



## Amazon Research Center For Ornamental Fishes

# ARCOF

### JUNE 2020 NEWSLETTER

#### Internships and Volunteer Opportunities

In these turbulent times, we are sensitive to the experiences and high emotions of those throughout the country and around the world. At the same time, we believe it is important to continue to make progress in areas of global conservation and climate stewardship that affect us all. It is in that spirit we announce that we will once again accept applications, starting June 15, for internship and volunteer positions beginning Oct. 1, 2020. For more information or to apply please visit our website at [amazonresearchcenter.org](http://amazonresearchcenter.org) and click on the “Get Involved” tab.

#### Research Update



For the past 12 months Dr. Anthony Mazeroll and a group of students from Soka University of America have been sampling the small waterways in and around Iquitos, Peru looking for evidence of invasive fish invasions. The team anticipated finding evidence of both guppies and blue gourami living in these waterways but were surprised when they caught a juvenile

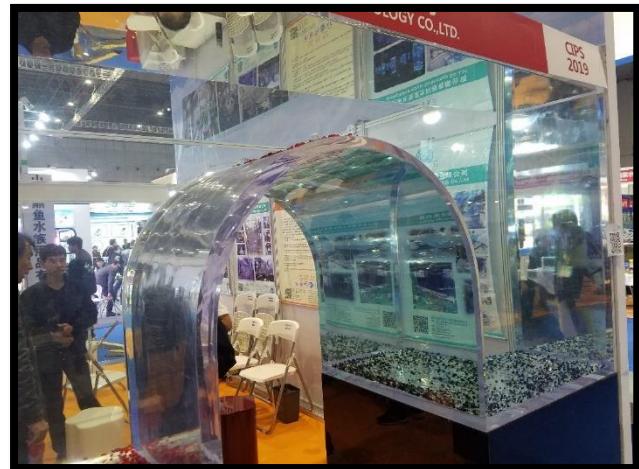
Tilapia in a stream approximately 12 kilometers south of Iquitos and DNA evidence of Tilapia in multiple other streams within a 2 kilometer radius of the first finding. Tilapia, a cichlid originally found in Africa, has gained importance worldwide as a viable fish for aquaculture. However, upon escape, the inherent nature of the fish allows it to become problematic in warm, freshwater habitats. Tilapia are efficient feeders that can capture and process a wide variety of food items, as such they out compete native fish for food and space. With no natural predator, they reproduce quickly and take over these habitats, leading to the disappearance of the native fish. Dr. Mazeroll is completing a manuscript to submit for publication and to the Department of Fisheries in Peru.



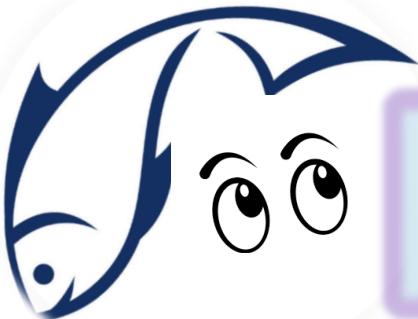
## The Aquarium of the Amazon

In 2019, we realized the need for greater educational offerings and enhanced collaboration between scientists and the local community. Thus, we began a critical initiative to develop the first public aquarium in this part of Peru. We broke ground in October 2019 and have completed all of the infrastructure for the Aquarium. We are in the process of building the tanks and gathering various aquatic species. Unfortunately, COVID 19 has delayed some of the construction specific to the large tanks, and the opening of the Aquarium has been pushed back to the Spring of 2021.

Once open, the Aquarium will display an environmental wall showing the degradation to the Amazon River basin and the surrounding waterways (in Spanish and English), exhibit ornamental fish found in the Amazon River water system, sponsor a junior biologist program through the local school system, provide touch tanks and support research specific to overfishing, disease, invasive species and reproduction. Education about ecology, fish conservation and sustainability will also be promoted. One of the primary attractions at the Aquarium will be a bridge tank (pictured here).



in conjunction with the Research Center, the Aquarium will work directly with the local fishers to introduce modern aquaculture techniques for ornamental fish. This program will provide the local fishers with a way to ensure a year-round income and decrease the overfishing of these fishes. Lastly, the Research Center and the Aquarium will act as a receiving center for aquatic animals confiscated by the authorities.



Be on the lookout for more information on the 10 to 100 Club!!

To learn more about the aquarium and specific naming rights, please click [HERE](#), or to make a gift please click on the donate button.

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# Critical Facts About the Amazon Rainforest and River Basin

**Why** is it so important for us to work together to preserve the Amazon rainforest and river basin?

- The Amazon rainforest is the only rainforest of its size still in existence.
- It is one of the most diverse ecosystems in the world, home to 10 percent of the world's species, according to the World Wildlife Fund.
- There are more than 2.5 million species of insects, roughly 1,300 bird species, 3,000 species of fish and approximately 430 species of mammals, according to National Geographic.
- Over 300 species of ornamental fish are found in and around Iquitos, Peru. These fish are highly sought after to support the global aquarium trade, and many are overfished possibly leading to extinction.



- There are approximately 500 indigenous villages that depend on the Amazon River for fresh water and fish in the Loreto region of Peru. Unfortunately, Peru has recorded more than 190 oil spills since 1997 in this region. In 2016, Peru's National Institute of Health reported that the levels of lead, cadmium, and mercury in the blood of Amazonian children who live in the affected areas were higher than those allowed in adults.
- Over 25 percent of the medicines we use today have their origins in the rainforests. Currently only about 1 – 3 percent of rainforest plants have been examined for their medicinal properties.

- The rainforest helps to regulate the world's water cycle. The Amazon has the highest rate of rainfall in the world. Trees play an important part in the water cycle, grounding the water in their roots and releasing it into the atmosphere. In the Amazon, more than half the water in the ecosystem is held within the plants. Without the plants, the climate may become dryer and growing food could become impossible for many.
- Deforestation drives climate change. Removing trees deprives the forest of portions of its canopy, which blocks the sun's rays during the day and holds in heat at night. This disruption leads to more extreme temperature swings that can be harmful to plants and animals.
- Trees play a critical role in absorbing the greenhouse gases that fuel global warming. Fewer forests mean larger amounts of greenhouse gases entering the atmosphere causing a more rapid and severe global warming.
- The Amazon rainforest plays an important part in regulating the world's oxygen and carbon cycles. It produces roughly six percent of the world's oxygen. This estimate has been quoted as high as 20 percent of the world's oxygen. Most of the world's oxygen comes from the oceans, although the rainforests do play an important role in the balance of oxygen and carbon dioxide.
- The Amazon has long been thought to act as a carbon sink, meaning it readily absorbs large amounts of carbon dioxide from the atmosphere, and it is this process that is critical in our efforts to mitigate global warming.



Negative impacts to the Amazon rainforest negatively impact the entire planet and all who inhabit it.

