

RV SONNE Expedition SO-306
COWIO (Port Louis, 08.08.2024 – Durban, 09.09.2024)

2nd weekly report

Last Monday, we began exploring the seabed off the island of Mayotte. The steep slopes of volcanic rock offer a variety of habitats, which we investigated with the Bremen ROV SQUID. To get a good overview of the diversity of fauna on the seabed, we carried out a total of 4 dives at the beginning of the week. We dived in water depths of 600 m to 1200 m, which is a favoured habitat for the cold-water corals that are in the focus of this expedition.

While diving, we realised that each depth interval has its own special features in the composition of the fauna. We were all impressed by a large *Paragorgia*, which belongs to the octocorals and is also known as 'bubblegum coral' because its tips resemble bubblegum bubbles. This *Paragorgia* in turn provided a habitat for many other organisms that colonise it.

In order to gain an overview of the variability of the hydrographic conditions on the sea floor, we deployed a lander on the sea floor on Monday. This continuously recorded measurement data for several days.

Another highlight for us was the first test of the giant box corer, which has recently been equipped with a video camera. The integration of a camera was quite a challenge due to the mechanics of the giant box corer. Everyone was therefore somewhat surprised that everything worked perfectly in this first test and that we were able to carry out targeted sampling with this device for the first time.

In addition to further sampling with the CTD and the water sampler, the epibenthic sledge and the multinet, we also manned the lookout, as we were asked to observe marine mammals and sea turtles in this region for the days we were working around the island of Mayotte. However, this was not very productive and apart from a few whales in the distance, the most exciting thing was a whitetip shark swimming alongside the SONNE.



A web-logbook for this expedition can be found here:

<https://www.marum.de/Logbuch-SO306.html>



ROV SQUID on its way to its first dive during expedition SO306 (© MARUM – Center for Marine Environmental Sciences, University of Bremen)



The octocoral *Paragorgia* serving as habitat for many other species (© MARUM – Center for Marine Environmental Sciences, University of Bremen)

We then left this working area on Thursday evening and set course for Tanzania, our next working area. We arrived there on Saturday morning and immediately started surveying. We soon discovered some mound structures on the seabed that piqued our interest. Once again, the video box grab was successfully deployed, which quickly showed us that these structures were slide blocks, which, due to their elevated structure on the seabed, are again a favoured habitat for the seabed fauna. A first ROV dive on Sunday took us to one of the numerous deep-sea canyons here on the East African continental slope. Here we saw numerous remains of plants demonstrating the important role that these channels play in transporting carbon from the land and shallow waters into the deep sea.

Everyone on board is doing well and enjoying the first-class catering on board, which is praised by everyone on a daily basis.

Best wishes from on board on behalf of all participants!

Dierk Hebbeln



The video-guided giant box corer on its first mission
(© MARUM – Center for Marine Environmental Sciences, University of Bremen)



A white-tipped shark swimming along RV SONNE
(© MARUM – Center for Marine Environmental Sciences, University of Bremen)