



NEWSLETTER
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OF MEIOBENTHOLOGISTS

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P S A M M O N A L I A

Newsletter of the International Association of Meiobenthologists

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EDITORIAL

The Executive Committee has recommended that Dr. Jacques Soyer become the next Treasurer of the Association. His term of office would commence January 1, 1976 and continue to December 31, 1977, running concurrently with the term of newly elected Chairperson and Editor of PSAMMONALIA, Dr. Jeanne Renaud-Mornant. Members wishing to comment on the Soyer nomination should contact the Editor. Should I not receive a 51% negative vote from the membership, I will consider Dr. Soyer duly elected.

The two-year terms of Executive Committee members Günter Arlt, William D. Hummon and Wilfried Westheide expire on 31 December 1975. The membership has nominated candidates for these positions. Please vote on the ballot on page 5 of this issue.

Reminder to U. S. members - Since the officers of the Association will not be in the United States after 31 December 1975, you may wish to pay your 1976-1977 dues in advance. Once the Treasurer's office moves to another country, all U. S. members will be required to send their dues via International Money Order. To alleviate the problems associated with currency conversion The Association is willing to accept dues in advance for 1976-77 (\$6.00). Should you want to pay in advance, please make your check payable to "Association of Meiobenthologists" and send it to John Tietjen by 15 October 1975. Dr. Tietjen's address is on page 2 of this issue.

Bruce C. Coull
Bruce C. Coull
Editor

FINANCIAL REPORT

Credits

Balance on hand (prior to PSAMMONALIA #28)	\$735.91
Dues & contributions received, minus bank charges (4/11/75 - 7/15/75)	<u>225.09</u>
TOTAL	\$961.00

Debits

Cost of PSAMMONALIA #28	<u>\$128.05</u>
TOTAL	\$128.05

BALANCE ON HAND, 7/15/75	\$832.95
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John H. Tietjen
Treasurer

IN MEMORIUM

BERTIL SWEDMARK
1918-1975

The meiofauna community lost a great leader in late June 1975 and it is with deep regret that we must report Professor Swedmark's death. His untimely passing robbed the worldwide meiofauna community of an outstanding scientist and marked personality. In good part, meiofauna research is at its present state, due to Bertil Swedmark's encouragement, understanding, and contributions. Let us continue the excellence that Professor Swedmark exemplified in his research and inspired in others.

Bruce Coull

BERTIL SWEDMARK - A PERSONAL APPRECIATION

It was with a deep sense of loss that I heard of Bertil's death shortly after midsummer. I first met Bertil in 1959 when, as a postgraduate student, I was (very wisely) sent to Kristineberg in order to "learn something about interstitial fauna." I had expected a rather reserved greeting from a tall, elderly and probably dark-suited academic; I got a warm rather fatherly welcome from someone whose dress and appearance irresistably brought to mind a cross between the French Navy and Winnie the Pooh. It speaks well of Bertil's instruction and the general ambience he spread around Kristineberg that I was able to return as a fairly competent instructor for a working honeymoon at the 1961 Nordic Marine Course on interstitial sand fauna. I returned to Kristineberg with a growing family on several subsequent occasions.

In some special way, Kristineberg in Bertil's care became a spiritual home where both scientific and cultural renewal could be found. I know that many shared this feeling for Bertil and Marthe founded an ever-growing international family of friends and in a very real way their home was also ours. By death we lost a mentor, a colleague and a friend but by his life we gained in knowledge, wit and wisdom. There are too many happy memories to grieve for long.

Bertil, adieu.

Pat Boaden

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NEWS FROM MEMBERS

P.J.S. BOADEN, Queen's University of Belfast: At present I do not find much time for research since I am responsible for the administration and development of the Marine Biology Station (see change of address notice) as well as some teaching in the main part of the University. I have various papers hopefully awaiting completion this summer with data from the Netherlands (1967), Scotland (1971), and Sweden (1974); these are respectively mostly distributional, descriptive and behavioural. My main interest now lies in the thibios, that is in the biota and environment of anaerobic substrata. Whilst I find some time to consider the theoretical implications, CATHY MAGUIRE does most of the active research under a NERC funded project on the chemical and respiratory ecology of marine meiobenthos. Records of population and environmental fluctuation over a complete year are now available for one beach with additional information from five others. Biochemical work has demonstrated CO₂ fixation and anaerobic respiration in the gastrotrich Thiodasys sterreri. BOB BLEAKLEY is moving to a conservation job but hopes to submit his Ph. D., which contains computer analyses of meiofauna in various Northern Ireland beaches, in the near future. The location and topics for the 1976 EMBS symposium will be announced later this year - for the moment may I just say I hope to meet many of you in the other part of Ireland next year.

A. FAUBEL, Universität Hamburg: I have been a member of the benthos group at the Zoological Institute & Museum Hamburg since the beginning of 1975, working on faunistics and systematics of marine and limnic interstitial Turbellaria. My investigations attempt to delineate the structure and dynamics of intra- and interspecific associations. I am particularly concerned with: 1) abiotic factors (temperature, salinity, oxygen diffusion, redox potential, grain size, water content, organic content); 2) biotic factors (interactions between different benthic species, food-chains); 3) annual fluctuations of abundance as well as horizontal and vertical migrations, and population dynamics; 4) productive role of interstitial Turbellaria (measurement of biovolume, biomass and determination of abundance); 5) laboratory culturing of various species and their dependence on specific abiotic factors; and 6) measuring oxygen consumption.

R. GELDER, University of Leeds: My initial interest in meiofauna centered upon the nutrition of archiannelids with particular reference to the food, feeding mechanisms, sequence and some of the enzymes involved during digestion in Dinophilus gyrocolliatus, Protodrilus adhaerens and Nerilla antemata. During the nutritional study of the latter species a historical, zoogeographical and habitat substrate preference survey was also compiled.

Currently, I am investigating the fine structure of the gut and sequence of digestion in selected ecto-commensal chaetopods and the aberrant free-living polychaete Ctenodrilus serratus. Concurrent to the main study, the morphology of the nervous system in Histriobdella homari (ecto-commensal on the common lobster, Homarus vulgaris and H. americana) and Ctenodrilus serratus were redescribed employing enzyme histochemical techniques and the results discussed in support of the individual species phylogenetic location within the class Polychaeta. This work will be submitted for Ph. D. supervised by Dr. J. B. Jennings.

S. A. GERLACH, Helsingør: I have received a two-year leave from my duties as director of the Institut für Meeresforschung in Bremerhaven, Germany, to work as professor of Marine Biology at Copenhagen University. My station is the Marine Biological Laboratory in Helsingør (Elsinore). Though I am still engaged with some consultant, editorial and supervising responsibilities in Germany and have to do some teaching at Copenhagen University, I am going to start some field and experimental work on meiofauna ecology in Helsingør.

Since February 1975, PREBEN JENSEN who graduated under Professor De Coninck in Gent, Belgium, with a thesis on North Sea nematodes has been working with me. He will further specialize in marine nematodes; we are well aware of the fact that many species described by Carl Allgén from Øresund region need confirmation and redescription. In a short time MARGARETE HENDELBERG from Uppsala, Sweden will strengthen our nematologist team in Helsingør.

PREBEN JENSEN, Helsingør: I am working on my Ph. D. research under the guidance of Dr. S. A. Gerlach. My work involves an analysis of a free-living marine nematode fauna round Hornbæk (northern part of Øresund). Besides determining the species a special effort will be made on the Allgén species from this area. Further points of interest in this research are sample size and numbers, density, annual variation, patchiness and their mobility. The research program is included in the Hornbæk project (an energy-budget investigation on the bottom fauna in the northern part of Øresund).

In the near future 2-3 papers will be published on rare and new free-living marine nematodes, which material originates from my Belgian M.Sc. - thesis under the guidance of Dr. L. De Coninck, State University of Gent.

J. OTT, Universität Wien: 1) Nematode - Microorganism-Associations: There is an abundance of nematodes which fairly regularly are found in associations with characteristic microorganisms. They are mostly found in sediments which are anoxic or at least are overlying anoxic layers as in sheltered sand flats or in the subtidal. Almost all these nematodes belong to the Order Desmodoroidea (e.g. Monoposthia, Metachromadora, Desmodora). The closest association is found in the family Stilbonematinae. In all members of this group the whole body is covered by microorganisms of very characteristic shape and arrangement, ranging from coccoid forms contained in a gelatinous sheath and being 1 x 2 μm in size, rod-shaped forms with round or pointed ends being up to 10 μm long, crescent-shaped cells attached on both ends and forming a double spiral around the nematode body, to filaments up to 150 μm long. Electron micrographs through these organisms show that they are akaryotic, devoid of any photosynthetic lamellae and with the typical cell wall structure of gram positive bacteria. The same organisms which are found on the cuticle can be commonly found also in the digestive tract and appear to constitute at least part of the nematodes diet. Besides collecting Stilbonematids wherever I can get them - and they are everywhere in the right places - which should eventually lead to a monograph of this peculiar subfamily (I now have approximately 30 new species including new genera and about a dozen distinguishable types of microorganisms). I would like to find out the contribution of the worm toward the association. Attempts to culture the microorganisms have failed so far. Suggestions by microbiologists are welcome. Beside this, GUNDA RIEGER and I will try to find an explanation for the abundant epigrowth on desmodorids on the ultrastructure level, comparing their cuticle with other marine nemas. A second type of association has been found in what appears to be a member of the Siphonolaimidae lacking a mouth, esophagus and gut, but instead is filled with bacteria where the gut is supposed to be.

2) In-situ Oxygen Uptake of Marine Sediments: During the last summer I conducted measurements of the in situ oxygen uptake of various marine sediments from just below the tide mark to 25 m together with R. MACHAN. Compartmentalization of the oxygen uptake revealed, that the meiofauna very constantly accounted for 1.5-2% of the total oxygen uptake, irrespective of the absolute amount. Preliminary calculations show that the total amount of meiofauna respiration is correlated to the sum of bacterial plus diatom activity, which together again occupy a very constant fraction of the total, although their relative contribution may change (more bacteria in one place, more diatoms in others).

E. RUPPERT, University of North Carolina: I have just submitted for publication a monograph of the Gastrotrich family Xenotrichulidae which includes a presentation of morphological data from the family, a classification and phylogeny of the family, a detailed discussion of characters in the suborder (Paucitubulatina), a recognition of the major lines in the suborder, a definition of an archetypal form in the suborder and a comparison of that archetype with the structure of Neodasys (Multitubulatina). The distribution part of the paper includes data from 3 beaches (one in North Carolina and 2 on the west coast of France) followed by a discussion of zonation patterns, parallel distribution patterns, the cosmopolitan species problem and the distributional radiations of the xenotrichulid groups.

I am working currently on an NSF Postdoctoral Fellowship with REINHARD RIEGER and WOLFGANG STERRER. We will be attempting to culture soft-bodied forms of meiofauna and we will investigate problems of dispersal, population variability and speciation in the Gastrotricha, Turbellaria and Gnathostomulida.

ANNOUNCEMENTS

Publications:

SMITHSONIAN CONTRIBUTIONS TO ZOOLOGY, number 76 (*Proceedings of the First International Conference on Meiofauna*) and number 78 (*A Manual for a Study of Meiofauna*) are now out of print and therefore, no longer available.

Announcements (cont.)

Meetings:

10th EUROPEAN SYMPOSIUM ON MARINE BIOLOGY, 17-23 September 1975, Ostend, Belgium. Themes: (1) Research in Mariculture at Laboratory and Pilot Scale; (2) Population Dynamics of Marine Organisms in Relation with Nutrient Cycling in Shallow Waters. For further information contact:

Symposium Office
 Instituut voor Zeewetenschappelijk Onderzoek
 Prinses Elisabethlaan 69
 8401 Brende, Belgium

ESTUARINE AND BRACKISH-WATER SCIENCES ASSOCIATION, symposium on "The role of meiofauna in estuaries," 23-25 September 1975, University of Durham, Durham, England. On 24 September, the topic will be "General Aspects" chaired by J. S. Gray with talks by S. M. Coles, A. J. Green, J. R. Bryan, P. J. Williams, A. L. S. Munro, J. Parker, C. Maguire, J. G. Anderson, E. A. McNair, P. J. S. Meadows, and D. C. G. Smith; and on the 25th the session, chaired by A. D. McIntyre entitled "Ecology of Meiofauna" includes papers by J. S. Gray, F. Hopper, M. Kendall, I. Parker, R. M. Warwick, J. R. Date, R. J. Bleakley, D. J. Murison, D. Geddes, A. D. McIntyre, P. J. Miller, and P. Evans.

Persons wishing further information about the meeting, should contact:

Dr. C. R. Boyden
 Imperial College of Science and Technology
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 Prince Consort Road
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THE MEIOFAUNA SPECIES IN TIME AND SPACE, 24-30 September 1975, Bermuda. Paper presentation is by invitation only. There are a few spots open for non-paper presenting participants. For additional information contact:

Dr. Wolfgang E. Sterrer
 Bermuda Biological Station
 St. George's West
 Bermuda

3rd INTERNATIONAL ESTUARINE RESEARCH CONFERENCE, 7-9 October 1975. Galveston, Texas USA. For further information contact:

Dr. Andrew J. McErlean
 Office of Research and Development
 U. S. Environmental Protection Agency
 Washington, DC 20460 USA

Limericks: Two limericks in honor of PAT BOADEN, author of the Limericks appearing in PSAMMONALIA No. 27.

Whilst weakened by Arcachon ale,
Some muses on Pat did prevail.
With surprise and delight,
He found he could write.
Now he's planning to answer his mail.

(Derek Murison)

Our good friend and colleague Pat Boaden,
With words is cleverly embolden'd.
He decided to try us,
With the word "thiobios,"
And to this reduced all benthos, we're tolden.

(Bill Hummon and the
"Arcachon Committee")

RECENT LITERATURE

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