



Charlotte E. T. Huyghe

Imagine a boat. Not a fancy boat. No, this is a simple boat with no interior except for its woody skeleton. Imagine you are sitting on the edge, in the burning African sun with only a local Zambian kitenge covering your shoulders. It is still wet from your recent dive into the ancient freshwater lake, and what you saw in the water was amazing. Hundreds of colorful fish swimming around and minding their own business, mostly finding food. There were fish grazing on rocks, fish looking for snails, and fish chasing other fish to bite off their scales. The crazy thing is that most of these very different-looking fish belong to the same family, the cichlids. Lake Tanganyika holds more than 250 different species of cichlid fish. But, how did all these different species emerge? How did only one family of fish become so diverse, also in their feeding habits? Imagine how diverse the working of their guts must be to digest all these different kinds of food items. That is exactly what I asked myself. That is what I am trying to

find out during my studies. I am Charlotte Huyghe and I am currently a PhD student in the Salzburger Lab at the University of Basel. I visited this African lake once before, about 600 km to the north from where I was sampling my fish last time. That is how big this lake is. During my last field trip in 2020, we had to collect 53 different cichlid species, each time collecting 3 females and 3 males. It was not always easy to find all these different specimens from specific species since some were more uncommon than others and some occur in habitats hard to reach. We bought the bigger ones that occur more offshore from the fishermen and angled for some species in the reeds (picture of Kalambo River) together with children from the nearby village who were very eager to help. We caught most of the species while diving. Some cichlid species hide and breed in shells, and they were quite easy to catch by picking up the shell that they hid in. For most of the species, we used a net and tried to catch only the species that we needed. This was not always an easy task since some cichlids didn't even want to come close to the nets. The fact that this lake is noticeably big and can have very rough winds and weather, didn't improve the situation either. Some days we had to look for a specific species a long time before we could find it in the murky waters of Lake Tanganyika.

These beautiful experiences and everyday struggles of fieldwork were something that I wanted to show to the wider public. I think it is very important that people can see for themselves what research and fieldwork look like and also to see that it is not just computer datasets that we work with, but that our data comes from natural systems, from the world around us. Ideally, I would show it to them directly in the field, but since this is not an option, showing it through pictures is an equally good alternative. This is the reason why I decided to participate in the Swiss WSC.

Before I started my PhD here, I worked as a research assistant on the MbiSa II project at the Africamuseum in Belgium. In this project, we collaborated with local scientists and protected areas in the Congo Basin to map and describe the rich fish biodiversity that can be found there. The ecosystems in many of these rivers and lakes are, however, threatened by pollution and other anthropogenic stressors. This has detrimental effects on the fish biodiversity and the ecosystem services that the freshwater systems provide for the local inhabitants. That is why I'm thinking of donating the prize money that I won to an organization that cares for freshwater conservation in Africa.



Photo1:

https://commons.wikimedia.org/wiki/Commons:Wiki_Science_Competition_2021/Winners/Switzerland#Image_sets (right column) (2nd, set of images)

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Previous winner: no.