

## Project Update: December 2015

We conducted fieldwork located at Substation Curaçao of the Sea Aquarium Curaçao starting from 29<sup>th</sup> October to 27<sup>th</sup> November 2015. A few adjustments we had to take from our initial plan as the following:

- We could only focus on one site of sampling which was at the substation Curaçao. Exploring different sampling sites required a ship for transporting the submarine which at that time was not available. In addition, renting a ship is beyond our financial budget.
- During the sampling, collection was focused on sponges since we target exactly the same species along depth gradient and we have enough background information of sponge species we could expect. On the other hand we have limited info on corals along depth gradient on Curaçao and randomly sampling corals will not be eco-friendly. In addition, corals are listed on CITES and sampling requires a special permit which we could not obtain. This adjustment, however, do not change our main aim of study which is to assess the effect of depth on microbial composition and diversity of bioactive molecules.

On 30<sup>th</sup> October 2015 we conducted submersible dive using the Curasub to the depth 549 feet (~ 167m). The idea of observation diving was to get an overview of sponge species that we could find along a depth gradient. In total five submersible and two scuba dives were conducted during the field trip and gave results as the following:

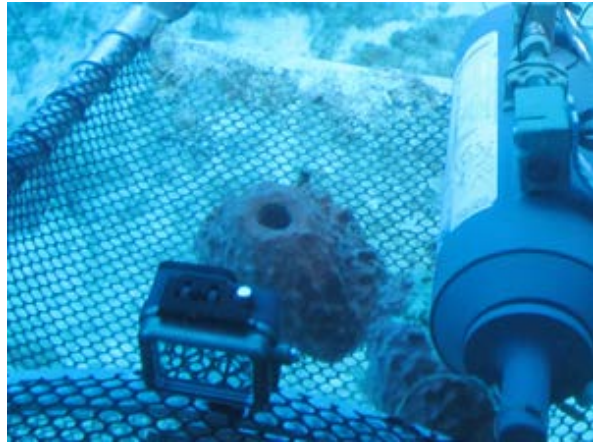
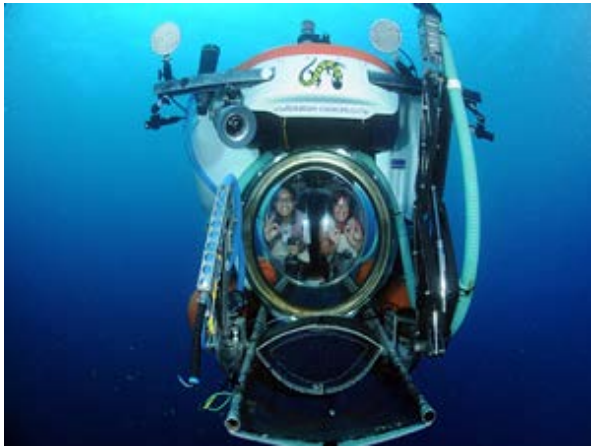
- Representative species along depth gradient: shallow (0-30 m), middle (30-60 m), deep (60-100 m): suspected as *Xestospongia muta* and *Agelas sventres*
- Representative species occurs at shallow and middle depth: suspected as *Niphates erecta*
- Representative species at deep (100-150 m) and super deep (150-250 m): suspected as *Pachastrella* sp.
- In every depth we also took 2 l of water samples for comparing microbial composition available in water and sponge tissues.

We collected at least five individuals per suspected sponge species per depth and in total we obtained 63 individual sponges. Sponge tissues are preserved in RNA later, ethanol and cryopreserved in 50% of glycerol-artificial sea water.

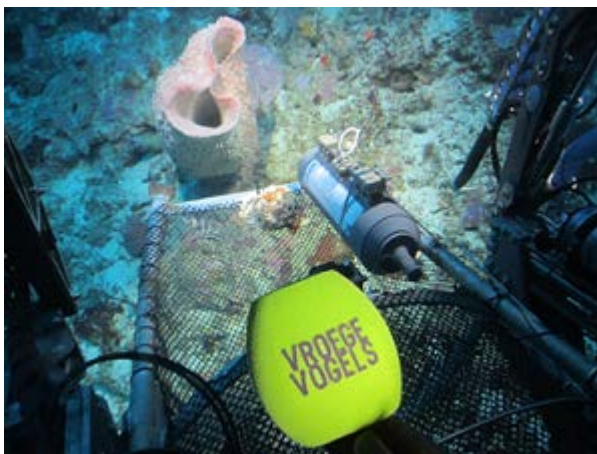
Further analysis will be conducted at the Laboratory of Microbiology Wageningen University which is including analysis of COI barcoding of each sponges, analysis of microbial community via illumina MiSeq, statistical analysis, cultivation experiment and identification of bioactive compounds.

Additionally during the fieldwork, we received a media attention from Vroege Vogels a famous radio programme about nature on Dutch Public Radio 1. Reportage was recorded during submersible dive and the topic of interview was mainly our study purposes and the importance of conservation of marine environment. We benefited from this reportage as

particularly we could share and communicate our study and generally could spread the importance of marine ecosystems conservation for a broader listeners.



Left: Exploration dive to get an overview of sponges we could find along depth gradient. Right: Sample of *X. muta* around 300 feet (~100 m). A niskin bottle (on the right) was attached on the submarine for collecting sea water sample.



Reportage underwater by the radio programme Vroege Vogels during our submersible sampling.



Sponges samples at the shallow depth (~20 m), taken via SCUBA diving



Preserving sponge tissues for further analysis.