

Sixth Weekly Report
M76/3b-Guineco Leg 2

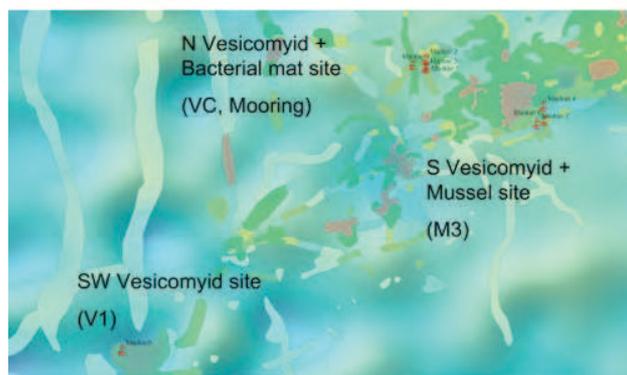
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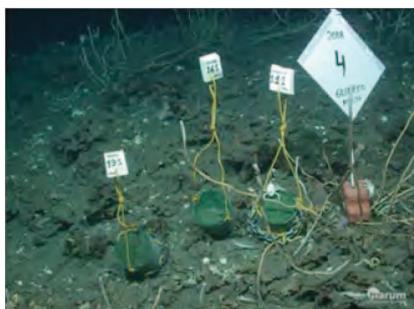
The sixth week of the GUINECO leg 2 seemed very short – a final dive, and 5 days of transit time back to Walvisbay, Namibia. However, the scientific program at REGAB ended with the longest dive of mission, dive 226, which was a highly successful 33 hour operation, including shuttle and ROV deployment and recovery.

All scientists got together in the afternoon of the 17 August to plan the final QUEST dive 226. The tasks included deployment of several profiling instruments, recovery of some experimental moorings, biological samples, water chemistry and the time-demanding “videomosaicking” in the areas where we had worked most. This is a special task for the ROV, where it has to fly at a constant altitude and velocity and known track over the seafloor to visually map organisms and habitats. Producing visual maps of benthic habitats is the only way of arriving at quantitative estimates for the areal coverage of visible structures – for example of the different bivalve species, the tubeworms, the carbonates. For this task, QUEST is equipped with a high quality camera looking downwards, to produce video footage and images, which can subsequently be put together like a “Mosaic”, using the positioning information. This sounds simple, but is really a complicated endeavor due to the difficulties of underwater positioning.

REGAB



The main working sites at REGAB indicated by the distribution of markers. The patches demonstrate the different benthic assemblages as recorded in 2001 by IFREMER biologists.



Colonization experiments
“TRAC”



DIWOOD colonization
experiment

Summarizing dive 226, it was really a success. We were able to recover the colonization experiments of the University of Paris 6, and also to take a look at, and a sample from the wood colonization experiment (project DIWOOD). We could observe that the wood was already accepted as new home to many shrimps, which normally prefer tubeworms and mussels as associates. Also, we carried out a nice set of in situ measurements.

The microprofiler was deployed three times to fill some gaps in measurements, and our Eddy system to measure integrated benthic community respiration was placed close to and away from vesicomid clams. Also, we stopped in the center to film the beautiful assemblage of organisms in the dense tubeworm forest. A peculiar feature of this habitat is the attachment of mytilid bivalves to the tubes, as well as the dense colonization by hydroid polyps. These are just examples of the fascinating deep sea life, and dive 226 truly gave us a feeling of how things could have been hadn't there be so many technical issues. Again, we were truly grateful to our ROV team who did not give up and realized this final dive of the GUINECO mission.



Microsensor profiler deployed close to a clam patch



The tubeworm landscape – a typical assemblage of organisms in the gassy center of the REGAB pockmark

The dive ended at 5:15 am in the morning of the 19 August with the recovery of the ROV QUEST, and the last action of the scientific program of expedition M76/3b MPI/MARUM was to retrieve the ROV shuttle. Then we set sails for a final, long parasound transect in the direction of Walvisbay. We have five days of transit to Walvisbay – finally everybody gets some time to rest, clean the labs, for packing, and for sorting data and samples.

With the end of the GUINECO leg 2, the METEOR expedition M76 to the West African Margin is also coming to an end. We thank the ship and its excellent crew as well as the coordinator of the M76 expedition Dr. Matthias Zabel, and all other supporters of this expedition. Further details of our daily work and the scientists on board can be found on the expedition BLOG hosted by www.planeterde.de. With regards - Antje Boetius and the Scientific Crew of GUINECO leg 2