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. 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	Kadambari Deshpande
Project title	Assessing diversity and distribution of bats in relation to land-use and anthropogenic threats in the southern Western Ghats, India
RSG reference	9686-1
Reporting period	March 2011- September 2012
Amount of grant	£6000
Your email address	kvd.novel@gmail.com
Date of this report	30th November 2012

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
Assessing bat diversity and distribution in relation to land-use change and related habitat covariates			Yes	The field work got delayed because of many logistic problems mentioned below. Still this objective was achieved at the end of the project, after the extension.
Use of echolocation calls for bat species identification and application in community ecology research; one of the first detailed studies using acoustic sampling in India			Yes	
Identifying relative impact of threats to bat species in the landscape			Yes	
Community-wide outreach and public awareness in local villages		Yes		This is an ongoing process, which has been initiated simply alongside the project, through regular interactions with local stakeholders.
Informing the management plans of the forest department about reducing local threats to bats in and around the protected area			Yes	
Use of harp traps as capturing devices	Not achieved			Constraints of manpower availability led to this capture method not being used much. If used in tandem with echolocation recordings, a lot more information might have been generated about certain bat species in the region

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

The field work plans, mainly during 2011, had been severely affected due to the following reasons:

- Security concerns regarding field work at night, especially for female researchers (cases of hooliganism, drunkenness and anti-social elements). This problem has led to high risk and inaccessibility to certain sites leading to gaps in uniform field effort and time dedicated to surveys across the study area.

- Unpredictable weather conditions (heavy, irregular rains) created major difficulties in carrying out sampling. This limited temporal replication of most sites to maintain sampling efforts across seasons; however, almost 15% of sites were sampled in different seasons.

- Logistical issues like unavailability of field assistants almost throughout the course of the project, due to night sampling of bats and older assistants leaving without prior notice.

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

1) Detailed study on impacts of forest conversion to monoculture plantations on bats. This is among the first quantitative ecological studies on insectivorous bat communities in the Western Ghats, with the help of acoustic sampling.

2) Networking with forest department officials for protection of bat habitats, through inputs on bat conservation added to the Department's sanctuary management plans

3) This study has led to a start for community outreach and education on the ecological importance of bats.

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

Local communities were a significant part of the project throughout its duration. Locals were interviewed for their knowledge and awareness about bats. Information on roosts in the area was compiled from these interviews too, where some young enthusiasts also accompanied and assisted in roost sampling of bats. Informal discussions with old people revealed accounts and traditional references on bats, hunting, and their use as medicines, food and seed aggregation done by fruit bats.

5. Are there any plans to continue this work?

Yes. I would really like to continue with this work. The contacts formed both in the landscape with local people, and with the forest department could lead to continuing long-term research and monitoring for conservation of bats. I also plan to begin my PhD. on ecology of Indian bats by next year by building on the great opportunity provided by the Rufford grants with this project.

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

I plan to publish a scientific paper in a peer-reviewed journal with detailed data analysis, and a popular article, by early next year. The state of Kerala is the only region in India with 100% literacy rate and locals here keep themselves well updated through newspapers and television. Using this to the benefit of spreading awareness, I am now about to distribute outreach material like brochures (see attached) and posters (in prep) in both English and the local language, Malayalam, to forest department staff, local shopkeepers, rubber estate owners and other farmers. This will help educate and convey proper scientific information and get rid of misconceptions about bats. In the near future, I plan to conduct informal workshops for school children and college students in urban areas, to teach them about bats.

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

The RSG was used over the period of about 18 months from March 2011 to September 2012. The project had to be extended for 6 months (from March 2012 to September 2012) due to unforeseen difficulties during field work.

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
Field assistant wages	360	236.1	123.9	Lack of field assistants, due to people's refusal to work at night was a major hassle.
Equipment	1130	877.4	252.6	Battery torches purchased were rather economical, leading to low initial and consumable costs. Just two harp traps were purchased instead of the budget for three, as expenses of shipping were too high.
Living expenses	2040	2000	40	
Field expenses: vehicle hire and fuel	1260	1702.4	-442.4	Daily jeep fares rose far higher than budgeted for, especially in a recent situation of petrol price hikes. Also, transfer of equipment from one site to another, and from Bangalore to the field site was another large expense on freight that was underestimated. Money from the miscellaneous funding and other categories got mostly used up here.
Field expenses: local accommodation and food	660	811.2	-151.2	Kerala is among the costliest states in India and is characterised by generally high rentals. This might have led to the underestimation.
Miscellaneous and contingent expenses	550	265.5	284.5	Money had to be transferred to vehicle hire and fuel for some rather unforeseen long travel and freight expenses.
Total	6000	5892.6	107.4	This money will soon be utilised for printing and distribution of outreach materials, and for a short follow-up visit to continue awareness related work in the landscape.

Exchange rate as of 08/12/2010: 1 GBP(£) = 71.1465INR, received at 72.00 INR

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

Based on these survey results and experience of community efforts, I would like to concentrate my efforts on public awareness about insectivorous bats. There have been few studies and more

focused research has to be carried out to understand their conservation requirements. Since it's difficult to study these bat species and their activity as well as foraging behaviour, I plan to give attention to the acoustic techniques developed for these echolocating bats. The first step towards this would be the compilation of a reference call database for Indian bats, which ultimately would help me and other bat researchers to work on these elusive creatures without even catching them. Beyond this research component, I would like to work with local communities through local NGOs and village outreach groups in multiple locations in the Western Ghats, and gradually build on outreach in many areas.

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?

RSGF logo was used in the reports submitted to the Shenduruney forest department's management plan. It is also being used in the outreach material: brochures (see attached) and posters (in preparation). RSGF was acknowledged in an invited talk I gave to the students of the MSc programme in Wildlife Biology and Conservation, Wildlife Conservation Society - India, NCBS-TIFR in November 2012.

11. Any other comments?

I wish to thank the Rufford Small Grants Programme for their constant support and patient understanding of hardships that delayed the project, and for their flexibility.