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Dues are £5 per year payable to Mike Gee. See this issue of *Psammonalia* for details

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

EDITORIAL

The production of our first issue of *Psammonalia* has gone a lot more smoothly than I had feared, and we actually met the February deadline! For this I owe thanks to several people. Firstly, John Fleeger eased us into the job very gently by giving us a lot of computer software and, perhaps more importantly, fatherly advice. Secondly, my colleagues Mike Gee and Mel Austen have done much more work than I have in getting things organised. Thirdly, the infrastructure of the Plymouth Marine Laboratory, including secretarial help and assistance with desk-top publishing, has been invaluable. Finally, and less encouragingly, this issue is a bit thin! I suppose this is inevitable with the shift of the editorial office across the Atlantic, but now you all know where we are, please start sending in your news items, meetings announcements, cartoons, limericks etc. *Psammonalia* depends heavily for its Current Literature listing on the Board of Correspondents, but for everything else it depends on YOU! A newsletter such as this is primarily a means of scientific communication between our members, but our triennial conferences are a long way apart and I hope we can use it as a vehicle for maintaining social contact as well. Hence we have initiated a Social Column.

Unlimited space in this issue does, however, give me the opportunity to wax philosophical about the current status of meiofauna research, both here in the UK and elsewhere. Despite the obvious stimulation of our triennial conference in Vienna, which will still be fresh in all our minds, I can't help getting the feeling that we are losing ground. As Gunter Arlt points out in our News from Members section, the number of people working on meiofauna does seem to have dwindled over the last decade or so: I don't think this dilemma is confined to the Baltic Marine Biologists, it appears to be true worldwide. Part of the problem seems to be that we are not as successful with our grant applications as we used to be. During our meiofauna meeting at the Linnean Society in London two years ago, one participant remarked that he was now working in a rather different field because he "could no longer get money to do meiofauna research". I also hear via the "grapevine" that several recent proposals in the USA have not been supported. Those who sit higher up than we do in bio-political decision-making no longer seem to be enamoured with meiofauna research as an important discipline. Recently the UK Natural Environment Research Council (NERC), which is a major employer of environmental scientists including the three of

us at Plymouth, declared "benthic meiofauna" as an area of low priority research, and hence a "unit of redundancy", at the Scottish Marine Biological Association's laboratory in Oban. This resulted in two people losing their jobs. Where are we going wrong?

In my view, the root of the problem lies in our failure to recognise the fact that meiofauna research has come of age. When I first started to work in this field some 25 years ago, everything seemed new and exciting. The only justification then required for working on meiofauna was that this was a newly recognised and potentially important component of the fauna about which virtually nothing was known. Most people hadn't even heard of them. Meiofauna research was in a much earlier stage of development than macrofauna research, and we were doing the kinds of things that macrofauna people had done long ago and would no longer have been acceptable in their discipline. In my own field of community ecology, faunal surveys in which the meiofauna were enumerated according to their major taxa (numbers of nematodes, copepods etc.) were the order of the day. Macrofaunal surveys recording the numbers of polychaetes, molluscs etc. would have been laughed out of court. We were struggling because of the lack of adequate taxonomic literature and of techniques suitable for working with such small animals. Now all that has changed. We have caught up. Everybody knows what meiofauna are (although we may still be debating it!), and we can no longer justify meiofauna research in the terms we used to. Of course, there are still plenty of new and exciting things to find out about the natural history of meiofaunal organisms, but I believe the time has now come to ask not "what can science do for meiofauna?" but "what can meiofauna do for science?".

Rather than simply studying meiofauna for their own sake, they are, in many respects, ideal tools or models for investigating some of the fundamental problems in a number of areas of science. It is in this direction that I feel we should be focusing our efforts to secure better funding and attracting more good young scientists. Ten years ago, two volumes were published entitled "Nematodes as Biological Models" which reviewed, in the editors' words, "research in which free-living nematodes have been used to examine fundamental processes in areas such as genetics, development, nutrition, toxicology, pharmacology, and gerontology". Meiofauna in general can be used in the same way, and the areas of science expanded to include ecology, behaviour etc.

In my own field of community ecology, for example, the meiofauna have so many advantages over the macro-

fauna in addressing some of the fundamental questions that I really wonder why macrofaunal ecologists are so predominant. Field studies are so much easier in that smaller samples are required and we don't have to process them at sea. This means that we can usually get good replication and don't require huge and expensive research ships to work from. Perhaps more importantly, though, we can maintain natural communities of meiobenthos in laboratory mesocosms or microcosms and perform manipulative experiments on them. This is usually not the case for macrobenthic communities, because such experiments cannot be run long enough for realistic changes in community structure to occur (this may take years rather than months), and also recruitment to these communities is precluded because of their planktonic larval phase. Meiofaunal communities can therefore be used as models to examine a number of as yet untested hypotheses in such fields as disturbance-ecology, island biogeography, pollution studies etc. I am sure that people with other special interests can suggest similar applications of meiofauna to their problems. Certainly I no longer regard myself as a meiofauna ecologist, but an ecologist who uses meiofauna as a tool to study some key questions. Maybe this is why I survived NERC's redundancy purge!

In the more applied field, much of our funding comes from the widespread use of the benthic community approach to monitoring the biological effects of pollution. Around oil rigs, for example, benthic community monitoring is mandatory in Norway with a very well defined set of procedures, and it is also done on a voluntary basis by most UK oil companies. But this is only for macrobenthos. The use of meiobenthos would have several advantages. Apart from the ease of sampling alluded to above, the meiobenthic communities have a potentially faster response time, both to initial pollution impact and recovery. The reasons why meiobenthos are not used are, firstly, because our understanding of pollution effects on meiobenthic communities is rather fragmentary (some of the traditional macrobenthic responses such as Species Abundance Biomass (SAB) curves or Abundance/Biomass ratios may be inapplicable and we know rather little about so called "pollution indicator" species). The main reason, though, is that meiofauna are considered to be so difficult taxonomically, and so diverse, that their use in routine pollution monitoring programmes would be prohibitively time consuming (and therefore expensive) and could only be done by experts. We have some way to go before the balance can be properly redressed, but the indi-

cations are optimistic. A recent series of workshops, sponsored by the "Group of Experts on the Effects of Pollutants" (GEEP) of the International Oceanographic Commission (IOC), has attempted to compare pollution effects at various levels of biological organisation from the sub-cellular to the community (including meiobenthos). It was found that the meiobenthos response to pollutants was detectable at lower levels of taxonomic discrimination than the species, i.e. at the generic and family level and also at the level of major taxa. Such community studies could also be completed over the same time-scale as more experimental methods on individual species. What we need to do, then, is develop an "appropriate taxonomy" which will allow non-experts on meiobenthos to identify organisms not to species but to a level commensurate with their needs. This is a major challenge, but I believe a worthwhile objective. We will not convince statutory bodies that meiofauna are useful in the routine pollution monitoring context until we can convince them that the taxonomic problems have been overcome.

Sorry to have been so introspective in my first editorial. We need to have fun as well as earn a living, and I promise not to be so serious next time.

Richard Warwick

FROM OUR TREASURER

SUBSCRIPTIONS.

From January 1st 1990, the new annual subscription for *Psammonalia* will be £5 (five pounds sterling). We are aware that this represents a slight increase over the \$5 U.S. charged during the last three years. However, as the cheapest method of payment for members outside the U.K. is by sending cash by registered mail, the lowest denomination paper money in sterling is the £5 note and this is why the subscription has been set at this level.

You will find your subscription status on the address label of the envelope containing this issue of the newsletter. If it states on the label that your subscription is now due, then you should act IMMEDIATELY and send your subscription to the treasurer (Mike Gee) at the address shown on the first page of this newsletter BECAUSE THIS IS THE LAST ISSUE YOU WILL RECEIVE UNTIL YOUR DUES HAVE BEEN PAID. You may pay the current dues plus one year in advance at the start of a year.

You may pay your dues by one of the following methods:

a) For U.K. residents either by cheque or cash.

b) For European members either by Eurocheque or international money order made out IN STERLING or by sterling cash sent by registered post.

c) For members from elsewhere by sterling international money order or sterling cash.

By sending the money by one of the above methods you will not be causing the society to lose money when exchanging foreign currency. Whichever method of payment you use it is important THAT YOU INCLUDE YOUR NAME AND ADDRESS with your payment so that the treasurer can identify its source and update the records accordingly.

BANK ACCOUNT

A new bank account in the name of the International Association of Meiobenthologists has been opened with Lloyds Bank, Royal Parade, Plymouth. The bank sort code is 30-96-68 and the account number is 0585650. This is a high interest cheque account and the Chairman and Treasurer are joint signatories on cheques. So far, a proportion of the Association's money has been transferred from the United States and the balance is due soon.

1989 ACCOUNTS

At present a statement of accounts for 1989 has not been completed because Dave Thistle is waiting for the taxman to tell him how much tax must be paid on the interest on the account but it is hoped to publish them in the next issue of Psammonalia. However, John Fleeger has provided the following information on the costs of Psammonalia. In 1989 the costs were: Number 83, \$416.62 (which were high because of the addition of a bibliography on mites); Number 84, \$290.38; Number 85, \$332.66; Number 86, \$269.47. 62% of the costs were postage, 27% were for duplication and the remainder for miscellaneous expenses such as envelopes.

MEMBERSHIP AND ADDRESS LIST

The treasurer is in charge of the list of names, addresses and subscription status of members. We are planning to publish an up to date list of names and addresses in the next issue of Psammonalia. In preparation for this we would request that you examine the address given on the envelope containing this issue and if it is incorrect send a correct version to the treasurer immediately.

Mike Gee

NEWS FROM THE MEMBERS

Günter Arlt writes:

"SVIMCO-89 has become an unforgettable memory for me and I am grateful to all persons who supported my stay in Vienna and my participation in this meeting.

We - that means the 'Baltic Marine Biologists' - had an international symposium in Szczecin (Poland) in September 1989. The main topics were:

- Short and long-term changes in plant and animal communities in the Baltic Sea
- Levels, fluxes and effects of toxic substances in the Baltic Sea
- Shallow water fish ecology in the Baltic Sea.

Out of about 50 papers and 85 posters presented at this meeting only 8 dealt with meiofaunal problems. Actually the number of persons working in the field of meiofauna has obviously decreased during the past ten years. This is an unacceptable tendency and we are currently trying to encourage people to work in this now neglected field of research. We are planning to hold a meiofauna meeting next year to discuss the future and to initiate further joint programmes."

Bob Feller is on sabbatical here at the Plymouth Marine Laboratory until the end of June. He will be working on the immunological analysis of food webs, particularly with respect to shrimps and crabs.

CHANGE OF ADDRESS

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NEW MEMBERS

Dieter Waloßek
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I'm a zoologist, having studied at the University of Hamburg (Olaf Giere was one of my docents; PhD 1983). Since 1983 I have been working together with Prof. K.J. Müller in Bonn on tiny arthropods (size range 0.1-2mm) of the Upper Cambrian of Sweden. Due to their three-dimensional preservation (phosphatized cu-

ticle) they can be studied under SEM, showing all details such as appendages, setae and pores.

Beside many larval forms, some are apparently adult. Their small size and morphology led us to investigate the possibilities of whether these arthropods could have been components of meiobenthic communities that inhabited a flocculent layer at the bottom of the Alum Shale Sea (that's why Olaf encouraged me to pop in at your conference in Vienna and to introduce our fauna to you specialists in this field). For example, such a life-style model could explain the unusual preservation, which necessitates rapid burial and impregnation with phosphate before decay could take place.

I think that joining your Association would be very helpful for us to keep up the contact and to learn more about the meiobenthos and its specialities for our comparative work.

Judith Gobin

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I am on secondment from the Institute of Marine Affairs in Trinidad to study for a PhD at the University of Exeter, but most of my work will be done at the Plymouth Marine Laboratory. The subject of my PhD is "Latitudinal gradients in marine benthic species diversity". Earlier studies on this topic have suffered from the criticism of the lack of comparability between habitats, sample sizes etc. from the different geographical regions under consideration. I propose to set out artificial substrates (plastic panscrubbers) in tropical, temperate and polar situations to provide identical habitats. I will follow their colonisation by meiobenthos and macrobenthos, in particular the polychaete component of the macrobenthos (with which I already have some taxonomic experience) and the nematode component of the meiobenthos (which I am learning about).

THE FIRST MEIOFAUNA CONFERENCE IN THE SOVIET UNION

Valja Galtsova has sent us an account of the first conference on meiofauna to be held in the USSR:

The First Meiofauna Conference was held in Odessa from 16-20 October 1989. Twenty participants from the Zoological Institute [Leningrad], Institute of Marine Biology [Vladivostok], Institute of Biology of Southern Seas [Sebastopol] and its branch in Odessa, Institute of

Oceanology [Moscow] and Moscow University took part. Nineteen papers were devoted to different aspects of meiofaunal study. In particular, the speakers emphasized the importance of studying the meiobenthos when carrying out complex hydrobiological investigations. They outlined the main tasks of meiofauna research [Ju.P. Zaitzev, L.V. Vorobjeva]. The position of the meiobenthos in marine benthic ecosystems was considered in some detail [V.V. Galtsova]. A number of presentations were concerned with the problems of studying new and poorly known groups of meiofaunal organisms [V.V. Malakhov, N.G. Sergeeva, A.B. Zetlin, A.V. Adrianov]. Special attention was given to the structure and organization of individual taxa [T.G. Lukina, V.O. Mokiyevesky, I.I. Kulakova, L.V. Vorobjeva]. The interaction of the meiofauna with its environment is one of the important problems of modern meiobenthology. This question was examined in papers by T.A. Platonova and V.A. Petukhov. Interesting presentations about the deep-sea and phytal meiobenthos were made by O.E. Kamenskaja and E.A. Kolesnikova. The interrelations of the meiobenthos with other biotic components is important for studies of ecosystem functioning. A number of papers were devoted to the study of the meiobenthos of shell plantations [A.M. Shremetevsky, O.N. Pavljuk]. The trophic relations of the meiofauna with the microbenthos were discussed in the paper of E.L. Nevrova.

In conclusion, those participants who had attended the 7th International Meiofauna Conference in Vienna the previous month gave an account of that meeting.

The next Meiofauna Conference of Soviet meiobenthologists will be held in Odessa in 1992.

(It is great news to hear that meiobenthic research is so active in the USSR: how many other countries could mount a national meiofauna conference on this scale? Good to meet so many of them in Vienna too. I hope even more will get to Maryland. - Ed.)

FUTURE SCIENTIFIC MEETINGS

PLANT-ANIMAL INTERACTIONS IN THE MARINE BENTHOS

University of Liverpool, 18-21 September 1990

Abstracts for papers should be submitted by 1 March 1990, and for posters by 1 April 1990. The meeting will be followed by a three-day field excursion to Port Erin. Further information from Mrs Jenny Moore, Interactions Symposium, Department of Botany, The Natural History

Museum, Cromwell Road, London SW7 5BD (fax 01 938 8754).

SOCIAL COLUMN

We hear that **Howard Platt** (with some assistance from Ruth) has produced twins – two boys of 8 and 7 lbs.(!)

We were sad to hear that Professor **Dennis Crisp**, of the University College of North Wales, Bangor, died on 18 January. Although Professor Crisp was not himself conspicuously involved in meiofauna research, he recog-

nised early on that this was an important emerging field and pointed a number of his PhD students in this direction – including Pat Boaden and John Gray.

Word to the wise, or a tip on how not to empty a seine: an unfortunate encounter with a 1.3m long alligator. **Sue Service**, researcher at the Belle W. Baruch Institute field lab, was bitten by this beast after it thrashed from her grip. Luckily it only took a tiny bit off the very end of one finger and not several digits. She has recovered very well and still can sort benthos faster than anyone else in South Carolina!

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