

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	Franco Andreone
Project title	Monitoring for <i>Batrachochytrium dendrobatidis</i> (Bd) in the amphibians of Madagascar: false alarm or real threat?
RSG reference	12931-1
Reporting period	April 2013-March 2014
Amount of grant	£5905
Your email address	Franco Andreone <franco.andreone@gmail.com>
Date of this report	4 th July 2014

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
Sample collection at Makay			X	The expedition had to be postponed to October 2013, because the conditions in March 2013 were not suitable for the collection of a large amount of samples, however, the expedition of October was successful and brought to the collection of 192 samples
Screening for Bd occurrence on the samples collected at Makay Massif			X	The screening of all the collected samples (192) has been performed using a qPCR approach and all samples tested negative for the presence of Bd (in Makay).
Sample collection at eight prioritised sites			X	The swabbing of 50 frogs in the localities of Andasibe, Andohahela, Ankarafantsika, Ankaratra, Antoetra, Farankaraina, Ivoloina, and Menabe has been carried out efficiently, also thanks to the assistance of many institutions that are collaborating with us in the field
Screening for Bd occurrence in the samples of the National Monitoring Program			X	The screening of these 400 samples has been performed using a qPCR approach and the presence of positive samples to Bd was confirmed for Ankaratra, Ankarafantsika and Antoetra.

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

The only problem that arose in the development of the project proposal was that we had to postpone the sampling expedition to the Makay Massif to October 2013, since in March 2013 the climatic conditions were not suitable to allow the collection of a high number of amphibians species, and at the peak of the dry season (August-September) we could not find people available for the sampling. On the contrary, the samples collected under the Chytrid National Monitoring Program for the early detection of Bd was carried out as originally planned (and with the precious help of the many associations that are collaborating with us across Madagascar), although we had to wait until the end of December 2013 to have all the export permits in place. This of course delayed a bit our research.

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

- 1- We succeeded in sampling a large number of amphibians (192) in the very remote and difficult to access Makay Massif.
- 2- Although we had some problems in gathering the export permit we finally succeeded in export all the samples to Europe where all the samples (592) have been screened for the occurrence of Bd.
- 3- Most importantly, we confirmed the presence of Bd in wild amphibian populations of Madagascar (we are also currently preparing a scientific publication on this, in which The Rufford Small Grants for Conservation will obviously be acknowledged). Further in-depth studies are urgently needed to characterise the Bd strain. At the moment the positive samples were tested using also the Bd lineage specific probes. The amplifying samples were the one using the GPL(Global Pandemic Lineage)-lineage probe, confirming that the Bd present in Madagascar is either a GPL-Bd or a GPL-like-Bd.

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

Local communities benefited in a double way. At first because we provided work to local people in terms of assistance during the collecting (porters, guides, cooks). Secondly, the Malagasy scientific community benefited from the training, from our help in carrying on this important conservation study and from the development of a national anti-chytrid plan. Indeed, the research proposal developed within the framework of the Rufford Small Grant for Conservation also entered within the general umbrella of the ACSAM (A Conservation Strategy for the Amphibians of Madagascar) Initiative.

5. Are there any plans to continue this work?

Due to the alarming results of our work that highlighted the presence of Bd in amphibian wild population associated to the parallel evidence of chytrid in amphibians exported through the pet-trade by J. Kolby we are in bad need to continue and intensify our screening effort across Madagascar, and even more, we need to urgently obtain genomic data on the Bd lineage detected in Madagascar, in order to understand if the Bd that occurs in Madagascar has recently colonised the area or if it is a native/endemic lineage of Bd. In addition, we need to support sampling collection at other high altitude sites (to confirm or not the presence of Bd at other sites with several regional endemics), and we need to progress on the knowledge of this Bd lineage. Crucial information to obtain are: 1) Establish Bd cultures from the samples at the sites that resulted positive to Bd; 2) Understand the pattern of seasonality of Bd in the positive sites; 3) In our screening we identified some weak positives at two additional locations (Antoetra and Andasibe), where further investigation is needed to confirm them; 4) Extend the surveys at high other high altitude sites (as they are the area with higher likelihood of Bd detection).

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

The scientific publication of these results is currently in progress and will be finalised within the next couple of months (at maximum).

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

From April 2013 to June 2014. We needed a couple of additional months to finalise the screening because we had to postpone the expedition to the Makay massif, and also because we could export all the samples only at the end of December 2013.

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
Swab analyses	5335£	4429£ (invoices justifying 5291 Euro)	-906	Samples have been processed in a big number and we could get a better price for their screening. Additionally we covered part of the costs of these analyses with some additional funding we had in place.
Fieldwork supplies	570£	1476£ (invoices justifying 1781 Euro)	+ 906	The expedition to the Makay Massif was much more expensive than what we planned, since the road were much worse that the last time we went there and we had to spend more days to reach the sampling areas. The car also had a small probelm that thad to be fixed. In addition we had to cover some shippment fees to send some fieldwork supplies to Madagascar.
TOTAL	5905 (7072 Euros at the time of the reception)	5905£ (7072 Euro)	0	

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

We clearly need to continue the screening for Bd across Madagascar and understand more about the biology and pattern of seasonality, endemicity and virulence of the Bd lineage recently identified in Madagascar.



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?

We did not present yet the obtained results to any meeting but we are currently working of the scientific publication of these outputs and we will surely acknowledge the Rufford Small Grant for Conservation in this and in any other publication resulting from our research activity in Madagascar that benefited from your valuable support

11. Any other comments?

We are deeply motivated to apply for a continuation of our research activity against chytrid in Madagascar and we hope to meet again your valuable support.