

## Project Update: August 2019

During this 1 year of research, we did the samples with camera traps we had proposed in the project. I started the facilities by the Ducke reserve, in this case, the most altered reserve and in the outskirts of Manaus city. From August to December 2018, I installed 30 cameras that remained in the field, capturing the fantastic fauna of the region. After this sampling, we set off to another reserve to search for the wildcats and other mammalian species. This time the Cuieiras, the most preserved reserve and far from human settlements.

In addition to being further away, this area also has several environments, such as white sand forests, known as *campinas* and flooded forests, called *igapós* (Fig. 1). Until this moment, we did in the Cuieiras reserve, four camera trap campaigns: two in the dry season and one in the rainy season, both in the terra firma forest and we also took a sample in the *igapó* flooded forest. In Cuieiras, we set up 40 camera traps that are 1 km apart so that we can estimate the density of wildcats.



**Figure 1.** Navigating along the Cuieiras River, looking for the places to install the camera traps near the *igapó* flooded forest. © Vitor Pimentel

The first sampling began on the terra firma in August and ended in early October 2018, which corresponded to the dry season in the region. Two weeks later we installed the cameras in the lower water period in the flooded forest and removed them in December 2018. This campaigns in these two environments will make it possible to understand how the fauna uses these transition areas (Fig. 2). This environment is

adjacent to terra-firme forest and although poorer in resources than terra-firme, it is a vital environment for wildcat's prey.



**Figure 2.** A mother of margay *Leopardus wiedii* and her cub walking through the igapó flooded forest in the lower water period. © André Gonçalves

In 2019, we did the third campaign and started this time at Cuieiras, in the terra firma forest. We took advantage of the rainy season of the region, which is from February to May. After some time, we reinstalled the cameras in July and it will remain until September 2019, this is the second dry season campaign and thus finalise the terra firma campaigns from this most preserved area (Fig 3).

During this time, we also began sorting the data that takes some time, as it is done picture by picture. Imagine then when you have about 1000 records in each camera. Great news, but also have much work to do. For this, we can count on the student partners of the project (Fig. 4).

Among the camera campaigns, it was also possible to start the captures of small wildcats in the Ducke Reserve, the most altered area. It took a while for all material to reach Manaus. We bought the VHF tracking collars and opted for the Lotek V6C model, the tomahawk traps we bought from Equipos Fauna and the ATS telemetry receivers. It all arrived around February 2019. The delay was due to bureaucratic reasons, but finally, all the equipment was available for use. Now we can catch these small cats and understand their habits in nature!

At the beginning of 2019, it rained a lot! We waited a while to start the small cat capture campaigns. Finally, in May, we did the first campaign and stayed until the end of June (Fig. 5).



**Figure 3.** Setting camera traps in the *terra-firme* forest with the help of the project team. © Vitor Pimentel



**Figure 4.** The Great Tinamou walking through *terra-firme* forest, a potential prey of margay cat. © André Gonçalves



**Figure 5.** Checking the tomahawk traps and in the back of the trap the live bait, a small rooster. © André Gonçalves

We caught several non-focal, but fascinating species, such as this beautiful hawk (Fig. 6), as well as some opossums. This campaign was crucial for us to perfect the technique, see where we went wrong, and what we could improve. In 40 days, we detected three margays *Leopardus wiedii* using the area sampled. They came to the front of the traps and one cougar *Puma concolor* as well (Fig. 7). Unfortunately, they haven't entered yet. In addition to the ten tomahawks we had purchased, we will buy 10 more units to increase the chances of capturing the individuals. At the end of this month, we will restart the campaigns.

At the moment, in addition to these activities, we will start analysing data from camera traps (Fig. 8).

We are also applying for permits to access rural properties around the reserves. The next steps will be to start interviews with local communities and seek to understand the conflicts generated by wildcats on their rural properties.

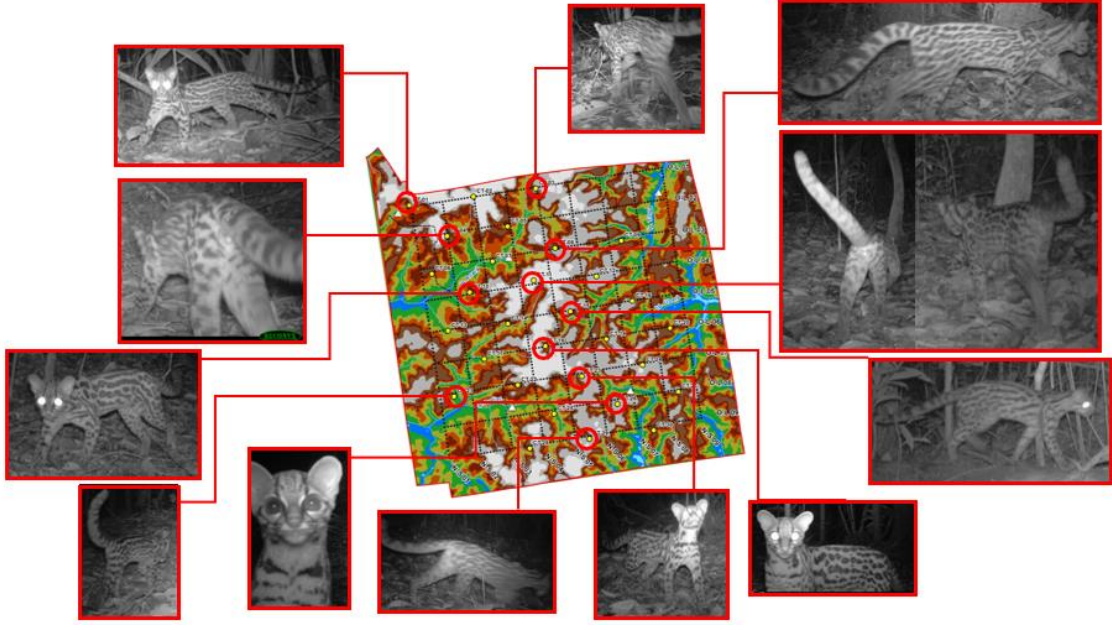
We also compiled data from camera traps from six sites scattered throughout the Amazon biome (Panamá, Costa Rica, Peru, Suriname, and Brazil) to conduct regional species distribution analyzes.



**Figure 6.** Roadside hawk (*Rupornis magnirostris*) inside the tomahawk trap. © André Gonçalves



**Figure 7.** Female of cougar *Puma concolor* smelling the tomahawk trap installed at Ducke Reserve. © André Gonçalves



**Figure 8.** Preliminary analysis of margay distribution in the Ducke Reserve. © André Gonçalves