

# AAZK Grant Report.....

## Mad Fishes 2010

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My journey began five years ago at a Regional Aquarium workshop where I came across a talk that sparked my interest. Alex Saunders of Denver Zoo described a project working with freshwater fishes of Madagascar. I had been waiting for a conservation in which program to participate, and felt that this was it. Before I knew it, I was holding fundraisers yearly, and was lucky enough to receive financial support from the Toronto Zoo's Endangered Species Fund, a Research Grant from the American Association of Zoo Keepers, Inc., and our local Toronto AAZK Chapter. It was only a matter of time, and I was off to Madagascar with Alex and Dr. Paul Loiselle of the New York Aquarium to begin fisheries work on the Ivoloina River Basin and Lake Tseny.

Traveling by various modes of transportation, and experiencing a 19-hour flight, an eight-hour drive through rolling hills, a two-hour drive along a dirt road, and a one-hour pirogue (dug-out canoe) ride; Alex and I reached our first village, Ambodriana, in eastern Madagascar. We were traveling with a local Malagasy biologist Tsilavana Ravelomana, university of Antananarivo, who is a recognized expert in fishes or the region.

When we arrived, the kids were all curious and watched us move our gear into our shed. After we settled in and got our bearings, we hired a cook, had some lunch, and delved into our work. We went to the creek located behind the village as our first fishing spot. To get to the creek we had to walk down a bank of eroded soil on one side and the other side was lush green forest. Fishing for one hour we caught multiple *Bedotia* sp.nov. "flava" (undescribed rainbowfish), three species of goby, one eel, tadpoles, shrimp, and snails. These species are all native to Madagascar. Tilapia, an introduced food fish were also found.

We arrived back to camp in Ambodriana, and the villagers came over to watch what we were doing. They were interested to see what we had caught, and were laughing at us because we had brought back such small fish. In the Madagascar culture, the women fish for small fish, and the men fish for large fish. As we were taking pictures of the fish, the children were getting comfortable with us and were fascinated with our cameras. We took pictures of the children, and replayed the pictures for them, making friends quickly. With Madagascar and its conservation efforts, that is half the battle. If the villagers do not trust you, they will not help you with your conservation project, and without the villagers help, conservation is not possible.

The main river (Ivoloina) has erosion along one of its banks that has led the river water quality to being very sandy and brown. The tributaries have sand a few meters up from the main river, but water quality improves beyond that stretch to clean, and clear. Most native fish in Madagascar are perceived as vulnerable due to their lack of distribution. The Toronto Zoo has three species of Madagascar fishes. *Bedotia marojejy* (listed as vulnerable) were doing fine in 1999, but this species was not to be found in 2010.

In the past, women used handmade bamboo baskets to fish. This would let the fry (young fish) fall through the cracks. We discovered that mosquito nets were being misused. Originally, the mosquito nets were given to villagers to prevent malaria. Instead, villagers used the mosquito nets as fishing



nets. Mosquito nets prove to be resourceful, and caught everything, causing the population of *Bedotia marojejy* to be extremely threatened. We are contemplating introducing some of the Madagascar breeding fishes back to Madagascar.

The second trip was to Lake Tseny. We left from Antanarivo, and experienced a 15-hour drive through burnt hills, and a half-hour choppy pirogue ride. We camped on a peninsula under the only tree used for shade in Ambario. We were welcomed instantly by the villagers. The lake was beautiful and in pristine condition. We had a meeting with the villagers to inform them of our being there, and what our goals were. After the meeting, the fisherman disappeared to their boats to fish. When



L-R: Tim McCaskie (Toronto Zoo), Tsilavina Ravelomanana (Madagascar fish biologist), and Alex Saunders (Denver Zoo). (Photo: Mize)

the fisherman returned that evening, they brought us our target species, three *Paretroplus menarambo*. It was thought to be extinct from 1996 to 2006. They were found in Lake Tseny in 2006, but needed our confirmation of existence. Our second day of fishing we found a variety of species of fishes including two additional *Paretroplus* species. This is the first time that three species of *Paretroplus* have been recorded in the same body of water and one is a new species entirely.

Years ago, Lake Kinkony was considered one of Madagascar's pristine lakes with a sustainable population of the rare *P. kieneri* and *P. dambabe*, and was comparable to the current condition of Lake Tseny.

When the Mahajanga government changed, development began and Lake Kinkony suffered from roads being built into the lake and the lake was overfished. With Lake Tseny, we are given a second chance. Together, with conservation and education among ourselves and the villagers, we can do it right with better management.

## Results

Our trip turned out to be one of the most productive ones they have had. We found one species of fish (*Ptychochromoides itasy*) that has been considered extinct since the 70's. One *Paratilapia* sp. that has been extinct since the 70's or it is a new species. We have to wait till they grow up to properly identify them. We have established the presence of 49 fish species in the Ivoloia river basin, 43 native and six exotic. In Lake Tseny we have found a gem. This pristine habitat is the first to have three species of *Paretroplus* living together. *P. menarambo* was rediscovered and will be downgraded from critically endangered to endangered. We have increased the range of *P. lamnabe*, and discovered a new species of *Paretroplus* that will have to be described.

## The Future

With further fundraising and support from Toronto Zoo, AAZK and friends, we can continue our work with the Malagasy biologists and our N. American zoo partners. We plan to return to Lake Tseny and conduct a population census and perimeter mapping of the area.

Please see [Torontozoo.com/conservation](http://Torontozoo.com/conservation) to see more photos.





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