



Marine soft-bottom habitat.

can also be projected (metres instead of decimal degrees) using the Lambert Azimuthal Equal Area or the Azimuthal Equidistant

projection. In this way the different stations (and distribution records) can be grouped, depending on the defined grid dimensions. This tool will possibly be expanded and more automated in the future.

Finally, when all selections and analysis are done, the Macroben database will allow exportation of the data matrix to a 'common known' matrix file, which can then be imported into statistical analysis software, such as Twinspan, PRIMER, ADE-4 and R-Package.

The final version of the database, which can be downloaded from the MarBEF website by all Theme 1 members and data providers, was distributed to all the interested parties on 25

November 2005. Additionally, an extensive manual to accompany the database was also provided.

For any comments on the database structure, functionality or content, please get in touch through data@marbef.org. The MarBEF data management team (VLIZ) will keep this database up to date.

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RESEARCH THEMES

MarBEF Theme 2: Marine Biodiversity and Ecosystem Functioning

RMPs: progress report

By Rebecca Aspden & Iris Hendricks

THE RESPONSIVE MODE PROJECTS of MarBEF (Phase 2) began in 2005 with sessions to discuss and develop the RMPs included in the organisation of Milestone 4-SCP-3.1, a workshop entitled "*Ecosystem Stability vs Marine Biodiversity: Assessing the Evidence.*"

This workshop was held in Tavira, Portugal, and was planned so that participants could combine the workshop with the GA meeting in Porto in March 2005 (see report in Autumn 2005 edition of the MarBEF newsletter). The RMP phase is now well and truly under way,

and Theme 2 members have taken the first steps towards addressing the key issues of this research area.

Theme 2 consists of seven RMPs (Table 1), previously introduced in the Autumn 2005 MarBEF newsletter. The overall aims of these RMPs are to determine rates of ecosystem functionality in both benthic and pelagic systems, by generating theories, models and experimental tests of the relationship between marine biodiversity and ecosystem function.

All seven of the Theme 2 RMPs have hosted their kick-off meetings, and plans have been made to begin experimental tests in each of the

key areas. Details of the meetings and any downloads regarding these RMPs can be obtained from the individual RMP websites (Table 1), and minutes of the kick-off workshops are placed as deliverables in the download section of the MarBEF webpage (www.marbef.org).

BIOFUSE has held two meetings, beginning with a workshop in Dublin, Ireland, in July 2005. The second workshop was held in Viana, Portugal, in January 2006. During the Viana workshop, experimental designs and protocols were finalised in order to address "quantifying stability at sites of naturally differing diversity and exposure to disturbance."

Table 1: THEME 2 RMPs (RESPONSIVE MODE PROJECTS)

RMP code	Title	Principal Investigator(s)
RMP 4-1	RMP on Genetic Biodiversity (GBIRM) (website under construction)	J.-P. Ferral
RMP 4-2	The role of native and/or invasive ecosystem engineers in explaining biodiversity	T. Bouma, P. Herman, T. Ysebaert
RMP 4-3	Pan-European gradients in propagation and settlement events	K. Philippart
RMP 4-4	Effects of BIOdiversity on the FUncioning and Stability of marine Ecosystems – European-scale comparisons (BIOFUSE) (http://www.marbef.org/projects/biofuse/index.php)	T. Crowe, L. Benedetti-Cecchi
RMP 4-5	Functioning of FOOD Webs across ecosystems of different BIOdiversity level (FOODWEBIO) (http://www.marbef.org/projects/foodwebio/index.php)	A. Sokolowski
RMP 4-6	Microbial diversity and ecosystem functions: concepts, open questions and recommendations for integration of microbes into general ecological frameworks	K. Jürgens, J.M. Gasol
RMP 4-7	Role of Secondary Metabolites in Ecosystem Biodiversity (ROSEMEB) (http://www.marbef.org/projects/rosemeb/index.php)	A. Ianora

Field-based manipulative experiments on soft sediments, sea-grasses and rocky shores have been planned, examining the biodiversity functioning-stability relationships. Both "simple" and "complex" design and protocols were agreed upon. Presentations on the approaches for measuring ecosystem functioning were given, and a morning was spent on the shores of Viana in order to develop agreed protocols for sampling biota and measuring ecosystem functioning.

We would like to welcome Mathieu Cusson of the BIOFUSE team to this project. Mathieu will spend 18 months at University College Dublin and 18 months at the University of Pisa. He will be responsible for the collation and analysis of the data-sets and will take the lead in writing the publications.

The FOODWEBIO kick-off meeting took place at the Hel Marine Station (Hel, Poland) in November 2005, with 11 participants from eight institutes. The welcome and RMP overview were given by Adam Sokolowski. Each institute introduced their field locations to the participants.

Introductory presentations on "Trophic relations of key species: Stable isotope approach" (P. Richard), and "Functioning and stability of coastal systems: Network analysis approach" (H. Asmus) were then given, followed by group and plenary discussions. In order to fulfil the aims of the RMP, seven distinct working hypotheses were determined, each to provide an answer to one specific question related to the main aim. Since the start of the RMPs, FOODWEBIO has been communicated at one international conference and a training course. (Presentations and reports will be made available on the FOODWEBIO website.)

The Pan-European Gradients in Propagation and Settlement Events RMP held a kick-off meeting in Santiago de Compostella in June 2005. All participants introduced themselves and explained what they and their institutes could offer and hoped to gain as part of the project. The aim of the project is to identify phase changes in recruitment along latitudinal gradients, and all participants determined a standardised sampling regime from which useful data could be collected in order to answer the questions posed by the project.

The GBIRM kick-off workshop took place at Station Marine d'Endoume-Marseille in June 2005. Prior to the meeting, all participants were asked to fill out a questionnaire outlining what they could offer, what they hoped to gain from the project and any interesting ideas they wished to put forward. These were examined during the meeting and it was determined that all participants were hoping for similar outcomes from the project, including large-



Patrik Kraufvelin

MarBEF participants on the rocky shore at Viana during the 2nd BIOFUSE workshop.

scale sampling and co-analysis of data. Modifications were made to GBIRM tasks and time-tables, and these changes will be posted on the MarBEF website. Steps were taken to create a ranked list (by importance) of candidate species to be part of a co-phylogeographic analysis.

The ROSEMEB kick-off meeting took place at the Stazione Zoologica "A. Dohrn," Naples (SZN) (Italy) in November 2005. Eighteen participants attended the meeting, including researchers from the Stazione Zoologica A. Dohrn. The first day was dedicated to scientific presentations, to give the audience the possibility to present and discuss the scientific research expertise present within the ROSEMEB consortium and with the aim of integrating and building up potential collaborations.

Participants were welcomed by Dr Christina Gambi on behalf of the co-ordinator of the Benthos Ecology Laboratory (SZN). Presentations were given by Adriana Ianora, Serge Poulet, Raffaella Casotti, Giuliana D'Ippolito, Valerio Zupo, Maarten Boersma, Gunilla Toth, Helena Gaspar, Frederike Hoffman, Ernesto Mollo, Raffaella Raniello and Angelo Fontana. The following day was restricted to active ROSEMEB members and was dedicated to the organisation and practical issues related to the deliverables of the RMP. All presentations can be viewed on the ROSEMEB website.

The 'Microbial diversity and ecosystem functions: Concepts, open questions and recommendations for integration of microbes into general ecological frameworks' kick-off meeting took place in Barcelona in September 2005. Klaus Jürgens gave a brief summary of the general goals of the NoE MarBEF and of the content and goals of the RMP.

The main focus of the workshop was to develop a conceptual framework for the integration of microorganisms in theoretical

and experimental studies, focusing on the relationship between biodiversity and ecosystem functions. During the discussions, it was agreed that a conceptual paper, summarising the current understanding, differences between the research communities and gaps of knowledge, should be produced by the participants. Since the kick-off meeting, a further workshop has been held in Palma de Mallorca on the conceptual role of microorganisms in the debate on diversity and ecosystem functions.

The 'role of native and/or invasive ecosystem engineers in explaining biodiversity' kick-off meeting took place in Yerseke, The Netherlands, on the 24-26th January. During the course of the workshop, the overall group identified three main themes on which joined papers will be developed, by combining various datasets of the participants. Alongside the three main themes, smaller collaborations are being created and encouraged, either focusing on comparing species-specific data across sites or on joined experiments using unique facilities present at one of the participating laboratories.

In conclusion, Theme 2 RMPs are making great progress and we look forward to many exciting results and discussions in 2006.

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