoologischer Anzeiger 110: 10-13

1935 Eine neue Art der Gattung Cyclops (Crustacea Copepoda) aus Indien. Zoologischer Anzeiger 111: 220-222

1935 Zwei seltene Ruderfußkrebse aus dem Grundwasser der oberrheinischen Tiefebene. Verhandlungen des Naturwissenschaftlichen Vereins in Karlsruhe 29: 131-136

1935 Über drei Cyclopiden (Crustacea Copepoda) aus Brasilien. Zoologischer Anzeiger 112: 23-31

1935 Zur Kenntnis der Oithonidae (Crustacea Copepoda Cyclopoida). Zoologischer Anzeiger 112: 322-327

1936 Weitere neue Ruderfußkrebse (Crust. Cop.) aus Indien. Zoologischer Anzeiger 113: 1-6

1936 Ein neuer Cyclopide (Crustacea Copepoda) aus dem Grundwasser der oberrheinischen Tiefebene. Zoologischer Anzeiger 113: 84-87

1936 Indische Ruderfußkrebse (Crust. Cop.). Zoologischer Anzeiger 113: 136-142

1936 Indische Ruderfußkrebse (Crust. Cop.). II. Zoologischer Anzeiger 113: 226-233

1936 Indische Ruderfußkrebse (Crust. Cop.). III. Zoologischer Anzeiger 113: 321-325

1936 Indische Ruderfußkrebse (Crust. Cop.). IV. Zoologischer Anzeiger 114: 77-82

1936 Über einige Ruderfußkrebse (Crust. Cop.) aus dem Grundwasser Belgiens. Bulletin du Musée royale d'histoire naturelle de Belgique 12: 1-13

1936 Brasilianische Ruderfußkrebse (Crust. Cop.), gesammelt von Herrn Dr. Otto Schubart. II. Zoologischer Anzeiger 114: 129-133

1936 Über die Krebstiere, insbesondere die Ruderfußkrebse des Eichener Sees. Beiträge zur naturkundlichen Forschung in Südwestdeutschland 1: 157-162

1936 Brasilianische Ruderfußkrebse (Crust. Cop.), gesammelt von Herrn Dr. Otto Schubart. III. Zoologischer Anzeiger 114: 320-322

1936 Ein weiterer neuer Cyclopide aus dem Grundwasser der oberrheinischen Tiefebene. Zoologischer Anzeiger 115: 168-170

1936 Mitteilungen von den Forschungsreisen Prof. Rahms. Mitteilung VIII. Cyclopiden. Zoologischer Anzeiger 115: 244-249

1936 Freilebende Süß- und Salzwassercopepoden von der Insel Haiti. Archiv für Hydrobiologie 30: 263-317

1936 Brasilianische Ruderfußkrebse (Crust. Cop.), gesammelt von Herrn Dr. Otto Schubart. V. Zoologischer Anzeiger 116: 31-35

1936 Parastenocaris germanica n.sp., ein neuer harpacticoider Ruderfußkrebs aus dem Grundwasser der Oberrheinischen Tiefebene. Zoologischer Anzeiger 116: 98-101

1936 Eine neue Parastenocaris-Art (Crust. Cop.) aus Brasilien. Zoologischer Anzeiger 116: 142-144

1936 Über das Vorkommen von Blattfußkrebsen (Euphyllopoda) in Baden. Beiträge zur naturkundlichen Forschung in Südwestdeutschland 1: 255-262

1936 Über die Systematik der südamerikanischen Diaptomiden (Crust. Cop.). Zoologischer Anzeiger 116: 194-200

1937 Mißbildungen bei Ruderfußkrebsen. Mikrokosmos 30: 127-131

1937 Süßwassercopepoden aus Ostasien. I. Zoologischer Anzeiger 118: 299-301

1937 Über zwei Höhlencyclopiden (Crust. Cop.) aus Jugoslawien. Zoologischer Anzeiger 119: 16-19

1937 Süßwassercopepoden aus Ostasien. II. Zoologischer Anzeiger 119: 58-64

1937 Neue Ruderfußkrebse (Crust. Cop.) aus Angola. Zoologischer Anzeiger 119: 146-150

1937 Eine kleine Copepodenausbeute aus der östlichen Mongolei. Zoologischer Anzeiger 119: 293-298

1937 Cyclopiden (Crust. Cop.) aus nordspanischen Höhlen. Zoologischer Anzeiger 119: 321-327

1937 Über Systematik und geographische Verbreitung einiger Gruppen stark verkümmerter Cyclopiden (Crust. Cop.). Zoologisches Jahrbuch (Systematik) 70: 421-442

1937 Ein neuer Cyclopide (Crust. Cop.) aus dem Ochridasee. Zoologischer Anzeiger 120: 137-143

1937 Freilebende Ruderfußkrebse (Crust. Cop.) aus Angola. I. Diaptomiden und Cyclopiden. Archiv für Hydrobiologie 32: 470-485

1937 Die freilebenden Ruderfußkrebse (Crust. Cop.) Jugoslawiens. I. Teil. Bulletin de la Société des Sciences à Skopje 18: 77-105

1938 Zur Kenntnis der Süßwassercyclopiden (Crust. Cop.) Japans. Fauna Musashinensis 2: 1-18

1938 Beiträge zur Copepodenkunde. (XVIII). Zoologischer Anzeiger 122: 249-254. 53. Ein neuer deutscher Fundort des Hemidiaptomus (Gigantodiaptomus) amblyodon (MARENZELLER). 54. Der erste sichere deutsche Fundort von Eudiaptomus coeruleus (FISCHER). 55. Über ein bemerkenswertes rudimentäres Füßchen von Macrocyclops spec.

1938 Cyclopiden (Crust. Cop.) aus süditalienischen Brunnen und Höhlen. Zoologischer Anzeiger 123: 1-12

1938 Ein neuer Cyclopide (Crust. Cop.) von der Insel Korfu. Zoologischer Anzeiger 123: 96-98

1938 Neue harpacticoide Ruderfußkrebse aus dem Grundwasser von Aschaffenburg (Main). Zoologischer Anzeiger 123: 142-147

1938 Freilebende Ruderfußkrebse (Crust. Cop.) von Formosa. Bulletin of the Biogeographical Society of Japan 8: 35-73

1938 Freilebende Süßwassercopepoden von den Nordkurilen. Bulletin of the Biogeographical Society of Japan 8: 75-94

1938 Über zwei bemerkenswerte Diaptomiden (Crust. Cop.) aus Bulgarien. Zoologischer Anzeiger 123: 174-180

1938 Zur Kenntnis einiger Diaptomiden (Crust. Cop.) von der Balkanhalbinsel (Bulgarien und Insel Korfu). Zoologischer Anzeiger 123: 251-259

1938 Eine neue Diaptomidenform (Crust. Cop.) aus Bulgarien. Zoologischer Anzeiger 123: 265-270

1938 Ruderfußkrebse (Crust. Cop.) aus Mexico. Zoologischer Anzeiger 123: 274-280

1938 Eine neue Ruderfußkrebsgattung (Crust. Cop.) aus dem Grundwasser von Aschaffenburg (Main). Zoologischer Anzeiger 124: 89-94

1938 Beiträge zur Copepodenkunde. (XIX). Zoologischer Anzeiger: 124: 150-158. 56. Zwei Mesocyclops-Arten im Bodensee. 57. Zur Kenntnis des Halicyclops rotundipes KIEFER. 58. Zur Kenntnis des Hemidiaptomus (s.str.) gurneyi.

1938 Liste de Copépodes d'eau douce récoltés dans la région cotière du Rharb (Maroc occidental) en Décembre 1934. Bulletin de la Société des sciences naturelles du Maroc 18: 123-125

1938 Die von der Wallacea-Expedition gesammelten Arten der Gattung Thermocyclops Kiefer. Internationale Revue der gesamten Hydrobiologie 38: 54-74

1938 Bemerkungen zur Pseudodiaptomidenausbeute der Wallacea-Expedition. Internationale Revue der gesamten Hydrobiologie 38: 75-98

1939 Ein neuer Arctodiaptomus (Crust. Cop.) aus der Türkei. Zoologischer Anzeiger 126: 24-29

1939 Crustacea. IV. Copepoda: Diaptomidae, Cyclopidae. Mission Scientifique de l'Omo 5: 319-378

1939 Scientific results of the Yale North India Expedition. Biol. Report Nr. 19 Crustacea Copepoda. Memoirs of the Indian Museum 13(2): 83-203

1939 Zur Kenntnis des Cyclops "strenuus" aus dem Bodensee. Archiv für Hydrobiologie 36: 94-117

1942 KIEFER, F. & J. ROY, Ein neuer Diaptomide (Copepoda Calanoida) aus Französisch-Westafrika. Zoologischer Anzeiger 140(3/4): 33-37

1943 Freilebende Copepoda (Crust.). Beiträge zur Fauna Perus 2: 213-215

1943 Freilebende Ruderfußkrebse (Crust. Cop.) von einigen Inseln des Indischen Ozeans. Zoologischer Anzeiger 145 (1944) (1-4): 79-88

1945 Professor Dr. Otto Schmeil$^{+}$. Archiv für Hydrobiologie 41: 421-423

1948 The Armstrong College Zoological Expedition to Siwa Oasis (Libyan Desert) 1935. Freilebende Ruderfußkrebse (Crustacea Copepoda). Proceedings of the Egyptian Academy of Sciences 4: 62-112

1952 Freilebende Ruderfußkrebse (Crustacea Copepoda) aus türkischen Binnengewässern. Publications de l'Institut de recherches hydrobiologiques de la Faculté des Sciences, Université d'Istanbul. Ser.B. 1: 103-132

1952 Beitrag zur Kenntnis der Copepodenfauna Algeriens. Bulletin de la Société d'histoire naturelle de l'Afrique du Nord 43: 87-112

1952 Haplocyclops gudrunae n.g. et n.sp., ein neuer Ruderfußkrebs (Crustacea Copepoda) aus Madagaskar. Zoologischer Anzeiger 149 (9/10): 240-243

1952 Copépodes cavernicoles des Pyrénées. Notes Biospéologiques 7: 113-131

1952 Bemerkenswerte Diaptomiden (Crust. Cop.) von der Insel Korfu (Griechenland), aus Ungarn und Tunis. Zoologischer Anzeiger 149(11/12): 259-266

1952 Copepoda Calanoida und Cyclopoida. Exploration du Parc National Albert Mission Henry Damas (1935-1936). Fasc. 21: 1-136. Bruxelles.

1953 Zur Kenntnis der Crustacea Copepoda von der Insel Korfu. Zoologischer Anzeiger 150(5/6): 133-136

1953 Ruderfußkrebse aus dem Naturschutzgebiet "Weingartener Moor". Beiträge zur naturkundlichen Forschung in Südwestdeutschland 12: 4-11

1953 Freilebende Ruderfußkrebse aus Schwedisch-Lappland. Archiv für Hydrobiologie 48(2): 173-177

1953 KIEFER, F. & R. MUCKLE, Zooplankton. In: Wasseruntersuchungen im Überlinger See (Bodensee) 1952/53. Bericht über die Ergebnisse der Jahresserie 1952/53. Crustaceenplankton. Veröffentlichungen der Studienkommission für Wasserversorgung, Stuttgart 0: 1-33

(Whenever possible the titles of journals have - in contrast to Kiefer's manuscript - been quoted in full. The list is to be continued in *MONOCULUS* No. 12.)

..terature-literature-literature-literature-literature-litera..

BOOKS

PIONTKOVSKII, S.A. - 1985: Ekologiya povedyeniya veslonogikh rakoobraznykh (The ecology of behaviour of copepods). Akad. Nauk Ukrainsk.SSR, Kiev 1985, 115 p.

STELLA, E. - 1984: Crustacea Copepoda: Calanoida (d'acqua dolce). In: Fauna d'Italia vol. 21: i-x, 1-101, Edizioni Calderini, Bologna

1983

CASTEL, J., C. COURTIES & J.-M. POLI - 1983: Dynamique du copépode Eurytemora hirundoides dans l'estuaire de la Gironde: effet de la température. Oceanol.Acta, Actes 17e Symposium Européen de Biologie Marine, Brest, 1982: 57-61

CHOJNACKI, J. - 1983: Badania liczebnosci, biomasy i wartości energetycznej mezozooplanktonu w zatoce pomorskiej i w rejonie ustki w cyklu rocznym. (Studies upon numbers, biomass and energy value of mesozooplankton, in yearly cycle in Pomeranian Bay and Ustka region.) Zesz.nauk.A.R.Szczec. 103: 17-35 (In Polish with English summary)

CHOJNACKI, J. & M.M. HUSSEIN - 1983: Body length and weight of the dominant copepod species in the southern Baltic Sea. Zesz.nauk. A.R.Szczec. 103: 53-64

HIRAKAWA, K. - 1983: A new species of Pseudodiaptomus (Copepoda: Calanoida) from the coast of Niigata, the Japan Sea. Bull. Plankton Soc.Japan 30(1): 65-69

PESCE, G.L. - 1983: Contributo alla conoscenza degli arpacticoidi delle acque sotterranee della regione pugliese (Crustacea: Copepoda). Thalassia Salentina 13: 61-81

PREJS, K. & K. PAPINSKA - 1983: Ecological characteristics of lakes in north-eastern Poland versus their trophic gradient. XI. Meiobenthos and near-bottom meiofauna in 20 lakes. Ekol. pol. 31(2): 477-493

TURNER, J.T. & D.M. ANDERSON - 1983: Zooplankton grazing during dinoflagellate blooms in a Cape Cod embayment with observations of predation upon tintinnids by copepods. P.S.Z.N.I. Mar.Ecol. 4(4): 359-374

WEST, G.A. - 1983: A new philichthyid copepod parasitic in Whiting (Sillago spp.) from Australian waters. J.Crust.Biol. 3(4): 622-628

WOODWARD, I.O. & R.W.G. WHITE - 1983: Effects of temperature and food on instar development rates of Boeckella symmetrica Sars (Copepoda: Calanoida). Aust.J.Mar.Freshw.Res. 34: 927-932

YEATMAN, H.C. - 1983: Copepods from microhabitats in Fiji, Western Samoa, and Tonga. Micronesia 19(1-2): 57-90

1984

ALVAREZ, M.P.J. - 1984: Two bottom living Copepoda Calanoida Aetideidae - Bradyidius plinioi and Lutamator elegans n.sp. collected in Brazilian waters. Bolm.Zool., Univ.S.Paulo 8: 93-106

BAARS, M.A. & H.G. FRANSZ - 1984: Grazing pressure of copepods on the phytoplankton stock of the central North Sea. Netherl. J.Sea Res. 18(1/2): 120-142

BAARS, M.A. & S.S. OOSTERHUIS - 1984: Diurnal feeding rhythms in North Sea copepods measured by gut fluorescence, digestive enzyme activity and grazing on labelled food. Netherl.J.Sea Res. 18(1/2): 97-119

BRENNING, U. - 1984: Beiträge zur Calanoidenfauna (Crustacea, Copepoda) vor Nordwest- und Südwestafrika. VI. Die Vertreter der Familien Euchaetidae, Phaennidae und Scolecithricidae. Wiss.Z.Univ.Rostock 33, Naturwiss. Reihe 6: 1-9

CAMPANER, A.F. - 1984: Scaphocalanus and Scolecithricella (Copepoda, Calanoida, Scolecithricidae) from the epipelagical off southern Brazil: a taxonomic and distributional survey. Bolm. Zool., Univ.S.Paulo 8: 165-187

CAMPANER, A.F. - 1984: Some taxonomic problems within the Arietellidae (Calanoida). Crustaceana, Suppl. 7: 102-109

CASTEL, J. - 1984: Influence de l'activité bioturbatrice de la Palourde (Ruditapes philippinarum) sur les communautés meiobenthiques. C.r.Acad.Sci.Paris (III) 299(19): 761-764

CASTEL, J. - 1984: Dynamique du copépode Eurytemora hirundoides dans l'estuaire de la Gironde: influence du bouchon vaseux. J.Rech.Océanogr. 9(3): 112-114

CASTRO, R.R. & H. BAEZA, K. - 1984: Clavellotis, a new genus (Copepoda: Lernaeopodidae), and redescription of Clavellotis dilatata (Krøyer,1863). J.Crust.Biol. 4(4): 688-694

CONCEICAO GUIMARAES, M. - 1984: Etude du cycle biologique de Tropocyclops prasinus (Fischer,1860). Publ.Inst.Zool. "Dr. A. Nobre", Porto 182: 1-11

FIERS, F. - 1984: Harpacticoid copepods from the West Indian Islands: Canuellidae and Longipediidae (Copepoda, Harpacticoida). Bijdr.Dierk. 54(2): 197-210

GUILLEMETTE, M. & J. CASTEL - 1984: Densité du meiobenthos dans les chenaux du Bassin d'Arcachon. J.Rech.Océanogr. 9(4): 159-161

HERBST, H.-V. - 1984: Hesperocyclops improvisus n.g., n.sp., ein neuer Cyclopoide (Crustacea, Copepoda) von den Westindischen Inseln. Bijdr.Dierk. 54(1): 66-72

HIRAKAWA, K. - 1984: Seasonal distribution of the planktonic copepods, and life histories of Calanus pacificus, Calanus plumchrus and Eucalanus bungii bungii in the waters of Funka Bay, southern Hokkaido, Japan. Marine Biological Research Institute of Japan, Co., Ltd., Tokyo, pp. 1-48 (In Japanese with English summary)

HO, J.-S. - 1984: Accessory antennule and the origin of the Chondracanthidae (Poecilostomatoida). Crustaceana, Suppl. 7: 242-248

HOCKIN, D.C. - 1984: The fauna and flora associated with mats of the Cyanobacteria Phormidium in the Lancaster Canal, England. Arch.Hydrobiol. 102(2): 193-199

HUMES, A.G. - 1984: Ostrincola and Pseudomyicola (Crustacea: Copepoda: Poecilostomatoida) associated with marine bivalve molluscs on the Pacific coast of Panama. Proc.Biol.Soc. Washington 97(3): 589-600

HUMES, A.G. - 1984: Copepods associated with scleractinian coral Porites in French Polynesia. Cah.Biol.Mar. 25: 181-195

HUMES, A.G. - 1984: Benthoxynus spiculifer n.gen., n.sp. (Copepoda: Siphonostomatoida) associated with Vestimentifera (Pogonophora) at a deep-water geothermal vent off the coast of Washington. Can.J.Zool. 62: 2594-2599

HUMES, A.G. - 1984: Harpacticoid copepods associated with cnidarians in the tropical Pacific Ocean. Zool.Scr. 13(3): 209-221

HUMES, A.G. - 1984: Hemicyclops columnaris sp.n. (Copepoda, Poecilostomatoida, Clausidiidae) associated with a coral in Panama (Pacific side). Zool.Scr. 13(1): 33-39

HUMES, A.G. & M. DOJIRI - 1984: Current concepts of taeniacanthid copepods associated with Echinoidea. Crustaceana, Suppl. 7: 258-266

ITO, T. - 1984: A phylogenetic study of the family Harpacticidae (Harpacticoida): some problems in character differentiation processes through the copepodid stages. Crustaceana, Suppl. 7: 267-278

JEFFRIES, H.P., M.S. BERMAN, A.D. POULARIKAS, C. KATSINIS, I. MELAS, K. SHERMAN & L. BIVINS - 1984: Automated sizing, counting and identification of zooplankton by pattern recognition. Mar. Biol. 78: 329-334

KIMMERER, W.J. & A.D. McKINNON - 1984: Zooplankton abundances in Bass Strait and western Victorian shelf waters, March 1983: Proc.R.Soc.Victoria 96(3): 161-167

KOEHL, M.A.R. - 1984: Mechanisms of particle capture by copepods at low Reynolds numbers: possible modes of selective feeding. In: MEYERS, D.G. & J.R. STRICKLER, Trophic interactions within aquatic ecosystems. AAAS Selected Symposium 85: 135-166

LEWIS, M. - 1984: The freshwater Harpacticoida of New Zealand: a zoogeographical discussion. Crustaceana, Suppl. 7: 305-314

McKINNON, A.D. & W.J. KIMMERER - 1984: Description of the male Labidocera caudata Nicholls (Copepoda: Pontellidae) with remarks on the female. Proc.R.Soc.Victoria 96(3): 169-172

PAPINSKA, K. - 1984: The life cycle and the zones of occurrence of Mesocyclops leuckarti Claus (Cyclopoida, Copepoda). Ekol. pol. 32(3): 493-531

PESCE, G.L. - 1984: Nitocrella moretii n.sp. from phreatic waters of central Italy, and up-to-date key to the species of Nitocrella sensu Petkovski (Crustacea, Harpacticoida: Ameiridae). Bull.Zool.Mus.Univ.Amsterdam 10(4): 21-24

PETKOVSKI, T.K. - 1984: Neue und seltene Copepoden (Crustacea) aus Jugoslawien. Acta Mus.Maced.Scient.Nat. 17: 135-164

ROCHA, C.E.F.da - 1984: Four new species of Halicyclops Norman, 1903 (Copepoda, Cyclopoida) from Brazil. Hydrobiologia 119: 107-117

ROUCH, R. - 1984: Les structures de peuplement des harpacticides dans l'écosystème karstique. Crustaceana, Suppl. 7: 360-368

SCHRIEVER, G. - 1984: New Harpacticoida (Copepoda) from the north Atlantic Ocean. IV. Four new species of the families Diosaccidae, Ameiridae, and Ancorabolidae. Crustaceana 47(1): 52-71

SCHRIEVER, G. - 1984: New Harpacticoida (Crustacea, Copepoda) from the north Atlantic Ocean. V. Three new species of Metahuntemannia Smirnov (Cletodidae). Zool.Scr. 13(4): 277-284

SCHRIEVER, G. - 1984: The history of the copepod investigations at the Zoologisches Institut und Museum der Christian-Albrechts-Universität zu Kiel. Crustaceana, Suppl. 7: 371-376

SENDACZ, S. - 1984: A study of the zooplankton community of Billings Reservoir - Sao Paulo. Hydrobiologia 113: 121-127

SENDACZ, S., E. KUBO & L.P. FUJIARA - 1984: Further studies on the zooplankton community of a eutrophic reservoir in southern Brazil. Verh.Internat.Ver.Limnol. 22: 1625-1630

SPRULES, W.G. & R. KNOECHEL - 1984: Lake ecosystem dynamics based on functional representations of trophic components. In: MEYERS, D.G. & J.R. STRICKLER (eds.), Trophic interactions within aquatic ecosystems. AAAS Selected Symposium 85: 383-403

SUAREZ, M.F., D. AYALA, M.J. NELSON & J.W. REID - 1984: Hallazgo de Mesocyclops aspericornis (Dady) (Copepoda: Cyclopidae) depredador de larvas de Aedes aegypti en Anapoima-Colombia. Biomedica 4(2): 74-76

TURNER, J.T. - 1984: Zooplankton feeding ecology: contents of fecal pellets of the copepods Acartia tonsa and Labidocera aestiva from continental shelf waters near the mouth of the Mississippi River. P.S.Z.N.I. Mar.Ecol. 5(3): 265-282

TURNER, J.T., P.A. TESTER & W.J. CONLEY - 1984: Zooplankton feeding ecology: predation by the marine cyclopoid copepod Corycaeus amazonicus F.Dahl upon natural prey. J.Exp.Mar.Biol. Ecol. 84: 191-202

YEATMAN, H.C. - 1984: Tisbe caymanensis, a new species of copepod from Grand Cayman, B.W.I. J.Tenn.Acad.Sci 59(3): 46-48

1985

ALVAREZ, M.P.J. - 1985: A new arietellid copepod (Crustacea): Pilarella longicornis, gen.n., sp.n., from the Brazilian continental shelf. Revta bras.Zool., S.Paulo 3(4): 189-195

ALVAREZ, M.P.J. - 1985: Revision of the genus Neoscolecithrix (Copepoda, Calanoida) and description of N. catanoi, sp.n., collected off Brazil. Revta bras.Zool., S.Paulo 3(4): 197-207

BRENNING, U. - 1985: Structure and development of calanoid populations (Crustacea, Copepoda) in the upwelling regions off North West and South West Africa. Beitr.Meereskunde 52: 3-33

CAMPANER, A.F. - 1985: Occurrence and distribution of copepods (Crustacea) in the epipelagial off southern Brazil. Bolm.Inst. oceanogr., S.Paulo 33(1): 5-27

CITARELLA, G. - 1985: Production apparente du zooplancton. C.r. Acad.Sci.Paris, série III, 301(1): 9-12

FRYER, G. - 1985: Crustacean diversity in relation to the size of water bodies: some facts and problems. Freshw.Biol. 15: 347-361

FRYER, G. - 1985: An ecological validation of a taxonomic distinction: the ecology of Acanthocyclops vernalis and A. robustus (Crustacea: Copepoda). Zool.J.Linn.Soc.London 84: 165-180

GORDON, J.D.M., S. NISHIDA & T. NEMOTO - 1985: The diet of mesopelagic fish from the Pacific coast of Hokkaido, Japan. J. Oceanogr.Soc.Japan 41(2): 89-97

HICKS, G.R.F. & B.A. MARSHALL - 1985: Sex selective predation of deep.sea, meiobenthic copepods by pectinacean bivalves and its influence on copepod sex ratios. N.Z.J.Mar.Freshw.Res. 19: 227-231

JONES, J.B. - 1985: Hatschekia Poche,1902 (Crustacea, Copepoda): proposed conservation by the suppression of Pseudoclavella Bassett-Smith,1898 Z.N.(S.)2390. Bull.zool.Nom. 42(1): 57-59

KINZER, J. & K. SCHULZ - 1985: Vertical distribution and feeding patterns of midwater fish in the central equatorial Atlantic. I. Myctophidae. Mar.Biol. 85: 313-322

LONSDALE, D.J. & J.S. LEVINTON - 1985: Latitudinal differentiation in embryonic duration, egg size, and newborn survival in a harpacticoid copepod. Biol.Bull. 168: 419-431

MIELKE, W. - 1985: Diarthrodella chilensis sp.n. und Rossopsyllus kerguelenensis quellonensis subsp.n. (Copepoda, Paramesochridae) von Chile. Zool.Scr. 14(1): 45-53

NISHIDA, S. - 1985: Pelagic copepods from Kabira Bay, Ishigaki Island, southwestern Japan, with the description of a new species of the genus Pseudodiaptomus. Publ.Seto Mar.Biol.Lab. 30(1/3): 125-144

NISHIDA, S. - 1985: Taxonomy and distribution of the family Oithonidae (Copepoda, Cyclopoida) in the Pacific and Indian Oceans. Bull.Ocean Res.Inst., Univ.Tokyo 20: 1-167

PAPINSKA, K. - 1985: Carnivorous and detritivorous feeding of Mesocyclops leuckarti Claus (Cyclopoida, Copepoda). Hydrobiologia 120: 249-257

PESCE, G.L. - 1985: The groundwater fauna of Italy: a synthesis. Stygologia 1(2): 129-159

PESCE, G.L. & D.P. GALASSI - 1985: A new cyclopid from groundwater of south Italy: Diacyclops bicuspidatus lucanus n.ssp. (Crustacea: Copepoda). Bull.Zool.Mus.Univ.Amsterdam 10(8): 41-43

PIONTKOVSKY, S.A. - 1985: Spatial structure of the planktonic fields and their connection with environmental physical-chemical properties. Oceanologija 25(3): 497-502 (In Russian with English summary.)

RANGA REDDY, Y. & C. RAMA DEVI - 1985: The complete postembryonic development of Megadiaptomus hebes Kiefer,1936 (Copepoda, Calanoida) reared in the laboratory. Crustaceana 48(1): 40-63

RAZOULS, C. - 1985: Biomasse du mesozooplancton au large de la Guyane française. Oceanol.Acta 8(1): 125-129

RAZOULS, S. - 1985: Observations on the ecophysiology of a planktonic crustacean, Drepanopus pectinatus (Copepoda, Calanoida, Pseudocalanidae), from southern islands. In: GRAY, J.S. & M.E. CHRISTIANSEN, Marine Biology of Polar Regions and Effects of Stress on Marine Organisms, John Wiley & Sons Ltd., pp. 123-139

ROUCH, R. - 1985: Une nouvelle Stygonitocrella (Copepoda, Harpacticoidea) des eaux souterraines d'Andalousie, Espagne. Stygologia 1(1): 118-127

ROUCH, R. & A. CARLIER - 1985: Le système karstique du Baget. XIV. La communauté des harpacticides. Evolution et comparaison des structures du peuplement épigé à l'entrée et à la sortie de l'aquifère. Stygologia 1(1): 71-92

ROUCH, R. & A. CARLIER - 1985: Le système karstique du Baget. XV. Le peuplement des harpacticides épigés. Analyse de prélèvements synchrones à l'entrée et à la sortie de l'aquifère. Stygologia 1(2): 224-238

SCHNACK, S.B., V. SMETACEK, B. von BODUNGEN & P. STEGMANN - 1985: Utilization of phytoplankton by copepods in Antarctic waters during spring. In: GRAY, J.S. & M.E. CHRISTANSEN, Marine Biology of Polar Regions and Effects of Stress on Marine Organisms, John Wiley & Sons Ltd., pp. 65-81

STOCK, J.H. - 1985: Un copépode siphonostomatoide abyssal nouveau de l'Océan Indien. Hydrobiologia 126: 129-134

STOCK, J.H. - 1985: A new poecilostomatoid copepod associated with solitary deep-water corals. Hydrobiologia 120: 129-132

VANDERPLOEG, H.A. & G.-A. PAFFENHÖFER - 1985: Modes of algal capture by the freshwater copepod Diaptomus sicilis and their relation to food-size selection. Limnol.Oceanogr. 30(4): 871-885

## Theses

DEETS, G.B. - 1985: Copepod and chondrichthyan coevolution: a cladistic analysis. Masters thesis, California State University, Long Beach, California, 132 pp.

POQUET, M. - 1984: Ultrastructura del tracto digestivo de copepodos parasitos de Pesces: Lernanthropus kroyerii van Beneden y Caligus minimus Otto, Ph.D. thesis, Facultad de Biologia, Universidad de Barcelona 1984: 1-255, Fig. 1-237

# DIRECTORY OF COPEPODOLOGISTS

BOLMS, GABRIELE

Institut für Meereskunde
Abt. Marine Planktologie
Düsternbrooker Weg 20
D-2300 Kiel

FED. REP. GERMANY

(Microzooplankton of the Arctic.)

HOGANS, WILLIAM (Prof.)

Huntsman Marine Laboratory
St. Andrews, New Brunswick

CANADA EOG 2XO

(Taxonomy of parasitic copepods, esp. Pennellidae and Sphyriidae.)

HOLYNSKA, MARIA

Élmunkás u.1
H-4440 Tiszavasvári

HUNGARY

(Taxonomy, biogeography and ecology of freshwater Copepoda.)

MARCOGLIESE, DAVID J.

Dept. of Biology
Wake Forest University
Box 7325
Winston-Salem
North Carolina 27109

U.S.A.

(Parasite ecology and zooplankton biology.)

OKEMWA, EZEKIEL

Kenya Marine and Fisheries Research Institute
P.O.Box 81651
Mombasa

KENYA

(Long-term monitoring of zooplankton populations in a tidal estuary, Tudor creek, Mombasa, Kenya, long-term population ecology. Structure of the zooplankton community (main taxa, Calanoida in more details), trophic structure.)

PIASECKI, WOJCIECH

Institute of Ichtiology
Kazimierza Królewicza 4
71-550 Szczecin

POLAND

(Copepoda - parasites of fishes.)

PURASJOKI, KALLE J. (Dr.)

Institute of Marine Research
P.O.Box 33
SF-00931 Helsinki 93

FINLAND

(Brackish- and freshwater parasitic Copepoda, zooplankton, Ostracoda.)

REVIS, NATHALIE

Vrije Universiteit Brussel
Dienst Ecologie & Systematiek
Pleinlaan 2
B-1050 Brussel

BELGIUM

(Study of synecology and changes of the tropical plankton, Copepoda in particular, throughout a year along the coast of Kenya.)

ROY, TUSHARENDU (Dr.)

Zoological Survey of India
27, Jawaharlal Nehru Road
Calcutta - 700 016

INDIA

(Systematic and ecological studies on fresh, estuarine and marine copepods of India.)

SCHAREK, RENATE

Bramfelder Str. 106
D-2000 Hamburg 60

FED. REP. GERMANY

(Feeding behaviour of planktonic copepods.)

STEARNS, DONALD E. (Dr.)

Skidaway Institute of Oceanography
P.O.Box 13687
Savannah, Georgia 31416

U.S.A.

(Zooplankton behaviour.)

WEST, GUY ANTHONY

C/- Department of Parasitology
University of Queensland
St. Lucia, Brisbane
Q'ld. 4067

AUSTRALIA

(Taxonomy and phylogeny of marine parasitic copepods, particularly the genus Colobomatus (Poecilostomatoida: Philichthyidae.)

WISHNER, KAREN (Dr.)

University of Rhode Island
Graduate School of Oceanography
Narragansett, RI 02882

U.S.A.

(Deep-sea benthopelagic zooplankton. Zooplankton ecology. Deep-sea copepods.)

## Change of address

BENZ, GEORGE

DEETS, GREG (same address)

Department of Zoology
The University of British Columbia
6270 University Boulevard
Vancouver, B.C.

CANADA V6T 2A9

HAIRSTON, NELSON G., Jr.

Section of Ecology and Systematics
Corson Hall
Cornell University
Ithaka, New York 14853-2701

U.S.A.

KUKERT, HELMUT

Lindenweg 8
D-2300 Kiel 17

FED. REP. GERMANY

RUNGE, J.A.

GIROQ, Pavillon Vachon
Université Laval
Québec, Québec

CANADA G1K 7P4

STRICKLER, RUDI

Department of Biological Sciences
University of Southern California
Los Angeles, Ca 90089-0371

U.S.A.

# CRUSTACEANA

*INTERNATIONAL JOURNAL OF CRUSTACEAN RESEARCH*

SUPPLEMENT 7

## STUDIES ON COPEPODA II

(Proceedings of the First International Conference on Copepoda, Amsterdam, The Netherlands, 24-28 August 1981)


LEIDEN
E. J. BRILL
1984