

Final Evaluation Report

Your Details	
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Project Title	Diversity, ecology and conservation status of amphibians of the Tchabal Mbabo, a key biodiversity area in Cameroon
Application ID	33666-1
Date of this Report	13/05/2022

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Study composition, distribution, and status of amphibians				<p>A total of 508 specimens of frogs (339 in Sambolabo, 91 in Mayo-kelele, 54 in Fongoi, 24 in Mayo-barkedje) were observed, divided into 13 species from 10 genera and six families in four sample sites.</p> <p>The mean number of observations was higher in Sambolabo ($x=17.84 \pm 31.18$) and lower in Mayo Barkedje ($x=1.26 \pm 3.43$).</p> <p>Also, the total number of specimens found at Sambolabo (339) at an altitude of 1013 m asl is much higher than that found at Fongoi (54) at an altitude of 2063 m asl; this would mean that species richness decreases with altitude.</p> <p>Species richness ($q=0$), Shannon diversity ($q=1$) and Simpson diversity ($q=2$) were highest at the Sambolabo site in contrast to the Fongoi and Mayo-barkedje sites where they were very low.</p>
Understand factors (vegetation, seasonality, habitat, human activities) influencing the occurrence of the batrachofauna				<p>Anthropic activities can be the reason why still now; we have not yet found some of our flagship species such as <i>Cardioglossa alscio</i> or <i>Astylosternus rheophilus tchabalensis</i> among others. Seasonality has also influenced the occurrence of the batrachofauna because some species found in the rainy season such as <i>Afrixalus</i> cf. <i>fulvovittatus</i> were not found in the dry season.</p> <p>Similarly, some species such as <i>Hyperolius riggenbachi</i> found during the dry season were not found during the rainy season.</p>
Collect GPS coordinates of				During our survey, we recorded the breeding sites in all our sites. One in

breeding sites			<p>Fongoi, with GPS coordinate 07.25251N 012.05965E 2063m, where we found a breeding site of <i>Astylosternus</i> sp. Another one of the <i>Hyperolius igbettensis</i> in Mayo-Kelele near Matelela river with GPS coordinate 07.17825N 012.02704E 1691m. In Sambolabo, we had one near Sarbo-gari river with GPS coordinate 07.09132N 011.97952E 1038 m where we found the breeding site of <i>Sclerophrys</i> cf. <i>maculata</i>. The last one of <i>Kasina senegalensis</i> was found in Mayo-barkedje with GPS coordinates 07.08687N 011.98413E 1020m.</p>
Develop tailored conservation strategy involving awareness-raising			<p>We have developed a tailored awareness raising strategy with well targeted messages during awareness and education sessions in several villages and public schools in our different study sites. Meetings with stakeholders were done before the fieldwork to inform on the presence of threatened amphibians around and involve local authorities and populations. We went back to communities after field work to tell them about our findings during the community outreach.</p>

2. Describe the three most important outcomes of your project.

- a).** This project has provided necessary data for better identification of amphibians from the Tchabal-Mbabo and build more potential for amphibian research in Cameroon. In addition, a clear idea of the abundance and diversity of batrachofauna in a known key biodiversity area has been demonstrated.
- b).** Some factors that influence the wellbeing of amphibians such as seasonality, vegetation, habitat, and human activities on Mount Tchabal-Mbabo are known.
- c).** This project was also an opportunity to lay the basis for efforts toward a comprehensive monitoring plan for amphibians in the region and contribute to making as many local communities as possible to be aware of the presence of endemic and endangered amphibians around Tchabal-Mbabo.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

During the implementation of our project, we encountered some difficulties:

- Firstly, was the difficult access to certain sites (Fongoi and Mayo-barkedje) because of the bad condition of the road to the point of damaging the bike. To solve this problem, we had to hire a bike mechanic from the city to the bush where we were located so that he could repair the bike and allow us to arrive on-site and do the work.
- Secondly, once my team and I arrived at the Fongoi site and found that our usual guide was not in the village. The traditional authority (chief) had to assign us another guide who did not master our different transects well. We were able to solve this problem thanks to our GPS in which the different coordinates of our transects were recorded.
- Thirdly, since January 2022, we have experienced a general increase in commodity prices in our country. This is noticeable in several areas, including food products and it has had repercussions on our expenses because to cope with this we have had to spend more money than what was budgeted.

4. Describe the involvement of local communities and how they have benefited from the project.

The local populations living around the mount (Tchabal-Mbababo) were very happy to learn during our awareness campaigns that their mount has a very great specific richness and the various threats they face, particularly the populations of the Sambolabo site. This project also allowed us to build strong relationships with local communities in our various sites by recruiting some of them who had quick learning skills to act as guides and porters. During the project, we also trained them in basic knowledge such as handling a GPS, delimiting a transect, etc. This project was also an opportunity for these guides, porters and drivers, etc., to make money thanks to the remuneration that we brought them.

5. Are there any plans to continue this work?

During all these 12 months of field survey, we have so far not yet found our flagship species such as *Cardioglossa alsco*. We will try in our next works to understand the cause of their absence on our sites and more particularly in Fongoi.

We also noticed during our work an intense anthropic activity on our various sites (cattle breeding, bushfires, etc.) and, that the local populations had no idea on the knowledge and the need to conserve amphibians (endemic) present around Mount Tchabal mbababo. In view of the alarming level of these anthropogenic activities on this site, we believe that it is urgent to intensify the awareness of local communities around this key area for biodiversity in Cameroon because this first awareness campaign alone will not be enough.

We also plan to continue the assessment of the ecological aspect of the habitat at our various sites to understand its conservation needs, particularly around the reproduction sites.

6. How do you plan to share the results of your work with others?

For the moment, we have already started presenting the results of our research to NGOs and local populations thanks to the poster that we prepared during our awareness campaign.

We plan to write an article with our data collected during this project and publish it in an open access journal so that as many people as possible can benefit from it. These data will also be used for the writing of our PhD thesis in Animal Biology and Conservation at the University of Buea.

In addition to this, we plan to present these results at various conferences such as the Cameroon Bioscience Society (CBS), the Cameroon Forum for Biological Sciences (CAFOBIOS), among others.

7. Looking ahead, what do you feel are the important next steps?

Looking ahead, the important thing for the next steps will be:

- Assess the effect of human activities on the gradual loss of habitat and the disappearance of certain endemic species around this key area for biodiversity.
- Continue the assessment of the ecological aspect of the habitat in our different sites in order to understand its conservation needs, particularly around the reproduction sites.
- Pass a questionnaire to local communities to understand and assess their level of understanding and the need to conserve endemic amphibians around the mountain.
- Intensify the awareness campaign with local communities in order to guarantee the sustainable conservation of these endemic species around Mount Tchabal mbabo.

8. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

Yes, we used the Rufford Foundation logo for this project; in particular, on the t-shirts distributed during the various awareness campaigns carried out in schools and among local populations. We also publicised the foundation when presenting data on posters at the end of our work to local communities. We will also thank the foundation in all the presentations that will be made as part of this work.

9. Provide a full list of all the members of your team and their role in the project.

Ntene Soh Branly: I was the coordinator and principal investigator of this work. I was responsible for setting up and monitoring the smooth running of the work until the end of the project.

Yuenap K. Ferdinand: he assisted us throughout the project and was particularly important during the awareness campaign with his ability to communicate and make himself understood easily with local communities.

Prof Fokam Eric B.: he assisted us in this project as supervisor.

10. Any other comments?

This Rufford Foundation initiative is a great opportunity for conservation lovers to be able to advance in their work.

I would like to thank The Rufford Foundation for the funding granted to me. The realisation of this project would not have been possible without its help. This project also allowed me to collect some of the data counting for my PhD thesis in Animal Biology and Conservation at the University of Buea. I also apologise to the foundation for exceeding the deadline for submitting the final report because after the last field work, I was not in good health for about 2 weeks and also, the university programme was very intense during this last time. Thank you for all.