

Project Update: October 2019

At 3:30 a.m., I felt something weird moving around my wrist. Rats? Scorpions? Snakes? Or worse, a *flash flood*? Having to run for my life, in a half-sleepy, half-naked body, with many of my gears still left behind, because I was stupid enough to have my field camp stationed near a stream valley, right in the storm season, is easily one of the most memorable experience I have. Luckily, this time, it was my field watch that was vibrating. I woke up immediately, not because I was a light-sleeper, but there had been a heavy and unluckily, persistent downpour that had lasted since mid-night. The type of field camp we set up was particularly vulnerable to durable rains, and in worst case, if it had been collapsed, we would have been dammed!

Other members of the team were still sleeping, so I carefully strolled around to minimize noise. It was still dark outside, and the wind was so strong I felt it was going to be risky decision to climb up today. Putting up the headlamp, and my body started shaking. The rain, the wind, the mountain, and the isolation made the day almost winter-like. I started the fire, and the sudden source of warmth caused my brain to go to auto mode again. I really wanted to get back to sleep!

I spent a few minutes doing nothing but just staring at the fire with my brain begging for some more rest, before the responsibility sense finally won. *Side note*: One of the big lessons I learned of being adult is that, you have to start taking responsibility for, you know, *stuff*. The langurs moved out of their sleeping site sometime right after the sunrise, so we needed to be there before them. Therefore, when planning for this field trips, we all agreed that we had to be ready to go at 5:00 every morning, so breakfast needed to be finished at 4:45. I signed, then looked around for rice, and water, and meat, and bamboo shoots, and our cookware. Time to make some meals!

A few months back then, I received a grant to facilitate conservation research and action for one of the rarest primates on Earth, the Delacour's Langur. The Delacour's Langur (*Trachypithecus delacouri*) is a limestone langur species that is only found in a small area of 5,000 km² in northern Vietnam. Its historical distribution range includes remnant forest patches in Hoa Binh, Ha Nam, Ninh Binh, Thanh Hoa, and Nghe An. It is critically endangered under the IUCN Redlist and was consistently ranked as one of the most threatened primates in the world from 1992 to 2016. Its current total population is estimated to be approximately from 250 to 300 individuals, with subpopulations isolated in different limestone ranges.

Van Long Nature Reserve in Ninh Binh Province houses the largest viable population of the Delacour's Langur in a protected area, with about 170 – 220 individuals. Notable conservation efforts for the Delacour's Langur have been implemented since 1990s in Van Long, with the establishment of Van Long Nature Reserve as a result in 2003. Based on population trend and law enforcement results, it is safe, I presumed, to say that the state of Van Long's langur population right now is much better than it was in late 1990s. The second largest population is found in Kim Bang, Ha Nam Province, which is only around 20 – 25 km from Van Long.

However, despite their proximity, those two locations are in two different provinces, which means local administrative powers belonged to two different authorities, making any conservation initiatives aiming to protect those two populations as a single unit much more complicated. Also, the areas transitioning between two provinces, which are also the areas between two populations, have been subject for fast economic development and land cover change. A short trip in northern part of Gia Hoa, Gia Vien will reveal that a large part of this area has transformed to resident and farming land.

While there are still lots of works that need to be done in Van Long, the establishment of a protected area there has indeed ameliorated some issues in Van Long's langur population. In contrast, the Kim Bang population is in much worse shape. Kim Bang has been, and is, at the moment of writing, not a protected area; hence, local administration has limited legal tools, resources, and supports to effectively conserve and manage langur population there. Also, since it is not protected area, the forest products exploitation and land use change for economic purposes in Kim Bang is still common. For instance, in there, you can just walk a few miles and see half of a dozen active limestone mines that are digging deeper and deeper into the langur's habitat. Actually, from one of the observation points that we used during the field trip, you could see both the langur sleeping site *and* the mining activities.

Therefore, when writing grant applications, I saw that my funding, while small, was much needed in Kim Bang. Hence, one of the major aims of my research is to conduct survey to collect information on occurrence, population structure, and distribution of the critically endangered Delacour's Langur population in Kim Bang, and make such data openly available, so others can utilize it to conduct their own conservation initiatives for this species in future.

Side note: it should be not-so-difficult to conduct a field survey, given my field experience all over Vietnam, right? *Wrong.* How naïve, and inexperienced I am. I totally, and severely, under-estimated how difficult the terrain of a *small* limestone mountain chain can be. But I will go in-depth about this topic later. For short, it means our team had to leave camp site a lot earlier, and return back a lot later, and we had to delegate two people to take care of the re-supply issue.

I looked outside again. It was still heartbreakingly dark, and it was still raining, and it was already 5:10. Everyone was in gears and ready, but the rain gave us no pity, as it still showed no sign of going lighter. Go hiking in a markedly steep limestone terrain, in a dark, wet, and slippery condition, is not really a good idea, since a small mistaken step could lead to a catastrophic result. I looked back at my partner, and he nodded. I took a deep breath, when he told everyone:

- *We are not gonna wait anymore. Let's go!*

The whole team started walking out of the camp, into the vast (and pointy) darkness. The rain and the fog gravely restricted the capacity of our headlamps, as we could see no further than a few meters away, even when I turned the super-bright mode on mine on. We carefully climb through all of the rock clumps, for which their own chemical properties and thousands of years of weathering have created the hazardous topography for human intruders. Rocks in here have either blade-like shape with sharp (and I seriously

mean *sharp*) edge, or spear-like form with stab-by end pointed straight towards you, with very little in-between. And then some of them are especially blessed with the *step-on-me-and-fall* mosses.

I turned up my wrist. It was 5:45, and the sun was started showing. I was in my observation post, alone, soaked, and ready for today's mission. I slowly opened my backpack to minimize any noise, and examined the waterproof bag inside, which seemed to be perfect and working properly. "Phewwwwwww!!!", I thought, what a relief. I would have hated myself for such a long time if anything had happened to my equipment: camera, back-up camera, binocular, range finder, batteries, etc. You know, stuff that you really don't want to have any contact with water. I wrote down location and time data after taking a quick glance at my GPS, locked the lens into my camera, checked the range finder, and had the binocular on my laps. It was time for waiting and watching game, now.



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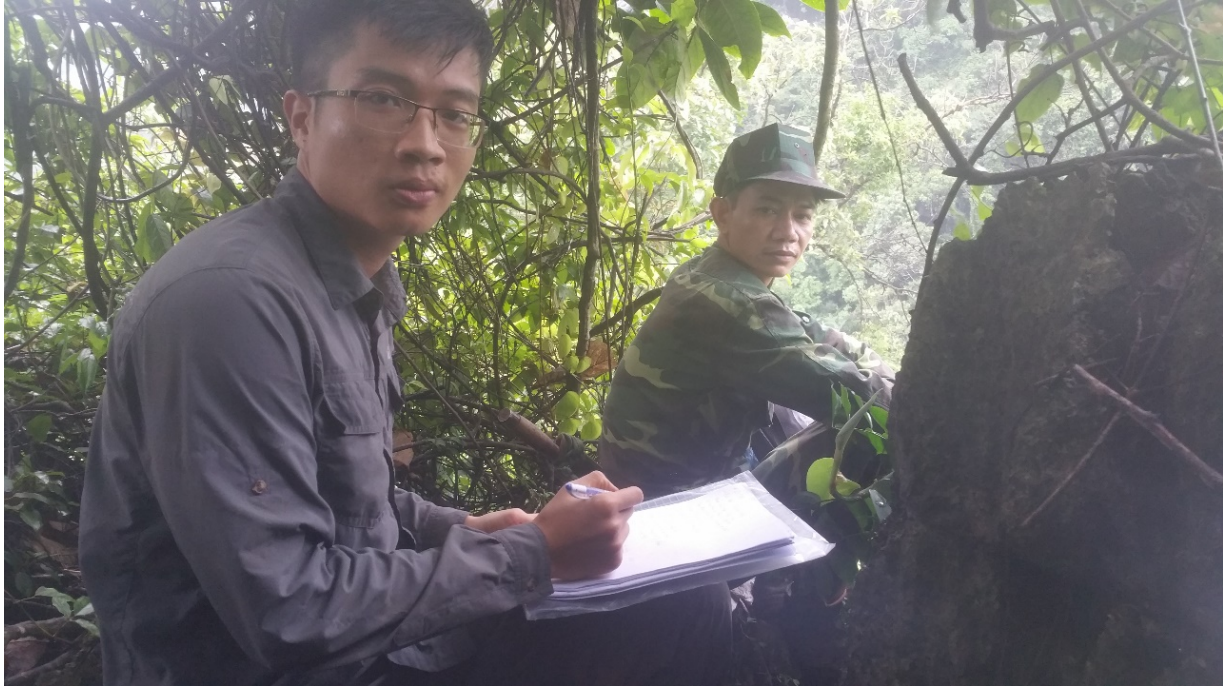


Figure 1. Tuan Anh and his local guide, writing down the observation information to the field notebook.



Figure 2. A male Delacour's Langur in Kim Bang. Figure 3. Another Delacour's Langur individual. The shot was blurred because the langur was moving so fast between branches.



Figure 4. Hair and bones of a hunted Delacour's Langur individual found by survey team in Kim Bang. Figure 5. A leg-hold snare found by survey team in Kim Bang.



Figure 6. Signs of agriculture activities deep inside Kim Bang forest. From here we could see many banana trees planted by local people. Figure 7. View of mining area of Second Belt, But Son Cemetery, from one of the observation points. You can see how close the mining activities was from the langur's habitat.



Figure 8. Because of the topography in Kim Bang, logistics even for basic stuff, such as water, was really difficult. Here was what we had to resort to, using canvas to collect rainwater, for our daily drinking water.