

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	Scott Forbes
Project title	Butterfly Assemblage Structure and Conservation in Semuliki National Park, Uganda.
RSG reference	12756-1
Reporting period	Final
Amount of grant	£3000
Your email address	hkxpat@gmail.com
Date of this report	17/08/2014

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
Long-term monitoring of the butterfly community at Semuliki National Park. Participants: Justice Olibokiriho and Martha Ndyabahika			Yes	The 1-year anniversary will conclude in September 2014 and it is important that this is extended.
Website and database design for uploading of Makerere University papered specimen images and distributional data. Participant: Mark Muhumuza			Yes	I gave Mark a fair amount of flexibility while collaborating with him during the creation of the website. He has delivered a very good design and database. The website he has created has allowed for further pages to be added.
Digitisation of Makerere University Butterfly Collection. Participant: Esther Toloa Voluntary Supervisor: Perpetra Akite			Yes	Esther has worked hard on the data collection, identification and photographing of images for the website. She now has work on resizing the images which will allow efficient upload and browsing on the web. but ongoing. This started in January 2014 and there is still plenty of work to do

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

My two Ugandan colleagues, Mark Muhumuza (website design) and Esther Toloa (image digitisation) are having to communicate with respect to both image resolution size, image uploading and database testing. This has not been as efficient as I would have liked, and I believe that we are nearly there with regard to the first uploading of images to the database. Esther has worked conscientiously in a very difficult environment as identification of specimens without the required identification guide (she has 'Butterflies of Kenya' guide) can be tricky.

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

The first and most exciting outcome is that the Uganda Wildlife Authority (UWA) is initiating butterfly eco-tours in Semuliki National Park. These will be the first butterfly tours in any National Park or Wildlife Reserve in Uganda. Justice Olibokiriho and Martha Ndyabahika who are working on the long-term monitoring of the butterflies have been asked by UWA to lead these tours. These tours will also be publicised in the National Press.

Secondly, the enthusiasm of the surrounding community for the work at Semuliki has culminated in a new community organisation – The Bundimasoli Butterfly United Community Development

Association. This was begun in February 2014 is run by 10 respected community members. The goals of this organisation are the education of local schoolchildren on the importance of the conservation of the butterflies of Semuliki and to manage community land to promote the planting of suitable habitat to attract butterflies.

Finally, but just as important is the work that Esther is undertaking in identifying the papered specimens at Makerere University. This is such important historical butterfly biodiversity data and she has been working on her own, with limited resources in terms of identification guides and the lack of having a computer of her own. I have asked a friend of mine Mr Jean-Pierre Leqleux, a butterfly expert in Kampala to collaborate with Esther and he is providing her with help and assistance with the identification of the hard Black *Charaxes* group and any difficult Papilionidae, which are his specialities.

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

I have had working with me in the last research phase, a member of the surrounding communities called Joackim Muteibisa. He worked extremely diligently as an unpaid volunteer in the field and was taught butterfly biology, trapping and sample design together with identification skills. He has now set-up his own community run project called The Bundimasoli Butterfly United Community Development Association. This has been given the blessing of the relevant community chairmen in the surrounding villages and he and his partners are focusing on educating children at local schools with the help and guidance of Justice and Martha. I am hoping to pursue grant funding for this excellent new enterprise. If I am successful in receiving funding the members are then hoping to start a butterfly ranching facility.

I also employed Joffrey from the local Batwa community to hang my canopy traps for me. He would climb up trees and would hang the traps at heights from 12-18 metres. He also came out on a few occasions as he was interested in the work that we were undertaking

5. Are there any plans to continue this work?

Yes, I would like to continue the collaboration with Justice and Martha at UWA for the long-term monitoring of the butterfly community at Semuliki as well as continue with the digitisation of the papered butterflies at Makerere University. At present this is the only long-term butterfly monitoring programme in Africa (excluding South Africa) and it is vitally important that we can continue the work to pick-up long-term trends of species diversity and abundance at Semuliki. I would also like to continue with the digitisation project and to be able to afford another photographer so Esther can work with someone else and to hasten the work to completion.

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

I will be collaborating with Dr David Lees at The University of Cambridge who is interested in data I have collected of the butterfly genus *Bicyclus*. The work will be presented at the next 'Biology of Butterflies' conference, which is the premium global conference specifically for butterflies which will be located in Bangalore, India in 2018. Martha Ndyabahika has already presented some preliminary findings of our research at a conference in Kibale, Uganda in January 2014. The conference was for researchers from all over Uganda to provide an update on their current research projects being

undertaken in National Parks and Wildlife Reserves being administered by the Uganda Wildlife Authority.

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

The grant is still being utilised. The website designer Mark Muhumuza has only been paid a deposit (£100) with the final instalment (£150) to be paid when the database has been tested and is fully functional. Esther started the digitisation project in January after I brought all her equipment from the UK. Justice and Martha have both been working throughout the year (Sept-Sept), sampling in the field every 2 weeks.

The remaining grant will be utilised to continue to pay Esther monthly, to pay Mark his final instalment once database testing is complete and to continue with the long-term monitoring of the butterfly communities at Semuliki National Park.

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
Digitisation Project Wages (budget Sept-Sept)	£975	£650	-£325	I pay Esther US\$ 350,000 per month. She started at the beginning of January 2014.
Digitisation Project Equipment. Camera + Camera Case + 16Gb Memory Card, Photo box, Flash Drive for Image Storage, Remote Shutter, Plastacine, Plastazote, Setting Boards X 3 and various size Pins for Setting, Tripod + case.	£240	£420	+£180	I underestimated the actual equipment required for the project, which I have now listed as complete. I also had to send some pins and further pinning boards from the UK during the course of the project.
Website Design and Database Development	£1050	£250	-£800	I chose a young local computer graduate in Fort Portal to design my website and database. His fees were considerably cheaper than established Ugandan companies.
Long-term Monitoring of Semuliki Butterfly Population. Wages for Justice and Martha + Petrol + Oil + Bait. (Sept 2013-Sept 2014)	£255	£655	+£400	I pay Justice and Martha US\$ 474,000 per 2 months (inclusive of wages/petrol and bait) This is for 4 fieldwork episodes/2 months
Scott Forbes Expenses	£440	£440		
TOTAL	£2960.00	£2415	-£545	Exchange Rate: Ug Shillings 4250 = £1.00

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

I feel it is extremely important to continue with the long-term monitoring of the butterfly community at Semuliki. This will enable long-term trends and patterns of abundance and species diversity to be investigated and over the long-term any effects of climate change or habitat modification can be identified on populations. Long-term comparative studies on fruit-feeding butterfly communities in South America can also be explored and I am building a relationship with Brazilian biologists working on The Atlantic Rainforest ecosystem in Brazil.

I would also like to extend the image processing of the papered specimens in Makerere University until we have processed all these specimens. This will be important as I would like to integrate these images with further distributional data that I hope to gather with a collaborative project with UWA. The idea will be to promote clients who go on safaris in Uganda to take photographs of butterflies that they encounter, send them to Esther at Makerere University for identification or to confirm identification. Any useful image will then be uploaded into the Ugandan Butterfly web database. This will allow tourists to become an inclusive tool in providing distributional data on butterfly species in Uganda as well as providing them the opportunity to collaborate with a scientific long-term study of butterfly diversity in Uganda. I will be proposing this idea to UWA on my return (September 2014) in the hope that they will broach this to their safari operators.

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?

I wrote an article for The Royal Entomological Society 'Antenna' magazine. I mentioned RSGF as a funder of my project. Please see the attached pdf of the recent article. I have attached this in a prior email to Jane. At the beginning of next year, we will be submitting an article for 'Antenna' magazine on the digitisation of the Makerere University specimens. RSGF will be mentioned as a grant contributor.

11. Any other comments?

I have attached the three reports from Esther on her ongoing progress with the digitisation project. See www.ugandabutterflies.com

See report for Royal Entomological Society magazine 'Antenna'.