#### **PSAMMONALIA**

The Newslettter of the International Association of Meiobenthologists



Number 159, July 2013

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#### **Editorial**

Dear colleagues,

Much to my regret, the current issue is filled with a mixture of great joy and deep melancholy. Joy, because I am really happy to meet many of you in a few weeks time during our 15th International Meiofauna Conference in Seoul, melancholy, because of the sad message that I received on the 15th of February from Peter Herman and his colleagues at NIOZ about Carlo Heip having passed away earlier that day.

Carlo Heip was very well-known to the global scientific community through his unceasing involvement in almost every aspect of marine research. During the last years, he was almost exclusively devoted to the study and protection of marine biodiversity, in which he played a critical role worldwide. For us meiobenthologists, he meant much more. He was right there at the beginning, when the foundations of meiobenthology were put together. And he will always be among those that a new student gets to know first, because he made such a big impact both with his papers and his contributions to several classic textbooks. Although he had quit meiobenthology a long time ago, he always kept an eye on what we were doing. I know that from personal experience. When I first visited Yerseke as a PhD student, he came to meet me personally, because I was working on meiofauna, and he plied me with an ocean of questions about my work; so big was his interest and curiosity! Carlo also served our association as a chairman between 1982 and 1983. I could go on like this through the whole editorial and it still wouldn't be enough. Instead, dear colleagues, let's take a moment of silence, to pay tribute to the memories of Carlo ... our Carlo Heip.

Three years passed like a moment and it's about time to meet again during our triennial conference, in South Korea this time. The final announcement together with a preliminary conference programme is attached at the end of this issue. Everything seems very promising! Wonchoel and his team worked hard to put together a great deal of sessions on biodiversity and taxonomy of many different groups. The ones, not particularly interested in taxonomy, will not remain unsatisfied since there are many sessions on interesting topics such as the deep sea, extreme environments, ecology and evolution etc. Finally, talks about the future of meiofauna research, an ever returning topic in our conferences, have also made their way into the schedule. All in all, I can't wait to participate in what seems to be a great meeting in a beautiful and exotic place.

And for those that will attend the meeting, please don't forget to bring with you a nice souvenir from your country, your university, or your institute, for our traditional raffle. Anything will do,



drinks, sweets, t-shirts, mugs ... This is very important to support our students through the Swedmark Fund, which, by tradition, provides Travel Awards to help them participate in the conference.

#### Google censors ... news on Psammonalia!

I'll explain immediately. Many of you may have noticed that, when i started my term as the editor of Psammonalia, I've set up a Google email account (psammonalia@gmail.com), which I mostly

did to simplify the transfer of email addresses from one editor to another. Nevertheless, Google's email settings, which are set by default to "Conversation View", was the reason I've missed a couple of emails that I only recently discovered when I was trying to tidy up the list. Amongst the most important ones, the one on ostracods is restored here (see on Page 7, "Outdated ... ostracodology"). The other one, was a comment by Olav Giere on my editorial in issue No. 157, on the anoxic Loricifera found in L'Atalante. The always accurate Olav, noticed that "... the authors are careful enough to only state that the Loriciferans from the Atalante-Basin posses 'hydrogenosomelike organelles' and that, in their association with rod-shaped structures, they 'resemble the association between hydrogenosomes and methanogenic Archaea.' The authors never state that these Loriciferans are .....'posessing  $H_2$ - instead of normal  $O_2$ -producing mitochondria'....". Indeed, the production of hydrogen has neither been proven nor measured in this publication and I probably went a bit too far due to my excitement. Nevertheless, as Olav concludes, the fact that it was not proven doesn't completely exclude it as a possibility, and I really hope to see more exciting stuff on the subject in the near future.

Talking about excitement and the future, I was happy to see in the Recent Literature section a number of publications dealing with the relationship between biodiversity and ecosystem function (BEF). These papers came almost as an answer to my editorial in Psammonalia No. 156 in which I was arguing that meiofauna organisms should be ideal for this particular research field. Until very recently, BEF research has been mainly driven by terrestrial ecologists, while freshwater or marine ecologists, not to mention meiobenthologists, have entered the battlefield rather rarely and hesitatingly. The above mentioned papers, however, clearly show that this has gradually started to change and that there is great potential for our contribution to the ongoing BEF debate. For example, the first study<sup>1</sup>, while not providing final clues to which of the many BEF models intertidal nematode communities belong to, it shows that there is no evidence to suggest a functional redundancy for nematodes. The second one<sup>2</sup>, which also deals with nematodes but from the deep sea, enters the debate<sup>3</sup> whether biodiversity in the deep sea shows, in contrast to all other reports and

expectations, an exponential relationship, a finding which caused considerable attention even from terrestrial ecologists<sup>4</sup>. I find all the above really great as it clearly places meiofauna research right into the centre of modern ecology. However, one point of concern when dealing with BEF relationships in aquatic systems, particularly in the deep sea, is related to the question: "How to quantify ecosystem function?". A common practice, adopted also by myself in view of a lack of other measurements, is to use biomass or abundance as a surrogate for production. But I am afraid that this might actually cause a looping effect, because the same population that is used to measure the biodiversity is also used to measure the function. This surely doesn't sound right. Terrestrial ecologists use above ground net primary productivity, which is relatively easy to estimate because all that biomass is usually produced during a single year. But, how do we do that in the deep sea? Energy capture, or biomass if you like, is certainly one idea, but it should include other components or size fractions as well (e.g. smaller – bacteria - or even larger size fractions). Flux rates (e.g. oxygen consumption), the approach of the 2nd paper, is maybe a better way, but then again, this is not easily achieved in situ. These are just some thoughts on an open, promising and exciting field, where meiofauna could play a pivotal role. So, maybe, now is the time to carefully design our strategy, if we want to draw strong ecological attention.

Rendezvous at the Conference in a week!

by Nikos Lampadariou

#### Editor-in-Chief

Nikolaos Lampadariou

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<sup>&</sup>lt;sup>1</sup>Gingold R, Moens T and Rocha-Olivares A (2013). Assessing the Response of Nematode Communities to Climate Change-Driven Warming: A Microcosm Experiment. PLoS ONE 8:e66653.

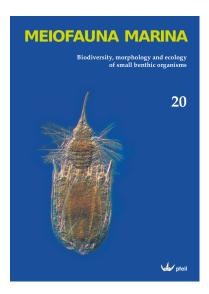
 $<sup>^2</sup>$ Leduc, D., Rowden, A. A., Pilditch, C. A., Maas, E. W., & Probert, P. K. (2013). Is there a link between deep-sea biodiversity and ecosystem function? Marine Ecology.

<sup>&</sup>lt;sup>3</sup>Danovaro D., Gambi C., Dell'Anno A., Corinaldesi C., Fraschetti S., Vanreusel A., Vincx M., Gooday A.J. (2008) Exponential decline of deep-sea ecosystem functioning linked to benthic biodiversity loss. Current Biology, 18, 1–8.

<sup>4</sup>Loreau M. (2008) Biodiversity and ecosystem functioning: the mystery of the deep sea. Current Biology, 18, 126–128.

#### New issue of Meiofauna Marina

In February, the 20th volume of Meiofauna Marina has been published including articles on the taxonomy of various groups as well as a review on research from seamounts. All articles can be found on our Literature pages at the end of this issue. For a complete list of articles and pdf's you can visit the Journals webpage at: http://www.pfeilverlag.de/04biol/d7557d20.php.



Antonio Todaro and Kai Horst George, who have undertaken the difficult task of keeping the journal alive, are urging our society to submit manuscripts for the next volume; if a sufficient number of manuscripts will be submitted, they would be able to publish another volume (no. 21) within 2013.

#### New Books

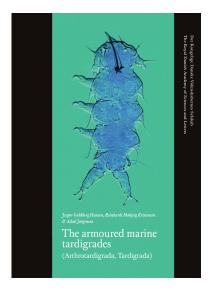
#### The armoured marine tardigrades

Reinhardt Kristensen has kindly sent me information on a new monograph<sup>5</sup> on the armoured marine tardigrades that has been published recently from the the Royal Danish Academy of Sciences and Letters. The book can be bought directly by sending an order to publ@royalacademy.dk

Below is the abstract of the book.

#### Abstract

During the last three decades several new species of the marine stygarctid tardigrades have accumulated in the tardigrade collection at the Natural History Museum of Denmark, University of Copenhagen. The major aims of the present investigation were to describe some of the new species, to further increase the knowledge of the morphological diversity and to conduct phylogenetic analyses of all currently described species within the marine family Stygarctidae. The major objectives of the phylogenetic analyses were to investigate the internal phylogenetic relationships of Stygarctidae, their relationship to the most closely related previously recognized families (Neostygarctidae and Renaudarctidae), and the character evolution within the Stygarctidae. The outgroups were chosen to represent the extant members of presumed ancestral lineages of arthrotardigrades (Coronarctus, Coronarctidae and Neoarctus, Neoarctidae).



In order to evaluate the significance of the morphological diversity within the Stygarctidae, all species currently described have been personally examined by the authors and species new to science were described in each of the genera: Faroestygarctus nov. gen., Mesostygarctus, Parastygarctus, Pseudostygarctus and Renaudarctus. The character matrix consists of 31 species and 81 morphological characters. The characters have been scored from six main characters systems, i.e. the arrangement of head lobes, the cuticular segmental plates (head, body and caudal plates), the seminal receptacles, the legs and claws, the sense organs and the buccal apparatus. All 81 characters were parsimony informative and 51 are multistate characters.

<sup>&</sup>lt;sup>5</sup>Hansen, J.G., Kristensen, R.M. & Jørgensen, A. (2012) The armoured marine tardigrades (Arthrotardigrada, Tardigrada). The Royal Danish Academy of Sciences and Letters. Scientia Danica, Series B, Biologica, 2: 1-91.

The most notable results from the phylogenetic analyses are: 1) Neostygarctus is the sister-group to the previously known genera in Stygarctinae and is included in this subfamily; 2) Faroestygarctus nov. gen. is the sister-group to the other genera in Stygarctinae; 3) Mesostygarctus is a valid taxon and is the sister-group to Pseudostygarctus; 4) Stygarctus spinifer is the sister-group to the other Stygarctus species and is not a member of Parastygarctus as recently suggested.

In our opinion *Megastygarctides* is very different from the members of Stygarctinae and a position higher in the taxonomic hierarchy might be justified. Not surprisingly the Renaudarctidae is the sister-group to the Stygarctidae clade (Megastygarctidinae + Stygarctinae).

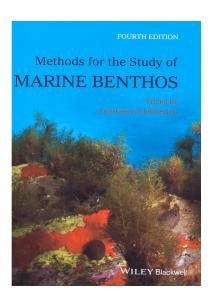
Key words: marine armoured tardigrades, new species, cladistics, phylogeny, evolution.

## Methods for the study of marine benthos

Prof. A. Eleftheriou has just completed the 4th edition of the "Methods for the study of marine benthos", a classic handbook with a long and honorable history since its first publication in 1971 (Holme & McIntyre, 1971). This new edition is an update of the one that came out in 2005 (Eleftheriou and McIntryre, 2005) and includes the latest advances in marine technology. The chapters on benthic deep-sea sampling, diving, imaging analysis, acoustic techniques used for the determination of the seabed characteristics and seabed sediment studies, in particular, have been substantially rewritten and the chapter on phytobenthos has been reinstated.

The chapter on the "Meiofauna Techniques", edited by P.J. Somerfield and R. Warwick, is a complete guide to facilitate meiofauna from different types of substrates and habitats, containing separate and detailed sections on sampling and sample processing, examination and counting, biomass determination, cultivation and experimental techniques.

Compared to the previous edition, the subchapters on C/N-stoichiometry, energy flow measurements and production of meiofauna have been moved to a new chapter and are treated as a whole irrespective of the size of the organisms.



The book is published by WILEY-BLACKWELL. More details, together with a complete Table of Contents can be found at: http://goo.gl/d3xvr

#### News from members

#### Professor Pierre Lasserre

Following Jeanne Renaud-Mornant's passing away and the tribute written by Pierre Lasserre and Guy Boucher, I received a very warm email from Pierre, who kindly renewed his subscription and also offered to help our association with his extended experience on international marine science, education and policy. Below is a short summary of his biography. Pierre, thank you very much indeed!

I am one of the twenty-eight meiobenthologists that took part in the historical first International Conference on Meiofauna in Tunis (1-11 July 1969), and contributed to the "Manual for the Study of Meiofauna" (edited by Neil Hulings and John Gray, Smith. Inst. to Zool. 1971). I was initiated to the study of interstitial fauna by Prof. Jean Boisseau and Jeanne Renaud-Mornant, at the Marine Station of Arcachon, (1964). I published many papers on Oligochaeta taxonomy (cooperation with Christer Erséus) and ecophysiology, some in cooperation with Jeanne R.M. on the metabolic contribution of meiobenthic taxa (Cartesian diver microrespirometer). Yet, I coorganized, with Jeanne in Arcachon, an international Conference on meiofauna ecophysiology (Proceedings in Cah. Biol. Mar., 1975). During my 10 years secondment at UNESCO, I was in charge of the intergovernmental MAB Programme and its UNESCO World Network of Biosphere Reserves. I participated in the launching of the international biodiversity programme DI-VERSITAS. Co-founder of the European Marine Research Stations (MARS) Nework and the recently launched (2012) World Association of Marine Stations (WAMS); I also acted as reviewer of several European Union Networks of Excellence (e.g. MarBEF, EurOceans, Esonet).

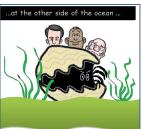
Professor Pierre Lasserre, PhD, Member of Academia Europaea

#### Outdated ... ostracodology?

Hidden under a mountain of piled emails (see my editorial for an explanation), I found an email from Dan Danielopol, sent on November 20, 2011, in which he was expressing his enthusiasm on a very successful 7th European Ostracodologists meeting held in Graz the summer before. He also provided an email address (http://palstrat.uni-graz.at) which however seems to be inactive at the moment. He was also expressing his worries about the low involvement of ostracod people, which, by looking at the FiftIMCo agenda (see the programm at the end of this newsletter), doesn't seem to be really true as a whole session is dedicated to ostacods (Session 2: Diversity and Distribution of Ostracods).

My sincere apologies Dan and a promise to have your next meeting/workshop extensively covered!





#### Workshops

#### MeioScool

I've got an email from Lucia Bongiorni advertising a very interesting workshop on meiofauna which will be held in Brest this fall. Below you can read the whole announcement.

Dear colleagues,

It is a great pleasure to announce that a Meiofaunal International Workshop, entitled MeioScool, will be held in Brest (France) from 26 to 29 November 2013.



MeioScool's objective is to bring together several meiofaunal experts in Brest in order to:

- 1) Increase awareness of researchers, students and general public about the fundamental role of meiofauna in marine ecosystems from the coastal zone to abyssal depths.
- 2) Train students and researchers in the identification and description of meiofauna through several complementary disciplines (taxonomy, ecology, molecular biology) and stimulate a new generation of meiobenthologists.

The MeioScool workshop will last 4 days. The first two days will be devoted to conferences while the two following days will be devoted to field and laboratory work (sampling, extraction, identification of major meiofaunal taxonomic groups).

Pedro Martinez Arbizu, Roberto Danovaro, Diego Fontaneto, Andy Gooday, Viatcheslav Ivanenko, Carlos Neira, Martin Sørensen, Ann Vanreusel were contacted and will highlight the conference by keynote lectures.

A MeioScool dedicated night event (The Microscopic Night Event) will be organized at Océanopolis (29 November, 20:30h). This event will include scientific animation, photographic exhibition and a public lecture by Daniel Desbruyères in collaboration with the Theater Company ImproInfini.

A photography competition focused on the microscopic universe will be launched. The selection panel will be composed by researchers, graphic designers and professional photographers.

 ${\bf Join~us~on~http://meioscool2013.sciencesconf.org}$ 

Registration now open

Abstract Submission / Early Registration:

Until August 31st, 2013

Please forward this message to anyone who might be interested.

Looking forward to see you in Brest Daniela Zeppilli, Jozée Sarrazin and the MeioScool Organization Committee

## EMBC+ Summer school 2013 in Crete

The International Master of Science in Marine Biodiversity and Conservation (EMBC+) is offered by a University consortium of 7 partners and every summer it runs a summer school, which is an obligatory part of the programme. During previous years, summer schools have been organized in Poland, Malta, Ireland and Slovenia. From 10 to 21 July, 2013, the fifth EMBC summer school will be organized in Crete at the Hellenic Centre for Marine Research (HCMR). Amongst the various thematic areas covered, students will also have to possibility to get hand on meiofauna training by setting up and carrying out research proposals. This year's theme is on the dispersal of meiofauna: "Dispersal in meiofauna: how can an organism with little dispersal capacities be cosmopolitan?". The students need to think a range of different experiments and field campaigns and then actually carry out themselves the sampling and research in order to find out if meiofaunal organisms are able to active enter the water column or if they can be passively transported (e.g. by algae, invertebrates etc.) at large distances.



Believe it or not, this is not Belgium. Its the entrance of HCMR in Crete invaded by dozens of cyclists!

#### Upcoming conferences

The following conferences might be of interest. Some have been advertised already in the previous issue but they are presented again because they are still placed in the future.

#### 48th Annual European Marine Biology Symposium

 $19\text{-}23~\mathrm{August},\,2013$ 

National University of Ireland, Galway, Ireland

http://goo.gl/MJ3w2

The 48th Annual European Marine Biology Symposium will be hosted by Ryan Institute of the National University of Ireland in Galway, Ireland. The EMBS remains a traditional conference with a single main hall and no parallel sessions. The main aim of the conference is to bring together academic practitioners in marine biology for networking and the dissemination of basic research. It has always been an important venue for early stage researchers to communicate their work and meet with established workers from across Europe. The themes of the conference will reflect the main areas in which biology is developing at present as well as traditional research categories.

The themes for the EMBS are as follows:

- 1. Biodiversity and ecosystem function
- 2. Ocean acidification and biodiversity
- 3. Climate change
- 4. Evolution, systematics and developmental biology
- 5. Mapping habitats and determining ecological status
- 6. Sustainable management of the ocean
- 7. Biodiscovery and bioresources

#### Important deadlines:

- February 8, 2013 Deadline for submission of abstracts
- June 1, 2013 Early registration deadline
- $\bullet\,$  August 10, 2013 Registration Close

## The First Conference of Mediterranean Zoology

19 - 26 November, 2013

Luxor, EGYPT

The organizing committee of the first Mediterranean Conference of Zoology, to be held in Egypt from 19th to 26th of November 2013, is pleased to announce that this scientific event will take place in the floating hotel of one of the luxurious Nile cruises as it travels from the Thebes, Luxor to Aswan.

The topics of the conference include:

- 1. Climate change and Mediterranean Fauna
- 2. Biodiversity in Limnic Ecosystems
- 3. Fauna of Economical Value: Vulnerability to Stress and Pathology
- 4. Mediterranean Marine Protected Areas

For more details contact the organizing committee at the following email address: mediterranean.conference@gmail.com

#### 6th International Congress of Nematology

4-9 May, 2014 Cape Town, South Africa

http://www.6thicn.com/

The 6th International Congress of Nematology will be hosted by the Nematology Society of Southern Africain (NSSA) during May 2014 in Cape Town, South Africa. The theme of the conference will be "Ensuring the future of nematology by encouraging student participation, relying on experience and empowering developing nations to ensure global food security"

## 52<sup>nd</sup> Annual Meeting of the Society of Nematologists

14-17 July, 2013

Knoxville, Tennessee

http://nematologists.org/son annual meeting.php

#### **Obituaries**

#### Dr. Frank Romano

I received another message with an obituary on Dr. Frank Romano's loss last summer. which appears to have gone unnoticed. Dr. Romano worked with freshwater hoth and marine invertebrates emphasizing



on tardigrades and mollusks. He was working at Jacksonville State University until his retirement on June 1, 2012.

For those who knew him, you can find the complete obituary at:

http://goo.gl/Dmw3G

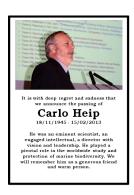
or

http://goo.gl/mYyUL

#### Dr. Carlo Heip

Magda Vincx kindly sent me the following email.

On February 15, 2013, Prof. Dr. Carlo Heip passed away at the age of 67, after a short period of malignant disease.



He was one of the founders of Psammonalia and inspir-

ing person of meiofaunal research in Europe and worldwide. Carlo Heip has lifted meiofaunal research at a very high level in marine ecology; thanks to Carlo Heip, meiofauna has become a not negligible component in aquatic ecosystems research, from the deep sea to the intertidal.

Carlo Heip started his ecological work on copepods of a brackish water pond (Dievengat) with emphasis on population dynamics, ecology and ecotoxicology of meiobenthos. Since the mid nineties interest focused on the link between benthic ecology and biogeochemical cycles. Carlo Heip was a member of the steering and advisory committees of many European institutes, Networks and Projects. He was PI for many EU-sponsored projects and initiated or co-started more than ten major European projects. He was general co-ordinator of the EU Network of Excellence MARBEF Marine Biodiversity and Ecosystem Functioning.

Carlo Heip was director of the Centre of Estuarine and Marine ecology (CEME) in Yerseke and director of the Royal NIOZ (The Netherlands).

Carlo Heip has taught courses to undergraduate and graduate students in biology, geology, chemistry and geography since the 70's on diverse subjects such as water pollution, population dynamics, biology of Crustacea a.s.o. Since 1991 he was appointed Extraordinary Professor at the University of Gent where he taught a Master course in Biological Oceanography until 2006 and a graduate course on Biogeochemical Cycles until 2012. In 2000 he was appointed Professor at the University of Groningen with the Chair Estuarine Ecology.

In July 2010, during the FOURTIMCO conference in Gent, we celebrated the 40 years of scientific career of Carlo Heip. On that occasion, the full scientific output of Carlo was brought together within 1 CDrom.

Carlo Heip has over 130 papers in peer-reviewed journals and edited six books, a h-index of 36 and more than 4000 citations.

We will remember him as a generous friend and warm person.

#### Recent Literature

- [1] Alvarez MF, Esquius KS, Addino M, Alberti J, Iribarne O and Botto F (2013). Cascading top down effects on estuarine intertidal meiofaunal and algal assemblages. Journal of Experimental Marine Biology and Ecology 440:216-224.
- [2] Alves AS, Adão H, Ferrero TJ, Marques JC, Costa MJ and Patrício J (2013). Benthic meiofauna as indicator of ecological changes in estuarine ecosystems: The use of nematodes in ecological quality assessment. Ecological Indicators 24:462-475.

- [3] Bianchelli S, Pusceddu A, Canese S, Greco S and Danovaro R (2013). High Meiofaunal and Nematodes Diversity around Mesophotic Coral Oases in the Mediterranean Sea. PLoS ONE 8:e66553.
- [4] Bick A and Arlt G (2013). Description of intertidal macro- and meiobenthic assemblages in Maxwell Bay, King George Island, South Shetland Islands, Southern Ocean. Polar Biology 36:673-689.
- [5] [7] Bik H, Porazinska DL, Creer S, Caporaso JG, Knight R and Thomas WK (2012). Sequencing our way towards understanding global eukaryotic biodiversity. Trends in Ecology and Evolution 27:233-243.
- [6] Bohórquez J, Papaspyrou S, Yúfera M, van Bergeijk SA, García-Robledo E, Jiménez-Arias JL, Bright M and Corzo A (2013). Effects of green macroalgal blooms on the meiofauna community structure in the Bay of Cádiz. Marine Pollution Bulletin 70:10-17.
- [7] Braeckman U, Vanaverbeke J, Vincx M, van Oevelen D and Soetaert K (2013). Meiofauna Metabolism in Suboxic Sediments: Currently Overestimated. PLoS ONE 8:e59289.
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## Final Circular for FiftIMCo

(July 22<sup>nd</sup> – 26<sup>th</sup> 2013, Hanyang University at Ansan)

Official website: www.fiftimco.kr

#### Welcome to FiftIMCo

Dear Colleagues,

This is a great honor and pleasure for me inviting you to the 15th International Meiofauna Conference in Korea (FiftIMCo). I would like to welcome all of you who are willing to participate with my genuine heart. FiftIMCo is the very first meeting in Asia since its beginnings, in Tunisia in 1969. I would like to suggest "Biodiversity of Meiofauna" as a keyword for the meeting.

Our knowledge on the taxonomy of meiofaunal taxa is still very limited in many Asian countries, including Korea, and we have an urgent need to improve this. You can say that many parts of this region are black holes in terms of biodiversity. Considering this situation, the local organizing committee would like to support young taxonomists and stimulate study on the meiofauna taxonomy and biodiversity.

To achieve this goal, we will establish a special award for young participants who are working on taxonomy and systematics of meiofauna. The local organizing committee will support at least ten awardees with travel costs from their home country to Korea. In addition, pre-conference workshop for the training students who are interested in the study of meiofauna is also organized. We hope that all these attempts will stimulate our future generation to work on meiofauna. Of course, not only taxonomy but ecology, biology, and many other interesting subjects are welcome, and separate sessions will be suggested during the conference with a lot of help from IAM and the International Scientific Committee. Korea has more than five thousand years of history, and distinct and beautiful culture.

I hope you will enjoy not only the scientific programs we make together but also all the delicacy of Korean culture. The local organizing committee will prepare a warm welcome and enjoyable meeting, and we hope to see you all in July 2013.



Official website www.fiftimco.kr

Professor Wonchoel Lee Ph.D.
Organizer for FiftIMCo

#### **Main Conference Schedule**

	21st (Sunday)	22nd (Monday)	23rd (Tuesday)	24th (Wednesday)	25th (Thursday)	26th (Friday)	27th (Saturday)
9:00	(Sunday)	(мопазу)	(Tuesday)	(wednesday)	(Thursday)	(Friday)	(Saturday)
9:30		Registration			Session 6		
10:00		Opening	Session 3		Meiofauna in Particular Aquatic Habitats -	Session 10 Marine Biodiversity in Korea - Research and Future	Check
10:30		Symposium FUTURE MEIOFAUNA STUDY	Anthropogenic Impacts and Global Change  Organized by Jeffrey G. Baguley		Hydrothermal vents, Deep seas, Caves, Coral reefs, and Polar waters  Organized by Jiang-Shiou Hwang	Organized by  Dae-Yeon Moon	Out
11:30		Organized by Nikolaos Lampadariou	Paul A. Montagna				
12:00							
12:30		Lunch	Lunch		Lunch	Lunch	
13:30							
14:00	Move to	Session 1 Morphology and Evolution of Meiofauna - from the	Session 4 Study on the Nematode Community Organized by	Conference tour	Session 7 Frontiers and Advances in Foraminiferal Research Organized by Fabrizio Frontalini	Meeting	
14:30	Hanyang Univ. Ansan	Precambrian to Today  Organized by	Federica Semprucci		Coffee Break		
15:00	Campus	Martin V. Sørensen Andreas Schmidt-Rhaesa	Coffee Break		Session 8 Cladocera (Crustacea:	Coffee Break	
15:30		Coffee break	Session 5 Meiofauna in Coastal Waters		Branchiopoda) in the Freshwater Meiofauna Organized by		
16:00		Session 2	Organized by <b>Wonchoel Lee</b>		Alexey A. Kotov  Coffee Break	Award	
16:30		Diversity and Distribution of Ostracods (Crustacea) in			Session 9 Diverse Communities of		
17:00		Meiobenthos  Organized by  Ivana Karanovic	Poster Session		Meiofauna Organized by		
17:30		1000	. 63.51		Dong Sung Kim		
18:00							
18:30						Farewell Party	
19:00		Welcome Party					
19:30							
20:00							

## **SYMPOSIUM**

## **FUTURE MEIOFAUNA STUDY**

#### **KEYNOTE LECTURE**

Chairperson: Nikolaos Lampadariou

Speaker	Time	Title
Rony Huys	10:30 ~ 11:00	Trends and Gaps in Copepod Research
Gustavo Fonseca	11:00 ~ 11:30	Integrative taxonomy: a multidisciplinary approach to tackle taxonomical issues
Nikolaos Lampadariou	11:30 ~12:00	Retrospect and prospects of meiofaunal ecology: how far have we come and where shall we go?

Organized by **Nikolaos Lampadariou** 

#### **Session 1**

# Morphology and Evolution of Meiofauna - from the Precambrian to Today

Chairperson: Andreas Schmidt-Rhaesa

Speaker	Time	Title
Philip Donoghue	13:30 ~ 14:00	Meiofauna and the emergence of metazoan phyla
Hanan M. Mitwally	14:00 ~ 14:15	Relationships among nematode body shape, tail types and trophic groups
Andreas Altenburger	14:15 ~ 14:30	The neuromuscular anatomy of the kinorhynch Pycnophyes kielensis
Martin V. Sørensen	14:30 ~ 14:45	Phylogeny of Kinorhyncha, based on analyses of molecular data, supplemented with information from morphology
Tomislav Karanovic	14:45 ~ 15:00	Different dispersal strategies of three harpacticoid families in a single palaeochannel in Western Australia reflect their different origins
Julian P.S. Smith III	15:00 ~ 15:15	A Preliminary Phylogeny for the Schizorhynchia: Molecules and Morphology
Kichoon Kim	15:15 ~ 15:30	Two new species of the genus <i>Enhydrosoma</i> (Copepoda: Harpacticoida: Cletodidae) from the sublittoral zone, Gwangyang bay, Korea and a redescription of <i>E. intermedia</i> Chislenko, 1978
Joo-Lae Cho	15:30 ~ 15:45	Biogeography of the family Parabathynellidae

Organized by
Martin V. Sørensen
Andreas Schmidt-Rhaesa

#### **Session 2**

## Diversity and Distribution of Ostracods (Crustacea) in Meiobenthos

Chairperson: Ivana Karanovic

Speaker	Time	Title
Dietmar A. Keyser	16:00 ~ 16:30	The shell of ostracods as measure of adaptation in different environments
Robin J. Smith	16:30 ~ 17:00	The diversity and distribution of freshwater ostracods (Crustacea) in Japan
Akira Tsukagoshi	17:00 ~ 17:15	Taxonomy and ecology of marine interstitial Ostracoda form Japan
Ryouichi Higashi	17:15 ~ 17:30	Evolutionary patterns of the interstitial Ostracoda (Crustacea): a case study of the genus <i>Psammocythere</i>
Hyunsu Yoo	17:30 ~ 17:45	Taxonomic study of the genus <i>Paradoxostoma</i> (Crustacea, Ostracoda, Paradoxostomatidae) from South Korea
Ivana Karanovic	17:45 ~ 18:00	Diversity and phylogeny of Polycopidae (Ostracoda, Myodocopa), with a special reference to the deep sea

Organized by **Ivana Karanovic** 

## **Session 3**

## **Anthropogenic Impacts and Global Change**

Chairperson: Paul A. Montagna

Speaker	Time	Title
Paul A. Montagna	10:00 ~ 10:15	Deep-sea Benthos Response to the Deepwater Horizon Blowout in the Gulf of Mexico
Jeffrey G. Baguley	10:15 ~ 10:30	Deep-sea harpacticoid families expand the scope of impacts of the Deepwater Horizon oil spill and provide family-level indicators of tolerance and sensitivity
John W. Fleeger	10:30 ~ 10:45	Response of saltmarsh meiofauna to the BP Deepwater Horizon Oil Spill
Jyotsna Sharma	10:45 ~ 11:00	Shifts in Intertidal Nematode Communities After the Deepwater Horizon Oil Spill
Vadim O. Mokievsky	11:00 ~ 11:15	Nematodes assemblages in oxygen depletion zone in the Black sea
Xiaoshou Liu	11:15 ~ 11:30	Response of nematode community upon recovery from sewage pollution: Biological traits analysis
Yang Liu	11:30 ~ 11:45	Response of Biofilm-dwelling meiofauna to enhance nutrient concentration
Jeroen Ingels	11:45 ~ 12:00	Meiofauna results from world's first in-situ sub-seabed CO <sub>2</sub> release experiment to assess potential impact of CO <sub>2</sub> leakage in CCS systems

Organized by **Jeffrey G. Baguley Paul A. Montagna** 

## **Session 4**

## **Study on the Nematode Community**

Chairperson: Federica Semprucci

Speaker	Time	Title
Federica Semprucci	13:30 ~ 13:45	Overview of the meiofaunal and nematode assemblages associated with coral sediments of one of the largest atoll system: Maldivian Archipelago (Indian Ocean)
Alexei V. Tchesunov	13:45 ~ 14:00	Peculiarities of nematode communities in hydrothermal sites of the North MidAtlantic Ridge
Tania Nara Bezerra	14:00 ~ 14:15	Population dynamics of predatory nematodes of intertidal estuarine sediments
Er Hua	14:15 ~ 14:30	Biodiversity of Free Living marine nematodes in subaqueous deltas of Yangtze River estuary and its adjacent waters
Jung-Ho Hong	14:30 ~ 14:45	Study on the nematode community in the three coastal regions of Korea
Nic Smol	14:45 ~ 15:00	20-years of MSc Education in Nematology

Organized by **Federica Semprucci** 

## **Session 5**

## Meiofauna in Coastal Waters

**Chairperson: Wonchoel Lee** 

Speaker	Time	Title
Wonchoel Lee	15:15 ~ 15:30	Survey on the meiofauna community in the coastal regions of Korea as a part of "National Investigation on Marine Ecosystem"
Julian P.S. Smith III	15:30 ~ 15:45	Sediment Composition and Beach Nourishment Effects on Exposed-Beach Meiofaunal Communities
Kulli Lokko	15:45 ~ 16:00	Seasonal variability, horizontal and vertical distribution of zoopsammon in the Eastern Baltic Sea
Nguyen Dinh Tu	16:00 ~ 16:15	Meiobenthos communities for different mangrove types in Cangio Biosphare Reserve, Vietnam
Hyeonggeun Kim	16:15 ~ 16:30	Study of Meiofauna community structure at the sand mining region
Seunghan Lee	16:30 ~ 16:45	Study on the Ecological Change of Meiofaunal Community by Construction of Tidal Power Plant

Organized by **Wonchoel Lee** 

#### **Session 6**

# Meiofauna in Particular Aquatic Habitats -Hydrothermal vents, Deep seas, Caves, Coral reefs, and Polar waters

Chairperson: Jiang-Shiou Hwang

Speaker	Time	Title
Anton Brancelj	09:15 ~ 09:45	Meiofauna in karstic environment: caves and adjacent porous habitats
Jiang-Shiou Hwang	09:45 ~ 10:00	Introduction and Meiofauna communities at hydrothermal vents of Kueishan Tao, Taiwan
Hans-Uwe Dahms	10:00 ~ 10:15	Marine meiofauna in polar regions
Su-Jing Fu	10:15 ~ 10:30	Study of meiofauna in the Zhangjiang River estuary mangrove and marsh wetlands in Fujian, China
Ann Vanreusel	10:30 ~ 10:45	Free-Living Nematodes Associated with chemosynthetic habitats: integrated analysis on distribution and diversity patterns at different spatial scales
Francesca Pasotti	10:45 ~ 11:00	"To cope or not to cope?" Potter Cove (West Antarctic Peninsula) shallow water benthos under glacier retreat forcing
La-orsri Sanoamuang	11:00 ~ 11:15	Meiofauna and Copepods from Limestone Caves in Thailand
Stephen C. Landers	11:15 ~ 11:30	New meiofauna data (2012) from Louisiana near the Deepwater Horizon site
Yi Zhuo	11:30 ~ 11:45	Abundance of Free-Living Marine Nematodes in the Gaoqiao Mangrove in Zhanjiang, Guangdong
Katerina Sevastou	11:45 ~ 12:00	Meiobenthic communities in the Mediterranean Sea: exploring diversity patterns in deep-sea slope and basin ecosystems

Organized by **Jiang-Shiou Hwang**25 July 2013

## **Session 7**

## Frontiers and Advances in Foraminiferal Research

Chairperson: Fabrizio Frontalini

Speaker	Time	Title	
Fabrizio Frontalini	13:30 ~ 14:00	Benthic foraminifera as an innovative proxy for pollution monitoring, impact and risk assessment of marine ecosystems	
Federica Semprucci	14:00 ~ 14:15	Benthic foraminiferal assemblages and biotopes in a coastal lake: the case study of Lake Varano (Southern Italy)	
Melissa Rohal	14:15 ~ 14:30	Meiofaunal abundances on the continental rise off the coast of California	
Sangjin Kim	14:30 ~ 14:45	Taxonomical study on the Phylum Foraminifera from Jeju Island, Kore	

Organized by **Fabrizio Frontalini** 

#### **Session 8**

## Cladocera (Crustacea: Branchiopoda) in the Freshwater Meiofauna

Chairperson: Alexey A. Kotov

Speaker	Time	Title	
Alexey A. Kotov	15:00 ~ 15:30	Adaptations of the Cladocera (Crustacea: Branchiopoda) to benthic mode of life	
Eugeniya I. Bekker	15:30 ~ 15:45	Cladocera (Crustacea: Branchiopoda) of Central Yakutia, the heart of Eastern Siberia	
Miguel Alonso García- Amilivia	15:45 ~ 16:00 Meiobenthic cladocerans of Mongolian lakes with remarks on t geographical distribution and ecology		
Hyun-Gi Jeong	16:00 ~ 16:15	Diversity of Korean freshwater Cladocera (Crustacea: Branchiopoda)	

Organized by **Alexey A. Kotov** 

## **Session 9**

## **Diverse Communities of Meiofauna**

**Chairperson: Dong Sung Kim** 

Speaker	Time	Title	
Hyun Soo Rho	17:00 ~ 17:15	Taxonomic study on the Korean draconematid nematodes	
Jimin Lee	17:15 ~ 17:30	Prospect for biodiversity research on marine gastrotrichs (Phylum Gastrotricha) from South Korea	
Sang-kyu Lee	17:30 ~ 17:45	A preliminary revision of the genus <i>Leptodius</i> A. Milne-Edwards, 1863	
Susetiono	17:15 ~ 17:30	Recolonizing of mine tailing by meiofauna in mesocosm and microcosm experiments	
Anna-Maria Vafeiadou	Maria Vafeiadou 17:30 ~ 17:45 Food web analysis of meiobenthos in estuarine seagrass beds		

Organized by **Dong Sung Kim** 

#### **Session 10**

## Marine Biodiversity in Korea - Research and Future

**Chairperson: Dae-Yeon Moon** 

Speaker	Time	Title	
Registration	09:00 ~09:20		
Donghyun Shim	09:20 ~ 09:30	Opening for Special Session 10	
Yong-Rock An	09:30 ~ 09:45	A review of marine mammals in Korean waters	
Sung Min Boo	09:45 ~ 10:00	Marine algal diversity and distribution patterns in Korea	
Jae-Sang Hong	10:00 ~ 10:15	Biodiversity of Macro-Invertebrates in Korean Tidal Flats Based on the 5-year Nationwide Survey (2008~2012)	
Jin Koo Kim	10:15 ~ 10:30	Speciation by distance of the Pacific sand lance (PISCES) around the Korean peninsula	
Jong-Woo Park	10:30 ~ 10:45	Ecophysiological research on subtropical epiphytic dinoflagellates isolated from Korean coastal waters	
Martin V. Sørensen	10:45 ~ 11:00	Kinorhynch biodiversity in Korea	
Jinwook Back	11:00 ~ 11:15	Introduction to Marine Biodiversity Institute of Korea	
Dae-Yeon Moon	11:15 ~ 11:30	Wrap-up	

Organized by **Dae-Yeon Moon 26 July 2013** 

## POSTER PRESENTATION

No	Presenter	Title	
PP01	Alexei V. Tchesunov	Fine morphological features of a desmoscolecide <i>Tricoma albimaris</i> (Nematoda, Desmoscolecida)	
PP02	Alexei V. Tchesunov	Marine tardigrade species in Nha Trang Bay, Central Vietnam	
PP03	Andreas Schmidt- Rhaesa	A new species of <i>Tubiluchus</i> (Priapulida)	
PP04	Andreas Schmidt- Rhaesa	Interstitial chaetognaths are further distributed than known	
PP05	Anna-Maria Vafeiadou	The response of marine nematodes to temperature fluctuations and episodic extremes	
PP06	Cheng-Ann Chen	Descriptions on <i>Setosabatieria</i> cf. <i>hilarula</i> from the intertidal zone of Chek Jawa, Singapore	
PP07	Dong Ju Lee	Comparison of body types of harpacticoid copepods in sand mining and non-mining area in the Yellow Sea	
PP08	Eun-Ok Park	A new species of the genusTigriopus (Copepoda: Harpacticoida: Harpacticidae) from Antarctica	
PP09	Fanghong Mu	New <i>Mesopsyllus</i> (Harpacticoida, Canthocamptidae) from the Bohai Sea, China	
PP10	Federica Semprucci	Marine nematodes as bioindicators in the assessment of riverine impact (Central Adriatic Sea, Italy)	
PP11	Francesca Pasotti	"To cope or not to cope?" Potter Cove (West Antarctic Peninsula) shallow water benthos under glacier retreat forcings	
PP12	Hans-Uwe Dahms	Ecotoxicology of copper in a harpacticoid copepod: rapid life-cycle assays with <i>Tigriopus japonicus</i>	
PP13	Hans-Uwe Dahms	Meiofauna in Life Science Education	
PP14	Hans-Uwe Dahms	Mesophotic reefs in the Caribbean as biodiversity hotspots – with a description of <i>Longipedia</i> sp. nov. Claus, 1863 (Copepoda: Harpacticoida: Longipediidae).	

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PP15	Hayato Tanaka	The evolution of non-genitalic structures of the ostracod genus <i>Parapolycope</i> , with an insight into the speciation under the interstitial habitat	
PP16	Heegab Lee	Community structure of meiobenthos and ecological index applied in the major Bay, Southern Coast, Korea	
PP17	Hirokazu Ozawa	Taxonomy and sexual dimorphism with paedomorphosis of <i>Loxoconcha kamiyai</i> (Ostracoda: Podocopida) from the Pleistocene of Japan	
PP18	Hiroshi Yamasaki	Kinorhynchs in Japanese waters	
PP19	Hiroshi Yamasaki	Phylogeography of two species of intertidal <i>Echinoderes</i> (Kinorhyncha) in northern Japan	
PP20	Hyeonggeun Kim	The first record of a <i>Vasostoma</i> Wiser species (Nematoda: Monhysterida: Comesomatidae) from South Korea	
PP21	Hyun Woo Bang	Temporal dynamics of Harpacticoida family diversity following the deepwater horizon oil spill	
PP22	Ivana Karanovic	A new species of <i>Parapolycope</i> (Crustacea, Ostracoda, Polycopidae) from Korea	
PP23	Je Hyeok Oh	Changes in survival rates by stages of harpacticoid copepods, Tigriopus japonicus with increases in dissolved CO <sub>2</sub> in seawater	
PP24	Jeongho Kim	A new species of Anthuridea (Crustacea: Isopoda) from Sokcho Beach, South Korea	
PP25	Jeroen Ingels	On methane seeps, worms, and parasitic fungi: microsporidia-infected nematodes reveal another secret of the deep sea	
PP26	Jimin Lee	A new gastrotrich species of the genus <i>Tetranchyroderma</i> (Macrodasyida: Thaumastodematidae) from Korea	
PP27	Jong-Geun Park	A new genus and two new species of Parabathynellidae (Malacostraca: Syncarida) from South Korea	
PP28	Jung-Ho Hong	A new species of the genus <i>Abelbolla</i> (Nematoda: Enolida: Enchelidiidae) from Meamul Island, Korea	
PP29	Jung-Ho Hong	A new species of the genus <i>Ledovitia</i> (Nematoda: Enolida: Enchelidiidae) from Meamul Island, Korea	
PP30	Jyotsna Sharma	A Preliminary Survey of Free-Living Marine Nematodes in the Intertidal Areas of Davao Gulf, Philippines	

PP31	Kanghyun Lee	Study of morphological deformity of <i>Tigriopus japonicus</i> s. l. by Midultraviolet radiation (UVB)	
PP32	Külli Lokko	Seasonal variability, horizontal and vertical distribution of zoopsammon in the Eastern Baltic Sea	
PP33	Maremi Sato- Ueshima	The meiobenthos from benthic sediments in the west Pacific and the Bering Sea, with description of possible new species	
PP34	María Herranz	Myoanatomy of Kinorhyncha: 3D reconstruction on the genus <i>Echinoderes</i> through confocal laser scanning microscopy	
PP35	Martin V. Sørensen	Kinorhynchs from the Gulf of Mexico collected before and after the Deepwater Horizon oil spill	
PP36	Nasiratul Shahida Mat Nasir	Meiobenthos composition with general description of some species of harpacticoid copepods found at Karah's microhabitat, Bidong Archipelago, Malaysia	
PP37	Nataliia P. Fadeeva	A Study on the feeding ecology of marine nematodes using analysis of gut contents and fatty acid markers	
PP38	Nataliia P. Fadeeva	Long-term assemblage changes of microbenthic algae and meiobenthos of the subtidal sand site (Sea of Japan)	
PP39	Nikolaos Lampadariou	Functional shifts in abyssal nematodes: a fifteen-year period study (1991-2004) at the Porcupine Abyssal Plain, NE Atlantic	
PP40	Nikolaos Lampadariou	Multiple spatial scale analysis of free living nematodes from chemosynthetic environments in the deep eastern Mediterranean Sea	
PP41	Nuria Sánchez	New species of homalorhagids (Kinorhyncha: Homalorhagida) from Korea and the East China Sea	
PP42	Raehyuk Jeong	Rotifers living in freshwarer of Jeju-Island	
PP43	Rohayu Ramli	A field experimental study on colonization of meiobenthos in azoic estuari sediment	
PP44	Samuel Gómez	Checklist of harpacticoid copepods from Mexico, with a list of unpublished records of genera and species	
PP45	Samuel Gómez	Optimal conditions for the culture of <i>Amphiascoides atopus</i> (Harpacticoida: Miraciidae)	
PP46	Samuel Gómez	Redescription of <i>Amphiascoides atopus</i> Lotufo & Fleeger, 1995 (Copepoda: Harpacticoida: Miraciidae) from northwestern Mexico	

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PP47	Sang-kyu Lee	Preliminary results on the taxonomic study of the varunid crab, <i>Acmaeopleura parvula</i> , (Crustacea: Decapoda: Brachyura) from Korea	
PP48	Seok Hyun Lee	Larval stages of <i>Romaleon gibbosulum</i> and <i>Metacarcinus magister</i> (Crustacea: Decapoda: Cancridae) from laboratory reared materials	
PP49	Shinta Fujimoto	Two possibly new loriciferans from Japanese waters	
PP50	Sung Joon Song	A new species of the genus <i>Peltidium</i> Philippi, 1839 from southern Korea (Copepoda, Harpacticoida), with a review on the genus	
PP51	Supawadee Chullasorn	A new species of <i>Nitokra</i> (Copepoda: Harpacticoida: Ameiridae) from Bangsaen sandy beach, Thailand	
PP52	Supawadee Chullasorn	Diversity of Harpacticoid Copepods in Thailand	
PP53	Tae Seo Park	A taxonomic study on the <i>Hediste japonica</i> species complex (Polychaeta: Nereididae) of Korea	
PP54	Taekjun Lee	Molecular Analysis of Korean Invasive Alien Ascidians based on mt-COI and nuclear 18S DNA sequences	
PP55	Taekjun Lee	DNA barcoding of Korean Echinoids for species identification and recognition	
PP56	Teawook Kang	Differential responses of the meiobenthic community to an oil spill experiment in the intertidal zone, Tea-an Coast, Yellow Sea, Korea	
PP57	Tania Nara Bezerra	Two new species of <i>Rhynchonema</i> (Nematoda: Xyalidae) from two tropical sandy beaches in Ecuador and Brazil	
PP58	Tomislav Karanovic	Endemism of subterranean copepods in Korea and their connections with the Japanese fauna	
PP59	Vadim O. Mokievsky	Harpacticoida (Copepoda) fauna and the taxocenes structure in the plankton of brackish lagoons and estuaries of the Far East	
PP60	Vadim O. Mokievsky	The quantitative distribution of meiobenthos in the Baydaratskaya Bay (the Kara sea)	
PP61	Vladimir Mordukhovich	Intertidal metazoan meiofauna in three lagoons of Sakhalin Island (Sea of Okhotsk, Russia)	
PP62	Ye Eun	A study on the Invertebrate in a seagrass bed	

PP63	Yongfen Du	Response of meiofauna to the exotic of <i>Spartina alterniflora</i> : a case study of salt-marsh in Southern Jiangsu, China	
PP64	Younga Cho	A new species of the genus <i>Normanella</i> (Copepoda: Harpacticoida: Normanellidae) from Gwangyang Bay, Korea	
PP65	Yuriko Nakao	Brackish-water Ostracoda (Crustacea) from the eastern and western parts of Tokyo Bay, Central Japan	
PP66	Yuriko Nakao	Copulatory behavior and depositing eggs in <i>Angulicytherura miii</i> (Ostracoda: Crustacea): Strategies in a winter-ephemeral species	
PP67 Zaleha B. Kassim Harpacticoid And Potential Harpacticoid Copepod Cys Lagoon		Harpacticoid And Potential Harpacticoid Copepod Cyst In Coastal Tropical Lagoon	

#### INTERNATIONAL ASSOCIATION OF MEIOBENTHOLOGISTS

#### APPLICATION FOR MEMBERSHIP OR RENEWAL

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 actively is interested in the study of meiofauna. Annual membership dues are EU\$10 (US\$10) and payment for up to 3 years in advance is possible. New members will receive Psammonalia beginning with the February issue of the year joining. Additional contributions to the Bertil Swedmark Fund, used to support student attendance at the triennial conferences, is encouraged.

Please check the appropriate boxes:

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(*) New members are end	couraged to introduce	yourself to members in a short	bio (ca. 10 lines).

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