

NEWSLETTER

EUROPEAN CENSUS OF MARINE LIFE



Finding new life



Welcome to the third edition of the EuroCoML Newsletter....

Welcome to the autumn edition of the EuroCoML newsletter, I hope that you enjoyed reading the last issue?

NEWS ~

Lots has been happening since the last newsletter some of which is highlighted here, for other information, such as meetings, workshops, etc. that are being hosted in Europe, these are highlighted on the website - www.eurocoml.org.

Since the last newsletter many of you will have heard the sad news of the death of Francesc Pages. In the short time that he had been a member of the SSC he had contributed in many ways to EuroCoML. He will be sorely missed by all that new him and who worked



New member ~

EuroCoML recently invited Josep (Pep) Gasol to become a member of the SSC.

Pep is interested in planktonic microbe abundance



and activity, and the ecosystem effects of their abundance and activity. This implies the study of the factors that regulate the abundance of planktonic microorganisms and those that regulate microorganism community structure (size, functional and

taxonomical structure), and how the physical changes in the marine environment (macro-, meso- and microscale structures) affect these parameters.

As an example, how predation and resource availability regulate bacteria abundances,

bacterial use of DOC, and how they regulate the composition of the microbial "black box" in terms of size structure and metabolic characteristics of the community. This is approached by empirical analysis of data bases of organism abundance, growth and loss rates, generated mainly in cruises; by mesocosm and microcosm experiments; and by the combined use of image analysis and flow cytometry and metabolic fluorescent probes. Lately, he has also been interested in the functional aspects of diversity: how diversity and ecosystem functioning are linked, what is the functional relevance of functional gene diversity, etc. Pep's main workplace is the ocean, with special interest in the Microbial Observatory of Blanes Bay. However, Pep says that lakes and any other water bodies are also nice study sites in which to approach these issues.

Information ~

If you have any information that you want to publicise on the website please do not hesitate to contact me (Bhavani.Narayanaswamy@sams.ac.uk). If you have any suggestions or ideas for the newsletter or, would like to briefly comment on any research that you have undertaken, meetings attended or any general news items I will highlight it in the following issue.

In this issue ~

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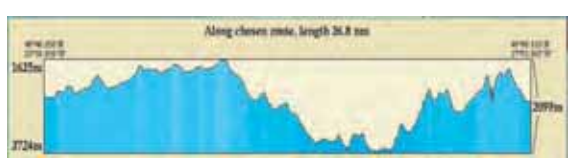


Affiliated Projects ~

At the last EuroCoML Executive meeting, two projects requested affiliation to EuroCoML. The first was ECOMAR coordinated by Monty Priede (UK) and the second was SESAME coordinated by Evangelos Papathanassiou (Greece). The next couple of pages highlights what the projects aims and objectives are.

ECOMAR ~ Ecosystems of the mid-Atlantic Ridge at the sub-polar front and Charlie-Gibbs Fracture Zone

ECOMAR, funded by the Natural Environment Research Council (NERC), is a UK project aimed at understanding how physical and biogeochemical factors influence the distributions and structure of deep-sea communities. The project will focus on the fauna at four sites on the Mid-Atlantic Ridge. Two sites are located on either side of the MAR and to the north and south of the Charlie Gibbs Fracture Zone (CGFZ), which coincides with the Sub-Polar Front.



(Made with Olex software)

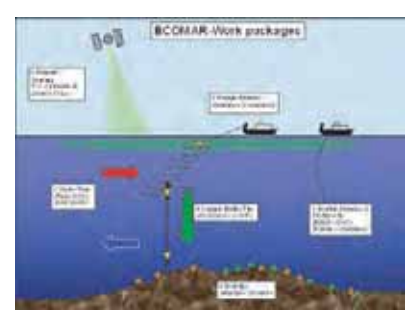
Using these localities ECOMAR scientists will investigate the effects of topography and currents on the distribution of the fauna, and the effects of varying organic input.

The overall objectives of ECOMAR are 1) to determine the local and regional impact of the MAR as a physical structure on the ecology of the North Atlantic Basin in terms of production, biomass and biodiversity from the surface to the deep-sea benthos and 2) to use these data to infer the effects of mid ocean ridges on the global ocean.

ECOMAR ~

ECOMAR work packages

- ★ Describe the physical flow regimes, both at the surface and the seafloor, across four sites located either side of the sub-polar front. Reference will be made to their specific role in mixing nutrients and influencing the down-ward transport of organic carbon.
- ★ By remote sensing, appropriately calibrated by in situ incubations, produce regional estimates of surface primary production and likely export flux over the study area.
- ★ Measure the export flux of organic matter to the seafloor using sediment trap moorings located at each of the four study sites.
- ★ Compare the distribution and abundance of pelagic biomass in relation to the position of the Mid-Atlantic Ridge at either side of the CGFZ and to the accompanying varying regimes of primary production encountered either side of the Sub-Polar Front.



- ★ Measure benthic biodiversity and biomass comparing species composition with similar depths at East and West Atlantic margins using traps, suspended camera systems, landers, and targeted ROV-based survey and sampling.





ECOMAR cont. ~

★ Assess the possible boundaries to gene flow at the MAR and Sub-Polar Front and also the genetic population structure of target species in comparison with the East and West Atlantic margins. Representative vertebrate and invertebrate species with different life histories will be compared to test hypotheses about the relationship between MAR ecology, physical oceanographic factors and genetic dispersal.



The first cruise has been taking place this summer on board the RRS *James Cook* which sailed from Southampton out to the Mid-Atlantic Ridge and finished in the Clyde (Scotland). For those of you interested there is a cruise diary available at www.oceanlab.abdn.ac.uk/ecomar. There will also be cruises in summer 2008 on the RRS *Discovery* and in 2009 on RRS *James Cook* using the UK ROV *Isis*.

ECOMAR is coordinated by Professor Monty Priede and Nikki King is the project officer, both are at the University of Aberdeen. ECOMAR is also a sub-project of MAR-ECO. For further information please visit the ECOMAR website <http://www.oceanlab.abdn.ac.uk/ecomar/index.php>



SESAME ~

Southern European Seas: Assessing and Modelling Ecosystem Changes

SESAME aims to assess and predict the changes in both the Mediterranean and Black Sea ecosystems. Assessment of these changes will be based on identification of major regime shifts that have taken place in the last 50 years. Mathematical models, which will be validated and upgraded using existing and new observations, will be used to predict ecosystem responses to changes in climate and anthropogenic forcings during the next five decades. SESAME will also study the effect of the ecosystem variability on key goods and services with high societal importance like tourism, fisheries, ecosystem stability through conservation of biodiversity and mitigation of climate change through carbon sequestration in water and sediments. The Mediterranean and Black Sea will be approached as a coupled climatic/ecosystem entity, with links and feedbacks to the world ocean.



Objectives:

The objectives of SESAME are:

- ★ To assess changes in the Mediterranean and the Black sea ecosystems (representing the Southern European Seas, SES) over the last 50 years.
- ★ To assess the current status of these ecosystems through analysis of existing and newly collected data at basin scale as well as through model simulations.



SESAME cont. ~

- ★ To predict changes in the SES ecosystems, using existing and new observations at a regional and basin scale in order to construct scenarios of the ecosystem responses to likely changes in climate and anthropogenic forcings during the next five decades.
- ★ To assess and predict changes in the ability of the SES ecosystems to provide goods and services. Ecosystem variability has affected, inter alia, specific goods and services with potentially high societal importance (goods: tourism and fisheries - services: ecosystem stability through conservation of biodiversity, and mitigation of climate change through carbon sequestration in deep waters and sediments). SESAME will identify the ecosystem functions (observed and predictable from model simulations) that are pertinent to these goods and services as well as their changes during the last decades.

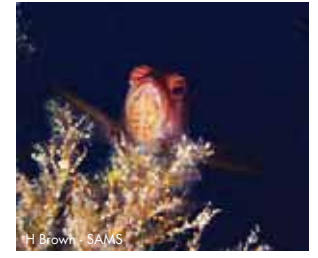


IMPACT AND APPLICATIONS

SESAME will address the assessment and prediction of changes in ecosystems through the interpretation and synthesis of available and new observations; the inter-calibration/inter-comparison of datasets; the identification of gaps in knowledge; the understanding of past changes through hindcasting; the exploration of possible future changes; the upgrading and/or development and improvement of process-oriented predictive dynamic models; the development of indices/indicators for ecosystem

SESAME cont. ~

changes connected to societal scenarios and needs as well as the establishment of several stations for future
The project will take explicitly into account a number of factors considered to affect specifically the management of SES marine ecosystems. A key task is to set the basis for an improved "societal dialogue" between scientists, resource managers, politicians and other stakeholders in a period of enormous social and political changes in Europe. Therefore, SESAME will have a significant impact on the prospects of sustainable development in the region by a) enhancing the 'resource consciousness' for the SES marine assets, b) improving governance at all levels by producing effectively 'usable' scientific and socioeconomic information and c) providing solid bases to ensure the sustainable management of natural resources.



SESAME's first multi-national cruise to the Black Sea has recently finished. In the next issue of the EuroCoML newsletter we will have an update on the highlights of the cruise. To see the cruise diaries follow the link:
<http://www.sesame-ip.eu/public/schools-and-cruises>

SESAME, an EU FP6 Integrated Project, is coordinated by Dr Evangelos Papathanassiou who is based at HCMR, Greece. For further information please visit the website:
<http://www.sesame-ip.eu/>



Education and Outreach

EuroCoML and friends go to the BA in York

EuroCoML, HERMES, MarBEF and MarLIN all joined forces to host a marine biodiversity exhibition, "From the shore to the depths of the Ocean..." at the British Association's Festival of Science held in York, UK. The exhibition was a resounding success with children and teachers alike interested to find out more about the sea.



The "beasts in jars!" went down a storm, particularly with those that had seen the film "Finding Nemo"; a large anglerfish was present to delight and horrify those that dared to come closer to inspect it. Some children sat completely absorbed, listening as the different animals were described ignoring the fact that this was the third or fourth time round that they were being told the same stories about the animals in jars.



Vikki describing the different animals seen in the jars.

Education and Outreach cont. ~

The game, "Winners and Losers" was a success where children had to decide whether the animals on the cards would win or lose if their habitat changed e.g. due to climate change. Prizes of fridge magnets, sparkly pencils and sticky fluffy octopus were handed out to those that answered questions correctly and were highly sought after! Many children came back time and again bringing different groups of friends with them saying that this was the best stand in the hall – praise indeed!!



Roisin and Bhavani helping the children play "Winners and Losers."

The group will update the exhibition and have it translated into Spanish for the World Marine Biodiversity Conference to be held in Valencia, Spain in November 2008. Over the next year, the group will continue to develop new ideas and collaborate on education and outreach ideas.

The project officers involved in this venture are:
EuroCoML - Bhavani Narayanaswamy
HERMES - Vikki Gunn
MarBEF - Rosisin Nash
MarLIN - Guy Baker

Website update

In the last couple of months a variety of lesson plans and links have been placed on the EuroCoML website. Feel free to pass the information on to your local school or visit the education page on the EuroCoML website.



EuroCoML TAXONOMIC WORKSHOP BURSARIES ~

EuroCoML has funding for individuals undertaking research in Europe to allow them to participate in taxonomic workshops, particularly those related to the CoML programme. The workshops should be based in Europe and applicants can apply for a maximum of US\$1,000 (depending on the exchange rate this is about 700 euros).

The applicant is required to submit a 1-2 page proposal detailing:

- ✦ What the taxonomic workshop is about,
- ✦ Who is organising the workshop and how it relates to the CoML programme,
- ✦ How attendance at the workshop will benefit the researcher,
- ✦ The expected costs, specifying travel expenses and lodging,
- ✦ Any financial contribution made from another source.

Please contact Dr Bhavani Narayanaswamy, the EuroCoML Project Office (bn-t@sams.ac.uk), if you have any questions or queries.

First round deadline: **Friday 14 December 2007.**

GRANT AVAILABILITY ~

The global Census of Marine Life on Seamounts projects has mini-grants available (total pool approximately US\$60,000) to:

- ✦ Expand the scope of already funded expeditions,
- ✦ Provide additional funding to support the development of large, collaborative proposals,
- ✦ Aid data recovery and linkage e.g. fund student assistance for data.

Guidelines and an application form are available on the CenSeam website:

http://censeam.niwa.co.nz/censeam_news/Minigrants_2007

The closing date for applications is **Thursday 8 November 2007.**

The Census of the Diversity of Abyssal Marine Life (CeDAMar) announces a fellowship program for deep-sea taxonomists who can fulfill the following criteria:

- ✦ Taxonomists studying material from CeDAMar expeditions wanting to visit a foreign institute, e.g. a museum collection to examine type material,
- ✦ Taxonomists working with abyssal material from elsewhere wanting to visit an institute where CeDAMar material is being processed, e.g. to compare own specimens with material collected during CeDAMar field efforts.

Further information can be found on the website:

http://www.cedamar.org/index.php?option=com_content&task=view&id=135

The closing date for applications is **Saturday 15 December 2007.**

CALENDAR OF FORTHCOMING MEETINGS ~

11 - 18 November - 3rd All Programme CoML Meeting, Auckland, New Zealand

January 2008 - EuroCoML Executive Committee meeting, Amsterdam, the Netherlands

February 2008 - COMARGE Workshop on large scale patterns in bathyal free-living nematodes, Ghent, Belgium

5-26 April 2008 - 9th Advanced Phytoplankton Course 'Taxonomy and Systematics', Stazione Zoologica 'A. Dohrn', Napoli, Italy,

April 2008 - CeDAMAR Workshop on Atlantic deep-sea biodiversity, Santiago de Compostela, Spain

6-11th July 2008 - 8th Larval Biology Symposium, Lisbon, Portugal,

11 - 15 November 2008 - 1st World Marine Biodiversity Conference, Valencia, Spain

EuroCoML Committee Members

Graham Shimmield – EuroCoML Chairman, Director Scottish Association for Marine Science, Scotland, UK
Bhavani Narayanaswamy – EuroCoML Project Officer, Scottish Association for Marine Science, Scotland, UK
Roberto Danovaro – Polytechnic University of Marche, Italy
Anastasios Eleftheriou – Institute of Marine Biology, Crete (HCMS), Greece
Stratis Georgakarakos - University of the Aegean, Greece
Carlo Heip – Netherlands Institute of Ecology, the Netherlands
Alasdair McIntyre – University of Aberdeen, Scotland
Henn Ojaveer – Estonian Marine Institute, Estonia
Isabel Sousa-Pinto – Centre for Marine and Environmental Research, Portugal
Niamh Connolly – ESF Marine Board, France
Nicole Dubilier – Max Planck Institute of Marine Microbiology, Germany
Jean-Pierre Féral – Centre d’Oceanologie de Marseille, France
Josep Gasol - Institut de Ciències del Mar-CMIMA, Spain
Andrey Gebruk – P.P. Shirshov Institute of Oceanology, Russia
Pedro Martinez Arbizu – DZMB, Forschungsinstitut Senckenberg, Germany
Nelli Sergeeva - Institute of Biology of the Southern Seas, Ukraine
David Starkey – University of Hull, UK

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H Brown - Scottish Association for Marine Science, UK.
D Fiege - Forschungsinstitut Senckenberg, Germany.

J Kotta - Estonian Marine Institute, Estonia.
K Raskoff - California State University, USA.

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