PSAMMONALIA

Newsletter of the International Association of Meiobenthologists

NUMBER 95 February 1992

Newsletter of the International Association of Meiobenthologists

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production editor : Mel Austen

Dues are £5 per year payable to Mike Gee.

"This newsletter is not deemed to be a valid publication for formal taxonomic purposes"

EDITORIAL

Although most of us try not to admit it, the fact is that we are strongly dichotomised into "ecologists" and "taxonomists/ systematists". OK, many of us work in both these disciplines, but our hearts really lie with one or the other. In my opinion, the lack of an effective interface between these two is the single greatest hindrance to the progress of meiobenthic research. Each group is intimately dependent on the other, but the dialogue is simply not working. Perhaps an understanding of what each requires from the other would help, and so I will attempt to set out the case from both points of view.

It is easiest for me to deal with the ecologists requirements, because I like to think that I am one. Our obvious demand from the taxonomists is that they provide us with a simple and effective means of identifying our animals down to a taxonomic level which is ecologically relevant. The sad fact is that for all but a very few taxa in a very few parts of the world this is impossible because the relevant taxonomic guides do not exist. The specialist may have box–files covering several metres of shelves containing carefully catalogued and cross referenced reprints with titles like "A review of Paranannopidae (Copepoda: Harpacticoida) with claviform aesthetascs on oral appendages", but such esoteric information is usually inaccessible and incomprehensible to the ecologist who simply wants to put names to some of the commoner species in his samples. (It seems that I can be as controversial as I like in these Editorials because IAM members never seem to react: maybe very few actually read them). No, what the ecologist wants to know is "What does a member of the Paranannopidae look like?"; "What the hell is a claviform aesthetasc?"; "Are all these species ecologically similar (habitat preferences, feeding behaviour etc.)?"; "Do I really need to separate these species?". Now there is a school of thought that will argue that it is not possible to produce simple and popular guides and keys to the identification of meiobenthic taxa before the detailed taxonomy and systematics has been properly worked out in papers like the above. This is palpable nonsense because this happy state of affairs will never arrive, the keys will never get written, and consequently the ecological work will never get done.

Of course, we don't expect anybody to be able to write "A young persons pictorial guide to the gastrotrich species of South America". For a start very little taxonomic work has been done there (as far as I know), and the vast majority of the species are probably still undiscovered. But first we need to consider the question of whether it is necessary to separate taxa down to the species level or whether, for some purposes at least, a higher taxonomic level such as genus or family will suffice. Certainly for the community–ecologist studying pollution related problems identification to genus or family level appears to result in very little loss of discrimination between samples from sites subjected to different levels of perturbation (e.g. Heip et al., 1988. Mar. Ecol. Prog. Ser. 46: 171–180). This implies (arguably) that taxonomically related species are also ecologically similar. Howard Platt and myself spent many hours over (too many) glasses of rum at a Workshop in Bermuda thrashing out problems concerning the match or mismatch between taxonomic and ecological groupings of species and the concept of what we decided to call "operational taxonomic units", i.e. taxonomic groups that were ecologically coherent. This didn't really come to much, but at least we decided that the operational units for most purposes were above the level of species. Now fortunately most meiobenthic genera have a cosmopolitan distribution. For the nematodes, which is the group I am most familiar with, I would be prepared to bet any money that a survey of any new and unexplored coastal area in the world would not come up with more than 5% of genera which were not already well known and described.

Easily useable keys to the world genera of all meiofauna groups are urgently required and do not constitute an unrealistic goal in the medium term. Howard and myself have attempted this for the marine nematodes (Synopses of the British Fauna, Nos. 28 & 38). We started by asking ourselves how guide books were written which enabled the layman to identify more popular groups of organisms such as birds or flowers. Were they expected to work through a dichotomous key... "Bill longer than head or bill shorter than head: Bill curved or straight: Tail longer than body or tail shorter than body ... damn, its flown behind a tree!". Of course not. They look through pages of pictures until they come across one that looks right. They are evaluating visually a number of different characters at once, and often using what ornithologists call "jiz": it belongs to that species because it looks like that species, but the identification is not based on any formal evaluation of characters. So Howard and I decided to use entirely pictorial keys which we tested out as sketches on beer–mats on rainy evenings in Bremerhaven (there were many). The challenge was something like "Draw me a caricature of *Cyatholaimus* which I can recognise as *Cyatholaimus* and could not be anything else". These carica-

tures (smartened up somewhat) formed the basis of the wholly pictorial keys which can be used in the same way as a bird–book or flower–book. "Yes," you will say, "it's all very well for those arrogant so–and– sos Platt and Warwick to sit back smugly and say 'If we can do this for nematodes, why can't the rest of you do it for the other groups?'. But our group is much more difficult and certainly is not amenable to this wholly pictorial treatment." I don't believe it. I think that Howard and I were able to take this pragmatic approach because we were ecologists and approached the problem from the standpoint of the user, not of the esoteric taxonomist who is concerned with the significance of features which are scarcely visible under the microscope. These taxonomists must try to stand back and completely rethink the approach they take to the communication of their information to ecologists. They must drag themselves down to our level. Please try. We all need it. The gauntlet has been thrown down.

Now I will put on a taxonomist's hat. "Why should we do this? Surely catalogueing, classifying and unravelling the evolutionary pathways of the diversity of biological entities on Earth are in themselves worthwhile scientific objectives. We don't do our research solely as a service to ecologists". I think the answer to this is not a scientific one, but is partly pecuniary and partly philanthropic. Whether we agree with the rationale or not, it is a fact that the sources of funding for purely taxonomic research are dwindling in favour of research which offers more immediate and material benefits to mankind. In biology this means ecology or biotechnology. Now the biotechnological potential of meiobenthos has hardly been touched on, so this leaves only ecology. The only grants committee I have ever sat on was that of the UK Natural Environment Research Council, which received many requests for the support of taxonomic work. The criterion for support was (and probaly still is) "does the lack of taxonomic information on this group of organisms severely hamper high priority ecological research?" Many other funding agencies must be taking this stance, and I suggest that the inclusion of the production of easily useable guides to meiobenthic taxa in any grant proposal will give it a much stronger chance of success. The philanthropic aspect is self–evident; if you produce these keys and guides it is the best possible service you could be doing for meiofauna research in general. Your ecological colleagues will love you. Personally, if I meet anyone who has produced a key to any meiofaunal group which I find easy to use I will buy them a large rum if we are in Bermuda, or if it happens to be in Bremerhaven, a beer.

Richard Warwick

TREASURERS REPORT

A statement of the accounts for 1991 is enclosed in this issue of Psammonalia (on page 5). As I predicted in my last financial report, the Association has just about broken even this year. This has been achieved through (a) increased income from subscriptions as more members renew their subscription at the new rate and (b) considerable savings having been made on the cost of postage for the dispatch of Psammonalia through the introduction of new printed matter rates in the U.K. The situation would have been even better but for an increase in Value Added Tax on printing costs and the production of the 25 year Anniversary issue (Psammonalia No. 94) which was almost twice the normal size. However, as the newsletter is the raison d'etre of membership for most people, the committee makes no apology if occassionally it has to be subsidised out of our reserves.

Mike Gee

PAYMENT OF SUBSCRIPTIONS BY MEMBERS IN THE U.S.A.

Many thanks to **Bob Feller** who, last year acted as an intermediary for the collection of subscriptions for our American members, many of whom find it difficult to obtain foreign currency. He has agreed to act in the same capacity this year.

Therefore, the members listed below may pay their subscription ($10 per annum) by sending a cheque **WHICH MUST BE MADE OUT TO BOB FELLER PERSONALLY for $10 or $20** to:

Bob Feller, Belle Baruch Institute for Marine Science, University of South Carolina, Columbia, SC 29208, USA.

In order to make his job as easy as possible and to show your appreciation of his services, I would ask you to PAY YOUR SUBSCRIPTION WITHIN ONE MONTH of receiving this newsletter.

The following US members subscriptions are now due:

K. Banse; S. Bell; J. Bernhard; L. Bush; C. Calloway; A Carey; T. Chandler; J. DeMartini*; D. Doe; J. Ferris; V. Ferris; S. Findlay*; K. Foreman; J. Friauf; J. Frithsen; S. Gelder; M. Gowing; C. Gradek*; C. Hakenkamp; C. Hermans; R. Higgins; R. Kathman; J. Kern*; J. Landingham; E. Lindgren; J. Litton; R. Pennak; E. Powell; D. Rud-

nick*; B. Sen Gupta; J. Sharma*; S. Shimmel; T. Shirley; C. Simenstad; J. Smith; D. Strayer; A. Tarjan; J. Toal*; A. Todaro; P. Turner*; K. Walters; M. Weiss; J. Williams–Howze*; R. Woods*.

* also not paid for 1991.

Mike Gee

STATEMENT OF ACCOUNTS – JANUARY 1 TO DECEMBER 31 1991

1990				1991
	INCOME			
£3066.81	Balance brought forward			£2543.77
£707.58	Subscriptions		£987.94	
£85.08	Interest on deposits		£63.72	
£27.00	Sundries		£2.29	
				£1053.95
£3886.47	Total income			£3597.72
	EXPENDITURE			
	Psammonalia No. 91	Printing	£91.61	
		Postage	£154.59	
£344.42				£246.20
	Psammonalia No. 92	Printing	£100.24	
		Postage	£148.85	
£304.41				£249.09
	Psammonalia No. 93	Printing	£79.14	
		Postage	£126.00	
£349.69				£205.14
	Psammonalia No. 94	Printing	£162.54	
		Postage	£218.79	
£344.18				£381.33
£1342.70	Total expenditure			£1081.76
	BALANCE CARRIED FORWARD			**£2515.96**

NEW OR REINSTATED MEMBERS

Nicoletta Villano
Plymouth Marine Laboratory
Prospect Place
West Hoe
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UK

"I have studied at the University of Padua, where I took my degree in biology discussing a thesis on marine biology. After one year spent working on the macrobenthic component of the Lagoon of Venice, I'm now involved in the UNESCO project 'Venice Lagoon Ecosystem'. In this framework, I'm carrying out research on meiobenthos, determining the community composition, biomass and its seasonal variations in response to the environmental changes induced by the green alga *Ulva*. Massive blooms of *Ulva* occur in the summer months, and their decomposition in late summer causes severe deoxygenation problems throughout the Venice Lagoon.

The further objective of this study will be determination of the role which meiobenthos plays in controlling the rate of decomposition of *Ulva*.

The work is being carried out at the Plymouth Marine Laboratory under the supervision of Richard Warwick.

Wayne Evans
Dept. Zoological & Biomedical Sciences
Ohio University
Athens, OH 45701
USA

"After a very long absence I would like to reinstate myself as a member. My current research is focused on the taxonomy and biogeography of the marine Gastrotricha of the east coast of the U.S., principally Florida but extending northwards in coming years. I worked initially in Italy this summer with Antonio Todaro on the marine gastrotrichs of the northern Adriatic Sea from Venezia to Trieste. My headquarters were at the University of Modena where I was kindly supported by Paolo Tongiorgi and Maria Balsamo.

Jack Farmer
NASA–Ames Research Centre
MS 239–4
Moffett Field, CA 94035,
USA

Mohammad S. Hariri
Faculty of Marine Science
King Abdulaziz University
Jeddah
SAUDI ARABIA

Ji–wang Lee
Department of Marine Biochemistry
Ocean Research Institute
University of Tokyo
1–15–1 Minamidai, Nakano–Ku,
Tokyo 164
JAPAN

"I am a graduate student at the Ocean Research Institute and interested in material cycling of the flocculate layer.

Nickolas Schizas
Juneau Centre for Fisheries
and Ocean Sciences
11120 Glacier Highway
Juneau, Alaska 99801
USA

"I started my masters thesis with Tom Shirley and am interested in the abiotic and biotic factors that may inflence the sex ratio of harpacticoid copepods.

Marcia Shofner
Baylor University Biology Department
P.O. Box 97388
Waco, TX76798–7388
USA

"I am a graduate student in the process of applying to PhD programs that emphasize work on meiofauna. I have worked some with tadigrades and became fascinated with these small invertebrates and would like to be involved with studying their interactions. I am therefore interested in a PhD program with a researcher who specializes in meiofaunal ecology.

Frank Thiermann
Universitat Hamburg
Zoologisches Institut und Museum
Martin–Luther–Platz 3
2000 Hamburg 13
GERMANY

"Having worked for my masters degree under the guidance of Dr. Giere on the meiofauna of a Portuguese beach I am now planning my PhD studies on the thiobios

of shallow water hydrothermal vents. In this point, my main interest is the distribution, composition and ecological and structural adaptations of meiobenthos caused by the hydrothermal vents.

CHANGE OF ADDRESS

Gebhard Kraft
Georg–Clasen–Weg 17
D–2000 Hamburg 62
GERMANY

Hans–U Dahms
University of Waterloo
Department of Biology
Waterloo, Ontario.
CANADA N2L 3G1

"I am here for 1 or 2 years working on Crustacean nauplii.

NEWS FROM MEMBERS

Geoff Hicks reports on his changed circumstances at the National Museum of New Zealand. For the past two years Geoff has been heavily involved in natural history exhibition planning for the new Museum of New Zealand (MoNZ) that will, this year, legislatively amalgamate the present National Museum and National Art Gallery in a proposed new multi–million dollar building on the waterfront of Wellington Harbour. Following a review of departmental and curatorial services in August last year, the organization has been restructured to prepare for the transition to MoNZ. Because of the planning and development work Geoff has been doing recently, he has been presented with the task of formulating and controlling a group of science interpreters, whose role will be to research and develop new natural history exhibitions and education programmes and to market these in a way that increases public interest and access to the natural history of New Zealand. Geoff openly admits to the challenge of this "mid–life" career change, but has negotiated a small proportion of time to be reserved for personal research. He will therefore be retaining links with IAM and will continue to work on Harpacticoid ecology/taxomony as time permits. In terms of formality, Geoff is no longer Curator of Crustacea, but is now titled Manager of Science interpretation.

Franz Riemann from Bremerhaven writes: "**Marion Schrage** retired at the end of 1991. Being an experienced technician who had formerly worked in the field of microbiology she joined the meiofauna group of **Sebastian Gerlach** in the 60s. She then contributed to pioneer studies on life cycles and productivity of marine nematodes, which still appear to stand the test of subsequent examinations. Studies on the importance of nematodes as food for shrimps, and taxonomic contributions followed. Together with me she worked on several aspects of the bionomics of littoral nematodes, whereby her special attention was directed to associations between nematodes and microbes. I hope Marion will enjoy the benefits of the pensioner status.

I am now affiliated to a working group with strong interest in pelago–benthic coupling of biological productivity. There are indications that opportunistic nematodes in the deep sea show a response to seasonal food supply by sedimented phytoplankton detritus. This was found in the North Atlantic and I expect similar conditions to occur in Antarctic waters. The Bremerhaven nematode collection is kept alive and I am continuously updating my taxonomic card files on aquatic nematodes. As a permanent background activity I still work hard to improve the preparation techniques for marine nematodes, because I feel that our taxonomic job would be much easier if the general preservation of nematodes on slides would reach a higher standard.

PSAMMONALIA BIBLIOGRAPHY

Since the editorship of Psammonalia came to Plymouth in 1990 (issue no. 87) we have listed 1047 references to papers in books and journals. At the time of printing these take up 220kb of memory in ASCII format. We would be happy to make these available to IAM members. If you would like a copy of the list please send your request to me in Plymouth with a blank diskette (preferably 3.5 inch) and I will copy the bibliography onto it and return it to you.

For bibliographies prior to No 87 members should contact **John Fleeger**, Zoology Dept, Louisiana State University, Baton Rouge, LA 70803, USA, for information on availability. **Mel Austen**

FUTURE MEETINGS

EIGHTH INTERNATIONAL MEIOFAUNA CONFERENCE (EIMCO),

University of Maryland, College Park, USA. August 9–14, 1992.

Please note the important announcements from **Margaret Palmer** and **Bob Higgins** enclosed in this copy of Psammonalia.

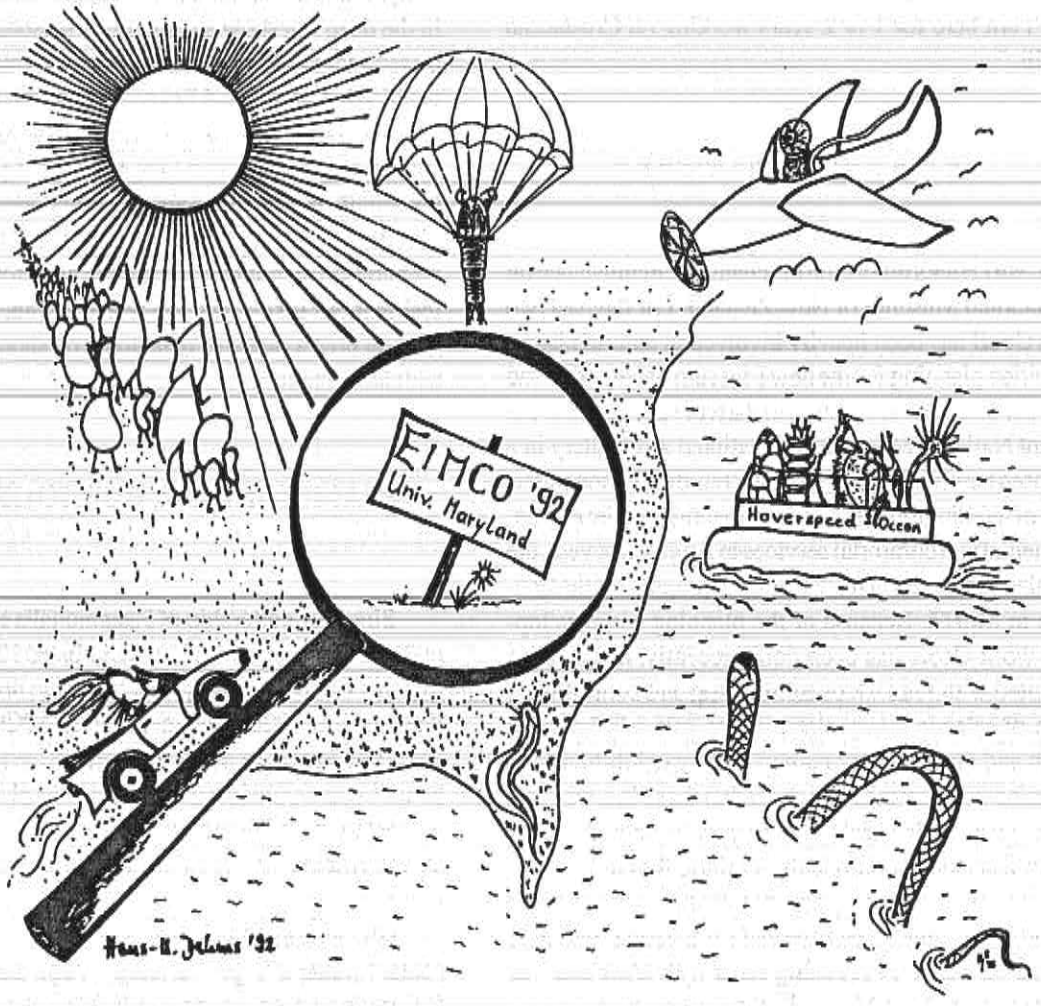
CALL FOR PAPERS FOR SPECIAL EIMCO SESSION – "BIODIVERSITY"

Contributions are invited for the **Biodiversity** Special Session, either full papers or short communications. Subject matter to include biodiversity of meiofauna from given habitats, biodiversity of meiofaunal taxa and techniques for assessing meiofaunal biodiversity.

contact: **John Lambshead**
Department of Zoology,
The Natural History Museum,
Cromwell Road,
London SW7 5BD,
U.K.
telephone: 44 71 938 8731 fax: 44 71 938 9158.

SOCIAL COLUMN

Congratulations to Rony and Kathleen Huys from Gent in Belgium on the birth of their first child, a boy named Cynric, on 10th January 1992.



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