The Rufford Foundation
Final Report

Congratulations on the completion of your project that was supported by The Rufford Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to jane@rufford.org.

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Aaron Manga Mongombe
Project title	Diversity, Distribution and Ecology of Bats on Mount Cameroon.
RSG reference	19621-1
Reporting period	June 2016 to June 2017
Amount of grant	£4800
Your email address	mangajes@gmail.com
Date of this report	6th of July 2017

1. Please 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
Provide a comparative record of bat species diversity, distribution across the different elevational zones on Mount Cameroon				Bats have been sampled across eight different elevational zones on Mt Cameroon ranging from sea level to 2500 m asl. This resulted in the capture of 336 bats belonging to five families, 14 genera and 19 species. The highest diversity was recorded at the elevational range 300-599 m asl with 10 species, while the highest number of individuals was recorded at the elevational range above 2099 m asl with 110 bats. *Rousettus aegyptiacus* seems to be the most common bat on Mt Cameroon.
Dietary study of bats using their faeces.				A total of 36 faecal samples of microbats and 58 samples of megabats have been collected. The samples from microbats have been kept in Eppendorf tubes containing 70 % alcohol to be analysed in due course. The samples from megabats were dried and keep in wax paper envelops. Initial attempts at planting the seeds in order to identify the seedlings failed because most of the seeds did not germinate probably because the soil used was not appropriate. We intend to use neutral soil for germination trials.
Awareness program to school children through lectures using live specimens.				The 20 minutes awareness programme was conducted amongst senior secondary school students in some schools in the study area. Three schools in the study area were covered. A total of about 521 students were

				involved in the programme. Unfortunately, the programme abruptly came to a stop because of a general strike that made schools to be close down for a long time.

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

The project started about 3 months late in late September 2016 due to difficulty in obtaining a permit from local administrative authorities because they were hardly on seat to sign the document. Also, schools in the study area were close for a long time because of a general strike by teachers as such the awareness programme was only carried out in October 2016.

3. Briefly describe the three most important outcomes of your project.

1) More current knowledge on the composition and distribution of bats in the Mt Cameroon region is provided. This data is essential if future conservation plans are to be successful. Our principal objective is to influence policy change, as such recommendations will be handed to authorities' in charge of conservation of Mt Cameroon so that bats can also be considered in future conservation plans.

2) A comparative record of bat species diversity, across the different habitat types in the Mt Cameroon area and a greater understanding of biodiversity and biodiversity change along altitudinal gradients from sea level to the height of 2,250 m. Some cave dwelling species such as *Rousettus aegyptiacus* and *Myonycteris angolensis* are more abundant at higher altitude were there are numerous caves as such there is a need to protect these cave if the species are to be protected.

3) Greater understanding of the impact of anthropogenic factors on bats diversity and distribution in the Mt Cameroon area. Some species strictly preferred primary forests while others were more widely distributed in both primary forest and disturbed forest.

4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).

Twelve boys from different villages around the study area were used as guides. We took the opportunity to explain to them the importance services bats play in the environment and on how to identify some common species. Hopefully, they will serve as a link to other villagers. Also, local chief of the different villages were educated on what our study was all about. We took time to explain to them why bats should be protected and why they should not only be seen as a source of food. School children were educated on the anatomy, physiology and ecology of bats. They will help spread the positive information about bats and to fight against some of the long held misconception and negative myths.

5. Are there any plans to continue this work?

We shall definitely continue the work on species composition and distribution but this time targeting the leeward side of the mountain. The leeward side of the mountain has never been sampled. We shall also continue dietary analysis.

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

At the end of the study recommendations will be handed over to the authorities for the preservation of important landscape elements (caves, roost trees etc) for the maintenance of bats colonies on Mt Cameroon.

Recommendations will also be handed to authorities' in charge of protection of biodiversity on Mt Cameroon in order to maintain and preserve bats communities.

We will also publish the results in an internationally recognised scientific journal.

7. Timescale: Over what period was The Rufford Foundation grant used? How does this compare to the anticipated or actual length of the project?

The Rufford grant was used from September 2016 to June 2017 instead of from June 2016 to June 2017.

8. Budget: Please provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Accommodation and Feeding	£994	£1115	-121	Food was more expensive than planned initially.
Transportation to and from the field for four persons	£1046	£1046	00	
Per diems for three Guides	£1175	£1175	00	
Purchase of field equipments	£1585	£1585	00	
Total	**£4800**	**£4921**	-121	

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

Species distribution models (SDMs) will be established for each species. This will be very useful for conservation and for future research on bats in the study area. We

shall also produce a key to the bats of Mt Cameroon area which will be part of identification key for bats of the whole country. This will greatly facilitate future studies.

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

The logo was used in several PowerPoint presentations in the University of Maroua and the University of Yaoundé 1.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

12. Any other comments?

We are grateful to Rufford Foundation for providing funds for this project. This grant has enabled us to advance the knowledge on bats, their ecology, and distribution in the Mt Cameroon area in particular and Cameroon in general. The information acquired from the field will play an important role in the conservation of this ecologically important species.

Left: *Mops annulus*. Right: *Mops thersites*

Left: *Pipistrellus tenuipinnis*. Right: *Hipposideros gigas*.