

## 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>	Rocio Ponce-Reyes
<b>Project title</b>	Integrating patterns and processes for identifying conservation priorities among fragments of Mexican Tropical Montane Cloud Forest (TMCF).
<b>RSG reference</b>	RSG 10.01.08
<b>Reporting period</b>	March 08-May 09
<b>Amount of grant</b>	£5000
<b>Your email address</b>	<a href="mailto:r.ponce@uq.edu.au">r.ponce@uq.edu.au</a>
<b>Date of this report</b>	29.05.09

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
Sample the different populations of <i>Abronia fuscolabialis</i> (lizard) and <i>Pseudoeurycea juarezi</i> (salamander)	X			After completing the reconnaissance trip and not finding any lizards or salamanders we decided to change the organisms that we were going to sample. Instead of <i>Abronia</i> and <i>Pseudoeurycea</i> we looked successfully for the frog <i>Craugastor lineatus</i> which is another cloud forest specialist. We also had to change the sampling structure because of the cancellation of the permits by the locals because of some previous bad experiences with other researchers. We had to divide the long field trip into two shorter ones.
Modelling the present, past and future distribution of cloud forest			X	The distribution models are ready, and we are writing a paper on the results.
Validate the models on the field		X		We went to points where the models showed presence/ absence of cloud forest. We just need to complete some statistical tests.
Amplify, align and sequence the mitochondrial DNA	X			We haven't started these parts of the project because of the inconveniences that occurred during the fieldwork that prevented us from finishing the sampling as initially planned (cancellation of the permits by the locals). Also, we needed to establish collaboration with a molecular lab and also find some funding to support the molecular analyses. We have now located the best lab for the genetic analyses, and they are willing to collaborate. This research group is led by Professor Craig Moritz at the Museum of Vertebrate Zoology at Berkeley. Craig's lab undertakes very similar studies to mine where genetics are used to elucidate biogeographic history (most recently in the Atlantic Forest of Brazil).
Measure genetic distance of the different populations	X			
Compare topographic distance with genetic distance	X			
Find the most threatening processes to TMCFs out	X			According to our schedule his part will be accomplished early 2010
Statistical model on how the model affect the TMCFs	X			According to our schedule his part will be accomplished early 2010

Integration of all the information to identify important areas for conservation.	X			This part will be accomplished during the last six months of the project (June-November 2010)
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**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

There were two main unforeseen difficulties of this project:

- a) Finding the lizards and salamanders: This project has had two fieldwork seasons so far, with the first one being a reconnaissance trip. During that trip we went to different localities to determine how easy it would be to find sufficient numbers of our target organisms. Our initial findings were completely negative: we found zero *Abronia* lizards and zero salamanders of any kind. We therefore decided to change the project slightly and to focus on frogs (*Craugastor lineatus*) instead. These are also cloud forest specialists but are relatively easy to find in the field.
- b) Getting allowance to work in the forests: We knew beforehand that the communities in the Sierra de Juarez region are very difficult to work with. That is why there are not many studies for this area. We therefore planned the reconnaissance trip to establish contact with the communities and also to formalize the permission to work in their forests a year in advance. This all went smoothly and positively, but when we arrived this year, we found out that the previous permits that we arranged were not going to proceed. The problem arose when researchers from an American University started working in the area without honestly explaining their objectives and methodology. The communities were very angry about this and even called the Mexican army to take the researchers out. After that, the leaders of several communities agreed no to allow anyone into their forests to do research. So, although we had a previous permit to visit the forests of some communities, they were no longer valid. We tackled that problem by talking to the communities. Some of them gave us the permits back, some of them sustained the no-permit agreement and some others invited us to address their assemblies (where the whole community gets together to talk about their problems and take decisions). So we went and sampled everywhere they allowed us to go. We are also really interested in the localities where they invited us to address their assemblies. The problem is that the next assemblies will be late June and early July. These localities in particular are very important to us, because the forests that are very well conserved.

As a result of that problem we had to modify the sampling. We had to divide the long trip into two shorter ones (April- May 2009 and July 2009). We did not know that this would be necessary until we arrived at the sampling localities. The budget initially assigned had to be redistributed. By the time we need to submit this final report we won't be ready to justify the budget saved for the second trip.

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

1. - Trust of the communities in our team and permission to continue our field work and communication with the communities. We convinced 9 communities of the importance of

our work in their area. They accepted these arguments and will allow us to continue working there.

2. - Finding high number of frogs: This was a very positive finding, because this frog is listed as critically endangered by the IUCN red list. Only in one of the localities that we visited could we not find any frogs.
3. - The acknowledgment of the need of more research in this area. When we visited the area, we noticed that many of the TMCF fragments were very well conserved. Also, the surrounding vegetation appeared to be in good condition. But there are no complete lists of species of amphibians and reptiles for the area. So, we need to tackle this gap in information in future research.

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

To work in these areas, we had to talk to the communities' authorities, explaining what the project was about. We had to explain the importance of the cloud forest, the amphibians and the reptiles, and what the models are saying about the influence of climate change in these areas. When they agreed that our project was important and beneficial to them as well, they provided us with a guide that took us into the forest. The immediate benefit that the communities got from the project was an economic one: we paid for the guide, accommodation and food. Some communities also charged us just for entering the forests. Another short-term benefit for the communities will be the knowledge they gained about the amphibians and reptiles in their forests. This will help them to sustain conservation areas. For instance, one of the communities wanted to stop a mining company that bought some land because they are polluting all the fresh water sources of the region. But they don't have any study that justifies why the mining company shouldn't be there. Actually, they don't even have a list of the species that live there. Our work is therefore helping them to take action by themselves.

As a long-term benefit, the communities will have scientific-based advice about which areas are more important to protect even if the federal Government doesn't support them.

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

Yes, there are plans to continue and expand the work in this area.

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

The results will be shared with the scientific community in conferences and written papers in international journals.

We will share our results with the communities in several ways. Initially, we are preparing posters for the communities with all the reptiles and amphibians that we found. These posters will have a picture of the organism, its scientific name and its conservation status if listed. In the case of the snakes we will also add if they are venomous and try to convince the communities not to kill snakes. We will also maintain communication with the communities as the results of the project come together and provide them with information on genetic analyses, climate modelling, land use modelling, and conservation prioritization.

**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 for the period of April 2008- May 2009. During this period, we finished almost all the field work and the modelling of the actual and potential distribution of the forests projected to the past and to the future under climate change scenarios.

**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
1 Flight ticket	£1184 2669.5 AUD	£1539.79 3129.07 AUD 29,610.57MXN	- £356 6867 MXN	The flight was more expensive due the economic crisis.
Food	£1603 34,515 MXN	£726 14,003 MXN	£877 16,916 MXN	We had some money left here, because we had to shorten the sampling
Petrol	£343 7,385 MXN	£575 11,091 MXN	- £232 4,475 MXN	The price of the petrol increased, and we got a different truck with less fuel economy than we expected.
Motorway tolls	£170 3,660 MXN	£127 2442 MXN	£43 829 MXN	
Accommodation	£1603 34,515 MXN	£1327 25595 MXN	£276 5,323 MXN	The main part of the accommodation was paid by the other funding sources. We had some money left here, because we had to shorten the sampling.
Material	£507 10,918 MXN	£590 11,380 MXN	-£83 1,601 MXN	We bought a digital camera instead of the climbing equipment. The camera that we had broke during the reconnaissance trip, and we were not going to use the climbing equipment because we had decided not to look for aboreal Abronias.
Volunteers' expenses	£686 14,771 MXN	£430 8,294 MXN	£256 4,938 MXN	Bus tickets, taxis, guides, permits and extras (like cash withdrawals)
<b>TOTAL</b>	£6096 117,581 MXN	£4219 81,377 MXN	£781 left (15,064 MXN)	The remainder £1096 (21,140 MXN) were covered by other funding sources.

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

- Reapply to RSGF for a second grant so we can finish the genetic analyses and expand the project.
- Go to the field again to the localities where we could not go this time.
- Finish the posters for the communities so we can take them in July when we will go back to finish the sampling.
- Publish our results.

**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 gave a few talks where I used the RSGF logo. Also, the posters that we are going to give back to the communities with the pictures of reptiles and amphibian species that we found in the study area will have the RSGF logo.

**11. Any other comments?**

I would like to thank Rufford Small Grants Committee for all your help. Without it, this project would not have been possible.