

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	Paul Tehoda
Project title	Ecology and Conservation of Robbin's House Bat in Southwestern Ghana
RSG reference	22481-2
Reporting period	July 2017-October 2018
Amount of grant	£5000
Your email address	paultehoda@yahoo.com
Date of this report	12 th December, 2018

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
Abundance and distribution of Robbin's house bat in Krokosua Hills Forest Reserve				A total of 21 individuals of the Robbin's house bat (<i>Scotophilus nucella</i>) were recorded from only one location (Mmem) which is one of the two sites the species was captured during the first phase of the project in the reserve. Unfortunately, the other known site of the species in Agyemadiem (which is off reserve) has been totally destroyed by illegal mining activities by Chinese. Sampling close to the degraded site on many occasion did not yield any result of the <i>Scotophilus nucella</i> . Hence, the current known distribution of the species is limited to the site in Mmem. Though the same number of 14 species were recorded in both the first and second phase of this project, It is worth mentioning that there is high increase in the number of individuals of most of the species captured in this second phase of the project.
Suitable habitat types of the species				The species has been so far captured around streams in a cocoa farm and a patchy bamboo stands within 250 m of the forest border line and within 300 m of small settlement areas or communities. Sampling around streams in the same habitat types and others at different locations did not captured any <i>Scotophilus nucella</i> or its sister species <i>Scotophilus nux</i> . However, our data are too scanty to conclude that the species seems to prefer agricultural mosaic habitats in close proximity to settlement areas.
Conservation awareness campaign and stakeholder dialogues				Over 1000 people were educated on the conservation importance of bats and forest. Most of these locals are

			currently adopting environmentally sound practices (creating riparian buffer of 50 m, control burning, use of recommended pesticides), which are not detrimental to habitats of bats and other wildlife species. We hope that in the near future every single community member will be mindful of their activities and its possible effect of conservation.
Training of bat sampling and identification techniques			Ten volunteers made up of locals and university students were trained in bat sampling (mist netting, handling of bats and morphometric measurement, taking tissue samples etc.) and identification techniques. They are equipped with the skills to conduct independent survey of bats.

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

The new site of the *Scotophilus nucella* discovered in Agyimadiem during the first phase of this project has been destroyed by illegal mining activities by Chinese before the initiation of this phase of the project. Some portions of the area are still currently being illegally mined by the Chinese and interventions by soldiers and other authorities were not successful as the Chinese continue to lobby their way through to get released when arrested. This prevented us from directly sampling bats at the exact locations we previously captured the *Scotophilus nucella*. As a result, we sampled within 100 m of the actual site where the habitats have not been seriously degraded by the mining activities. We held stakeholder meetings to discuss the menace of this illegal mining activity to the life of the community members and the species, and are currently collectively developing strategies to curb the menace of illegal mining activities in the area.

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

There is evidence of an increasing population of the *Scotophilus nucella* in the Mmem site in the reserve. Thus using the same sampling effort during the first and the second phase of this project at the species' site at Mmem, a total of 21 of the species were captured during this second phase compared to seven in the previous phase. There is a good demographic record of the species at this site as we recorded two sub-adults and 12 and seven individuals of active reproductive females and males respectively. At the Mmem site, the species is so far captured around a particular stream in a cocoa plantation over the years, indicating that the foraging activities of the species are somehow restricted to this area. Also, the species has been so far captured in an agricultural mosaic within a distance of 400 m from human settlement areas. This could imply that the species live and forage around water

bodies or streams in agricultural mosaics in close proximity to human settlement areas, as the species' common name (Robbin's house bat) suggested that it is a house bat.

Conservation education and stakeholder workshops were carried out in five communities. Over 1000 community members were educated on the conservation importance of bats and the role locals could play in their conservation. They were also educated on myths about bats and being reservoir for many virus and how they can harmoniously live with them in their communities. This has engendered local community support for the species and have highly reduced the wrong perception about bats. The chief of Mmem and the community members have pledge their full support for the conservation of species in the Mmem site. One action recommended during a meeting with the stakeholders is to try to identify roosting sites of the species so that we can together put measures to prevent detrimental activities in those areas.

A total of 10 volunteers comprising four students and six local community members were trained in bat survey and identification techniques. This is helping to increase bat research and conservation effort in Ghana as currently very few bat scientists exist in the country. The locally trained volunteer are currently leading conservation actions of the species on the ground and have being providing us with information on the habitat status of the species.

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

The project was implemented using the community participatory approach where fringe community members were engaged in all project activities including field survey, conservation education programmes and stakeholder workshops. A few community members were also recruited as local field assistants and paid for their services. Local volunteers were trained in bat sampling and identification techniques. Some community members that participated in our programme with great enthusiasm were given project t-shirt to promote bat conservation in the fringe communities.

5. Are there any plans to continue this work?

Yes. I hope to apply for the Rufford Booster Grant and other grants to continue the conservation work on bats in the Krokosua Hills Forest Reserve. I hope to continue with the ecological studies on the species and build more local support for bat conservation.

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

The research findings are intended to be published in international peer-reviewed journals for wider accessibility. Technical report on the research finding is being prepared and will be shared with the Ghana Wildlife Division, Forestry Commission of Ghana, Department of Wildlife and Range Management- KNUST, the Juaboso

District Assembly and other concerned conservation organisations. The social media including Facebook and twitter are also being used to share some of the research findings.

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 grant was used across 15 months period instead of the 12 months stipulated for the project.

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
Questionnaire production and administration	128	128	0	
Vehicle rental and fuel for field survey	1440	1500	-60	The number of days for field survey was increased from 48 to 50 days
Living cost for project team during field survey	1152	1200	-48	This was due to the increased in the number days for field survey
Field equipment	306	116	+190	We got enough mist net from Batlife Ghana so we did not buy the two mist net budgeted for @ 125/net. However we bought two headlamps at 60 pounds
Training in bat sampling and identification techniques for 10 volunteers	376	376	0	
Stakeholder workshop	308	358	-50	This was due to increase in the amount spent on snack for the 50 stakeholders from 2 pounds per person to 2.5 pounds for the two stakeholder workshop.
Vehicle rental and fuel for conservation education	420	420	0	
Conservation education materials	210	210	0	
Living cost for team member for conservation education programmes	336	336	0	

Project monitoring	324	324	0	
Total	5000	4968	+32	This will be used to buy some rechargeable batteries for our headlamps

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

1. We hope to engage locals whose farms and lands are being used as foraging sites in serious negotiations to develop a memorandum of understanding to fully secure the habitat for long term persistence of the species.
2. To identify the *Scotophilus nucella's* roosting sites as well as estimate its home range through telemetry of the *Scotophilus nucella*.
3. To provide alternative livelihood training for local community members to help reduce dependence on the reserve for survival.
4. Continuous conservation education programmes and stakeholder dialogues to rally more local support to drive away Chinese who have seriously engaged in illegal mining in some of the fringe communities and prevent them from going into other fringe communities.

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 RF logo was embossed on the conservation education t-shirt produced, Flyers and posters and was also put on the PowerPoint presentations. The RF was also verbally acknowledged as the funders of this project during our stakeholder workshops and community education programmes.

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

Paul Tehoda: I am the leader of the team which successfully implemented this project. I oversaw all project activities and have led the field survey and bat training programme. I organised and played key roles in the stakeholder workshops and conservation education programmes.

Alfred Assumang: He was a team member and assisted on the field survey and bat training programme. Thus, assisted with mist netting, handling of bats, taking morphometric measurements, data recording etc. He led the stakeholder dialogue and conservation education programmes.

Florence Ghansah: She was a team member and assisted on all aspect of project activities including the field survey, training and conservation education programs.

Samuel Afutor: He replaced Gilbert Amponsah who was not available during the project period. Samuel assisted on all project activities. He also play additional role as a cameraman on the project.

12. Any other comments?

I am most thankful to The Rufford Foundation for providing me and my team with the 2nd Rufford Small Grant to successfully implement this phase of the project.







Destroyed site at Agyimadiem.