

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	Rafael Ángel Moreno Arias
Project title	Conservation status of highland lizards from Sabana de Bogotá
RSG reference	28.03.08
Reporting period	27/07/08 to 27/08/09
Amount of grant	£5399
Your email address	rafamorearias@gmail.com
Date of this report	01/09/09

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
Habitat characterization			X	We have characterized seven patches of highland Andean scrubland. The patch sizes varying between 125 ha to 0.9 ha. The patch shape index varying between 1.1 shapes nearly to circularity and 2.3 shapes more irregulars. The prevailing vegetation in six patches was high scrubland and the last one was low thorny scrubland. Six patches were immersed in agricultural matrix while the other was immersed in an urban matrix.
Lizard population parameters and their relationships with habitat features			X	We have monitored six <i>Anolis heterodermus</i> populations, two populations of <i>Stenocercus trachycephalus</i> and <i>Anadia bogotensis</i> . The population size was increased with the size patch for all populations. Lower adults and higher juvenile survival rates occurred in larges patches with high shrub covertures. Presence and abundance of <i>S. trachycephalus</i> populations was correlated with the large extensions of low thorny scrubland, alone or inside high scrubland. <i>A. bogotensis</i> populations were not correlated with high scrubland but their presence and abundance was correlated with the continuous, rocky and dry habitats or altered habitats. This species uses more efficiently altered vegetation as forest vegetation.
Human communities and their relationships with the lizards and their habitats.			X	We focused workshops to children people and emphasised four aspects 1) Knowledge of lizards, 2) Importance of the lizards 3) Habitat of lizards and 4) Lizard conservation with relation to habitat loss and fragmentation. We also designed educational material with the same workshops aspects, and we include some games to strength the knowledge about lizards and awareness about the consequences of habitat destruction on lizards.

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

Unforeseen throughout the project were insecurity problems in some sites and unfortunately some equipment was stolen. A lack of compromise on the part of some NGO's who promised to help us. A technical unforeseen was that pipe traps were not effective and then we didn't catch any lizards using this technique.

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

The first outcome of this project was documenting for first time the consequences of habitat loss and fragmentation on highland lizard populations. We detected a negative impact when the habitat is reduced to demographic performance in *A. heterodermus* and *S. trachycephalus* abundance. Also, I documented that *A. bogotensis* may prefer more anthropogenically disturbed areas than the other lizards.

The second outcome was that we generated awareness and knowledge amongst local people about the importance of lizards and the Andean ecosystems; we also advertised about the consequences of habitat loss and fragmentation not only to lizards also biodiversity in general. The education will remain with local people and for the next children generation through to the educational materials produced during project.

The third and last outcome of this project is to give the biological basis and methodology in order to monitor highland lizards and their habitat for long term. We also promoted the educational aspects relate with the biodiversity using lizards as model showing that these animals also may be flagship species for conservation programmes.

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

The communities have benefitted by means of education in basis of the importance of natural habitats surrounded their village and their lizard species; they improve the knowledge about the benefits to conserve the natural resources and finally they are now more conscious about their responsibilities and their key roles in the biodiversity conservation challenges for the future.

5. Are there any plans to continue this work?

Yes. I want to continue this project by two main reasons. First is that the highland lizards are good models to improve our knowledge about biological processes and the second because highland lizards may be flagship species that fit in too many conservation programmes.

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

In two ways: 1) Scientific way by means of papers and posters related with the ecology and natural history of each species and the consequences of habitat destruction in the species demographic parameters; and 2) Community way by means of conferences and workshops at some elementary schools and universities.

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

The grant was used over a period of 12 months and half. Approximately the same time that the project was conceived: 13 months.

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
Travels				
Transportation	189.2	189.2		
Living stipends	2904	2904		
Equipment				
Laptop	750	725	25	
Digital callipers	46.6	69.9	-23.3	A calliper was robbed then I have to buy another
Spring scales	62.4	62.4		
GPS	84	90		
Materials				
Aerial photographs	70.2	65	5.2	
Maps	31.2	30	1.2	
PVC pipes (traps)	30	30		
Paper (500 sheets)	10	10		
Paint	27	30	-3	
Paintbrushes	40	35	5	
Plasticine	30	30		
Educational materials	480	530	-50	I used additional £50 from Others item in order to produce more educational materials
Personnel				
Field assistant	544.5	544.5		
Others				
Unforeseen and taxes	100	44.9	55.1	
TOTAL	5399.1	5389.9	9.2	

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

Given the limited environmental education to the human population of the Sabana de Bogota and the development pressures that are subject the cities in the region, the first step is to expand the knowledge of biodiversity using methods that reach more people with powerful messages about the effects of the habitat of the natural capital on human life quality. At the same time is very important to continue monitoring the populations for increasing evidence of long-term effects of habitat loss and fragmentation on biodiversity. In the near future a step is searching for charismatic species in order to apply the results from this project like conservation model in other threatened regions of Colombia.

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, I used RSGF logo in a poster sent to VIII Latin-American Congress of Herpetology, in the educational materials donated to children during the workshops and in the presentations given at different villages. I will use the logo in other poster at the second national congress of biology students and in a presentation at the National University of Colombia where I will show the results from this project. Both events will be conducted in October 2009. Also, I will cite the RSGF in all scientific papers from this project.

11. Any other comments?

I am very grateful to RSGF for the support given to me to work towards to the conservation of these poorly known lizards and promote research to conserve biodiversity in our countries where is well known that the economic resources to the development these activities are very limited.