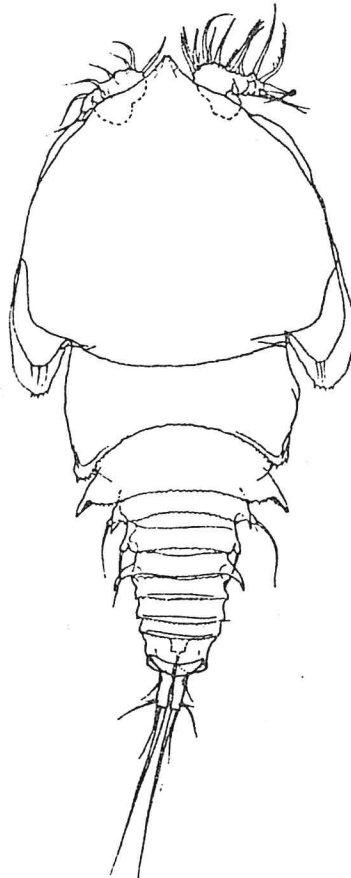


PSAMMOMALIA

NEWSLETTER OF THE INTERNATIONAL ASSOCIATION
OF
MEIOBENTHOLOGISTS

COURRIER DE L'ASSOCIATION INTERNATIONALE
DES
MEIOBENTHOLOGISTES



n° 224

1978

PSAMMONALIA

Newsletter of the International Association of Meiobenthologists
Courrier de l'Association Internationale des Méiobenthologistes

Number 34

November, 1976

Editeur : Jeanne Renaud-Mornant
Muséum National d'Histoire Naturelle
Laboratoire de Zoologie (Vers)
43, rue Cuvier
75231 - Paris Cedex 05
France

Cover : Habitus of *Cerviniella langi*, Harpacticoid Copepod, Bodin 1968.

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

Composed and printed at the Laboratoire Arago, 66650 - Banyuls-sur-Mer, France.

INTERNATIONAL ASSOCIATION OF MEIOBENTHOLOGISTS
ASSOCIATION INTERNATIONALE DES MEIOBENTHOLOGISTES

COUNCIL MEMBERS - MEMBRES DU CONSEIL

Executive Committee

- Chairman : Jeanne RENAUD-MORNANT, Muséum National d'Histoire Naturelle,
Laboratoire de Zoologie-Vers, 43, rue Cuvier, 75231 - Paris Cedex 05, France.
- Treasurer : Jacques SOYER, Université Pierre et Marie Curie, Laboratoire Arago, 66650-
Banyuls-sur-Mer, France.

Committe Members

- Bruce C. COULL, Belle W. Baruch Institute for Marine Biology and Coastal
Research. University of South Carolina, Columbia, South Carolina 29208, USA.
- Ragnar ELMGREN, University of Stockholm, Box 6801, S-11386 Stockholm,
Sweden.
- Pierre LASSERRE, Institut de Biologie marine, Université de Bordeaux I,
2, rue du Professeur Jolyet, 33120 - Arcachon, France.
- Hjalmar THIEL, Institut für Hydrobiologie und Fischereiwissenschaft der
Universität Hamburg, 2 Hamburg 50, Palmaille 55, West-Germany.
- Richard M. WARWICK, IMER, 13/14 St. James Terrace, Citadel Road,
Plymouth PL1 3 AX, England.

Board of Correspondents

- Philippe BODIN, Laboratoire d'Océanographie biologique, Université de Bretagne
occidentale, 29283 - Brest Cedex, France.
- John S. GRAY, Wellcome Marine Laboratory, Robin Hood's Bay, Yorkshire
YO 22 4 SL, England.
- Eike HARTWIG, Zoologisches Institut u. Museum, Universität Hamburg,
D-2000 Hamburg 13, Martin-Luther-King Platz 3, West Germany.
- W. Dunae HOPE, Department of Invertebrate Zoology, National Museum of Na-
tural History, Smithsonian Institution, Washington D.C. 20560, USA.
- Lucien LAUBIER, Centre Océanologique de Bretagne, B.P. 337, 29273-Plouzané,
France.
- Jörg OTT, I. Zoologisches Institut der Universität Wien, Lehrkanzel für Meeres-
biologie und Abteilung für Ultrastrukturforschung, Währinger Strasse 17/VI,
A-1090 Wien, Austria.
- Chandrasekhara G. RAO, Zoological Survey of India, 27 Chowringhee Road,
Calcutta, 13, India.
- Franz RIEMANN, Institute für Meeresforschung, D-285 Bremerhaven, Am
Handelshafen 12, West Germany.
- Raymond ROUCH, Laboratoire souterrain du C.N.R.S., 09410-Moulis, France.
- Ryohei YAMANISHI, Kyoto University, Seto Marine Biological Laboratory,
Sirahama, Wakayama-Ken, Japan.
- Donald J. ZINN, P.O. Box 589, Falmouth, Massachusetts 02541, USA.

EDITORIAL

«Psammonalia» is now ten years and our Association having achieved its first youth has reached a stage of development which I hope is satisfactory. But «Psammonalia» is everybody's business and I hope you will not hesitate to send us your suggestions and other ideas in order to better our Newsletter.

In this issue you will find a few words from its creator and founder Robert P. Higgins, to whom we are all acknowledgeable for his initiative.

Our treasurer Jacques Soyer informs me that 120 of our members have not yet paid their dues. As you know «Psammonalia» can only be edited with your dues. If you are among the 120 people, please send your contributions to Jacques as soon as possible.

As announced in N° 33 nominations have been made by the membership to replace Pierre Lasserre and Richard Warwick as committee members. On page 5 there are the names of the members nominated and who are therefore candidates for the two vacant positions. Please send your votes in accordance to the ballot.

Jeanne Renaud-Mornant

ON THE OCCASION OF THE TENTH ANNIVERSARY OF «PSAMMONALIA»

As of this issue, Psammonalia is ten years old. When Jeanne Renaud-Mornant and Don Zinn asked me to prepare an anniversary message for this occasion I was honored to accept. The reflection of accomplishment of Psammonalia is very satisfying.

Although the first issue of Psammonalia was born in my typewriter, credit for its existence is only partially mine to claim. Bob Pennak initiated my interest in the meiofauna, «Bookie» Bookhout nurtured it, my students refined it, Neil Hulings and Irv Newell, my cabin companions during a 1966 cruise of the R/V «Anton Brunn», supplied the critical mass of enthusiasm, and Don Zinn added his valuable support and sage advice in sharing the «editorship» of the first issues. Credit is shared in no small part by the many colleagues who rallied to make Psammonalia an early success despite its tenuous beginning.

In the formative years, Psammonalia's second Editor, Duane Hope, provided outstanding leadership and set a fine example for other editors who followed. This was a period of the organization of the newsletter, its Board of Editors, and the professional society which is now the International Association of Meiobenthologists. John Gray deserves a great share for the credit of organization and further refinement of the newsletter under his editorship. In successive years, the newsletter has passed through the competent editorship of Wilfried Westheide and Bruce Coull and now resides with Jeanne Renaud-Mornant. The greatest part of Psammonalia's success is theirs to share.

Through the cooperation of many persons, as it was intended, Psammonalia has been fulfilling its role as a catalyst in the promotion of interest in meiofauna and as a medium of communication. A generous endowment of good will, enthusiasm, humor, and resistance to over-organization has made all this possible.

All of us share in this accomplishment as we all share in the responsibility to enhance the value of Psammonalia in the years ahead.

Bob Higgins

ELECTION

The two year term of Pierre Lasserre and Richard Warwick as Executive Committee members expires 31 December 1976.

Next page you will find the names of candidates to fill these two vacant positions.

The newly elected members will serve on the Executive Committee until December 1978.

Please vote for your choice of two and return the ballot to the Editor before December 31st 1976.

GRAY, J.S., Institut för Marin Biologi, Universitetet i Oslo, Postboks 1064, Blindern,
Oslo 3, Norway.

HARTWIG, E., Zool Inst/Museum-Univ. Hamburg, D-2000 Hamburg 13, Martin Luther-King
Platz 3, West-Germany.

/ HEIP, C., Laboratorium voor Morfologie ; Ledeganckstraat 35, B-9000 Ghent, Belgium.

WIESER, W., Institut für Zoophysiologie, Universität Innsbrück, Peter Mayr Str. 1A, Austria.

CHANGE OF ADDRESS
CHANGEMENT D'ADRESSE

BALL I.R.

Instituut voor Taxonomische Zoölogie
Universiteit van Amsterdam
Plantage Middenlaan 53
Amsterdam, The Netherlands

HERMANS, C.O.

Department of Biology
California State College
Sonoma
Rohnert Park, California 94928
U.S.A.

IKONEN E.K.

University of Helsinki
Department of Zoology
Division of Morphology and Ecology
P. Rautatiekatu 13
SF 00100 Helsinki 10
Finland

JUARIO J.V.

Department of Biology
University of San Carlos
Cebu City
Philippines

MARTINEZ E.A.

The American Museum of Natural History
Department of Fossil and Living Invertebrates
Central Park West at 79th Street
New York, N.Y. 10024
U.S.A.

Correction of the postal number :

NICHOLS F.H.

Office of Marine Geology
U.S. Geological Survey
345 Middlefield Road
Menlo Park, California 94025
U.S.A.

PLATT H.M.

British Antarctic Survey
Madingley Road
Cambridge CB3 0ET
England

THUM A.B.

Marine Biological Laboratory, L.A.S.
6350 A Yarrow Drive
Carlsbad, California 92008
U.S.A.

VIRNSTEIN R.W.

Harbor Branch Institution, Inc.
RFD 1, Box 196
Fort Pierce
Florida 33450
U.S.A.

WESTHEIDE W.

Department of Zoology
University of North Carolina
202 Wilson Hall
Chapel Hill, N.C. 27514
U.S.A.

ERSEUS, C. (not K !)

University of Gothenburg
Department of Zoology
Fack
S - 400 33 GÖTEBORG, Sweden

NEW MEMBERS
NOUVEAUX MEMBRES

ABDUL AZIS P.K.
University of Kerala
Department of Aquatic Biology and
Fisheries
Trivandrum - 695 007
India

BERGERARD J.
Station Biologique
29211 - Roscoff
France

CASSIDY P.M.
2711 Meridian St.
Bellingham, Wash. 98225
U.S.A.

COFFIN W.L.
Normandeau Associates, Inc.
15 Pickering Street
Portsmouth, New Hampshire 03801
U.S.A.

KIZIELEWSKI J.
Zaklad Biologii WSP
w. Prusa 12
08-110 Siedlce
Pologne

LORGERE T.C.
Station Biologique
29211 - Roscoff
France

MORSE P.
Northeastern University
Marine Science Institute
East Point
Nahant, Mass. 01908
U.S.A.

POWELL E.N.
Curriculum in Marine Sciences
12-5 Venable Hall
University of North Carolina
Chapel Hill, N.C. 27514
U.S.A.

PRINCZ D.
Box 905
Bayamon 00619
Puerto Rico

SHIMMEL S.M.
Botany
UGA Marine Institute
Sapelo Island
Ga., 31327
U.S.A.

SPERO H.
Texas A & M University
Dept of Oceanography
College Station
Texas 77843
U.S.A.

Station Biologique
29211 - Roscoff
France

TITGEN R.H.
Department of Oceanography
Texas A & M University
College of Geosciences
College Station
Texas 77843
U.S.A.

VENN C.
Department of Oceanography
Texas A & M University
College of Geosciences
College Station, Texas 77843
U.S.A.

NEWS FROM THE MEMBERS
NOUVELLES DES MEMBRES

J.W. Fleeger, Belle W. Baruch Institute for Marine Biology and Coastal Research and the Department of Biology, University of South Carolina, Columbia, South Carolina 29208 USA :

My dissertation research deals with the population dynamics and community structure of portions of the intertidal meiobenthos of *Spartina alterniflora*, estuarine sediments. The population age structure of several seasonally reproducing species is being analyzed by cohort analysis, in an attempt to follow age structure with time, and thereby estimate growth and mortality patterns. In this manner, I hope to determine production values and the life history patterns of several species of copepods and one species of kinorhynch. Preliminary information indicates that four species of copepods have high reproductive activities in the spring. In one instance, naupliar production begins in late February, with the first appearance of copepodites in late March. Two other copepods and the kinorhynch breed either continuously or have late summer or fall reproductive peaks.

Additionally, all copepods are identified to species on each sampling date throughout the year. The structure of the copepod assemblage in relation to possible vertical stratification and environmental patchiness in the soft sediment between the *Spartina* plants is being investigated.

H.M. Platt, British Antarctic Survey, Madingley Road, Cambridge CB3 0ET, England :

I have recently returned from a rather extended but fascinating and enjoyable period of fieldwork in the Antarctic. My work was based at South Georgia (the home of the southern shore-based whaling industry in the past and the current centre of interest for krill and fish research) but collections were also obtained from other parts of the Southern Ocean. The two general topics with which I am at present concerned are (1) the biology of marine nematodes and (2) the distribution of hydrocarbons in the south polar marine environment. After a forthcoming six-month period at the Torry Research Station, Aberdeen, Scotland, I shall be based at the British Antarctic Survey's new building at Cambridge. Being «out of circulation» for almost four years I found it rather difficult to keep in touch with both people and literature. I should like to thank those who continued sending copies of their work whilst I was away and apologise to those who had to wait/ are still waiting (!) for replies from me.

Barbara J. Oden, University of South Carolina :

A study of the ecology and taxonomy of meiobenthic communities inhabiting the littoral zone of a freshwater reservoir has been the focal point of my research for the past 16 months. In view of the fact that there is a paucity of information on this facet of meiobenthic assemblages, the study has been designed to provide base line information on the qualitative and quantitative composition of the communities, the vertical zonation of the fauna and seasonal abundance of the various taxa.

The research is being conducted at a receiving reservoir which serves as a cooling basin for thermal effluents flowing from a nuclear reactor. The selection of this unique site makes it possible to also determine the effects of disturbance, created by the inflow of hot effluents, on population density and on community diversity, using the Rotifera (a responsive, numerically abundant and taxonomically feasible group) to conduct the diversity studies. The «Hot Arm» assemblages are being compared with assemblages from a «Cold Arm» site, the control (far removed and unaffected by thermal effluents), and an intermediate warm water area ; all three having similar topography and sediments. Other abiotic factors such as pH and ionic composition, as well as sediment organics are also being monitored.

ANNOUNCEMENTS
NOUVELLES DIVERSES

The following members have not been listed in our July 1976 «List of members of the International Association of Meiobenthologists». Please complete your list.

Dr. HUSMANN, S. Limnologische Flusstation des Max-Planck Institutes für Limnologie,
6047 Schlitz, B.D.R.

The Librarian, Institute of Marine Sciences, University of Miami, 1 Rickenbacker Causeway,
Miami 33149 Florida, U.S.A.

FINANCIAL REPORT
RAPPORT FINANCIER

Credits

Balance on hand (15.7.76)	FF	4.122,18
Dues and contributions received (30.10.76)		619,95

Total :		4.742,13

Debits

Cost of Psammonalia No33	FF	334,60
Printing of «List of Members»		432,43
Mailing cost		124,00

		891,03

Balance on hand (prior to Psammonalia No34) 15.11.76	FF	3.851,10
---	----	----------

The annual dues of 3 dollars should be paid preferably by cheque to :

Association des Méiobenthologistes
Banque Populaire des Pyrénées-Orientales
Quai Pierre-Forgas, 66660 - Port-Vendres, France
No 04 19 243 275

or by foreign money order sent to Jacques Soyer, Trésorier, Laboratoire Arago, 66650 - Banyuls-sur-Mer, France.

T I M C O

Third International Meiofauna Conference

Universität Hamburg, Fed. Rep. Germany
August 22 - 27, 1977

Second Announcement

- Time : August 22 - 27, 1977
- Place : Universität Hamburg,
Zoologisches Institut und Zoologisches Museum
Martin-Luther-King Platz 3, 2000 Hamburg 13.
- Costs : Symposium fee : \$ 15.--
We hope to be able to raise some funds to reduce the symposium fee and the fare for the excursion (see below). However, fund raising is difficult, since not all persons, willing to participate and give a lecture, sent their application form back.
- Papers : Until to day 30 lectures are offered on all subjects of meiofauna research. We will have enough time for 40-45 papers to be read. Further speakers are invited to present a paper at this symposium. For each paper we will allow 20 minutes for the presentation and an additional 5 minutes for the discussion.
- Language : Papers and discussion remarks should be presented in English language. No translation service will be available.
- Topics : No special topics are selected, however, purely taxonomic contributions will be the first to be deleted from the list of lectures, if too many papers are offered for presentation. In case this is necessary, we will contact the speakers and ask for a presentation of results within a poster session.
- Publication : Originally, we did not intend to publish the papers presented in this symposium, to encourage the presentation of preliminary results. We asked the speakers on their intentions and the results are as follows :
17 yes, publication in a symposium volume
7 probably yes
2 not indicated
4 no.
The votes indicate a majority for publication, and we will try to find a way of publishing a symposium volume. However, no speaker is forced to publish his contribution in this volume. Every one should feel free for an own decision. We will inform the speakers when a printer is found.

- Abstracts : All speakers are asked to deliver an abstract of their paper in English language not later than February 1, 1977. The abstract must present hard data, and not only a general philosophy on the topics, the paper may possibly present. The abstracts should not cover more than one type written page. The abstracts will be delivered to the participants on registration.
- Excursion : Ideas have changed according to suggestions. The new plan is to see the west coast of Schleswig-Holstein, the northernmost county of Germany. A 2 hours bus tour will bring us to the coast, where we will take a boat for a small island, where only one farmer lives. This «Hallig» lies in the Wadden Sea. There is chance to walk on the tidal flats, and later the boat will drive us on the tidal streams between the high tidal flats. At the end of August we will have strong bird migration. In the late afternoon we may see land reclamation areas. We will arrive in Hamburg not before 8 p.m. The costs for this excursion will be approximately : 25-30 German Marks per person, to be paid with registration.
- Workshop : A workshop will be held under the topic of «International calibration of methods used in meiofauna research».
- Films and Slides : Participants are invited to present films and slides (preferably 5 x 5 cm) on meiofauna and on meiobenthologists in an evening program.

Symposium time schedule :

- August 22, Lectures
 Evening program / films and slides
 23, Lectures
 24, Excursion, all day
 25, Lectures in the morning
 Workshop in the afternoon
 26, Lectures
 27, Lectures in the morning

Accommodation : All accommodations hopefully will be in walking distance of 5-10 minutes from the lecture hall. We are in contact with some hotels and students hostels, which need early booking for the month of August in this town. You should send back your application form as soon as possible.

Final application : We ask you to send us before **February 1, 1977** :

1. Your application form completed,
2. The abstract of your contribution.

All mail addressed to :

TIMCO SYMPOSIUM OFFICE
 Universität Hamburg
 Institut für Hydrobiologie und Fischereiwissenschaft
 Palmaille 55
 2000 Hamburg 50
 Fed. Rep. Germany

RECENT LITERATURE

- AGAMALIEV, F.G., 1975. A new species of ciliates (Hypotrichida) from the Caspian Sea. Zool. Zhurnal., 54 : 1246-1248.
- AGAMALIEV, F.G. & R.M. BAGIROV, 1975. Diurnal vertical migrations of microbenthic, planctonic and periphytonic ciliates of the Caspian Sea. Acta Protozoologica, 14: 195-218.
- ANDRASSY, I., 1976. Evolution as a basis for the systematization of nematodes. Budapest, Akadémiai Kiado, 288 p.
- ANGER, K. & C. VALENTIN, 1976. In situ studies on the diurnal activity pattern of *Diastylis rathkei* (Cumacea, Crustacea) and its importance for the «hyperbenthos». Helgoländer wiss. Meeresunters, 28 : 138-144.
- ANKAR, S. & R. ELMGREN, 1976. The benthic macro- and meiofauna of the Askö Landsort area (Northern Baltic proper). A stratified random sampling survey. Contr. Askö Lab., Univ. Stockholm, 11 : 115 p.
- BARNES, R.S.K., D.B. SATELLE, I.J. EVERTON, W. NICHOLAS & D.H. SCOTT, 1976. Intertidal sands and interstitial fauna associated with different stages of salt-marsh development. Estuarine Coast. Mar. Sci., 4 : 497-511.
- BARTSCH, I., 1975. Ein Beitrag zum System der Rhombognathinae (Halacaridae, Acari). Zur Morphologie der Tarsalregion und des Ovipositors. Zool. Anz., 194 : 193-200.
- BARTSCH, I., 1975. Ein Beitrag zur Halacaridenfauna des Eulitorals bei Banyuls-sur-Mer (Mittelmeer) (Halacariden, Acari). Mitt. Hamb. Zool. Mus. Inst., 72 : 137-155.
- BARTSCH, I., 1975. *Cancerilla oblonga* n. sp., ein cyclopoider Copepode auf *Amphiuva capensis* Ljungman (Ophiuroidea, Echinodermata). Crustaceana, 29 : 290-294.
- BARTSCH, I., 1976. Beitrag zur Halacariden-Fauna (Halacaridae, Acari) der Bretagneküste. Beschreibung von fünf Arten aus dem Sandlückensystem. Acarologia, 17 : 652-667.
- BARTSCH, I., 1976. *Copidognathides minutirostris* n.g., n.sp., eine psammophile Halacaride (Halacaridae, Acari). Cah. Biol. mar., 17 : 237-241.
- BERK, S.G., R.R. COLWELL & E.B. SMALL, 1976. A study of feeding responses to bacterial prey by estuarine ciliates. Trans. Amer. micros. Soc., 95 (3) : 514-520.
- BERNSTEIN, B.B., 1976. Progress report on spatial distribution of benthic Foraminifera. In : D.M. Talbert (Ed.) : Seabed disposal Program. Ann. Rep. Jan.-Dec. 1975, Sandia Laboratories, Sand, 76-0256, 123-132.
- BODIN, Ph., 1976. Les Copépodes Harpacticoïdes (Crustacea) des côtes charentaises (Atlantique). Données écologiques et biologiques sur les espèces principales. Bull. Mus. natn. Hist. nat., Paris, 3e sér., No 363, Ecol. gén., 29 : 1-45.
- BOUCHER, G., 1976. Nématodes des sables fins infralittoraux de la Pierre Noire (Manche occidentale). II. Chromadorida. Bull. Mus. natn. Hist. nat. Paris, 3e sér., No 352, Zool., 245 : 25-61.
- BOZIC, B., 1975. Détection actométrique d'un facteur d'attraction chez *Tigriopus* (Crustacés, Copépodes, Harpacticoïdes). Bull. Soc. Zool. France, 100 (3) : 305-311.
- BYERLY, L., 1976. The life cycle of the nematode *Caenorhabditis elegans*. I. Wild type growth and reproduction. II. A simplified method for mutant characterization. Develop. Biol., 51 (1) : 23-34.
- CAMMEN, L.M., E.D. SENECA & B.J. COPELAND, 1976. Animal colonization of man-initiated salt marshes on dredge spoil. U.S. Army Corps Engineers CERC. Techn. Paper No 76-7. Ft. Belvoir, Va.

- CASTEL, J., 1976. Développement larvaire et biologie de *Harpacticus littoralis* Sars 1910 (Copépode Harpacticoidé) dans les étangs saumâtres de la région d'Arcachon. Cah. Biol. Mar., 17 : 195-212.
- CHONGZHOU, Z. & L. ZHIYING, 1976. Harpacticoida (Crustacea, Copepoda) from Xisha Islands of Guangdong Province, China. Acta Zool. Sinica, 22 (1) : 66-70 (in chinese).
- CORLISS, J.O. 1976. On lumpers and splitters of higher taxa in ciliate systematics. Trans. Amer. micros. Soc., 95 (3) : 430-442.
- CURDS, C.R., 1975. A guide to the species of the genus *Euplotes* (Hypotrichida, Ciliata). Bull. Brit. Mus. Zool., 28 : 1-61.
- DECRAEMER, W., 1976. Scientific report on the Belgian Expedition to the Great Barrier Reef in 1967. Nematodes VI. Morphological observations on a new genus *Quadricomoides* of Marine Desmoscolecida. Aust. J. Mar. Fshw. Res., 27 (1) : 89-116.
- DÖRJEX, J. & T.G. KARLING, 1976. Species of Turbellaria Acœla in the Swedish Museum of Natural History, with remarks on their anatomy, taxonomy and distribution. Zool. Scripta, 4 : 175-189.
- EDER, R., 1975. Zwei neue Funde von *Stenonchulus troglodytes* Schneider 1940 (Onchulidae, Nematoda). Carinthia II, 165, 85. Jahrg. : 291-294.
- ELMGREN, R., 1976. Baltic benthos communities and the role of the meiofauna. Contr. Askö Lab., No 14 : 1-31.
- ERSEUS, C., 1976. Littoral Oligochaeta (Annelida) from Eyafjörour, North Coast of Ireland. Zool. Scripta, 5 (1) : 5-12.
- FERRIS, V.M., C.G. GOSECO & J.M. FERRIS, 1976. Biogeography of free-living soil nematodes from the perspective of plate tectonics. Science, 193 : 508-510.
- GOERKE, H. & W. ERNST, 1975. ATP Content of estuarine nematodes : contribution to the determination of meiobenthic biomass by ATP measurements. In : H. Barnes (ed.) : Proc. 9th Europ. Mar. Biol. Symp. 1975. Aberdeen Univ. Press, spec. pp. 683-691.
- GOH, S.L., 1976. Localization and distribution of carecholaminergic structures in the nervous system of *Phocanema decipiens*. (Nematoda). Intern. J. Parasitol., 6 (5) : 403-412.
- GRAF, F. & P. MICHAUT, 1975. Chronologie du développement et évolution du stockage de calcium et des cellules à urates chez *Niphargus schellenbergi* Karaman. Int. J. Speleol., 7 : 247-272.
- GRANGE, K.R. & R.W. ANDERSON, 1976. A soft sediment sampler for the collection of biological specimens. N. Z. Oceanogr. Inst. Records, 3 (2) : 9-13.
- GRIMALDI DE ZIO, S. & M. D'ADDABBO GALLO, 1975. Post-embryonal development and moults in *Batillipes pennaki* Marcus (Heterotardigrada). Riv. Biol., 68 (3) : 243-274.
- GROZA-ROJANCOVSKI, E., 1975. Sur les nématodes libres de fonds à *Phyllophora* de la mer Noire, avec quelques considérations systématiques concernant l'espèce *Spaerocephalum chabaudi* Inglis, 1962. Trav. Mus. Hist. nat. «Grigore Antipa», 16 : 21-24.
- GUILLE, A. & J. SOYER, 1976. Prospections bionomiques du plateau continental des îles Kerguelen. Golfe du Morbihan et golfe des Baleariens. CNFRA, 39 : 49-78.
- HEIP, C., 1976. The life-cycle of *Cyprideis torosa* (Crustacea, Ostracoda). Oecologia (Berl.), 24 : 229-245.
- HEIP, C. & N. SMOL, 1976. Influence of temperature on reproductive potentials of two brackish water Harpacticoids (Crustacea, Copepoda). Mar. Biol., 35 (4) : 327-334.

- HESSLER, R.R., 1976. Report on benthic soft-bottom communities from the axis of hadal trenches. In : D.M. Talbert (Ed.) : Seabed Disposal Program, Ann. Rep. Jan.-Dec. 1975, Sandia Laboratories, Sand, 76-0256 : 135-173.
- HICKS, G.R.F., 1976. *Neopeltopsis pectinipes*, a new genus and species of seaweed-dwelling copepod (Harpacticoida : Peltidiidae) from Wellington, New Zealand. N.Z. J. Mar. Fshw. Res., 10 (2) : 363-370.
- HANSON, E.D., 1976. Major evolutionary trends in animal protists. J. Protozool., 23 : 4-12.
- IVANEGA, I.G., 1975. Distribution of Harpacticoids in the Dniester Estuary. Hydrobiological Journ., 11 : 65-66 (English transl. of Russian).
- JENNINGS, J.B. & A. DEUTSCH, 1975. Occurrence and possible adaptive significance of beta glucuronidase and aryl amidase leucine amino peptidase activity in 2 species of marine Nematodes. Comp. Biochem. Physiol. Comp. Physiol., 52 : 611-614.
- JENSEN, P. & S.A. GERLACH, 1976. Three new marine nematodes from Bermuda. Veroff. Inst. Meeresforsch. Bremerh., 16 : 31-44.
- JONASSON, P.M. & F. THORHAUGE, 1976. Population dynamics of *Potamothrix hammoniensis* in the profundal of Lake Esrom with special reference to environmental and competitive factors. Oikos, 27 : 193-203.
- JONASSON, P.M. & F. THORHAUGE, 1976. Production of *Potamothrix hammoniensis* in the profundal of eutrophic Lake Esrom. Oikos, 27 : 204-209.
- KARAMAN, G.S., 1974. Revision of the family Pardaliscidae with diagnosis of genera, distribution of species and bibliography (XLIII Contribution to the knowledge of the Amphipoda). Acta Adriat., 15 (7) : 1-46.
- KARAMAN, G.S., 1974. The genus *Echinogammarus* Stebb. (Fam. Gammaridae) in Italy. Boll. Mus. Civ. St. Nat. Verona, 1 : 71-104.
- KARAMAN, G.S., 1975. 61. Contribution to the knowledge of the Amphipoda. *Ampelisca dalmatina* n.sp., one new ampeliscid from the Adriatic Sea (Fam. Ampeliscidae). «Poljoprivreda I Sumarstvo», Titograd, 21 (1) : 105-112.
- KARAMAN, G.S., 1975. 63. Contribution to the knowledge of the Amphipoda. *Ampithoe helleri* n.sp., a new name for *Ampithoe bicuspis* Heller 1966. Glas. Republ. Zavoda Zast. Prirode-Prirodnjackog Muzeja, Titograd, 8 : 39-41.
- KARAMAN, G.S., 1975. 65. Contribution to the knowledge of the Amphipoda. Two interesting amphipods from the Adriatic Sea, *Iphimedia jugoslavica* n.sp. and *Idunella pirata* Krapp-Schickel 1975. «Poljoprivreda I Sumarstvo», Titograd, 21 (3) : 31-48.
- KARAMAN, G.S. & E. TIBALDI, 1972. Some new *Echinogammarus* species (Amphipoda, Gammaridae) from Italy. Mem. Mus. Civ. St. Nat. Verona, 20 : 325-344.
- KHAYRALLAK, N. & A.M. JONES, 1975. A survey of the benthos of the Tay Estuary. Proc. R. Soc. Edinb., 75B : 113-135.
- KORFF, A., 1974. Untersuchungen zur Ernährung von *Gastrostyla steinii* Engelmann 1862 (Hypotricha, Ciliata). Diplomarbeit Hamburg 108 p.
- KORNICKER, L.S., 1976. Benthic marine Cypridinacea from Hawaii (Ostracoda). Smith. Contr. Zool., 231 : 24 p.
- ✂ KRAEUTER, J.N., 1976. Biodeposition by Salt-Marsh Invertebrates. Mar. Biol., 35 : 215-223.
- ✂ LANDRY, M.R., 1976. The structure of marine ecosystems : an alternative. Mar. Biol., 35 : 1-7.

- LASSERRE, P., 1976. Metabolic activities of benthic microfauna and meiofauna. Recent advances and review of suitable methods of analysis. In : the Benthic Boundary Layer (1976): 95-142. I.N. McCave Ed. Plenum Corporation New York.
- LIEBSCH, H., 1976. Untersuchungen zur Nahrungsselektion von *Stentor coeruleus* (Ehrenberg). Zool. Anz. Jena, 196 (1/2) : 1-8.
- LINDGREN, E.W., 1976. Five species of *Arenopontia* (Copepoda, Harpacticoida) from a North Carolina beach, USA. Crustaceana, 30 (3) : 229-240.
- LITTLE, C. & C.R. BOYDEN, 1976. Variations in the fauna of particulate shores in the Severn Estuary. Estuarine Coastal Mar. Sci., 4 : 545-554.
- LITTLE, C. & W. NIX, 1976. The Burrowing and floating behaviour of the Gastropod *Hydrobia ulvae*. Estuarine Coastal Mar. Sci., 4 : 537-544.
- LIU, A. & R. MORTON, 1976. Nematode biochemistry. XV. Enzyme changes related to glycerol excretion in *Caenorhabditis briggsae*. Comp. Biochem. Physiol., 54 (2B) : 233-238.
- LORENZEN, S., 1976. Desmodoridae (Nematoden) mit extrem langen Spicula aus Südamerika. Mitt. Inst. Colombo-Aleman Invest. Cient. 8 : 63-78.
- LORENZEN, S., 1976. *Calomicrolaimus rugatus* n.gen., n.sp. (Desmodoridae) Nematodes from a sandy beach in Colombia. Mitt. Inst. Colombo-Aleman Invest. Cient., 8 : 79-82.
- MAERTENS, D., 1975. Observations on the life cycle of *Prionchulus punctatus* (Cobb, 1917) (Nematoda) and some culture conditions. Biol. Jb. Dodonaea, 43 : 197-218.
- MARCUS, A., 1974. Contribution to the study of the genus *Amphiascus* Sars (part.), Copepoda, Harpacticoida from the Black Sea. Trav. Mus. Hist. Natur. «Grigore Antipa», 15 : 111-122.
- MARCUS, A., 1975. Observations écologiques sur les copépodes trouvés dans le «Champ de *Phyllophora*» de la Mer Noire. Trav. Mus. Hist. nat. «Grigore Antipa», 16 : 71-75.
- MONNIOT, F. & C. MONNIOT, 1975. Sept espèces d'Ascidiées profondes de Méditerranée. Bull. Mus. natn. Hist.nat., Paris, 3e sér., No330, Zool., 232 : 1117-1134.
- MOORE, C.G., 1976. The form and significance of the hyaline frill in harpacticoid copepod taxonomy. J. nat. Hist., 10 (4) : 451-456.
- NAIR, N.B. & K.C. RAJAN, 1974. Observations on the effect of effluents from a titanium plant on the interstitial fauna. Bol. Inst. Oceanogr. Univ. Oriente, 13 : 107-124.
- NICHOLAS, W.L., 1975. The biology of free-living nematodes. Oxford/London ; Clarendon/Oxford Univ., 219 p.
- NYHOLM, K.G., 1976. Ultrastructure of the spermatozoa in Homalorhagha, Kinorhyncha. Zoon, 4 (1) : 11-18.
- ORIAS, E., 1976. Derivation of ciliate architecture from a simple flagellate : an evolutionary model. Trans. Amer. microsc. Soc., 95 (3) : 415-429.
- OTT, J.A., 1976. Brood protection in a marine free living nematode-with description of *Desmodora* (*Croconema*) *ovigira* n.sp. Zool. Anz., 196 (3/4) : 175-181.
- PAVICH, M.J., 1970. The effect of the respiration of interstitial fauna on the chemistry of interstitial waters in a carbonate sand. Bermuda Biol. Station for Res., Special Publ., No 7 : 154-161.

- POLLOCK, C. & M.R. SAMOILOFF, 1976. The development of nematode behavior : stage specific behaviour in *Panagrellius redivivus*. Can. J. Zool., 54 (5) : 674-679.
- POLLOCK, L.W., 1976. Marine flora and fauna of the northeastern United States. Tardigrada. NOAA Techn. Rep., NMFS Circ., 394 : 25 p.
- POP, V., 1976. *Potamothrix thermalis* (Pop) synonymous with *Potamothrix heuscheri* (Bretscher) (Tubificidae, Oligochaeta, Annelida). Zool. Anz., 196 (3/4) : 196-200.
- RIEMANN, F., 1976. Meeresnematoden (Chromadorida) mit lateralen Flossensäumen (Alae) und dorsoventraler Abplattung. Zool. Jb. Syst., 103 : 290-308.
- ROUGHGARDEN, J., 1975. Evolution of marine symbiosis - a simple cost - benefit model. Ecology, 56 : 1201-1208.
- SAKS, N.M., E.G. KAHN, J.H. TIETJEN & J.J. LEE, 1975. Liquid nitrogen freezing of salt marsh algae and other organisms. J. Phycol. Suppl. 11 : 10 (contains data on Protozoa and Nematoda).
- SÄRKKÄ, J., 1975. Effects of the pollution on the profundal meiofauna of Lake Päijänne, Finland. Aqua Fennica, 1975 : 3-11.
- SCHIEMER, F., 1975. Nematoda. In : C.R. Curds & H.A. Hawkes (eds) : Ecological aspects of used-water treatment. London, Academic Press, spec. pp. 269-288. (this is a valuable quantitative account on the ecological significance of saprobiontic nematodes)
- SHEALY, M.H., Jr. & B.B. BOOTHE, Jr., 1975. A simple method for sieving benthic macrofauna samples aboard ship. J. Elisha Mitchell Sci. Soc., 91 : 31-34.
- SIEBURTH, J. McN., 1975. Microbial seascapes. University Park Press, Baltimore, 252 p.
- SOPOTT-EHLERS, B. & P. SCHMIDT, 1975. Interstitielle fauna von Galapagos. XIV. Polycladida (Turbellaria). Microfauna Meeresbodens, 54 : 193-222.
- SOYER, J., 1976. Recherches sur la faune mésopsammique dans l'archipel des Kerguelen. CNFRA, 39 : 107-141.
- SOYER, J., 1976. Premières données sur les Copépodes Harpacticoïdes des eaux souterraines littorales de l'Archipel des Kerguelen. Taxinomie et biogéographie. CNFRA, 39 : 143-151.
- STEELE, J., 1976. The role of predation in ecosystem models. Mar. Biol., 35 : 9-11.
- STURHAN, D., 1975. Ergebnisse der Forschungsreise auf die Azoren 1969. Internationales Forschungsprojekt Makaronesischer Raum. VII Neue Feststellungen über Verbreitung und Oekologie von *Stenonchulus troglodytes* (Nematoda, Enoplida). Bol. Mus. Municip. Funchal, 29 : 12-17.
- THIEL, H., 1976. Biologische Tiefseeforschung. Universitas, 31 : 835-844.
- TIETJEN, J.H., 1976. Distribution and species diversity of deep-sea nematodes off North Carolina. Deep-Sea Res., 23 (8) : 755-768.
- TILBY, M.J., 1975. Nematode ageing. Automatic maintenance of age synchrony without inhibitors. Exper. Gerontology, 10 (3) : 312-323.
- TONGIORGI, P., 1975. Two interesting Macrodasyiodes (Gastrotricha) from the Coast of Tuscany. Boll. Zool., 42 : 275-278.
- TSALOLIKHIN, S.Ya., 1975. A case of bivulvar hermaphroditism in *Tobrilus bekmanae* (Nematoda, Enoplida). Zool. Zh., 54 : 1084-1085.

TSALOLIKHIN, S.Ya., 1976. Zur Kenntnis der gattung *Tripyla* (Nematoda, Tripyliidae) (in Russian). In : O.A. Skarlato (ed.): *Gidrobiologischeskije issledowanija samoochistschenija wodojemow* (this is : Hydrobiological investigations on the self purification of waters). Spornik statej, Leningrad, Akad. Nauk CCCP Zool. Institut spec. : 134-140.

TUEMPLING, W. von, 1972. A manometric method for determining the autotrophic bioactivity. *Forsch. Wasserchem. Grenzgeb.*, 14 : 205-213.

TYLER, S., 1976. Comparative ultrastructure of adhesive systems in the Turbellaria. *Zoomorphologie*, 84 (1) : 1-76.

WASILEWSKA, L., 1975. Free-living nematodes as disease factors of man and his crops. *Inter. Environ. Studies*, 7 (3) : 201-204.

WEFER, G., 1976. Umwelt, Produktion und Sedimentation bentischer Foraminiferen in der westlichen Ostsee. Rep. Sonderforsch. bereich 95, Wechselwirkung Meer-Meeressboden. Univ. Kiel, No 14.

WENZEL, F. & H. LIEBSCH, 1975. Quantitative untersuchungen zur Nahrungsaufnahme von *Stentor coeruleus* Ehrenberg. *Zool. Anz. Jena*, 195 (5/6) : 319-337.

YAMANISHI, R., 1976. Interstitial polychaetes of Japan. I. Three new pisionid worms from western Japan. *Publ. Seto Mar. Biol. Lab.*, 23 (3/5) : 371-385.

YOUNG, J.O., 1976. New genus in order Catemelida Meixner 1924 (Platyhelminthes-Turbellaria) from Kenya, East Africa. *Zool. Anz.*, 196 (3/4) : 189-195.

YOUNG, J.O., 1976. Systematic studies on limnic *Macrostomum* species (Turbellaria, Macrostomida) from East Africa. *Zool. Scripta*, 5 (2) : 49-60.

YOUNG, J.O. & B.M. Young, 1976. First records of 8 species and new records of 4 species of freshwater microturbellaria from East Africa, with comments on modes of dispersal of group. *Zool. Anz.*, 196 (1/2) : 93-108.

3. Addition to the Bibliography of the Interstitial Ciliates

by

Eike Hartwig

Zoological Institute and Zoological Museum
University of Hamburg, D-2000 Hamburg, FRG

Published so far : PSAMMONALIA 24 – Bibliography of the Interstitial Ciliates
PSAMMONALIA 27 – First addition to the Bibliography
PSAMMONALIA 31 – Second addition to the Bibliography

Legend regarding contents of papers :

- (B) Biology, morphology
- (D) Distribution, Biogeography, Ecology
- (G) General and review
- (K) Key
- (N) References with no species designation
- (O) Original description (s)
- (S) Systematic, Taxonomy.

AGAMALIEV, F.G., 1975. A new species of ciliates (Hypotrichida) from the Caspian Sea. *Zool. Zhurnal*, 54 : 1246-1248. (in Russian ; English summary). (O)

AGAMALIEV, F.G., 1975. Infusorians off the Western Coast of the Middle Caspian Sea. *Okeanologia*, 15 : 302-306. (in Russian ; English summary). (D)

AGAMALIEV, F.G. & R.M. BAGIROV, 1975. Diurnal vertical migrations of microbenthic planktonic and periphytonic ciliates of the Caspian Sea. *Acta Protozool.*, 14 : 195-218 (in Russian ; English summary). (D)

BICK, K., B. BRESK & P. SPITTLER, 1973. Zuchtversuche an einigen Protozoen und Evertebraten aus eutrophierten Boddengewässer. *Wiss. Zschr. Univ. Rostock*, 22 : 693-695. (D)

BROWN, P.J., 1973. Interstitial marsh ciliates. *J. Protozool.*, 20 (suppl.) : 5. (G)

CORLISS, J.O.: 1975. Nuclear characteristics and phylogeny in the Protistan phylum Ciliophora. *Bio Systems*, 7 : 339-349. (G)

CURDS, C.R., 1975. A guide to the species of the genus *Euplotes* (Hypotrichida, Ciliatea). *Bull. Brit. Mus. (Nat. Hist.)*, 28 : 1-61. (O, S)

DAUBER, M., J.A. von OERTZEN & G. SCHLUNGBAUM, 1973. Untersuchungen zur Toxizität quecksilberhaltiger Verbindungen auf Brackwasserorganismen der Darss-Zingster Boddenkette. *Wiss. Zschr. Univ. Rostock*, 22 : 697-706. (D)

DEROUX, G. & C. FAIDY, 1966. Imprégnations rapides à la nigrosine applicables à la micro-écologie des surfaces. *Hydrobiologia*, 27 : 39-64. (G)

ELLIOTT, P.B. & S.S. BRAMFORTH, 1974. Nutritional diversity in a brackish interstitial sulphide biome. *J. Protozool.*, 21 (suppl.) : 85. (D)

ELLIOTT, P.B. & S.S. BRAMFORTH, 1975. Interstitial protozoa and algae of Louisiana salt marshes. *J. Protozool.*, 22 : 514-519. (D)

HUTNER, S.H. & J.O. CORLISS, 1976. Search for clues to the evolutionary meaning of ciliate phylogeny. *J. Protozool.*, 23 : 48-56. (G)

- LASSERRE, P., 1976. Metabolic activities of benthic microfauna and meiofauna (Recent advances and review of suitable methods of analysis). In : The benthic boundary layer (ed. : J.N. McCave) : 95-142. (D, G)
- NAGEL, H.D., P. SPITTLER, J.A. von OERTZEN & R. KREUTZMANN, 1973. Benthogener Phytodetritus eutrophierter Küstengewässer als Energiequelle für Sekundärproduzenten. Wiss. Zschr. Univ. Rostock, 22 : 1129-1133. (D)
- NAIR, N. & K.C. RAJAN, 1974. Observations on the effect of effluents from a titanium plant on the interstitial fauna. Bol. Inst. Oceanogr. Univ. Oriente, 13 : 107-124. (D)
- PETRAN, A., 1975. Données sur la distribution des Ciliés psammobiontes dans la profondeur du sédiment. Rapp. Commn int. Mer Méditerr., 23 : 139-140. (D)
- PFANNKUCHE, O., H. JELINEK & E. HARTWIG, 1975. Zur Fauna eines Süßwasserwattes im Elbe-Aestuar. Arch. Hydrobiol., 76 : 475-498. (D)
- RAIKOV, I.B., 1975. Cytoplasmic fine structure of the lower holotrichous ciliate *Tracheloraphis prenanti*. Zitologia, 17 : 739-747 (in Russian ; English summary). (B)
- RIEGER, R.M. & W. STERRER, 1975. New spicular skeletons in Turbellaria, and the occurrence of spicules in marine meiofauna (Part II). Z. zool. Syst. Evolut.-forsch., 13 : 249-278. (G)
- SEHACHAR, B.R., K.N. SAXENA & H. GIRGLA, 1971. Some factors governing feeding behavior of *Homalozoon vermiculare* (Ciliophora, Holotricha). J. Protozool., 18 : 90-95. (B)