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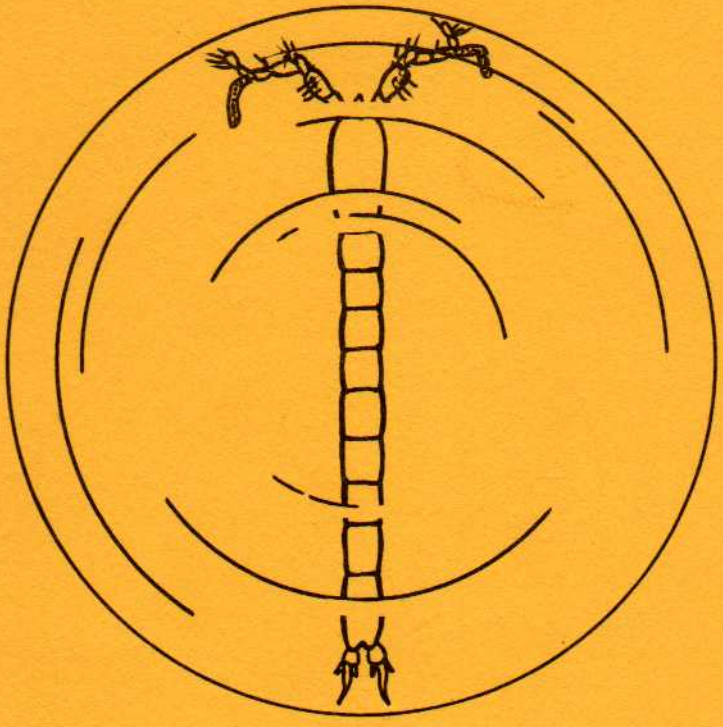
MONOCULUS

Copepod Newsletter



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May 1983

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MONOCULUS

Copepod Newsletter

Number 6 May 1983

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For North America by: Chang-tai Shih, Division of Invertebrate Zoology, National Museum of Natural Sciences, Ottawa, Ontario, Canada K1A 0M8

From PORCUPINE NEWSLETTER 2(4): 85 (1982):

The planktonic copepod Microsetella norvegica, common in "Porcupine " seas, was first named by Boeck in 1864. PN has recently received a translation of his description, which was written in the archaic Norwegian of the last century. It runs: *Setella Dana. I have only observed one species of this genus in the vicinity of Moss (Norway). It seemed to differ from S. messinensis Claus by its less elongate form, but I had only drawn a general sketch of it when it was accidentally lost. I have named it Setella norvegica. It is clear transparent with a yellow tint and short antennae. It was caught in the surface of the water where it was swimming about by bending its body.* And that was all! The specific name still stands, on grounds of priority.

Deadline for the next issue of *MONOCULUS*: 15 September 1983

E d i t o r i a l

Copepodologists are a huge crowd. There are hundreds of them, probably more than of any other kind of carcinologists. Some even don't know that they are copepodologists and refuse to accept when you tell them, even though copepods are a regular item in their publications. We collect copepodologists just as other people collect stamps. Yet, our collection is far from being complete as you can see from the record at the end of this issue. The trouble is you can't swap copepodologists or buy them. You need other copepodologists to tell you. That is why we have designed a questionnaire this time to elicit a few more names and addresses from you.

Collecting is satisfactory only when you have something proper to file. Names and addesses are not enough. That is why we also collect publications of copepodologists. The trouble is you need copepodologists who send you the products of their ingenuity. We thought *MONOCULUS* might be attractive enough to stimulate copepodologists to send their reprints. Many do so by now, but quite a lot don't. Perhaps we haven't made clear enough yet that this collection is meant to be built up for the benefit of all, not just for our own satisfaction. That is why this issue is mainly about literature, a few other topics notwithstanding.

Nowadays we also try to collect voucher specimens because we were impressed by the usefulness of the idea of a *MONOCULUS*-Museum. The trouble is you need fellow copepodologists who cooperate and are willing to invest a little time and even work. Can you expect copepodologists to do that? Well, judging from the success of this idea so far we have our doubts. They are a weird crowd, these copepodologists, aren't they?

Business ssenisuB

1. Bibliography

Cooperation in this respect has diminished drastically. Only five more asterisks can be distributed although we still have plenty in stock: R.E. Cohen, Dumont, Nishida, Uma Devi, Vuorinen. As can be seen at the end of this issue *MONOCULUS* is distributed to 426 people at present, yet only 171 have sent their lists so far. We are a little at a loss about what to do to persuade the rest to cooperate as well. Perhaps we haven't made sufficiently clear so far what our plans are. Therefore we asked Jürgen Sieg from Vechta to contribute some lines about our joint venture of a computerized bibliography on Copepoda. Here is his report on the CRUSTACEA-database.

The CRUSTACEA-database

a. Introduction

The CRUSTACEA-database originated from the TANAIDACEA-database which was started in 1979 and implemented on the TR440 of the University of Osnabrück. It now contains about 12.000 documents of which about 10.000 refer to Crustacea.

Complete bibliographies are so far available only for Tanaidacea, Spelaeogriphacea, and Mystacocarida. The bibliography of the latter is based on the list published by Zinn, D.J. et al. (1982). Bibliographies on Decapoda, Euphausiacea, and Syncarida are in an initial phase of realization and, since 1981, it is also planned to compile in cooperation with *MONOCULUS* a comprehensive bibliography of the literature on Copepoda which finally may contain as much as 35.000 documents altogether.

b. Structure of the CRUSTACEA-database

The database comprises two main parts, the thesaurus-area and the document-area. Both are subdivided, the thesaurus-area in thesaurus-file and inverted file, the document-area in document-file and direct file.

The references are forming the document-file, while the direct file contains the cross-references from the documents to the descriptors (keywords).

The thesaurus contains the descriptors and the semantic interconnections between them. The inverted file is formed by the cross-references from the descriptor to the documents. The thesaurus is grouped by categories of which the following ones are defined for the CRUSTACEA-database

author	AU (01)
reference number of journal	TI (02)
record date	EI (03)
year	JR (04)
editor	HG (06)
type of document	OT (07)

Descriptors belonging to categories are called "bound" , all others are called "free". The latter can additionally be structured using semantic interconnections such as

- synonyms (S)	(*CRUSTACEA CRUSTACEAN)
- antonyms (A)	(*BLACK WHITE)
- main subject (O)	(*MYSTACOCARIDA DEROCHEILOCARIS CTENOCHEILOCARIS)
- subordinate term (U)	(*DEROCHEILOCARIS MYSTACOCARIDA)
- semantic field (F)	(*MORPHOLOGY TAGMATA LEGS HEAD)
- homonyms (H)	(*STRONGYLURA PISCES TANAIDACEA)

c. The retrieval system

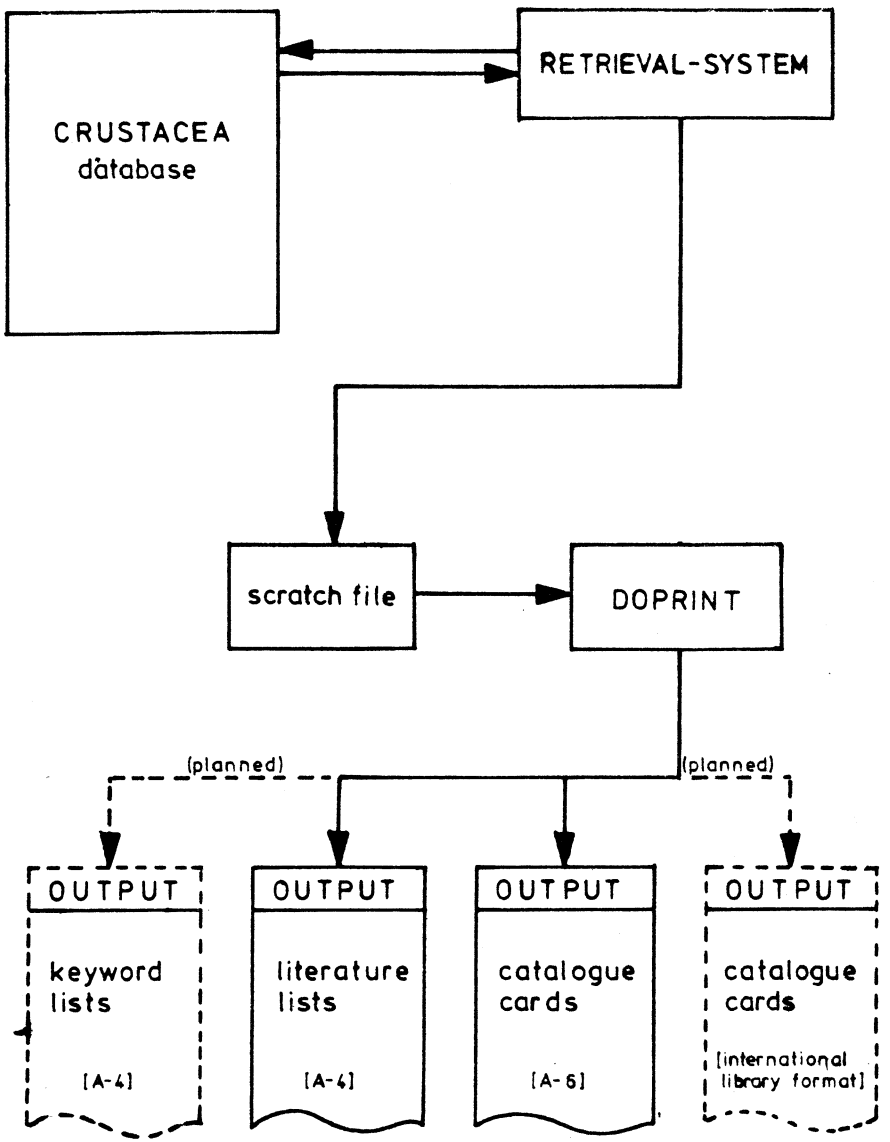
TELEFUNKEN has produced a retrieval system (TELDOK) for all databases created on the TR440. It allows "logical retrieval", "weighted retrieval", and truncations.

Within a logical retrieval the descriptors are combined by

+ for logical "AND"
- for logical "ANDNOT"
/ for logical "OR"

Within a weighted retrieval descriptors are separated by a comma and given a different value. This number (b) with $b \neq 0$ and $-127 \leq b \leq +127$ has to be placed in front of the descriptor.

Printing-routines for the CRUSTACEA database



Truncations normally are used to retrieve all documents belonging to descriptors which have the same stem (e.g. CUMAC. - CUMACE, CUMACEA, CUMACEAN, CUMACEANS, CUMACEEN, etc.).

d. Literature output

Documents of interest can be listed on the screen or transferred to a file by TELDOK. A printing routine which we have developed allows two kinds of output: literature lists and catalogue cards. In both cases the references can be sorted according to author (alphabetically) or year (chronologically).

e. Bibliography of Copepoda

Such a bibliography will take several steps to be completed. The first thing we do, is to register all publications sent to the *MONOCULUS*-Library by the authors themselves (reprints, lists of publications, etc.). From the titles of these publications keywords are taken automatically by a computer programme. Further keywords are added by us, especially the names of taxa mentioned in those publications. The result of this first step will eventually be published as a literature list by *MONOCULUS* to enable everyone to control whether his own publications have been listed without omissions. Missing titles should be brought to the attention of *MONOCULUS* to assure their subsequent storage in the database.

As a second step, we intend to register any literature on Copepoda published between 1758 and 1970 by using monographs, reference lists etc. As the BIOSIS-database is available in Germany there is no need for the time being to care systematically also for the literature published after 1970. Keywords will be extracted from the titles in the same way as mentioned above or added by ourselves. Finally a "Provisional Bibliography of Copepod Literature" will be published.

The final step will consist in going through all the publications carefully so that all aspects touched upon in these publications are represented by a keyword. At the same time publications will be added which may have been overlooked before. When nearly the whole literature on copepods will have been stored in the CRUSTACEA-database a "Bibliography of Copepod Literature will finally appear, followed eventually, if we are lucky, by a thick volume entitled "Documentation of Copepod Literature".

f. What do we need?

It will be long, however, before these three steps will have been done. The process could be speeded up if copepodologists are willing to cooperate by either sending reprints continuously or their complete list of publications or preferably both. When sending us your list of publications, please, make sure that the following details are always apparent:

- full list of all co-authors in the sequence as published
- full title of journal or book
- number of volume, issue, pages and year
- if a paper is part of a book, editor and title of the book along with page numbers of the paper and the book as a whole

You may also add keywords to make things easier for us. In case of questions, please, don't hesitate to contact *MONOCULUS*.

Here ends Jürgen Sieg's report. To make our bibliography even more complete, it would be fine if also theses of all sorts (Ph.D., masters, Diplom, thèses de spécialité, thèses de 3ième cycle etc.) would be brought to our attention. There is a first chance of doing so by returning the questionnaire added to this issue.

2. *MONOCULUS*-Library

The library is the most successful of *MONOCULUS'* undertakings. Yet it could function even better. When going through "Aquatic Biology and Fisheries Abstracts" we came accross the following titles published in 1980 of which the *MONOCULUS*-Library did not receive a copy although out of the 89 authors 31 receive *MONOCULUS* regularly. Would they have sent their reprints in return as their colleagues do 28 out of the following 66 titles would have come to the attention of *MONOCULUS* directly.

ALCARAZ, M.G., G.-A. PFAFFENHÖFER & J.R. STRICKLER - 1980: Catching the algae: a first account of visuel observations on filter feeding calanoids. In: KERFOOT, W.C. (ed.), Evolution and ecology of zooplankton communities, Univ. Press of New England, Hanover (USA) 1980: 241-248

ARNAUD, J., M. BRUNET & J. MAZZA - 1980: Structure et ultrastructure comperées de l'intestin chez plusieurs espèces de Copépodes Calanoides (Crustacea). Zoomorphologie 95(3): 213-233

ACHUTHANKUTTY,C.T., M. MADHUPRATAP, V.R. NAIR, S.R. NAIR & T.S. S. RAO -1980: Zooplankton biomass & composition in the Western Bay of Bengal during late SW monsoon. Indian J.Mar.Sci. 9(3): 201-206

AVDEEV, G.V. - 1980: Two new species of parasitic copepods of the family Nanaspididae (Cyclopoida) from the oesophagus of Pacific holothurians. Zool.Zh. 59(11): 1625-1633

BAEZA, H. & R. CASTRO - 1980: 3 especies de Caligida nuevas para la fauna chilena. Not.Mens.Mus.Nac.Hist.Nat.(Chile) 24: 288-289

BALLANTINE, J.A., J.C. ROBERTS & R.J. MORRIS - 1980: Marine sterols. 12. The sterols of some pelagic marine crustaceans. J.exp.mar.Biol.Ecol. 47(1): 25-33

BAYLY, I.A.E. - 1980: Calamoecia australica Sars, 1880 and Calamoecia australis (Searle, 1911) (Crustacea, Copepoda): proposals to remove the confusion. Bull.Zool.Nomencl. 37(3): 165-166

BEN HASSINE, O.K. & A. RAIBAUT - 1980: Sur la synonymie de Ergasilus lizae Kroeyer, 1863 et de Ergasilus nanus Van Beneden, 1870 (Copepoda: Ergasilidae). Bull.Off.Natl.Pêches (Tunisia) 4(2): 209-213

CHECKLEY, D.M. Jr. - 1980: The egg production of a marine planktonic copepod in relation to its food supply: laboratory studies. Limnol.Oceanogr. 25(3): 430-446

CHISLENKO, L.L. - 1980: Three new marine harpacticoids (Copepoda Harpacticoida) from the Kuril Coast. In: SKARLATO, O.A. (ed.), New taxa of marine invertebrates. Zool.Inst.An.SSR, Leningrad 1980: 77-88

COONEY, J.D. & C.W. GEHRS - 1980: Effects of varying food concentration on reproduction in Diaptomus clavipes Schacht. Am. Midl.Nat. 104(1): 63-69

COONEY, J.D. & C.W. GEHRS - 1980: The relationship between egg size and naupliar size in the calanoid copepod Diaptomus clavipes. Limnol.Oceanogr. 25(3): 549-552

COTTARELLI, V. & B. MAIOLINI - 1980: Parastenocaris veneris n. sp., nuovo arpacticoide interstiziale de lago di Vico (Crustacea, Copepoda). Fragm.Entomol. 15(2): 243-252

COTTARELLI, V. & G. MURA - 1980: Klieonychocamptoides arganoi n.sp., arpacticoide di acque interstiziali delle isole Maldive (Crustacea, Copepoda). Cah.Biol.Mar. 21(3) 355-361

CZAIKA, S.C. - 1980: Identification of nauplii N1-N6 and copepodids CI-CVI of the Great Lakes calanoid and cyclopoid copepods (Calanoida, Cyclopoida, Copepoda) Publ. by: NYSUC, Buffalo N.Y. (USA), 67 pp.

CZECZUGA, B. - 1980: a-Doradexanthin in fresh-water crustaceans. Bull.Acad.Pol.Sci., Ser.Sci.Biol. 28(1-2): 59-63

DEXTER, B.L. - 1980: Setogenesis and molting in planktonic crustaceans. J.Plankton Res. 3(1): 1-13

EINSLE, U. - 1980: Systematic problems and zoogeography in cyclopoids. In: KERFOOT, W.C. (ed.), Evolution and ecology of zooplankton communities. Univ. Press of New England, Hanover NH (USA) 1980: 679-684

ELGMORK, K. - 1980: Evolutionary aspects of diapause in freshwater copepods. In: KERFOOT, W.C. (ed.), Evolution and ecology of zooplankton communities, Univ. Press of New England, Hanover NH (USA) 1980: 411-417

ELGMORK, K. & A. LANGELAND - 1980: Cyclops scutifer Sars - one and two year life cycles with diapause in the meromictic lake Blankvatn. Arch.Hydrobiol. 88(2): 178-201

EPP, R.W. & W.M. LEWIS Jr. - 1980: The nature and ecological significance of metabolic changes during the life history of copepods. Ecology 61(2): 259-264

FARMER, L. - 1980: Evidence of hyporegulation in the calanoid copepod, Acartia tonsa. Comp.Biochem.Physiol. 65A(3): 359-362

FRIEDMANN, M.M. - 1980: Comparative morphology and functional significance of copepod receptors and oral structures. In: KERFOOT, W.C. (ed.), Evolution and ecology of zooplankton communities. Univ. Press of New England, Hanover NH (USA) 1980: 185-197

FRYER, G. - 1980: Acidity and species diversity in freshwater crustacean faunas. Freshw.Biol. 10(1): 41-45

GATTEN, R.R., J.R. SARGENT, T.E.V. FORSBERG, S.C.M. O'HARA & E. D.S. CORNER - 1980:On the nutrition and metabolism of zooplankton. 14. Utilization of lipid by Calanus helgolandicus during maturation and reproduction. J.Mar.Biol.Assoc.U.K. 60(2): 391-399

GRYGIER, M.J. - 1980: Two new lamippid copepods parasitic on gorgonians from Hawaii and the Bahamas. Proc.Biol.Soc.Wash. 93(3): 662-673

HAIRSTON, N.B. - 1980: On the diel variation of copepod pigmentation. Limnol.Oceanogr. 25(4): 742-747

HAVEL, J.E. - 1980: Feeding differences between naupliar and cyclopoid copepods. Proc. Iowa Acad.Sci. 87(1): 23

HENDERSON, R.J. & J.R. SARGENT - 1980: Biosynthesis of neutral lipids by Euchaeta norvegica. Mar.Biol. 56(1): 1-6

HUMES, A.G. - 1980: A new taeniacanthid copepod from the esophagus of the sea urchin in Queensland. Mem.Queensl.Mus. 20(1): 171-179

JAMIESON, C.D. - 1980: Observations on the effect of diet and temperature on rate of development of Mesocyclops leuckarti (Claus) (Copepoda, Cyclopoida). Crustaceana 38(2): 145-154

LAI, H.C. & C.H. FERNANDO - 1980: Zoogeographical distribution of southeast Asian freshwater Calanoida. Hydrobiologia 74(1): 53-66

LAI, H.C. & C.H. FERNANDO - 1980: The freshwater Calanoida (Crustacea: Copepoda) of Thailand. Hydrobiologia 76(1-2): 161-178

LEE, S.S. - 1980: Distribution and abundance of copepods in the Gulf of Alaska and the Bering Sea in summer 1978. J.Oceanol. Soc.Korea 15(1): 17-53

LINE, R.Ya. - 1980: Some observations on the development cycle of Temora longicornis and Centropages hamatus in the Baltic Sea. Rybokhoz.Issled.Bass.Balt.Morya 15: 71-75

LOPEZ, G.W. - 1980: Description of the larval stages of Tisbe cucumaria (Copepoda: Harpacticoida) and comparative development within the genus Tisbe. Mar.Biol. 57(2): 61-71

MARCUS, N.H. - 1980: Photoperiodic control of diapause in the marine calanoid copepod Labidocera aestiva. Biol.Bull.Mar. Biol.Lab.Woods Hole 159(2): 311-318

MARKHASEVA, E.L. - 1980: Calanoida of the genus Jaschovia, nom. n. (Derjuginia Jaschov, nom. praeocc.) (Calanoida, Aetideidae). In: SKARLATO, O.A. (ed.), New taxa of marine invertebrates, Zool.Inst.An.SSR, Leningrad 1980: ?

MILLER, C.B., D.M.NELSON, R.R.L. GUILLARD & B.L. WOODWARD - 1980: Effects of media with low silicic acid concentrations on tooth formation in Acartia tonsa Dana (Copepoda, Calanoida). Biol. Bull.Mar.Biol.Lab.Woods Hole 159(2): 349-363

MONCHENKO, V.J. - 1980:Cyclopina parapsammophila (Crustacea, Copepoda), a new species from the Black Sea. Biol.Morya 6: 35-40

MONTAGNA, P.A. -1980: Two new bathyal species of Pseudotachidius (Copepoda: Harpacticoida) from the Beaufort Sea (Alaska, U.S.A.) J.Nat.Hist. 14(4): 567-578

MONTAGNA, P.A. - 1980: A new species and a new genus of Cervinidae (Copepoda: Harpacticoida) from the Beaufort Sea, with a revision of the family. Proc.Biol.Soc.Wash. 93(4): 1204-1219

MONTU, M. - 1980: Parasite copepods of southern Brazilian fishes. 1. Ergasilus europedesi n.sp. (Copepoda, Cyclopidea). Iheringia, ser. Zool., 56: 53-62

MURAVSKAYA, Z.A., E.V. PAVLOVA & G.E. SHULMAN - 1980: Oxygen consumption and nitrogen excretion in Calanus helgolandicus (Claus) and Pontella mediterranea Claus. Ekol.Morya 2: 33-40

NILSSEN, J.P. - 1980: When and how to reproduce: a dilemma for cyclopoid copepods. In: KERFOOT, W.C. (ed.), Evolution and ecology of zooplankton communities, Univ.Press of New England, Hanover NH (USA) 1980: 418-426

OOISHI, S. - 1980: The larval development of some copepods of the family Ascidicolidae, subfamily Haplostominae, symbionts of compound ascidians. Publ.Seto Mar.Biol.Lab.Kyoto Univ. 25 (5-6): 253-292

PAPINSKA, K. & J. PIJANOWSKA - 1980: Pelagic and near-bottom crustaceans in five Masurian lakes. Ekol.Pol. 28(2): 219-229

PAPINSKA, K. & K. PREJS - 1980: Crustaceans of the near-bottom water and bottom sediments in 24 Masurian lakes with special consideration to cyclopoid copepods. Ekol.Pol. 27(4): 603-624

PETKOVSKY, T.K. - 1980: Troglodiaptomus sketi n.gen., n.sp., ein neuer Hoehlen-Calanoide vom Karstgelaende Istriens. Acta Mus. Maced.Sci.Nat. 15(7): 151-165

PIRES DE GOUVEA, E. - 1980: Naupliar developmental stages of Notodiaptomus conifer (Sars, 1901) (Copepoda, Calanoida). Cienc. Cult. 32(8): 1047-1059

POLISHCHUK, L.N. - 1980: Size and mass characterization of hyponeuston copepods of the family Pontellidae (Copepoda) from different Black Sea water areas. Ekol.Morya 2: 21-28

POULET, S.A. & P. MARSOT - 1980: Chemosensory feeding and food gathering by omnivorous marine copepods. In: KERFOOT, W.C. (ed.), Evolution and ecology of zooplankton communities, Univ.Press of New England, Hanover NH (USA), 1980: 198-218

RINGELBERG, J. - 1980: Aspects of red pigmentation in zooplankton, especially copepods. In: KERFOOT, W.C. (ed.), Evolution and ecology of zooplankton communities, Univ.Press of New England, Hanover NH (USA), 1980: 91-97

ROSENBERG, G.G. - 1980: Filmed observations of filter feeding in the marine planktonic copepod Acartia clausi. Limnol. Oceanogr. 25: 738-741

ROUCH, R. - 1980: Le système karstique du Baget. 11. La communauté des Harpacticides. Sur l'évolution de la nomocénose épigée au sein de l'aquifère. Ann.Limnol. 16(3): 299-314

RUNGE, J.A. -1980: Effects of hunger and season on the feeding behavior of Calanus pacificus. Limnol.Oceanogr. 25: 134-145

SAZHINA, L.I. - 1980: Fecundity, growth rate and specific production of some Atlantic copepods. Biol.Morya 3: 56-61

SAZHINA, L.I. - 1980: On the fecundity of planktonic copepods from the Atlantic Ocean. Ekol.Morya 4: 36-43

SCHRAM, T.A. -1980: The parasitic copepods Clavella adunca (Strom), Haemobaphes cyclopterina (Fabricius) and Sphyrion limpi (Kroeyer) on Polar Cod, Boreogadus saida (Lepechin) from Spitsbergen. Sarsia 65(3-4): 273-286

SMITH, S.L. & T.S.S. RAO - 1980: Transfer of radioactive carbon within the copepod Temora longicornis. Mar.Biol. 55(4): 277-286

STAKER, R.D. - 1980: Zooplankton distribution and standing crops in Lake Mead (Colorado River). Elisha Mitchell Sci.Soc. 96(1): 4-11

STEPHEN, R. & T.S.S. RAO -1980: Distribution of the bathypelagic family Arietellidae (Copepoda, Calanoida) in the upper 200 m in the Indian Ocean. J.Plankton Res. 2(4): 239-247

STROM, A.R. - 1980: Biosynthesis of trimethylamine oxide in Calanus finmarchicus. Properties of a soluble trimethylamine monooxygenase. Comp.Biochem.Physiol. (B) 65(2): 243-249

VIVES, F. -1980: Los copepodos de las aguas neriticas de las costas de Vizcaya, durante 1976. Invest.Pesq.(Barc.) 44(2): 313-330

VOLKMAN, J.K., R.R. GATTEN & J.R. SARGENT - 1980: Composition and origin of milky water in the North Sea. J.Mar.Biol.Assoc. U.K. 60(3): 759-768

WELLS, J.B.J. - 1980: A revision of the genus Longipedia Claus (Crustacea: Copepoda, Harpacticoida). Zool.J.Linn.Soc., Lond. 70(2): 103-189

Together with the titles published in the earlier issues of *MONOCULUS* these 66 publications add up to 211 titles altogether published on copepods in 1980. There are certainly even a few more which may have escaped our attention.But if everybody who

receives *MONOCULUS* would accustom himself to sending his reprints regularly, commercial bibliographies would eventually become unimportant for copepodologists. The most hard-hearted of you could give a first sample of their cooperation by returning the questionnaire added to this issue. It goes without saying that we would be very glad if all the others would do so as well.

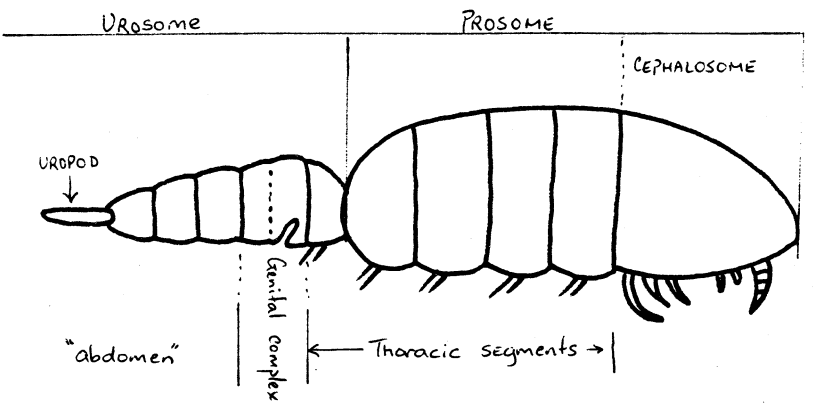
3. *MONOCULUS*-Museum

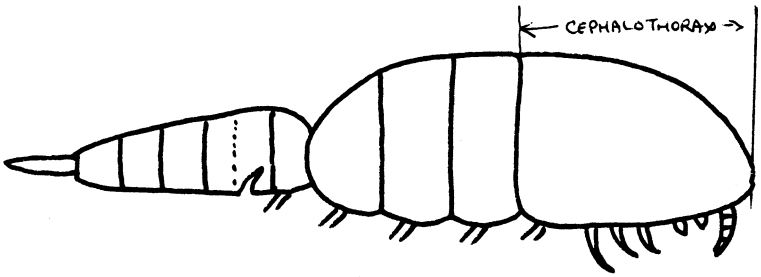
No news. A gloomy chapter in the relatioships between *MONOCULUS* and its community.

4. *MONOCULUS*-Glossary

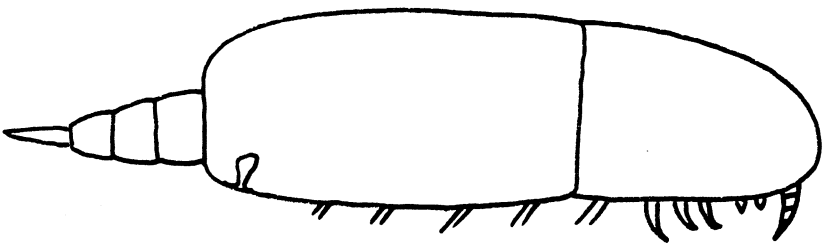
In the last issue C.J. Corkett and A.F. Campaner asked whether copepodologists can agree on terminology of body form. There was a direct reply by J.C. von Vaupel Klein. Here are two more opinions.

First B. Jones from Wellington (N.Z.): *Here is a list of terms which I have compiled. I am not sure that a uniform terminology is possible given our poor understanding of homologies and the wide variation in shapes among copepods. However, some consensus is long overdue - for example Cephalon, Cephalosome, and Cephalothorax. von Vaupel Klein and I differ seriously here.*

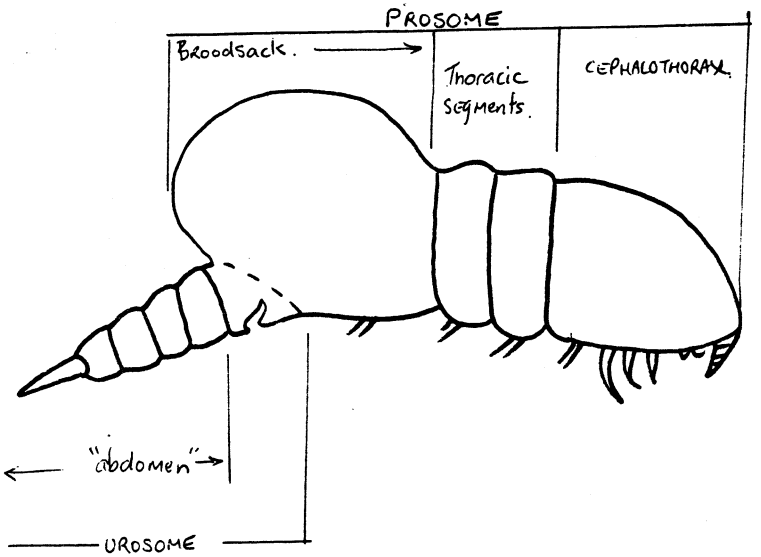




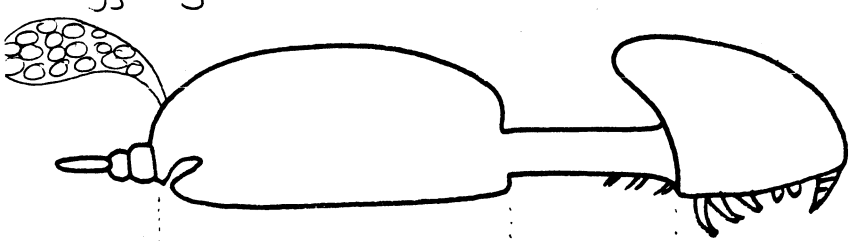
Somite	= any true body segment
Cephalon	= head, anterior part of body excluding mxp-somite
Cephalosome	= the fused somites forming the head, including mxp-somite
Cephalothorax	= Cephalosome plus one or more pedigerous somites if these are completely fused to the cephalosome
Prosome	= the complete body section anterior to the major articulation or genital complex
Metasome	= pedigerous somites between cephalon and major articulation of the body
Urosome	= the complete body section posterior to the major body articulation (or thorax)
Abdomen	= body section posterior to genital complex
Pedigerous somite	= somites bearing natatory legs
Joint	= only hinge joint proper, not a segment
Segment	= any original articulating part of an appendage; or = somite
Articles	= not to be used
Mesosome	= not used
Thorax	= area between cephalon and genital complex
Caudal rami	= uropods; not used now
" furca	= " " " "
1 antenna	= antennule (inter-changeable)
2 antenna	= antenna
Mandible	= no confusion
1st maxilla	= maxillule (inter-changeable)
2nd maxilla	= maxilla
Maxilliped	= most anterior appendage of thoracic origin
Legs	= swimming legs, natatory legs



"abdomen" ← "TRUNK" → CEPHALOTHORAX →



eggstring.



← "abdomen" "TRUNK" "NECK" "HEAD"

Sympod	= two segments forming base of leg from which endopodite and exopodite arise
Trunk	= fused thoracic somites and genital complex
Egg sack, brood sack	= internal receptacle for eggs or naupli forming part of genital complex
Egg string	= external string of eggs
Neck	= one or more fused trunk somite(s) which are narrower than cephalosome/cephalothorax
Head	= cephalosome or cephalothorax

Second K. Hulsemann from Hamburg. She writes: *I am more familiar with the Calanoida than the other taxa within the Copepoda and shall thus confine my remarks to this group. The annotated list of terms Dr. von Vaupel Klein presented contains a good body of information. I offer a few remarks:*

Telson	- anal operculum or anal flap as descriptive terms may as well be retained; introduction of the term implies definitely homology with the telson of other crustaceans
Cephalon	- I prefer cephalon over cephalosome as it does not require the adoption of a new definition for one term where another appropriate term already exists
Metasome Pedigerous somite	- when giving the somites numbers these should in any event agree with the numbers given the respective swimming legs. Pedigerous somite sounds clumsy; would somite I to V do?
Furca	- the term is accepted as purely descriptive, I consider furcal ramus when referring to only one side just as descriptive and thus acceptable
Segment	- should remain a general term and applicable to somites, too. When referring to a specific somite, genital somite is all right, but metasomal somite or urosomal somite remind me of tongue twisters
Legs	- should be specified as swimming (or natatory) legs to avoid confusion with appendages of the cephalon
Endopodite, exopodite	- both terms should be retained as they are generally accepted and understood. I recommend against changes to preliminary terms which would have to be changed again; instead, I advocate change only when a term (or homology) is found that is convincing and has a good chance to become adopted.

In Ottawa C.J. Corkett, A.F. Campaner, and C.-T. Shih are going

to organize an evening discussion on this topic. It looks as though we are in for a lively and entertaining evening. *MONOCULUS* wouldn't mind continuing to animate the debate in advance by communicating a few more (hopefully) divergent opinions.

5. Reports on current research activities

None. Great secret.

6. Laboratory cultures of copepods

Laboratory cultures of various species are maintained at different institutions. Yet information is lacking as to who keeps what in which laboratory. For teaching and research purposes it might be useful to know whom to address when in need of particular material. In case your cultures are not occult, please, use the enclosed questionnaire for transmission of the necessary information.

7. Mailing

We received the following note by C.-T. Shih: *I received the original MONOCULUS No. 5 on 17 December 1982. It was entirely impossible to find any printer to reproduce the North American edition during the Christmas-New Year period. The final product was delivered to me on January 10, and Ian Sutherland and I managed to send it out to all North American colleagues (including new names in MONOCULUS No. 5) by January 11.*

S.O.S....S.O.S....S.O.S....S.O.S....S.O.S....S.O.S....S.O.S....

Frank D. Ferrari, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, USA, has the following call for help: *Jim Orsi, who works for California Department of Fish and Game here in America, and I are publishing a description of Limnoithona sinensis from the Sacramento-San Joaquin Estuary (which eventually feeds into San Francisco Bay). The species has been reported twice, only from the mouth of the Yangtze River in China; L. sinensis has one congener, L. tetraspina, also from the Yangtze. Jim and I feel the animal may have been introduced into the area by ship ballast water from an Asian estuary. We*

are interested in obtaining specimens of this freshwater oithonid with distinctively long caudal rami from any localities MONOCULUS readers may know.

S.O.S....S.O.S....S.O.S....S.O.S....S.O.S....S.O.S....S.O.S....

F. Ferrari has yet another wish: *I am finishing a study of the distribution of asymmetry in the calanoid copepod Pleuromamma xiphias, the only species of the genus with a crest on its forehead. All species of Pleuromamma possess a black organ on only one side of the first pediger. The asymmetry is most easily detected, then, by noting the side this black organ is found. In all populations I have studied, females with the black organ on the right side make up about two-thirds of the female population. I am interested in finding populations which differ markedly from the ones I have studied, that is, populations where right females make up more than three-fourths of the population or less than one-half. If any MONOCULUS readers working with oceanic samples can identify such populations of Pleuromamma xiphias, I would be most interested in making contact.*

PUBLICATIONS OF GEORGIANA BAXTER DEEVEY

In the last issue of *MONOCULUS* Frank Ferrari passed in review the work on copepods of the late Dr. G.B. Deevey. A complete list of her papers was added to this article but could not be published together with it because of lack of space. As pointed out by Frank, *its publication would help the readers follow up any of the topics discussed in the article, and a student beginning research ten years from now and interested in the scope of Georgiana's work should be able to reference some source and find such information.* Here is the list:

DEEVEY, G.B. - 1948: The zooplankton of Tisbury Great Pond.Bull. Bingham Oceanogr.Collect. 12(1): 1-44

- 1952a: A survey of the zooplankton of Block Island Sound, 1943 to 1946. Ibid. 13(3): 65-119

- 1952b: Quantity and composition of the zooplankton of Block Island Sound, 1949. Ibid. 13(3): 120-164

- 1956: Oceanography of Long Island Sound, 1952-1954. V. Zooplankton Ibid. 15: 113-155

- 1960a: The zooplankton of the surface waters of the Delaware Bay region. Ibid. 17(2): 5-53
- 1960b: Relative effects of temperature and food on seasonal variations in length of marine copepods in some eastern American and western European waters. Ibid. 17(2): 54-86
- 1964: Annual variations in the length of copepods in the Sargasso Sea off Bermuda. J.Mar.Biol.Assoc.U.K. 44: 589-600
- 1966: Seasonal variations in length of copepods in South Pacific New Zealand waters. Austr.J.Mar.Freshw.Res. 17: 155-168
- 1971: The annual cycle in quantity and composition of the zooplankton of the Sargasso Sea off Bermuda. I. The upper 500 m. Limnol.Oceanogr. 16(2): 219-240
- & A.L. BROOKS - 1971: The annual cycle in quantity and composition of the zooplankton of the Sargasso Sea off Bermuda. II. The surface to 2000 m. Limnol.Oceanogr. 16(6): 927-943
- 1972: A new species of Temoropia (Copepoda: Calanoida) from the Sargasso Sea. Proc.Biol.Soc.Wash. 84(43): 359-370
- 1973a: Paraugaptilus (Copepoda: Calanoida): two species, one new, from the Sargasso Sea. Proc.Biol.Soc.Wash. 86(21): 247-260
- 1973b: Bathypontia (Copepoda: Calanoida): six species, one new, from the Sargasso Sea. Proc.Biol.Soc.Wash. 86(30): 357-371
- 1974: Chiridiella Sars (Copepoda: Calanoida): description of nine species, six new, from the Sargasso Sea. Bull.Mar.Sci. 24(2): 439-472
- & A.L. BROOKS - 1977: Copepods of the Sargasso Sea off Bermuda: species composition, and vertical and seasonal distribution between the surface and 2000 m. Bull.Mar.Sci. 27(2): 256-291
- 1979: Bathypontia Sars (Copepoda: Calanoida): eight species, two new, from the Caribbean Sea and Gulf of Mexico. Proc.Biol. Soc.Wash. 92(4): 724-742
- with E.S. DEEVEY Jr. & M BRENNER - 1980: Structure of zooplankton communities in the Peten Lake District, Guatemala. In: KERFOOT, W.C. (ed.), Evolution and ecology of zooplankton communities, Univ. Press of New England, Hanover NH (USA) 1980: 669-678

ADDITIONAL PUBLICATIONS OF GEORGIANA BAXTER DEEVEY

- 1941: The blood cells of the Haitian tarantula and their relation to the moulting cycle. J.Morph. 68(3): 457-491
- with E.S. DEEVEY Jr. - 1945: A life table for the black widow. Trans.Connect.Acad.Sci. 36: 115-134
- 1949: The developmental history of Latrodectus mectans (Fabr.) at different rates of feeding. Am.Midl.Nat. 42(1): 189-219
- 1968: Pelagic ostracods of the Sargasso Sea off Bermuda. Bull. Peabody Mus.Nat.Hist. 26: 125 pp., 65 figs.
- 1968: Bathyconchoecia, a new genus of pelagic ostracods (Mydocopa Halocyprididae) with six new species from the deeper waters

of the Gulf of Mexico. Proc.Biol.Soc.Wash. 81: 539-570

- 1970: Pelagic ostracods (Mydocopa Halocyprididae) from the North Atlantic off Barbados. Proc.Biol.Soc.Wash. 82(62): 799-824

- with E.S. DEEVEY Jr. - 1971: The American species of Eubosmina Seligo (Crustacea, Cladocera). Limnol.Oceanogr. 16: 208-218

- 1974: Pelagic ostracods collected on HUDSON 70 between the equator and 55°S in the Atlantic. Proc.Biol.Soc.Wash. 87(32): 351-380

- 1975: Two new species of Bathyconchoecia (Mydocopa Halocyprididae) from the Caribbean Sea. Proc.Biol.Soc.Wash. 88(15): 141-158

- 1976: Planktonic ostracods (Mydocopa Halocyprididae) collected on the Oceanographic Expedition MD03 of the "MARION-DUFRESNE". CNFRA 39: 43-46

- 1977: Conchoecia convexa, a new species of halocyprid ostracod from the Caribbean Sea and Gulf of Mexico. Proc.Biol.Soc.Wash. 90(2): 358-366

- with E.S. DEEVEY Jr. & H. VAUGHAN - 1977: Lakes Yaxha and Sacnab, Peten, Guatemala: planktonic fossils and sediment focusing. In: COLTERMAN, H.L. (ed.), Interactions between sediments and freshwater, Junk, The Hague, PUDOC, pp. 189-196

- 1978: The planktonic ostracods of the Cariaco Trench and adjacent waters. Proc.Biol.Soc.Wash. 91(1): 52-73

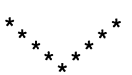
- 1978: A taxonomic and distributional study of the planktonic ostracods collected on three cruises of the ELTANIN in the South Pacific and Antarctic region of the South Pacific. Antarct.Res.Ser. 28(3): 43-70

- 1978: On new and little known species of Archiconchoecia (Mydocopa, Halocyprididae) from the Sargasso and Caribbean Seas, with descriptions of seven new species. Bull.Florida State Mus., Biol.Sci., 23(2): 105-138

- with A.L. BROOKS - 1980: The planktonic ostracods of the Sargasso Sea off Bermuda: Species composition, and vertical and seasonal distribution between the surface and 2000 m. Bull. Florida State Mus., Biol.Sci., 26(2): 37-124

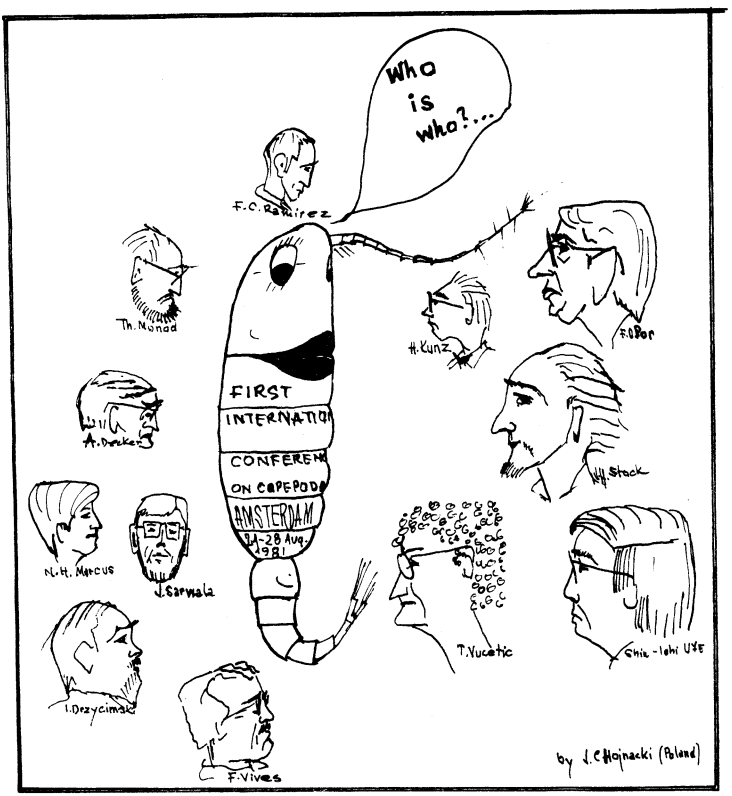
- 1982: Planktonic ostracods of the North Atlantic off Barbados. Bull.Mar.Sci. 32: 467-488

- 1982: A faunistic study of the planktonic ostracods (Mydocopa, Halocyprididae) collected on eleven cruises of the ELTANIN between New Zealand, Australia, the Ross Sea and the South Indian Ocean. Antarct.Res.Ser. 32(5): 131-167



The *l e t t e r* box

J. Chojnacki from Szczecin sent these sketches with the following remark: *Before the start of the Second International Conference on Copepoda I send you for publication in "MONOCULUS" my drawing-impressions from the Conference in Amsterdam. I am sorry not to have made drawings of all participants, but the next occasion for this activity will be the Conference in Ottawa.*



Right from top to bottom: F.D. Por, H. Kunz, J.H. Stock, T. Vucetic, Shin-Ichi Uye

Left from top to bottom: F.C. Ramirez, Th. Monod, A. de Decker, N.H. Marcus, J. Sarvala, I. Drzycimski, F. Vives

From a letter by J.C. von Vaupel Klein: *Incidentally, the Proceedings of the Copepod Conference will be produced in offset (as supplement 7 of CRUSTACEANA) and are scheduled to appear by August-September of 1983.* **Hurra!**

$A^{N}N_{O}U^{N}C_{E}M^{E}N_{T}S$

Second International Conference on Copepoda

Ottawa, August 13 to 17, 1984

SECOND ANNOUNCEMENT

A. Through the hard work of session chairpersons, a number of colleagues have accepted to speak in the Conference. Naturally some of these speakers may not be able to come if they cannot find sufficient funds to support their travel. The following is a tentative list of the speakers and their topics:

1. Panel Discussion on Copepod Phylogeny:

   Moderator: Dr. Zbigniew Kabata (Pacific Biological Station, Nanaimo, British Columbia, Canada)
   Panellists: Invitation will be finalized in 4-6 weeks.

2. Symposium on Biogeography of Copepoda

   Chairperson: Dr. Ju-shey Ho (California State University, Long Beach, California, USA)

   Invited speakers:

   Dr. Roger F. Cressey (National Museum of Natural History, Washington, D.C., USA): Parasitic copepods

   Dr. Abraham Fleminger (Scripps Institution of Oceanography, La Jolla, California, USA): Marine pelagic calanoids

   Dr. Geoffrey R.F. Hicks (National Museum of New Zealand, Wellington, N.Z.): Marine benthic harpacticoids

   Dr. Maureen Lewis (University of Auckland, Auckland, N.Z.): Freshwater copepods

3. Symposium on Behavioural Ecology

   Chairperson: Brian M. Marcotte (McGill University, Montréal, Québec, Canada): Harpacticoida

   Invited speakers:

   Dr. Geoffrey A. Boxshall (British Museum, Natural History; London, Great Britain): Misophrioida

   Dr. I. Rudi Strickler (Australian Institute of Marine Science, Townsville, Queensland, Australia): Calanoida

   Dr. Geoffrey Fryer (Freshwater Biological Association, Ambleside, Great Britain): Morphology and function

4. Symposium on Growth, Life History, and Culture

   Chairperson: Dr. Christopher J. Corkett (Dalhousie University, Halifax, Nova Scotia, Canada)

   Invited speakers:

   Dr. Robert J. Conover (Bedford Institute of Oceanography, Dartmouth, Nova Scotia, Canada): Secondary predation

   Dr. Wim C.M. Klein Breteler (Nederlands Instituut vor Onderzoek der Zee, Texel, The Netherlands): Cultivation

   Dr. Michael R. Landry (Dalhousie University, Halifax, Nova Scotia, Canada): Fecundity and mortality

   Dr. Jeff A. Runge (University of Washington, Seattle, Washington, USA): Moulting rate

5. Symposium on Morphology and Anatomy

   Chairperson: Dr. Carel von Vaupel Klein (Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands)

   Invited speakers:

   Dr. José Bresciani (Den kgl. Veterinaer- og Landbohojskole, København, Denmark): Integument

   Names of other speakers are not yet confirmed. Subjects to be discussed include general body shape, appendages, and internal anatomy

B. Evening Discussions, informal gatherings to discuss certain common problems, will be organized by some conference participants:

1. Morphological terminology: Dr. Christpher J. Corkett, Dr. A.F. Campaner, and Dr. Chang-tai Shih
2. Copepod literature and CRUSTACEA-data base: Dr. J. Sieg and Dr. H. Kurt Schminke

Dr. Bruce C. Coull may organize discussion on tabular keys, harpacticoids as fish food, and role of harpacticoids in meiobenthos. Participants who wish to organize other discussions should contact C.-T. Shih (National Museums of Canada, Ottawa, Canada, K1A 0M8) as soon as possible.

C. Excursions and Contact Persons

The Organizing Committee is still hoping to organize pre-and/or post-conference excursions if there is sufficient demand from persons who plan to attend the Conference.

We also tried to invite colleagues in Canada to act as local contact persons. They will assist foreign participants in arranging local visits. Dr. Grant Gardner has agreed to act as our contact person for Newfoundland.

Conference participants who wish to visit research institutions in Newfoundland may write to Dr. Gardner at: Memorial University of Newfoundland, Department of Biology, St. John's, Newfoundland, Canada A1B 3X9.

D. The Organizing Committee plans to mail registration form and other information about the Conference in August. If you know any of your colleagues would like to be on the mailing list, please send their nemes and addresses immediately to:

Mr. Ian Sutherland
National Museums of Canada
Ottawa, Ontario
Canada, K1A 0M8

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International Symposium on Marine Plankton

Tokai University, Shimizu, Japan

22 July - 1 August, 1984

PRELIMINARY ANNOUNCEMENT

The symposium is held in honour of Dr. Sigeru Motoda of Tokai University and Dr. Martin Johnson of the Scripps Institution of Oceanography - two pioneer planktologists deserving of the recognition.

Schedule of events:

22 July Sunday		Arrival and registration of participants at the Marine Biological Center, Tokai University, Shimizu, Japan
23 July Monday	Morning:	Welcoming, keynote and plenary speakers
	Afternoon:	SYMPOSIUM I: BIOLOGY OF TOXIC MARINE PLANKTON. Chairman: Dr. M. Anraku, Nansei Regional Fisheries Research Laboratory, Hiroshima, Japan.
	Evening:	Reception at Tokai University for participants & guests
24 July Tuesday	Morning:	SYMPOSIUM II: RESPONSES OF PHYTOPLANKTON TO LIGHT OF DIFFERENT SPECTRAL QUALITIEA AND IRRADIANCES. Chairwoman: Dr. Maria A. Faust, Chesapeake Bay Center for Environmental Studies, Smithsonian Institution, Washington, D.C., USA
	Afternoon:	Contributed paper sessions and poster sessions
25 July Wednesday	Morning:	SYMPOSIUM III: SPATIAL AND TEMPORAL PATTERNS OF DISTRIBUTION OF MARINE PLANKTON. Chairman: Dr. Michael Mullin, Scripps Institution of Oceanography, La Jolla, USA
	Afternoon:	Contributed paper sessions and poster sessions
26 July Thursday	Morning:	SYMPOSIUM IV: LARVAL RECRUITMENT OF MARINE PLANKTON. Chairman: Dr. Daniel B. Morse, University of California, Santa Barbara, California, USA
	Afternoon:	Free afternoon for discussions, etc.

		Mini-symposia: PARASITES and DISEASES of MARINE PLANKTON. Dr. Ju-shey Ho, California State University, Long Beach, California, USA
		MICROHETEROTROPHES of MARINE PLANKTON. Dr. Yuri Sorokin, Institute of Oceanology, Gelendzhik, USSR
27 July Friday	Morning:	SYMPOSIUM V: LIFE HISTORY STRATEGIES OF MARINE PLANKTON. Chairman: Dr. Peter Rothlisberg, CSIRO, Cleveland, Australia
	Afternoon:	Contributed paper sessions and poster sessions
28 July Saturday	Morning:	SYMPOSIUM VI: BIOLOGY OF GELATINOUS MARINE PLANKTON. Chairwoman: Dr. Jennifer Purcell, University of Victoria, Victoria, B.C., Canada
	Afternoon:	Contributed paper sessions and poster sessions
29 July Sunday	All day:	Field trips to Mt Fuji & environs or various marine facilities. Return to point of origin.
30 July Monday	All day:	Plankton cruise on Tokai University research vessel to Surgua Bay, then visits to Izu Peninsula.
31 July Tuesday	All day:	Return from Izu Peninsula & free afternoon in Shimizu
1 August Wednesday		Return to point of origin

Inquiries should be addressed to:

Prof. Dr. David H. Montgomery
Western Society of Naturalists
Biological Sciences Department
California Polytechnic State University
San Luis Obispo, California 93407, USA
Phone: 805: 546-2446 Telex: 685-451

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1981

BJÖRNBERG, T.K.S. - 1981: Copepoda. In: BOLTOVSKOY, C. (ed.), Atlas del zooplancton del Atlantico Sudoccidental y métodos de trabajo con zooplancton marino. Mar del Plata, Instituto Nacional de Investigación y Desarrollo Pesquero, pp. 587-679

COHEN, R.E. & R.G. LOUGH - 1981: Length-weight relationships for several copepods dominant in the Georges Bank-Gulf of Maine area. J.Northw.Atl.Fish.Sci. 2: 47-52

COTTARELLI, V., P.E. SAPORITO & A. PUCCETTI - 1981: Parastenocaris stellae n.sp. della falda iporreica del fiume Cedrino /Sar-

degna) (Crustacea, Copepoda, Harpacticoida). Fragm.Entomol. 16(1): 1-7

DUMONT, H.J. - 1981: Cladocera and free-living Copepoda from the Fouta Djalon and adjacent mountain areas in West Africa. Hydrobiologia 85: 97-116

GANNON, J.E. & R.S. STEMBERGER - 1981: Impact of influent rivers on the distribution of zooplankton in Lake Skadar.In: KARAMAN, G.S. & A.M. BEETON (eds.), The biota and limnology of Lake Skadar, Titograd, 1981: 199-216

GREENWOOD, J.G. - 1981: Occurrence of congeneric pairs of Acartia and Pseudodiaptomus species (Copepoda, Calanoida) in Moreton Bay, Queensland. Estuarine, Coastal and Shelf Sci. 13: 591-596

LAMOOT, E., H.J. DUMONT & J. PENSAERT - 1981: Discovery of the first representative of the genus Speocyclops (Crustacea, Copepoda) in Africa south of the Sahara (Speocyclops transsaharicus n.sp.). Rev.Hydrobiol.trop. 14(1): 53-57

MILSTEIN, A. -1981: Contribution to the ecological knowledge of Maldonado Bay (Uruguay). Analysis through principal components of environmental and zooplanktonic variations. Ph.D. Thesis, Oceanographic Institute of Sao Paulo, Brazil, 90 pp. (in Portuguese)

PESCE, G.L. - 1981: Some harpacticoids from subterranean waters of Greece (Crustacea: Copepoda). Boll.Zool. 48: 263-276

PESCE, G.L. - 1981: A new harpacticoid from phreatic waters of Morocco, and remarks on the genus Praeleptomesochra Lang (Crustacea Copepoda: Ameiridae) Bull.Zool.Mus.Univ.Amsterdam 8(9): 69-72

PESCE, G.L., P. TETE & M. de SIMONE -1981: Ricerche in Africa dell'Istituto di Zoologia de L'Aquila. VI. Ricerche faunistiche in acque sotterranee del Maghreb (Tunisia, Algeria, Marocco) e dell'Egitto. Soc.ital.Sci.nat., Mus.civ.Stor.nat.Acquar.civ., Milano 72(1/2): 63-98

UMA DEVI, D.V. & K. SHYAMASUNDARI - 1981: A new species of the genus Caligus Muller, 1785 from fish, Dactyloptena orientalis, at Waltair. Ind.J.Parasitology 5(1): 91-94

1982

BLADES-ECKELBARGER, P.I. & M.J. YOUNGBLUTH - 1982: The ultrastructure of spermatogenesis in Labidocera aestiva (Copepoda: Calanoida). J.Morph. 174: 1-15

BRENNING, U. - 1982: Beiträge zur Calanoidenfauna (Crustacea, Copepoda) vor Nordwest- und Südwestafrika. III. Die Vertreter der Familien Paracalanidae and Calocalanidae. Wiss.Z.Univ.Rostock 31 (Naturwiss. Reihe 6): 1-9

BRENNING, U. - 1982: Beiträge zur Calanoidenfauna (Crustacea, Copepoda) vor Nordwest- und Südwestafrika. IV. Die Vertreter der Familie Pseudocalanidae. Wiss.Z.Univ.Rostock 31 (Naturwiss. Reihe 6): 11-17

CASTEL, J. & C. COURTIES- 1982: Composition and differential distribution of zooplankton in Arcachon Bay. J.Plankton Res. 4(3): 417-433

CITARELLA, G. - 1982: Le zooplancton de la baie de Shédiac (Nouveau-Brunswick). J.Plankton Res. 4(4): 791-812

CRESSEY, R.F. - 1982: A new genus of bomolochid copepods from Indo-west Pacific nemipterid fishes. Proc.Biol.Soc.Wash. 95 (3): 495-504

CVETKOV, L.P., T.T. GRUNCHAROVA, A.A. PETROVA & M. MIHEILOVA-NEIKOVA - 1982: The structure and dynamics of underground water communities. II. Phreatic fauna of Dobruja and stygobiological studies on ground carst waters. Bulg.Acad.Sci.Sofia, Hydrobiol., 16: 3-19

DAVIS, C.C. - 1982: A preliminary quantitative study of the zooplankton from Conception Bay, Insular Newfoundland, Canada. Int.Rev.ges.Hydrobiol. 67(5): 713-747

FLEMINGER, A., B.H.R. OTHMAN & J.G. GREENWOOD - 1982: The Labidocera pectinata group: an Indo-West Pacific lineage of planktonic copepods with descriptions of two new species. J.Plankton Res. 4(2): 245-270

FRYER, G. - 1982: A new species of Afrolernaea (Copepoda: Lernaeidae) parasitic on mormyrid fishes in Gabon and a discussion of its affinities. J.Zool., Lond. 196: 453-462

FRYER, G. -1982: The parasitic Copepoda and Branchiura of British freshwater fishes. A handbook and key. Freshw.Biol.Assoc. Scient.Publ. 46: 1-87

FRYER, G. - 1982: The occurrence of Speocyclops demetiensis (Scourfield) (Crustacea: Copepoda) in the Yorkshire Pennines. Naturalist 107: 151-155

GREENWOOD, J.G. - 1982: Calanoid copepods of Moreton Bay (Queensland). V. Ecology of the dominant species. Proc.R.Soc.Qd. 93: 49-64

GREENWOOD, J.G. -1982: Dominance, frequency and species richness patterns in occurrences of calanoid copepods in Moreton Bay, Queensland. Hydrobiologia 87: 217-227

GREENWOOD, J.G. & M.J. TUCKER - 1982: A new species of Robertsonia (Copepoda, Harpacticoida) from Port Curtis, Queensland. Crustaceana 42(3): 288-294

HO, J.-S. - 1982: Copepod parasites of Psychrolutes (Pisces: Scorpaeniformes) from deep water in the Eastern Pacific. Parasitology 85: 451-458

HUMES, A.C. & M. DOJIRI - 1982: Xarifiidae (Copepoda) parasitic in Indo-Pacific scleractinian corals. Beaufortia 32(9): 139-228

HUSMANN, S. - 1982: Aktivkohlefilter als künstliche Biotope stygophiler und stygobionter Grundwassertiere. Arch.Hydrobiol. 95 (1/4): 139-155

ITO, T. - 1982: The origin of 'biramous' copepod legs. J.Nat. Hist. 16: 715-726

KASPRZAK, P. & D. RONNEBERGER - 1982: Vergleichende Untersuchungen zur Struktur und Dynamik des Zooplanktons im Stechlinsee, Nehmitzsee und Haussee 1978/79. Limnologica 14(2): 263-295

KIEFER, F. - 1982: Vergleichende Untersuchungen über Morphologie,

Taxonomie und geographische Verbreitung der Arten der Gattung Tropodiaptomus Kiefer (Copepoda: Calanoida) aus asiatischen Binnengewässern. Hydrobiologia 93: 223-253

KIEFER, F. - 1982: Tropodiaptomus vandouwei (Früchtl 1924), ein vergessener Diaptomide aus Indonesien (Crustacea: Copepoda). Senckenbergiana biol. 62(4/6): 393-397

KLEIN BRETELER, W.C.M., H.G. FRANSZ & S.R. GONZALEZ - 1982: Growth and development of four calanoid copepod species under experimental and natural conditions. Neth.J.Sea Res. 16: 195-207

KLEIN BRETELER, W.C.M. & S.R. GONZALEZ - 1982: Influence of cultivation and food concentration on body length of calanoid copepods. Mar.Biol. 71: 157-161

MIELKE, W. - 1982: Three variable Arenopontia species (Crustacea, Copepoda) from Panamá. Zool.Scr. 11(3): 199-207

MONNIOT, C. - 1982: Variabilité du copépode ascidicole Notodelphys agilis Thorell, 1859. Bull.Mus.natn.Hist.nat., Paris, 4e sér., (A) 4(3-4): 319-330

MONTEIRO, M.T. - 1982: Influencia do cobre na comunidade zooplanctónica da albufeira de Venda Nova. Bol.Inst.Nac.Invest. Pescas 7: 61-87

NISHIDA, S. & R. MARUMO - 1982: Vertical distribution of cyclopoid copepods of the family Oithonidae in the Western Pacific and Eastern Indian Oceans. Bull.Plankton Soc.Japan 29(2): 99-118

PESCE, G.L. - 1982: A new Nitocrella Chappuis 1923 from phreatic waters of Skyros Island, Greece (Crustacea: Copepoda: Harpacticoida). Senckenbergiana biol. 62(4/6): 399-403

PESCE, G.L. & D. MAGGI - 1982: Diacyclops iranicus n.sp., a phreatic cyclopoid from subterranean waters of Iran (Crustacea: Copepoda). Rev.Suisse Zool. 89(1): 177-181

REID, J.W. - 1982: Forficatocaris schadeni, a new copepod (Harpacticoida) from Central Brazil, with keys to the species of the genus. J.Crust.Biol. 2(4): 578-587

ROUCH, R. - 1982: Le système karstique du Baget. XII. La communauté des harpacticides. Sur l'interdépendance des nomocénoses épigée et hypogée. Annls.Limnol. 18(1): 41-54

ROUCH, R. - 1982: Le système karstique du Baget. XIII. Comparaison de la dérive des harpacticides à l'entrée et à la sortie de l'aquifère. Annls.Limnol. 18(2): 133-150

SARASWATHY, M. - 1982: Siphonostomes (Copepoda-Cyclopoida) from the Indian Ocean. J.Plankton Res. 4(3): 633-641

SARASWATHY, M. & V. SANTHAKUMARI - 1982: Sex ratio of five species of pelagic copepods from Indian Ocean. Mahasagar-Bull. Nat.Inst.Oceanogr. 15(1): 37-42

SCHNACK, S. - 1982: Feeding habits of Calanoides carinatus (Krøyer) in the upwelling area off Northwest Africa. Rapp. P.-v.Réun.Cons.int.Explor.Mer 180: 303-306

STOCK, J.H. - 1982: Description de Cotylemyzon vervoorti gen. et sp. nov., un copépode cyclopoide très original, parasite

d'un Polychète d'Amboine. Netherl.J.Zool. 32(3): 364-373

STRICKLER, J.R. - 1982: Calanoid copepods, feeding currents, and the role of gravity. Science 218: 158-160

UYE, S. - 1982: Length-weight relationships of important zooplankton from the Inland Sea of Japan. J.oceanogr.Soc.Japan 38: 149-158

UYE, S., Y. IWAI & S. KASAHARA - 1982: Reproductive biology of Pseudodiaptomus marinus (Copepoda: Calanoida) in the Inland Sea of Japan. Bull.Plankton Soc.Japan 29(1): 25-35

VANDERPLOEG, H.A. & R.L. ONDRICEK-FALLSCHEER - 1982: Intersetule distances are a poor predictor of particle-retention efficiency in Diaptomus sicilis. J.Plankton Res. 4(2): 237-244

VAUPEL KLEIN, J.C. von - 1982: A taxonomic review of the genus Euchirella Giesbrecht, 1888 (Copepoda, Calanoida). I. General part. Zool.Verhand. 197: 1-48

VAUPEL KLEIN, J.C. von - 1982: Structure of integumental perforations in the Euchirella messinensis female (Crustacea, Copepoda, Calanoida). Netherl.J.Zool. 32(3): 374-394

VAUPEL KLEIN, J.C. von - 1982: A taxonomic review of the genus Euchirella Giesbrecht, 1888 (Copepoda, Calanoida). II. The type-species, Euchirella messinensis (Claus, 1863). A. The female of f. typica. Zool.Verhand. 198: 1-131, Pl. 1-23

VIJVERBERG, J. & A.F. RICHTER - 1982: Population dynamics and production of Acanthocyclops robustus (Sars) and Mesocyclops leuckarti (Claus) in Tjeukemeer. Hydrobiologia 95: 261-274

VUORINEN, I. - 1982: The effect of temperature on the rates of development of Eurytemora hirundoides (Nordqvist) in laboratory culture. Ann.Zool.Fennici 19: 129-134

1983

COHEN, R.E. & R.G. LOUGH - 1983: Prey field of larval herring Clupea harengus on a continental shelf spawning area. Mar. Ecol.Prog.Ser. 10: 211-222

HO, J.-S. - 1983: Metaxymolgus longicauda (Claus), a copepod associated with cuttlefish, Sepia officinalis L. J.mar.biol. Ass.U.K. 63: 199-203

HO, J.-S. - 1983: Copepods parasites of Japanese surfperches: their inference on the phylogeny and biogeography of Embiotocidae in the Far East. Ann.Rep.Sado Mar.Biol.Stat., Niigata Univ. 13: 31-62

HUMES, A.G. & J.H. STOCK - 1983: Redefinition of the genus Doridicola Leydig, 1853, synonymy of Metaxymolgus Humes & Stock, 1972, and establishment of a new genus, Critomolgus (Copepoda, Poecilostomatoida, Lichomolgidae). Bull.Zool.Mus.Univ. Amsterdam 9(10): 93-96

SCHNACK, S. - 1983: On the feeding of copepods on Thalassosira parthenaia from the Northwest African upwelling area. Mar. Ecol.Prog.Ser. 11: 49-55

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