

The Rufford Small Grants Foundation

Final Report

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

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. 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. 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 | Status and Conservation of Robbin's House Bat in Southwestern Ghana |
| RSG reference | 17371-1 |
| Reporting period | 28 April, 2015 – 30 April, 2016 |
| Amount of grant | £4988 |
| Your email address | paultehoda@yahoo.com |
| Date of this report | 18 th July, 2016 |

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 <i>Scotophilus nucella</i> in Krokosua Hills Forest Reserve | | | X | The project identified two different locations of <i>Scotophilus nucella</i> in the Krokosua Hills Forest Reserve (KHFR); Agyemadiem Community and Mmem Community. Other locations did not yield results for the target species. A total of 11 individuals of the species were recorded from both communities. This number with old records brings the total number of <i>S. nucella</i> recorded for the reserve to 23 individuals. It is important to mention that we routinely sampled the sympatric sister species <i>S. nux</i> at these two locations as well. In all, 14 different species of bats were recorded in and around the reserve with one species new to the reserve; <i>Casinycteris</i> spp. |
| Conservation awareness campaign and stakeholder workshop among local community members | | | X | Conservation awareness campaign programmes were carried out in the form of power point presentations, video shows and group discussions in two fringe communities of the reserve where <i>Scotophilus nucella</i> were recorded. These programmes educated the |

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|---|--|--|---|--|
| | | | | local people on the importance of bats and the benefits they could derive from ensuring that bats and their habitats are protected. Stakeholder workshops also produced conservation strategies to be adopted to protect bats and their habitats in and around the reserve. These education programs rallied local community support for bats conservation and habitat protection. |
| Field training for wildlife students and local community members. | | | X | Six students from the Department of Wildlife and Range Management, KNUST were trained in bat survey and identification techniques. After which I provided field technical support for one of the undergraduate student on her BSc thesis work on bat ecology. Four local community members also received field training in bat survey and identification techniques. |

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

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

A new habitat of *Scotophilus nucella* was discovered in a patchy bamboo forest isolated in a cocoa farm off the Krokosua Hills Forest Reserve (KHFR) at Agyemadiem (06°35'00.8"N, 002°47'56.4"W). Therefore, currently *S. nucella* is known in two different locations in and around the KHFR with about 7 km distance apart. However, the identified new habitat of the species is threatened with illegal mining and agricultural activities within and around it which this project has initiated mitigation

actions through conservation education programmes. A significant number of *S. nucella* was recorded in KHFR compared to any other site the species has been documented, making KHFR a single most important site for detail ecological and conservation studies on the species to help update information of this species and protect its habitats. The species was only captured in the riverine forest or within a stream habitat among all the four different habitats sampled in the two different communities (Mmem and Agyemadiem) in and around the reserve. This could imply that the species preferred foraging around water bodies or streams.

A total of six students and four local community members were trained in bat survey and identification techniques. The capacity building has incentivised one of the students in producing her thesis on bats and aspiring to become one of the few bat scientists in Ghana. The four trained local community members are currently volunteering as local conservation personnel to continue to educate community members, monitor and address basic conservation challenges in and around the identified habitats of the species.

Conservation education and stakeholder workshops were carried out in Mmem village and Agyemadiem which are the two communities in which *Scotophilus nucella* was recorded. Over 450 local community members and stakeholders were educated on the ecological and economic significance of bats and the role they could play in their conservation. This has stimulated local community conservation efforts for bats and made some locals to voluntarily join the field team during bat sampling.

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

Local community members were involved in all project activities including field survey, conservation education programmes and stakeholder workshops. Some community members were recruited as local field assistants and paid for their services. Where possible local materials were used which provide economic benefit for community members. Also, community members have been made aware of the ecological and economic benefit that bats provide for them including regulations of insect populations which some of them are harmful to their crops and health, pollination of some plant species and seed dispersals. Some community members that participated in our programme with great enthusiasm were given project t-shirts to promote bat conservation in the fringe communities.

5. Are there any plans to continue this work?

Yes. I hope to apply for the 2nd Rufford Small Grant and other grants to continue the conservation work on bats in the Krokosua Hills Forest Reserve. Since the first phase of the project was a general survey to identify potential habitats of the species and establish bat community of the reserve, I hope now to conduct detail ecological studies on the species and intensify local conservation efforts. Especially, the new habitat discovered for *Scotophilus nucella* is seriously threatened by ongoing illegal mining and agricultural activities at this area hence the need of continuous conservation effort to protect this habitat for this species.

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

The research findings will be shared with the Ghana Wildlife Division, Forestry Commission of Ghana, Department of Wildlife and Range Management- KNUST, and other concerned conservation organisations. The research findings are also intended to be published in international peer-reviewed journals. Currently, data on *Scotophilus nucella* from this project has been used with old record data for the reserve to elucidate the phylogenetic status of the species in collaboration with my European and local partners. The drafted manuscript which has been approved by all authors is scheduled for submission to *Folia Zoologica* in the coming days. Also, a second manuscript with our local collaborators on the conservation status of *S. nucella* is currently in preparation. Also geographical location data and pictures of *Scotophilus nucella* from the reserve has been shared with AfriBat project on inaturalist.org.

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

The Rufford Small Grant was used over a period of 1 year as stipulated by the project proposal.

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 |
|------------------------------|-----------------|---------------|------------|--|
| Living cost for field survey | 1152 | 1152 | 0 | |
| Vehicle rental and fuel cost | 1344 | 1536 | -192 | Increase in fuel price and vehicle rental |
| Field equipment | 984 | 785 | 199 | Batlif Ghana provided us basic field supplies including GPS and bat holding bags which reduced expenditure for field supplies. |
| Field training | 420 | 480 | -60 | 10 people were trained instead of 8 people as well as increase in fuel price and vehicle rental. |
| Workshops | 248 | 248 | 0 | |
| Conservation education | 850 | 800 | 50 | T-shirts were printed at a reduced price. |
| TOTAL | 4998 | 5001 | | |

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

1. Continuous conservation education programmes to help stop ongoing illegal mining and agricultural activities especially at the new discovered habitat of the *Scotophilus nucella* in Agyemadiem. Also to extend our conservation education programmes to other fringe communities of the reserve which we could not reach out to during this phase of the project.
2. More extensive bat sampling to cover other parts of the reserve and off reserve areas which could be potential habitat of the species. Detailed ecological studies on habitat preference and identify roosting site of the species.
3. To provide alternative livelihood training for local community members to help reduce dependence on the reserve for survival.

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

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

11. Any other comments?

I am most thankful to The Rufford Foundation for providing me and my team with the Rufford Small Grant which has made this project a reality.



Conservation education in a form of PowerPoint presentation



Principal Investigator about to remove *Stophilus nucella* captured in a mist nest



Principal Investigator conducting conservation education among local community members



Principal Investigator(extreme right), Bat expert from Batlife Ghana (2nd left) and two local trainees in bat survey



Scotophilus nucella captured from the discovered habitat at Agyimadiem



Some of the field training participant



Section of the audience being educated on importance of bats



Section of the audience during video shows