
Long-established marine lab on the youngest sea on Earth.

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Presentation of conditions, possibilities, scientific objectives and projects that are presently carried out at the White Sea biological station of MSU. WSBS offers possibilities for full range of research: vessels, diving equipment, underwater apparatuses for field work; labs with analytical equipment for data treatment. There are several projects carried out on the station that are led by well-known marine researchers from Moscow State University and Institute of Oceanology.

Current research projects at the station:

1. "Symbiotic photosynthetic bacteria in the tissues of Hydrozoa (Sertulariida)".
Project leader: Dr. Igor Kossevitch
2. "Investigation of biology of underwater mast builders – amphipods, g. *Dulichia*".
Project leaders: Dr. Anna Zhadan, Prof. Alexander Tzetlin
3. "A study of obligate ectoparasitic dwarf males found in polychaetes (*Scolelepis laoncola*)".
Project leader: Dr. Elena Vortsepneva
4. "A study of marine ice invertebrate communities".
Project leader: Prof. Alexey Tchesunov
5. "Development of sea floor landscape mapping techniques utilizing remote geophysical methods and traditional geological and biological sampling methods".
Project leaders: Dr. Vadim Mokievsky, Prof. Alexander Tzetlin
6. "A study of Facetotectan larvae from the White Sea with description of a new species (Crustacea: Thecostraca)".
Project leader: Dr. Gregory Kolbasov
7. "Annotated list of flora and fauna, found in the vicinities of the White Sea Biological station (WSBS MSU)".
Project leader: Dr. Alexey Tchesunov
8. "The database (GIS) of marine flora and fauna at WSBS vicinities".
Project leaders: Dr. Anna Zhadan, Dr. Elena Vortsepneva
9. "Illustrated key for most abundant invertebrates of the White Sea with description of biology and distribution of several hundred invertebrate species".
Project leader: Prof. Nikolas Marfenin
10. "Monitoring sea mammal populations in Kandalaksha Bay".
Project is supported by IFAW, responsible person at WSBS – Prof. Alexander Tzetlin

MANUELA: developing an integrated database to perform joint analyses

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In the old days – before the computer and internet era – all information was written down in books or on small pieces of paper, making it sometimes hard to retrace certain information. Now, since the advent of wide-spread access to computers and the World Wide Web, finding, exchanging and saving information or data for future use has become a lot easier.

Unfortunately, too many good datasets are still lost. Either data are lost through a lack of adequate management (failing back-ups or no back-ups at all) or data just 'disappear' at the end of a project, when the people who actively collected the data leave the institute.

The possibility to archive datasets in a proper way is offered to scientists through MarBEF (*Marine Biodiversity and Ecosystem Functioning*), a network of excellence funded by the European Union. It serves as a platform to integrate and disseminate knowledge and expertise on - amongst others - marine biodiversity. All the received datasets are well documented so they can easily be tracked (e.g. information on origin and which data they contain).

MANUELA (*Meiobenthic and Nematode biodiversity, unravelling ecological and latitudinal aspects*) is one of the separate research projects within the MarBEF network of excellence. The objective of the

MANUELA project is twofold: (1) to develop a central integrated database capturing all the available data on meiobenthos on a broad scale, with a focus on the European marine and estuarine habitats and (2) to perform a joint analysis on the collected data, focussing on different aspects of how the meiobenthos activities are linked to ecosystem processes (e.g. universal effects of disturbance, nematode biomass spectra, patterns in deep sea meiobenthos, ...).

The first objective - creating an integrated database on meiobenthic species records - has already been reached. Twelve institutes from ten European countries have made a total of 86 datasets available. The collected data range from the deep sea to the coastal zone and from the Arctic to the Antarctic. Some of the data represent valuable time series, while others are just random in time. All these datasets have been documented in detail by metadata describing the actual data very accurately, but also giving information on the persons and institutes responsible for the collection of the data and an indication of the possible use of these data by third parties.

All these datasets have been compiled into one single - integrated - database, making it thus possible to perform joint analyses. The MANUELA-database not only gives the possibility to calculate diversity (e.g. Hill indices, taxonomic distinctness) but also provides the opportunity to exclude certain datasets or used sampling methods. Analyses can be performed on higher or lower taxon level, on presence or absence of certain taxa, replicates can be pooled and rare taxa can - if desired - be excluded. In short: the MANUELA integrated database gives a whole range of possibilities, but this has only been made possible by the contribution of a lot of scientists who were willing to share their data and provided a complete overview of their dataset (metadata) to make a good integration and standardisation possible.

As the integrated database has been fine-tuned, the scientific community of the MANUELA project has started their analyses. Results of these analyses and a detailed description of the database will be made available in scientific literature.

Biogeographic view on *Rhodopirellula baltica*: Intra-species specific differentiation of isolates from European Seas

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A project within RMP MARPLAN

Planctomycetes are a monophyletic phylum in the domain *Bacteria* and are involved in the aerobic mineralization of particulate organic matter in marine water bodies. A representative, *Rhodopirellula baltica*, has been completely sequenced and first-generation specific probes for the in situ detection have recently been published.

In the framework of the EU FP NoE on Marine Biodiversity and Ecosystem Function (MarBEF), we have started the enrichment and isolation of new *Rhodopirellula baltica* strains from a wide range of water and sediment samples from all over Europe. PCR-based fingerprint methods were evaluated for the intraspecies-specific characterization. A Multi-Locus-Sequence-Analysis was developed and started to obtain a high resolution differentiation between the strains. Our ongoing characterization of new strains addresses the diversity of *R. baltica* on one location (as reference) and the diversity of the strains from several sampling sites in Europe to explore a possible link between strain diversity and geographic position.

Here first results of the fingerprint methods are presented. For future work DNA-DNA-Hybridization and electron microscopy will be applied to the strain collection during short term sabbaticals in MarBEF partner institutes.