

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 | Kathryn Scobie |
| Project title | The use of plantations and forest corridors by the endangered southern woolly lemur: a strategy for their conservation |
| RSG reference | 19848-2 |
| Reporting period | January-July 2017 |
| Amount of grant | £5000 |
| Your email address | kascobie@gmail.com |
| Date of this report | 28/07/2017 |

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 |
|--|--------------|--------------------|----------------|--|
| Preliminary observations and selection of study sites | | | | We selected three plantations/corridors of non-native tree species, one portion of regenerating forest, and one portion of primary forest for inclusion within the study. |
| All forest parcels included in the study will be surveyed and structural data will be collected. | | | | We conducted vegetation surveys using the point-centred quarter method and used a handheld GPS device to create detailed maps of the study area. |
| Nocturnal line transects and targeted searches for Avahi resting sites during the day will be conducted. | | | | Due to the small size of the plantations and forest fragments included in the study, we determined that it would be more appropriate to use the point-count method to survey both Avahi and other nocturnal lemur species (<i>Microcebus</i> and <i>Cheirogaleus</i>). More details of this method is provided below (question 2). |
| Nocturnal behavioural observations will be made of radio-collared individuals: we will perform instantaneous focal sampling at 5-minute intervals on broad-level activities (e.g. resting, feeding, traveling), and record continuous feeding data each time a focal individual feeds. | | | | Behavioural observations were made on non-collared Avahi within the regenerating forest (Antokonala) and the primary forest (fragment M15). This data was analysed to compare the behaviour and habitat use of individuals within the different forest types. We chose not to collar the lemurs in order to reduce disturbance. |

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

1) The first few months of fieldwork coincided with Madagascar's cyclone season. Heavy rain and flooding impeded fieldwork on several occasions; in particular, the region was hit by Cyclone Enawo in March, which meant fieldwork had to be

cancelled for several days whilst the team was evacuated for safety. In the aftermath of the cyclone, two of the sites included within the study were inaccessible for several weeks. Our fieldwork schedule had to be amended to make up for these problems.

2) Due to the small area of the plantations included in the study (1.9-4.6 ha), it was not possible to use the line transect method to assess the relative abundance of lemur species. We therefore modified our methodology, instead using point count surveys to confirm the presence/absence of lemur species within the plantations and other forest portions and to calculate their relative abundance. Point counts were placed throughout the study sites at distances of 40-70 m. This was to ensure that the area between neighbouring point counts could be thoroughly surveyed during the survey periods. During nocturnal surveys, each point was surveyed for 15 minutes, during which head torches to identify lemur eye shine.

3) Throughout the study, few observations were made of Avahi within the plantations. Therefore, in order to maximise our time in the field, we collected additional data on the presence/absence and relative abundance of all nocturnal lemur species within the selected study sites (therefore including *Microcebus* and *Cheirogaleus*, as well as Avahi), and collected data on the behaviour and habitat use of Avahi in regenerating versus primary forest (rather than in plantations) in order to establish how we can best protect the habitat which is available to this species.

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

1) We have confirmed that there is population of *A. meridionalis* within the forest fragment Antokonala. This fragment falls within the mine zone and is scheduled for clearing in 2018. Using data that we have collected on the behaviour and habitat use we hope to identify a strategy to protect and conserve this very vulnerable population.

2) We have provided data on the behaviour and habitat use of *Avahi meridionalis* in primary versus regenerating forest, which can again be used to inform conservation strategies. Furthermore, we have been able to highlight the value of secondary forest to this species.

3) Our research has confirmed that plantations of non-native species are of limited value to *A. meridionalis*, and that conservation strategies should focus on protection of primary and secondary forest.

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

The project hired local staff at the field site (cook, guide, and camp guardians). The project was also able to support the development of a newly created COBA (a local association responsible for the management of the conservation zone) through the payment of forest fees and by providing feedback on how the Association can work with visiting researchers.

The project also supported a student from the University of Antananarivo in the collection of data for the student's Masters thesis.

5. Are there any plans to continue this work?

We hope to continue working with the local forest managers (both the COBA and TBSE- the body responsible for managing the forests in the mine zone and Conservation Zone on behalf of the mining company Rio Tinto/QMM). We hope to establish how best to work with local people to protect the remaining habitat available to *A. meridionalis*, and how to protect the population of *A. meridionalis* currently inhabiting the regenerating forest fragment Antokonala as this fragment falls within the mine zone and is scheduled for clearing during 2018 (translocation of individuals may be one possibility).

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

- Through publication of findings in scientific journals.
- Advertisement via our website and social media channels.
- Directly sharing our findings with other interested organisations, particularly those working in the region of Mandena and Sainte Luce.

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 over an 8 month period. This included over 5 months of fieldwork activities, and 3 months of preparations and analysis.

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 |
|--|-----------------|---------------|------------|--|
| Research permit (fees paid to Ministry of Forests and Environment) | 125 | 140 | +15 | A research fee was paid to the University of Antananarivo and to the Ministry of Forests and Water |
| Radio collars (x4) | 200 | 0 | -200 | We chose to conduct behavioural observations of non-collared individuals, so as to minimise disturbance |
| Forest fees (payable to the local forest-management committee, 'FIMPIA') | 25 | 55 | +30 | Forest fees were paid to the local management committee for the two Malagasy assistants and one foreign researcher |
| Local guides salary (two guides; 10,000MGA per | 775 | 230 | -545 | One local guide was hired rather than two. The guide received |

| | | | | |
|--|------|------|------|--|
| day) | | | | 5,000MGA for working during the day, and an additional 5,000MGA if he also worked at night. |
| Malagasy student stipend (20,000MGA per day, for five months) | 676 | 880 | +204 | A second Malagasy student was hired for 2 months to help in data collection and to ensure sufficient data could be collected whilst we were in the field |
| Research assistant stipend (£55/month plus reimbursement of international flight ticket) | 1130 | 1140 | +10 | |
| Cook salary (5,000MGA per day, for 6 months of fieldwork) | 203 | 250 | +47 | 10,000MGA per day for the duration of fieldwork |
| Food (4,000MGA per person per day, provided to research team, local guides, and cook) | 811 | 600 | -211 | We previously over-budgeted for the cost of food in the field |
| Accommodation whilst in Fort Dauphin (at start and end of fieldwork) | 60 | 110 | +50 | |
| In-country transport (x5 return flights for research team, approximately £200 per return flight) | 1000 | 1600 | +600 | 5 return flights: x2 at £220 (Malagasy Nationals) and x3 at £360 (non-resident Principal Investigator) £80 transport between airport and field site |
| Total | 5005 | 5005 | 0 | 1GBP:3828MGA |

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

- Work with forest managers to ensure the protection of the population of *A. meridionalis* currently inhabiting the forest fragment Antokonala, as this fragment falls within the Rio Tinto mine zone and is scheduled to be cleared during 2018.
- Identify suitable habitat for *A. meridionalis* within the region, including that which is currently uninhabited by the species and ensure that this habitat is effectively protected from human disturbance.
- Share our findings with other interested organisations and researchers, including publication in scientific journals.

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

The Rufford Foundation received publicity via our social media channels (Facebook, Twitter and Instagram) as well as on our website via our dedicated project blog posts (www.impactmadagascar.org).

11. Any other comments?

During the first stage of this project (RSG reference number 13747-1) we made our first observations of *A. meridionalis* within a eucalyptus plantation. A short report concerning these observations has been published in Lemur News (Volume 20) and is available for viewing at <http://www.primate-sg.org/storage/pdf/LN20.pdf>.

