Team Chile 2013 reports on…

..adventures and echiurids

It has been three months since we started our work on the 11.GAME project in Coquimbo. We start work every day with a kiss on the right cheek and a “Holi, como estai?” (“Hi, how are you?”). Chileans have a special way of speaking Spanish with lots and lots of slangs, but they are very lovely people. They make you feel to be in good hands although you are in a foreign country all on your own.

Back to work: As our fellows from Finland and Japan have already reported, the project focuses on the impacts of microplastics on benthic organisms. With this blog we would like to share some of our experiences in terms of failing and succeeding when doing science …

Fail #1: Device for sampling the sediment

Totally dedicated to the recycling of plastic, we constructed our own device for collecting sediment samples from an old soap-canister. Unfortunately, our super-device was too difficult to handle, because, while swimming with it, we always lost about one third of the sample…not good!

Össfass (correct spelling in Valerias opinion: Usfast) is a strange German word that means a device normally used to bail water out of a boat. However, you can also use it for collecting sediment from the seafloor and this is what we intended with our össfass-shaped device.

→Solution: Switch to sediment corers for sampling the subtidal. These are tubes which can be plunged into the seafloor to extract samples of sediment.

Fail #2: The effects of H_2O_2 on our sediment samples

Subtidal sample processing a.k.a. H_20_2-sand volcano!

We collected sediment samples to gain information about the abundance of microplastics in the Bay of Herradura. For the processing of our samples, an easy way to eliminate the organic material in them is using H_2O_2 (hydrogen peroxide). Thereby, plastic particles cannot be mistaken for leave litter or other detritus during the analysis. We tried this but it went out of control and the sample turned into a volcano. Definitely, it was not the right amount of H_2O_2 ☺

Fail #3: Looking for suitable test organisms

To start with the pilot studies, we needed to find as many potential test species as possible. In Herradura Bay, there are not many deposit feeders, so the task was very challenging.

First option: Sipunculids. This is a group of unsegmented marine worms, which live in burrows in shallow waters. After three times going to La Pampilla, a very scenic place near Coquimbo, but even with David's help (a GAME alumnus from Coquimbo) we found not a single animal!

David and Vale thinking "Where the hell are the sipunculids??" It´s a complete mystery!!!

Second option: Go with the boat and a benthos grab around the Bay of La Herradura and take everything we can…

Hard working team Chile: Our supervisor Martin and Vanessa searching for animals.

…and that's what we did. Unfortunately, the animals we got were not deposit-feeders, were too small or we couldn't get a satisfying amount of them. But we did not lose hope and….

…suddenly things started to get better…

Finally, we got hold of two echiurid species (spoonworms), thanks to Pege and Juan Carlos who are divers from the faculty. Spoonworms are a group of marine worms, which live in sediment burrows in different depths. At the beginning we found them strange, a little bit ugly and it felt kind of weird to touch them. But now WE LOVE THEM SO MUCH: they are the most beautiful animals!!!!

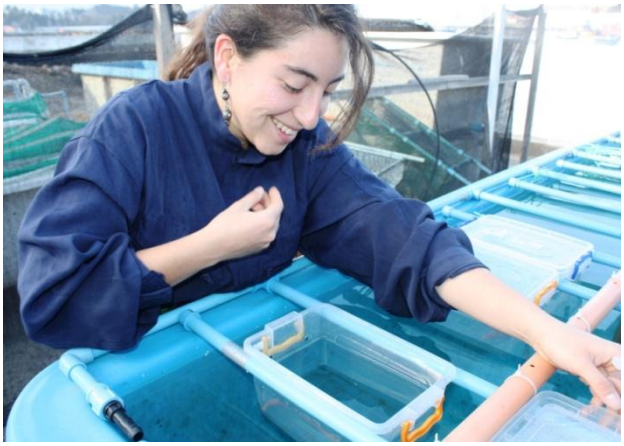
Team Chile proudly presents....

Ochetostoma baronii

Urechis chilensis

After running the pilot studies, the very good news was that we found our test plastic beads in their faeces!! This meant that we found two species, which were suitable for the main experiment.

Plastic pellets in the faeces of both species!!!...Yes, we were so happy!!



Vale and her conversation with the echiurids: “Hi sweetie, how did you sleep?”

Super Team Chile

Working as a team is a great experience. During the last months, we have had to deal with many different situations, and having a good working/friendship relationship made things much easier. We also count on a full committed (sometimes very demanding) supervisor and a very supportive lab team.

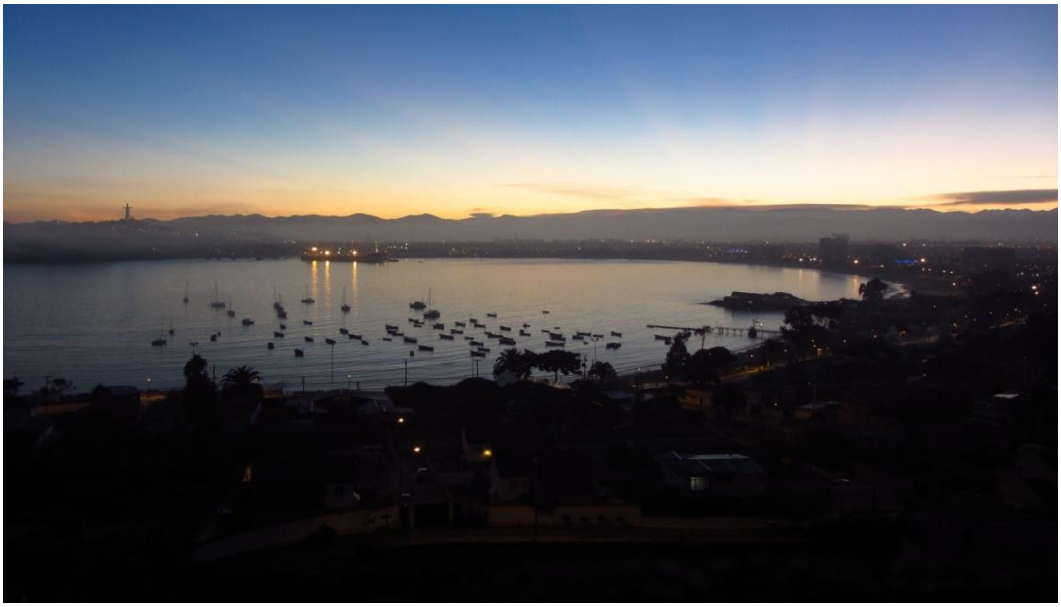
Team Chile: We are so pro, that we even have our own working cloth: very stylish blue suits!

Currently, we are collecting and taking care of the test animals for the 2 month lasting main experiment as well as preparing the setup. So, most of the time, we are really hard

working to be able to start in the first weeks of July…Hopefully, no more fails but only success will follow ☺

Saludos y besos de Chile!

Vale y Vane



Sunset at La Herradura Bay...Heaven on earth!