

## The Rufford Small Grants Foundation Final Report

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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. The Final Report must be sent in **word format** and not PDF format or any other format. 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. Please note that the information may be edited for clarity. 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**

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Grant Recipient Details	
Your name	Paola Pozo Inofuentes
Project title	Ecology and biology of threatened narrow endemics of rock-outcrops in the Bolivian Cerrado biome: an approach to the conservation of rare plants.
RSG reference	11566-2
Reporting period	May 2012-August 2013
Amount of grant	£5897
Your email address	<a href="mailto:paolasarela@yahoo.es">paolasarela@yahoo.es</a>
Date of this report	November 2013

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
To gather information about the ecology and biology of narrow endemics.			√	Originally we aimed to focus the study at five narrow endemics. Fortunately, we were able to gather information about the ecology and biology of 19 endemics (Chart 1).
To study microhabitat requirements of narrow endemics.			√	We were able to gather information about the microhabitat requirements of 19 endemics (Chart 1), including substrate and microclimatic conditions.
To increase awareness about the importance of rock outcrops for the conservation of threatened narrow endemics.			√	We elaborate posters, reports and a book about the importance of rock outcrops as hotspots of plant diversity and endemism. We have remarked the threats that narrow endemics are facing and the importance of their conservation. We have distributed this material in workshops, media conferences and presentations.
To enhance the capacity of local people in the conservation and research process.			√	We conducted workshops teaching local people how to undertake future biodiversity work including botanical surveys, how to classify families and species of the most important plants of the region. We focus on the endemics and the ones that are threatened; thus we also teach them how to monitor these species in order to contribute to the conservation process.

Chart1. List of the species from which we gathered general information about their ecology and biology. Local endemic (EL), national endemic (EN). Type of rockoutcrop: Campo rupestre (CR), torre de roca (TR), laja (L).

Family	Species	Distribution	Habitat
Acanthaceae	<i>Justicia adhaerens</i>	EL	L
Amaranthaceae	<i>Gomphrena cardenasii</i>	EL	CR, L
Apocynaceae	<i>Blepharodon crabronum</i>	EL	TR
Apocynaceae	<i>Blepharodon philibertioides</i>	EL	CR, L, TR
Asteraceae	<i>Calea dalyi</i>	EL	CR, L, TR
Asteraceae	<i>Praxelis chiquitensis</i>	EL	TR
Bromeliaceae	<i>Pitcairnia chiquitana</i>	EL	CR, L, TR
Bromeliaceae	<i>Pitcairnia mohammadii</i>	EL	CR
Bromeliaceae	<i>Pitcairnia platystemon</i>	EL	CR, L
Cactaceae	<i>Cleistocactus samaipatanus</i>	EN	L
Cactaceae	<i>Frailea chiquitana</i>	EL	L
Euphorbiaceae	<i>Manihot</i> sp. nov.	EL	L

Leguminosae	<i>Mimosa dalyi</i>	EN	CR, L
Leguminosae	<i>Mimosa jacobita</i>	EL	CR, L, TR
Leguminosae	<i>Mimosa auriculata</i>	EL	CR, L
Melastomataceae	<i>Tibouchina</i> sp. nov.	EL	TR
Poaceae	<i>Paspalum</i> sp. nov.	EL	CR
Rubiaceae	<i>Galianthe chiquitosiana</i>	EL	CR, L
Rubiaceae	<i>Mitracarpus bicrucis</i>	EL	CR, L

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

There were no relevant difficulties.

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

- i) This project assembled and left behind a large body of ecological and biological data about narrow endemics of rock outcrops. With this information we were able to evaluate the conservation status of 19 endemics and design specific recommendations for policy makers, conservation organisations and interested parties. Among the endemics, two species were identified as Critically Endangered and four as Vulnerable. All of them are now included in the conservation priorities of the Bolivian flora.
- ii) By carrying out community education and awareness-raising activities we enhanced the capacity of local people to undertake future biodiversity work and monitor endangered endemic species. These people are able to continue with future conservation initiatives and biodiversity work and to teach others and become ambassadors for rock-outcrops conservation.
- iii) For the first time in Bolivia, a book regarding endemic plants of the rock-outcrops of the Robore Mountains is published. This is not only a contribution to the knowledge of plant endemics of the region, but also it is an important input to the knowledge of the flora of the Cerrado biome at the regional scale - one of the top biodiversity hotspots for conservation priorities in the planet.
- iv) After this study, local people, the scientific community and policy makers have and increased knowledge and specific conservation recommendations for the rock outcrops of Roboré and their threatened endemic species. We could perceive an increase of enthusiasm in the conservation and research process.

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

This project has employed local guides for the studies. During the research local guides have undergone capacity building; they learned how to conduct botanical surveys, scientific names of important plant species and camera trapping skills. Local communities have received workshops and trainings to increase their knowledge on the biodiversity of the area. We also conducted awareness raising workshops about the importance of rock outcrops for the conservation of endemics and distributed posters and books to the community members and local authorities.

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

We will continue carrying out community education and awareness-raising activities to enhance the capacity of local people in the conservation and research process. Since populations of threatened narrow endemics are very small, we plan to develop initiatives to reproduce them. We also plan to explore the possibility of developing community-based ecotourism as a strategy to integrate rock-outcrops conservation and community development.

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

Project personnel, individually and institutionally, have a well-developed network of connections with decision makers within Bolivia to highlight our results and enable the implementation of our recommendations. The project is under the support of the Direccion General de Biodiversidad (DGB), which is the national government agency responsible for biodiversity. We have established contact with The Foundation for Conservation of Chiquitano Woodland (FCBC), a non-governmental organisation set up to support biodiversity conservation in the region. From previous projects, we also established contact with local communities and their leaders (Mayors, delegates etc.). Conservation results and recommendations have been highlighted in the form of conferences and delivering publicity and partial and final reports to them. The project has also shared the results in the media, in presentations at scientific meetings and local communities have received printed educational material in workshops.

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

The project was carried out for a period of 14 months (May 2012 – August 2013). This is about 2 months more as compared to the original plan. The explanation for this is the long time spent waiting for the permission of biodiversity authorities to carry out our research purposes.

## 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
Flight ticket La Paz-Santa Cruz-La Paz (£140 each ticket/ 3 ticket)	420	420		
Terrestrial transportation by train from Santa Cruz- Roboré -Santa Cruz (£30/4 people/3 times)	360	360		
Transportation inside Roboré (Temporary car rental)	600	560	40	Insignificant change
Food and accommodation (£24 each day/4 people/32 days)	3072	3072		
Local guides (£10 each day/ 9 days/2 people)	180	234	54	Insignificant change due

				to increases of cost.
Printing paper (£3.5 each package/10 packages)	35	40	5	Insignificant change due to increases of cost.
Cartridge (HP Laser 1020)	50	60	10	Insignificant change due to increases of cost.
Material for community education and awareness-raising workshops (Posters, leaflets, folders, photocopies, pens, clipboard, food, and miscellaneous)	190	180	10	Insignificant change
Material for field work experiments (bags, envelopes, falcon tubes, insect traps, adhesive and flagging tape, soil sampling kit, chronometer and head lamps)	190	190		
Soil nutrient and soil moisture analysis cost	150	150		
Book printing and edition costs	600	600		
Unforeseen	50			
<b>Total</b>	<b>5897</b>	<b>5866</b>		

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

First of all, we are preparing a detailed report of our results for the policy makers.

Awareness and enlightenment of local communities on the need for protection of threatened narrow endemics and their habitat has been successful in the 1<sup>st</sup> and 2<sup>nd</sup> RSG. We plan to continue with community education and awareness raising activities, specially aiming at threat reduction. Increased sensitivity and awareness about the conservation of the endemics and their habitat coupled with increased capacity of local people to continue with future biodiversity work will be ideal to ensure conservation.

Our results have shown that among the endemics, two species are Critically Endangered and four are Vulnerable. The most important threats to these species include mining activities, fire and settlements. Moreover, the populations of these species are very small with isolated restricted distributions. Thus, next steps include the development of strategies and projects to increase the population size of these species.

Tourism is a small but growing activity since the serranias of Robore are home of exceptional natural attractions and landscapes. We plan to explore the possibility of developing community-based ecotourism as a strategy to integrate rock outcrops conservation and community development.

We could identify that the serranías of Robore have all the habitats of the Cerrado Biome complex including not only rock outcrops but also grasslands, savannas, gallery forests and tropical dry forests, we could notice that some of these habitats are poorly known and fundamental in the Bolivian Cerrado Biome. For instance, gallery forests that occur along the course of streams represent important refugia for species, play an important role in the conservation of the natural soil and water resources and have important ecological values as natural corridors for animals. Gallery forests are the next priority of study in the serranías of Robore.

We intend to apply for Booster Grant to do the activities listed above.

**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?**

The RSGF logo was used in posters, oral presentations and a book published. We named Rufford Small Grants foundation in acknowledgments in every report, press note and scientific publication. We plan to have more publications of our results where we will name the RSGF.