

## 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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

#### Grant Recipient Details

<b>Your name</b>	Ariany Minerva Garcia Rawlins
<b>Project title</b>	Dynamics of cave use by cave-dwelling bats in arid and semiarid zones in northern Venezuela
<b>RSG reference</b>	31.08.08
<b>Reporting period</b>	November 2008-December 2009
<b>Amount of grant</b>	£5310
<b>Your email address</b>	<a href="mailto:gariany@gmail.com">gariany@gmail.com</a>
<b>Date of this report</b>	26/12/2009

**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
Identify and georeferencing some caves, bat refuges in arid and semiarid zones at northern Venezuela			✓	Samples have already been completed
Determine the species bat composition in each cave, estimate the size of the colonies and reproductive condition, and describe the temporal pattern of these variables			✓	Samples have already been completed
Characterize the physical and micro-environmental parameters (temperature and relative humidity) of monitored caves and evaluate if the species composition is a response to these parameters		✓		The information was gathered, however, we need to perform data analysis of temperature and humidity to complete the points made in this objective. This activity is being conducted.
Identify through the comparative index the risk level at each of the monitored refuges			✓	The parameters of the index are defined and the values assigned
Develop a Geographic Information System in which represents the location of refuges, the physical features and characteristics of associated chiroptero fauna, with the respective temporal variation.		✓		The information is still being added to the GIS but the base map, satellite images and principal databases are complete

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

At the beginning of the sampling there were difficulties caused by my academic commitments. I needed to complete the courses in order to carry out the fieldwork. For this reason the sampling started in February 2009 and not in September 2010 so that some tests have not been completed. This has not affected anything. This decision did not affect the results - by contrast it made possible a better implementation of the work.

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

The most important outcomes of my project are:

1. The Vulnerability Index of Bat Refuges permits classification of the caves in terms of the possibility of their being damaged, given the proximity to population centers, access roads and their difficulty of access. This index has benefits that can be applied to other type of shelters and different conditions.

2. The GIS of bat refuges at northern Venezuela is another tool that will be useful outside this project. Different people and researchers with interest of research and conservation may have access to these databases. Ideally these databases can continue to be developed.

3. The counts in the caves and the micro-environmental information are very useful to build artificial refuges as a measure of conservation, recreating the natural conditions to facilitate their occupation and permanence of bat colonies.

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

I intended to implement environmental education efforts or other activities designed for local communities. The fact that I was going every two months to the same sampling sites for a year, meant that interaction with people and getting local field assistants was necessary, this gave me the opportunity to notice any change in the attitudes of people that were in contact with bats and their environment.

**5. Are there any plans to continue this work?**

Part of the project continues over the next year - the objective is to know if the usage pattern is repeated from year to year and although this is not as comprehensive an assessment, we will visit shelters at certain times of year, continuing the collection of micro-environmental data and the marking of individuals of the species *Leptonycteris curasoae* in the colonies monitored, with the intention of identifying migratory movement. In Bonaire Island we will continue the exploration of new caves that could be refuges for bats.

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

Generating publications will be the main form of distributing the results. The plan is publish at least three papers (1/chapter). Second, but not least, is the presentation of work in congresses, symposia and meetings. Partial results were presented this year at the 10<sup>th</sup> International Mammalogical Congress and other results will be presented in 2010 at the 15<sup>th</sup> International Bat Research Conference.

**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 one year as in the original plan.

**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
Anti-ophidic serum	53.37			Was payed with other grants
Anti-scorpion serum	27.28			Was payed with other grants
2 sets of rechargeable batteries and 1 charger	71.15			Was payed with other grants
2 laser pointers	14.28	16.18	-1.90	Differences in the prices of products
2 weighing scale	30.60	57.05	-26.45	Differences in prices of products
50 cotton bags for bats	76.49	79.07	-2.58	Differences in prices of products and materials
2 calipers	20.40	18.87	1.53	Differences in prices of products
2 mist nets	61.19	199.24	-138.05	We purchased 4 mist nets instead of 2
Ferry ticket to Nueva Esparta State (Margarita Island)	698.39	664.18	34.21	Differences in prices of products
18 trips in boats for work at Sucre, Anzoátegui and Falcón caves	426.93	109.28	317.65	Differences in prices of products
Gas	170.77			Was payed with other grants
Basic and periodic maintenance of the vehicle	426.93			Was payed with other grants
Purchase of food - approx £ 119 a month x 6 months	711.55	664.19	47.36	Differences in prices of products
Rent of house or room	1361.59	474.42	887.17	Part of the accommodation was free
Payment for field assistant	1209.63	1518.17	-308.54	The assistance mean greater dedication and time
Rings		680.00		Was necessary and more practical to do with this money - order aluminium rings to mark the migratory bats with intention in a future project and provide continuity at the current
Data logger		649.40		Was more practical to do with this money the purchase of a logger to register the microclimatic information inside the caves
Mail box and sending		33.75		Expense associated with purchases via internet
Congress		102.00		Way to divulge the partial results of this project

License		44.20		Requirement for the capture of wild specimens
		5310	5310	* rate used 1US\$---0.68B£

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

The next important step would be to ensure that the information collected in this investigation is included by the institutions and public agencies in the management plans for proposed shelters.

**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?**

Not yet, so far I've only participated in a conference presenting a poster, as these partial results did not seem appropriate to place the logo. However, in future publications and presentations and direct products of the project, it will present the logo and the respective acknowledgments. Despite this, in my institution, the authorities are aware that the funds for the development of my project came from the RSG.

**11. Any other comments?**

I am very grateful to RSGF for financing my project, otherwise this project not have been possible.