

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	Simon Tollington
Project title	Maximising the conservation value of supplemental feeding by analysing stable isotopes to determine the seasonal foraging behaviour of Mauritius parakeets.
RSG reference	14122-B
Reporting period	2014 - 2015
Amount of grant	10760
Your email address	s.j.tollington@kent.ac.uk
Date of this report	March 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
Sampling of feathers from nestling parakeets during breeding season 2014/15			X	The original proposal predicted that ~100 juvenile birds would be sampled in this way. In fact, more than 200 individuals were sampled.
Sampling of feathers from adult birds in catch-release aviaries.	X			This objective was not met because of a translocation programme in operation at the time. The catch aviaries were therefore required to capture juvenile individuals for translocation and capturing adults at this time would have compromised this important translocation effort.
Sampling of native and exotic plant species known to be potential food sources of Mauritius parakeets			X	Leaves from over 35 species of trees and plants (resulting in more than 70 individual samples) were collected from across the range of the Mauritius parakeet
Stable isotope analysis of feather and vegetation samples			X	All feather samples collected from nestling parakeets were subjected to carbon/nitrogen stable isotope analysis. Furthermore, vegetation samples representing over 30 species of plant and trees were analysed. This analysis was performed by a commercial laboratory
Statistical analyses and report writing		X		The results of this study are currently being written with the intention of submitting a manuscript to a high-impact, peer-reviewed, scientific journal.

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

During the intended sampling period (August 2014 – July 2015), the Mauritian Wildlife Foundation were granted permission to carry out a translocation of juvenile parakeets to an area of suitable forest in the east of Mauritius. This opportunity to create the only sub-population of an endangered parakeet outside the national park understandably took precedent over the collection of feather samples from adults for this project and therefore it was not possible to collect feathers from adult birds as initially intended because the catch aviaries were used solely for this purpose. However, to

compensate for the fact that no adult birds could be sampled, we collected twice the number of feathers from nestlings that was originally proposed.

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

1. Stable isotope analysis of feather samples can be used to estimate the dietary proportion of individuals attributable to supplemental feeding vs natural vegetation.
2. There is a significant and negative relationship between the proportion contribution of supplemental food in the diet of adult birds and the distance of their nesting site from the supplemental food stations; breeding pairs which nest closer to the feeding stations consume more supplemental food.
3. There is a significant and positive relationship between proportion supplemental food consumption and reproductive success. Pairs which consume more supplemental food produce, on average, more fledglings.

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

The Mauritius Wildlife Foundation strives to employ young Mauritian biologists wherever possible. This project was facilitated by Mauritian field biologists and these results will be disseminated back to the managers at the Mauritius Wildlife Foundation in order to provide evidence-based solutions to managing an endangered species in the wild.

5. Are there any plans to continue this work?

Yes. It is hoped that further funding can expand the scope of this work by increasing the sampling of young and adult birds throughout the calendar year in order to gain an understanding of temporal feeding patterns.

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

The results of this project are currently being prepared for submission as a manuscript to a peer-reviewed publication. They will also be disseminated in Mauritius by the field biologists involved in the study.

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

Sampling began in August 2014 and was completed in June 2015. Samples were transported to the UK in July 2015 after the relevant CITES and UK import permits were attained. Stable isotope analysis was completed in October 2015. Statistical analysis was completed in December 2015 and the results of this are currently being prepared as stated above.

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
Stable isotope analysis of samples	6875	6875	0	
Part-time salary for Mauritian field biologist	2695	2695	0	
Research permit cost	250	250	0	
Contribution to vehicle costs	539	539	0	
Fuel costs	165	165	0	
Packing and transport of samples	136	136	0	
Consumables (stationary etc.)	100	100	0	
TOTAL	10760	10760		

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

It will be important to characterise the diets of individual adults. This study only did that via proxy; by sampling nestlings which had been fed by their parents. We therefore assume using this method that both parents feed equally on supplemental food, an assumption that we know is, in some situations incorrect. Furthermore, it will be important to widen the scope of this project by increasing the sample collection to reflect consumption of supplemental food throughout the year and over multiple years in order to monitor the temporal pattern of consumption.

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?

Yes. The Rufford RSGF logo was used on a poster which was presented during the Society for Conservation Biology's International Conference on Conservation Biology in Montpellier in August 2015