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Dear Readers,

The MarBEF newsletter is evolving. This issue makes
for an interesting and holistic read that brings
together a wide variety of perspectives from
various disciplines in marine science, including
ecology, taxonomy, history, socio-economics,
policy, education and conservation. Viewing our
marine resources from these many perspectives
reflects a key aspect of MarBEF – the integration
of disciplines. Our readership is expanding rapidly
and includes not only all of the MarBEF scientists,
but many marine scientists outside of MarBEF, as
well as those in marine policy, management and
communication. The content of this newsletter
mirrors our varied readership.

As usual, the issue combines news on research
and activities within the MarBEF network with
features from the wider marine science
community. An interesting aspect of this issue is
the core of strong research contributions, raising
the scientific profile of the newsletter and of the
MarBEF network. Coupled with these are feature
articles of a more general nature and leisurely read.
Our **Letters and Notices** section has expanded
into **Opinion and Commentary**, allowing for a
wider scope of articles than in previous issues.

No doubt, the MarBEF newsletter will continue to
assert its own identity in the coming year. Your
comments and suggestions on this are more than
welcome. Finally, many thanks to all contributors to
this issue for your enthusiasm and excellent work.

Olive Heffernan, Editor



Introduction



THE FIRST YEAR OF MarBEF, despite the many small and not
so small problems, has been, in my opinion, a big success. A big
success because the MarBEF community exists, has shown that
it exists and has achieved a sense of purpose. This has only been
possible because of the enthusiasm and efforts of so many of
you. And it has been against many odds. Thanks to all.

MarBEF has had its first annual review by the European
Commission. The outcome of this review has been circulated
among the membership and undoubtedly you have all had a
good look at it. In general, the review was quite positive and we
can be happy about it. We got appreciation for a good start and the encouragement we
needed to continue along our chosen lines. But there were some points of concern as
well, which the Steering Committee (SC) and Executive Committee (EC) will have to
address in their September meetings: the link with the institutes’ directors, the gender
problem, the representation of Mediterranean institutes and scientists on the EC and SC,
changing the membership in general, our training and educational activities, the
involvement of SMEs and, of course, the administrative complexity and burden. We will
need champions to address all of these issues, and we will need them soon.

The next few months will be critical for MarBEF. The Core Research Programme and the
Responsive Mode Projects (RMPs) have been defined, though with some overlap, and
have already been or will be discussed soon between their participants. These RMPs
should make European marine biodiversity research relevant to the development of our
science and make it visible worldwide. What we expect from the RMPs are new, joint
research proposals and a review and synthesis of the field through papers in high-quality
journals. We must also seriously consider Nando Boero’s proposal for a European
Handbook on Marine Ecology, or perhaps a series of books. If we do not start this now,
it will soon be too late to start it at all. What we also expect are a series of statements or
fact-sheets for the public, and we need more effort on our links with the European
public in general. Biodiversity is not high enough on the political agenda.

Above all, through the research programmes we must create a strong research
community that will continue beyond MarBEF. Although MarBEF is already very visible,
both in Europe and internationally, we, all of us, have to continue to work on that. Our
presence at the European Geosciences Union (EGU) meeting in Vienna and the
American Society of Limnology and Oceanography (ASLO) meeting in Santiago de
Compostela was outstanding and our members were present in many other meetings as
well. Later in 2005, MarBEF will support the European Marine Biology Symposium
(EMBS) in Vienna and the Diversitas Open Science Conference in Oaxaca, Mexico, and
we hope to continue these efforts in 2006.

There is a political crisis and a crisis of confidence in the European Union. That crisis
will most probably seriously affect the research budget of the 7th Framework
Programme. Probably our future looks bleak and many of our dreams will not be
realised or will be strongly weakened and we will lose many years before the
opportunities will return. But that should not discourage us from continuing to act and
to believe in our cause. My personal belief is that Europe can only ‘survive’ and maintain
its high standard of living in a globalised economy if education, science and technology
remain basic pillars of society. Of course, MarBEF is only a very small activity, but it may
be exemplary for how European scientists get their act together to create a true European
Research Area for the benefit of society.

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Contents

Introduction 2

MarBEF Research Themes 3
MarBEF Research Phase II launched:
Responsive Mode Project Programme 3
Workshops and database (Theme 1) 5
Tavira Workshop and RMPs (Theme 2) 6
Exchange rate between scientific currencies
(Theme 3) 8

MarBEF Progress 10
MarBEF Communications and Outreach 10
MarBEF Data Management 11
MarBEF Training 12
New MarBEF scientific publications 12
Publish wisely or perish? 13

Features 6
New Species
Cryptomonad flagellates 14
Genetic Diversity
Macrophytes as models 15
Functional Diversity
The influence of the lugworm in
intertidal mudflats 17
Ecosystem effects of fishing in
Mediterranean reefs 18
Biodiversity Conservation
Role of a sustainable marine aquarium
trade 19
Aquatic Invasions
Phantom aliens in Mediterranean
waters 21
Dogwhelks in Dutch coastal waters 23
Historical Perspectives
History of Marine Animal Populations 25
Ocean Education
The role of natural history museums 26
Marine Policy
HELCOM Baltic Sea Action Plan 28

Opinion and Commentary 29
The end of an era: closure of Port Erin
Marine Laboratory 29
Complexity of biotic interactions 30
MarBEF GAP: why 40% and not 50%? 31
Errata (Issue No 2) 31

**MarBEF participants and
associate members 32**

RESEARCH THEMES

MarBEF Research
Phase II launched

The Responsive Mode Project programme

By Herman Hummel Pim van Avesaath

MarBEF HAS JUST launched the second phase of its research programme,
known as the Responsive Mode Programme. The phase should make
European marine biodiversity research visible worldwide, covering topics
from coastal to deep-sea biology and being truly pan-European in nature,
with projects spanning Arctic to subtropical climes.

ATOS / IFREMER



Dab Laffoley, English Nature

The RMP programme will cover topics from deep-sea to coastal ecology and
will span Arctic to sub-tropical climes.

The MarBEF Network has adopted a phased
approach to address its identified research
priorities. Within each research theme, there is
a Core Strategic Programme (CSP) – the major
top-down steered joint activity for the theme –
which engages a large proportion of MarBEF
members in joint integration activities. The
top-down approach guarantees that MarBEF
will focus on and devote major resources to
meeting priority objectives. The CSP will be
supplemented with Responsive Mode Projects
(RMPs) following a bottom-up approach. In
this RMP programme, outstanding smaller-
scale projects will be implemented that are
relevant to MarBEF’s objectives and that can fill
any emerging gaps in its overall CSP
programme.

During the project proposal preparation phase,
approximately 100 RMPs were suggested. The

number of proposed projects was too high,
with many overlapping and showing
possibilities for clustering. Therefore, during
the MarBEF General Assembly meeting in
Brugge, Belgium (March 2004), it was decided
to launch a new internal call for RMP pre-
proposals that would facilitate the introduction
of new thoughts and ideas and enable the
consortium to prepare larger, more integrated
plans. During the last year, a major task of the
Management Office was to guide the new
submission and evaluation of the RMPs.

In the second call, 31 proposals were received.
The projects were evaluated in the summer of
2004 on the basis of a set of criteria, including
integration of science and scientists, scientific
excellence of the plan and the consortium, and
coverage of the key areas for responsive modes
(see table 1). The quality of the proposals in

general was very high. Some projects had to be revised or could be clustered. The revision was finalised in autumn 2004, and at the beginning of 2005 the RMP coordinators were asked to write the final RMP plan in workpackage format.

Finally, 19 RMPs were accepted (table 2) and presented at the General Assembly in Porto, Portugal (March 2005). Thanks to the strong commitment of the RMP coordinators, the total process of evaluating and selecting the RMPs has been finalised six months earlier than planned, allowing most RMPs to start within the first 18 months of the project.

The projects and research consortia in the RMP programme show an integrated mix of expertise and key areas and themes addressed. There are some very large cross-cutting projects that will address issues of relevance to the three joint research themes (workpackages 3, 4, 5). In addition, there are two RMPs addressing other workpackages (RMP 1-1 and 8-1). Other somewhat smaller projects specifically address one key area. These more focused in-depth projects may appear to conflict with the interactive tasks of the NoE, but that is not the case. In such cases, the consortium consists of top specialists who will jointly address topics to fill in specific gaps of the CSP and, in this way, add to the integration of research.

The basis for all RMP projects will be integration of knowledge, data, science and scientists, not only within projects but also between projects. All activities within MarBEF remain accessible and open to the science community. Training activities, exchange and outreach are important aspects, and the Scientific Steering Committee will guard that sufficient attention be given to the stakeholders, the end-users and the public at large. This is important in its own right, and it is also imperative, with the onset of the 7th Framework Programme, to let the European community know what we are doing and what we consider to be important marine biodiversity issues.

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Table 1: SELECTION CRITERIA USED FOR THE RESPONSIVE MODE PROJECTS

Selection criteria were:

- degree of innovation (none, moderate, strong) (max 3 points, weight 3x)
- degree of matching the aims of the key actions (none, moderate, strong) (max 3 points, weight 3x)
- degree of matching with the aims of the CSP (none, moderate, strong) (max 3 points, weight 2x)
- degree of accordance with the general aims of MarBEF
 - integration of themes (cross cutting WPs) (none, 2 or 3 themes) (max 3 points, weight 3x)
 - integration of research disciplines (none, moderate, strong) (max 3 points, weight 2x)
 - integration of institutes (insufficient, few, several) (max 3 points, weight 1x)
- the requested budget (outrageous, too high, realistic) (max 3 points, weight 1x)

The proposals were divided as follows:

- (1) meets most criteria and belonging to the top priority projects
- (2) promising, yet needs polishing and/or re-direction
- (3) not meeting the criteria and to be rejected.

Table 2: SELECTED RESPONSIVE MODE PROJECTS

WP1: Data integration

- Bringing biogeographical data online.

WP3 Theme 1: Global patterns of marine biodiversity across ecosystems

- Causes and consequences of changing marine biodiversity – a fish and fisheries perspective.
- Biodiversity and ecosystem function under changing climatic conditions – the Arctic as a model system (ArctEco).
- Deep-sea & Extreme Environments, Patterns of Species and Ecosystem Time Series (DEEPSETS).
- Meiobenthic And Nematode biodiversity – Unravelling Ecological and Latitudinal Aspects (MANUELA).
- Web-accessible Taxonomic Expertise in MarBEF: PROviding an e-Platform for the European Taxonomists (PROPE-taxon).
- Large-scale and long-term Networking on the observation of Global Change and its impact on Marine Biodiversity (LargeNet).
- Integration of different methods to study ocean patterns and changes along the Mid-Atlantic Ridge.
- European integration of marine microplankton research (MARPLAN).
- Modelling key aspects of marine biodiversity.

WP4 Theme 2: Comparative analysis of marine biodiversity and ecosystem functionality

- Genetic Biodiversity (GBIRM).
- The role of native and/or invasive ecosystem engineers in explaining biodiversity.
- Pan-European gradients in propagation and settlement events.
- Effects of biodiversity on the functioning and stability of marine ecosystems – European-scale comparisons.
- Functioning of FOOD WEBS across ecosystems of different BIOdiversity level (FOODWEBIO).
- Microbial diversity and ecosystem functions: concepts, open questions and recommendations for integration of microbes into general ecological frameworks.
- Role of Secondary Metabolites in Ecosystem Biodiversity (ROSEMEB).

WP5 Theme 3: The socio-economic importance of marine biodiversity

- Development of decision support systems.

WP8: Outreach

- Pilot MarBEF Coast Watch network of students and amateurs in Europe.



Photographs ' P Wirtz, ImagDop

RESEARCH THEMES

MarBEF Theme 1: Global Patterns of Marine Biodiversity Across Ecosystems

Workshops and database

By John Gray Annelise Fleddum

Workshops

THEME 1 HAS ORGANISED three workshops so far this year. The first, held in Banyuls, France, (2–4 February) on the subject "How to Detect Changes in Biodiversity – Concept, Methods and Tools," was arranged by Doris Schiedek, Antoine Gremare and Keith Cooper. The purpose was to get a broad overview of concepts and methodologies and their application for monitoring and tracking changes in biodiversity at different temporal and spatial scales in a European context. There were 26 participants in total. The main topics discussed were:

- how to gain an overview of concepts and strategies to track changes in biodiversity;
- development of a database on manuals and protocols;
- agreement on concepts and appropriate methods to be applied using information and data from selected locations.

The workshop consisted of presentations and sub-group discussions.

The second workshop took place in Helgoland (2–4 March) on the subject "Long-term Dataset Networking." The purpose was to establish a large-scale network of research locations along the European coast to assess long-term changes in biodiversity. There were 20 participants and the topics for discussion were:

- identification and presentation of suites of data-sets (pelagic, soft and hard bottom);
- data policy;
- discussion of hypotheses to test and identify tools for comparison/evaluation of data-sets;
- an action plan for the LargeNet (Large-scale and long-term Networking on the observation of Global Change and its impact on Marine Biodiversity) MarBEF RMP (Responsive Mode Project).

This workshop also consisted of presentations and sub-group discussions.

The third workshop, held in Oslo (15–17 March), consisted of a small group of invited scientists working with soft benthic data collected from MarBEF partners. There were 11 participants working on various statistical problems. The aim was to test the user-



Photograph ' IMBC

friendliness and quality of the database and then to apply statistical and other approaches that might be used by the wider Theme 1 community. Some of the ideas analysed included: the variation in patterns of mean size of organisms with latitude and longitude; traits analyses and a null model for traits; a new model of species structure involving the number of species and their proportional abundance; and models of species-abundance patterns for different geographical areas. These tests resulted in ten hypotheses that would be appropriate for testing on the database by the wider Theme 1 community at the forthcoming workshop in Crete (24–28 October).

All of these workshops sought to gain a better understanding of how marine biodiversity varies across spatial and temporal scales, which is the most important task within Theme 1. The Banyuls, Helgoland and Crete workshops will also be helpful in structuring the LargeNet RMP.

Marine Biodiversity Database

Anders Bjørgesæter (part-time MarBEF research assistant) has spent much time developing a unique database that is probably the largest of its type in the world devoted to marine biodiversity. The Microsoft Access database includes quantitative data on soft-bottom benthic invertebrates ranging geographically from the Arctic to the North

Atlantic, coastal Norway and the Irish, Mediterranean and Black Seas. All the species have been quality-checked against ERMS. In summary, the database contains 3,616 taxa and 1,064,225 individuals, including 26,313 juveniles. Approximately 80% of the taxa are identified to species level. They are from a total of 1,243 sediment samples.

Presently, the database contains only soft-bottom benthic data, but will be enlarged over time to include datasets from other MarBEF participants. We urge all MarBEF participants working on other aspects of biodiversity to develop a similar data structure for their sphere of interest. We in Oslo do not have the expertise to do the necessary quality assurance to compile databases from other habitats. The database will be available for free download to all participants at the Crete workshop and will be open for download to all MarBEF participants thereafter. We encourage everyone within the MarBEF community to work on the data that are available and we welcome any comments on the user-friendliness or other aspects of the database.

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