

PSAMMONALIA

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International Association of Meiobenthologists

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Back to work...

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International Association of Meiobenthologists

PSAMMONALIA

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Editorial

Some years ago there was a debate about whether the IAM had served its purpose in promoting meiofaunaology and could be allowed to die quietly as an historical item, something like the league for the protection of old pit ponies. I was unconvinced by this argument then as when I disputed with deep-sea colleagues on the behaviour of a typical deep-sea organism I would forever receive the dismissive comment that deep-sea nematodes were 'different' with the implication that one shouldn't read too much into the analysis of a 'minor group'.

Recent events have convinced me that the society still serves an extremely valuable purpose as a focus to encourage research on, and dissemination of information about meiofaunal organisms. I had the privilege to be a minor cog in a comprehensive paper well written by colleagues that gave an excellent overview of meiofauna biodiversity. To my astonishment the paper was rejected outright by a single reviewer who was dismissive of the whole concept. Yet one sees many similar works published on 'benthic fauna' (i.e. macrofauna), solid fauna, canopy insects etc. It struck me that we have a way to go yet.

On another note, your worthy servants scribbling away here in the bowels of the London Museum have noted a dearth of copy coming from the membership. We realise it's the summer and hence the holiday and conference & field work season (not that they could ever be confused; indeed Nicola and I are off soon to collect marine nematodes along Californian beaches – an dreadful job but someone has to do it! so you are all busy but we hope that copy will pick up in the autumn (or Fall to those of you who speak American). It would be so upsetting to send the lads with the dark glasses round.

Bar-coding

There has been an ongoing debate in the taxonomic world about the value or otherwise of 'bar-coding' new species, i.e. describing and identifying them by strips of DNA. I must confess I am on balance a supporter of bar-coding as I see it as the only practical way to deal with speciose and abundant microscopic organisms that have an underdeveloped taxonomy. I am working with colleagues at Plymouth, BAS and Edinburgh to develop a bar-coding system for deep-sea nematodes

primarily for monitoring and conservation purposes. Much of the taxonomic debate has centred around large or taxonomically relatively well known organisms. I wondered if members of the Association had any strong views on this subject?

Meiofauna Marina

Andreas Schmidt-Rhaesa has written to me to say that after some initial setbacks the first issue of a new journal; *Meiofauna Marina* (ISSN 1611-7557) has been published. Technically the first journal is Volume 12 as it follows *Mikrofauna Marina* the eleven volumes of which appeared between 1984 and 1997.

The new journal is dedicated to the Biodiversity, Morphology and Ecology of Small Benthic Organisms. Andreas is the Managing Editor and is calling for manuscripts.

He has sent me a copy of the first edition of which has a strong taxonomic and morphological emphasis with new species descriptions of acoel flatworms, gastrotrichs and tubificids and a comprehensive checklist for Italian tardigrades.

Have a look at their website here:
<http://www.meiofauna-marina.com/>

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John Lamshead

The University of California Nematode Collections

While the viability of some other nematode collections, particularly in Europe, is threatened by a marked decrease in support including staff (Nematology News, 2003). Dr Manuel Mundo Ocampo, curator of the University of California Riverside Nematode Collection, has written to tell us about two important collections in North America.

The University of California, at Riverside and Davis campuses, include the only Departments of Nematology in the USA, and each has a long-established nematode collection (respectively, UCRNC and UCDNC). Together these distinct and highly complementary collections are among the largest curated resources focusing exclusively on nematodes.

University of California Riverside Nematode Collection (UCRNC) was founded by S. A. Sher in 1953 from surveys in California and the western United States but grew rapidly from collecting trips by S. D. Van Gundy in New Zealand and Australia and by Sher in Europe and Asia. Major collections were contributed by Caveness from Africa and by Holdeman and Mundo from Central America. Other collections are from Van Gundy and Freckman in Alaska; Proctor in Africa and New Guinea, Liu in China, and Ngyuyn and Su Yen in Vietnam, from Miller, a worldwide collection of Heteroderinae and most recently from Noffsinger in the Eastern US, Poiras in Eastern Europe and by Dorado in Mexican rainforests. Professor Robbins (University of Arkansas) has recently agreed to deposit at UCRNC his collection of >3000 specimens, including what he describes as the world's largest collection of *Longidorus* species and an extensive collection of *Xiphinema* of North America.

Directed by Prof J.G. Baldwin, the UCRNC continues as part of a laboratory of taxonomy and morphology of plant parasitic, free-living and recently marine nematodes. The parasitic component of the collection best represents Tylenchida, including Tylenchorhynchidae, Pratylenchidae and Haplolaimidae. About 6,500 lots are from the United States, including material from surveys in Alaska. Over 3,000 lots have been contributed from Africa, and 3,000 from Central and South America. More recent additions include representatives of freeliving Cephalobina from throughout the world. Many of these are available as living cultures. The UCRNC is also among the

largest terrestrial nematode collections in the world. It contains more than 33,000 microscopic slides, including over 8,000 type specimens. In addition, there are 10,500 vials with bulked specimens collected from several plants all over the world.

The collection is currently housed in a 24 square meter room adjacent to the lab and offices of Baldwin and Mundo. A separate adjacent room of 16 sq meters is being reassigned to expand and accommodate the wet collections (previously housed with slides), and to allow for expanded work space including a computer and microscopes within the collection space. Loans including type specimens are made to qualified investigators. Visiting scientists can make prior arrangements by contacting M. Mundo Ocampo or J. G. Baldwin.

The UCRNC includes a collection of 7000 taxonomic reprints; about half of which are entered in a Filemaker Pro database. Scanning Electron microphotographs of more than 500 species are also available for comparisons and to support nematode species descriptions by previous and current taxonomists at the UCRNC. Adjacent to the collection is University Science Library which includes a nearly complete collection of taxonomic literature on nematodes.

The UCDNC traces its roots to UC Berkeley, when in 1944 M. W. Allen donated his collection of 1,500 specimens (70 species) to establish a collection resource. In 1959 the collection (consisting of general slides, wet collection, and types) was transferred to the Davis campus. By the 1960s, taxonomists throughout the world began depositing type specimens in the collection, and the type collection has grown from 220 specimens and 20 species in the 1950s to over 3000 primary type specimens representing more than 900 species in 2003. The UCDNC is directed by faculty PI Prof. S. Nadler and curated/managed by museum specialist R. Rhode. For more information on the UCDNC see <http://ucdnema.ucdavis.edu/imagemap/nemma/museum.htm>

In recent years both UC collections have rapidly expanded and modernized in conjunction with their supporting role in increasing nematode-worldwide biotic surveys, systematics and phylogenetic research. These include ongoing international surveys in conjunction recent NSF Nematode PEET and Tree of Life Project, collaborative NSF biotic survey research of Baldwin in Mexico's Gulf of California as well as proposed work of

additional nematologists in Costa Rica and the U.S. Today both collections include a substantial proportion of the vouchers and types, particularly for soil and aquatic species, for the phylum.

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This Newsletter is not part of the scientific literature for taxonomic purposes.

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Sieves and the Sands of Time

Nearly twenty years ago, as an undergraduate marine biology student, I stood on the sandy shores of Kames Bay near the famous University Marine Biological Station, Millport on the Isle of Cumbrae in Scotland (<http://www.gla.ac.uk/Acad/Marine/>) blowing lump of sand out of a perspex tube into a plastic bucket. It was a cold and windy day and I began to think that it would be much more pleasant to be in one of the local pubs enjoying a whisky than to be introduced to a group of animals I'd recently been informed were called "meiofauna". Apparently, these animals were small and very numerous – I was not impressed.

Some time later I stirred my sand sample into a 15% solution of magnesium chloride, waited for the sand to settle and poured the apparently clear water through a piece of cloth I'd also recently discovered was called "plankton net". Having then washed off the surface of the net with seawater into a petri dish, I sat at a microscope and peered through the eyepieces. I'm still impressed. And I think that the "invisibility" of meiofauna and the often complex procedures of extraction and sorting makes the anticipation of seeing what exactly is in a sample all the more exciting.

I drag up this memory for two reasons: firstly because I foolishly said I would in the last issue of Psammie, and secondly because I'm always impressed by the way that our science depends on both the simplest and most complex things. At one end of the scale there are the microscopes, computers and PCR machines and at the other, the humble sieve. I expect most readers will be familiar with the two common choices of sieve; relatively expensive test sieves with woven stainless steel mesh or slightly cheaper home-made sieves, often made from plastic tubing and plankton net. Plankton net is usually made from woven nylon and is technically known as "Bolting Cloth" – a web search will also reveal that it is also possible to buy stainless steel bolting cloth.

Talking to colleagues and from my own experience, when making or repairing sieves, most people will use a two-part epoxy resin adhesive (e.g. Araldite) which makes a good join but is very sticky and difficult to apply evenly. This often results in joints having an irregular, protruding surface in which sediment and animals can become trapped (see fig 1a) and which can affect the subtle hydrodynamics of good sieving technique. So, I was pleased to

Fig 1a

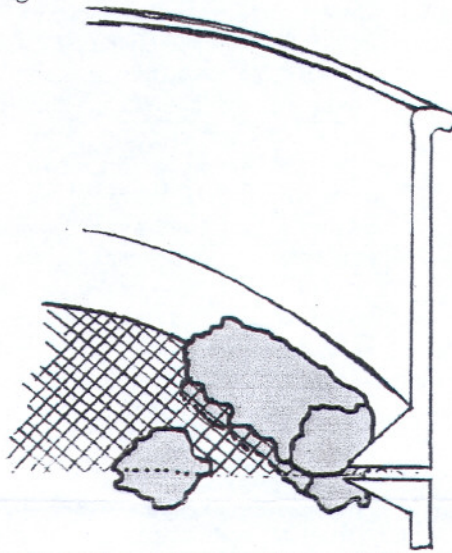


Fig 1b

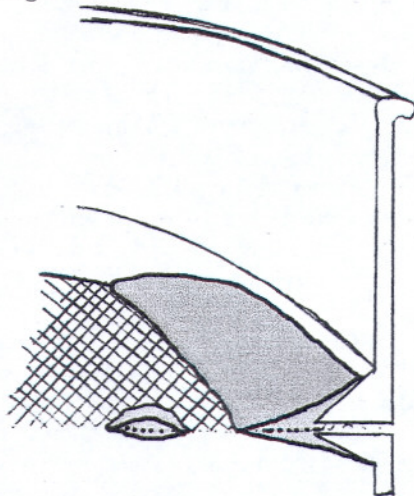
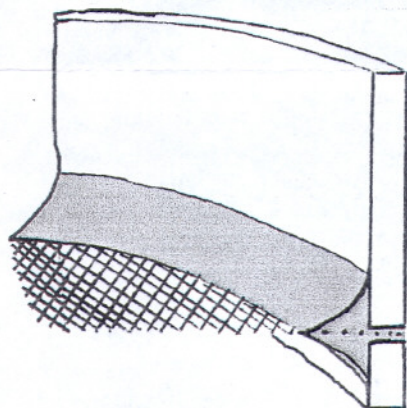


Fig 1c



discover a new (to me) little trick a couple of weeks ago after reading an article on boatbuilding.

Builders of wooden boats use gallons (litres) of epoxy resin adhesives and to stop glueing pieces together which shouldn't be glued together, they have learnt to use polyethylene (polythene) sheeting to keep things apart. Epoxy resins will not stick to polyethylene but will still harden when covered with it. The good news is that the sort of plastic bags that are handed out in shops and supermarkets the world over are also made of polyethylene sheeting. So, when making or repairing sieves, if you use small strips of shopping bag plastic to cover the glue, you can then mould and smooth its surface without getting into a terrible mess. Once the glue has hardened, you can peel off the plastic to reveal a much smoother surface (fig 1b). I've tested this on an edge repair to a stainless steel test sieve as shown in figures 1a and 1b and it worked very well. The next project will be to make some plastic tubing/nylon mesh sieves using a similar technique to make neat edges, as indicated in figure 1c.

One word of caution here, and to stop anyone writing me hate mail having ruined their once beautiful sieve by trying this method – **PLEASE MAKE SURE YOU TEST THE PLASTIC SHEETING FIRST** just to make sure that you haven't accidentally chosen a bag made from the wrong type of plastic: it's unlikely, but much better to be sure.

Which brings me to having to tell you the identity of my nematological hero, another thing I unwisely threatened to do. Nathan Augustus Cobb, of course. Not only the person who gave the science its name, and wrote the most inspiring paragraph on the subject of nematodes, which to this day can still hold the attention of an audience and tell them pretty much all they need to know, but a practical scientist who invented many pieces of equipment and who liked to make things himself.

There is plenty of information about Nathan Cobb on the Web and most search engines will return plenty of hits.

Tim Ferrero

Recent Literature

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International Association of Meiobenthologists

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The International Association of Meiobenthologists is a non-profit scientific society representing meiobenthologists in all aquatic disciplines. The Association is dedicated to the dissemination of information by publishing a quarterly newsletter and sponsoring a triennial International Conference. The newsletter, *Psammonalia*, is published mid-month in February, May, August and November. Membership is open to any person who is actively interested in the study of meiofauna. Annual membership dues are 10 euro (\$ 10 US) and you may pay up to 3 years in advance, i.e. 30 euro (\$30). New members will receive *Psammonalia* beginning with the February issue of the current year. If you are able, please add extra money to be contributed to the Bertil Swedmark Fund, which is used to help students or others who wish to attend the triennial International Conference.

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