

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	Catalina Arias Agudelo
Project title	Landscape connectivity and genetic structure of the Andean oak (<i>Quercus humboldtii Bonpl.</i>) in the Conservation corridor Guantivalla Rusia - Iguaque, Colombia
RSG reference	40.10.07
Reporting period	February – September 2008
Amount of grant	£ 4030
Your email address	catuca01@gmail.com
Date of this report	November 19 th 2008

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
Determine oak subpopulation sizes			X	
Evaluate if there is genetic and physical connectivity between subpopulations			X	
Estimate gene flow between the <i>Q. humboldtii</i> subpopulations			X	
Determine which subpopulations should be linked to maximize <i>Q. humboldtii</i> conservation		X		We found that there is a genetic connection between the subpopulations.
Compare <i>Q. humboldtii</i> genetic diversity between Colombian populations		X		We compare our results with another similar and previous investigation. We do not compare the results with the total researches about the species because they used a not comparable methodology.

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

I had difficulties to organize the first trip of the field because I had to wait for permission from The Fundación Natura to start. This difficulty was solved in a short time after we arrange the normative papers for the Foundation, for me and for a Bachelor student who join me in this project. I started the laboratory procedures later than it was planed and I had to hire a laboratory assistant. *The Banco de la República de Colombia* did not approved the grant we were expecting thus I had to use resources form The Biological Resources Research Institute Alexander von Humboldt to cover the deficit.

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

Our goal was to investigate the relationship between landscape features and genetic diversity of the endemic oak *Quercus humboldtii* of Colombia across the entire ecosystem within the conservation corridor Guantiva - La Rusia – Iguaque in order to establish a framework for future conservation and monitoring. Specifically, we compared landscape metrics with the genetic diversity and the genetic structure of adults and juveniles of the subpopulations. First (1), our analysis indicated that there were high levels of genetic diversity (as measured by levels of heterozygosity for both adult and juvenile). Second (2), *Q. humboldtii* has not experienced extreme fragmentation and/or a recent genetic bottleneck partially attributable to the biogeographic history of the genus. Third (3), the juveniles showed a different genetic structure than adults suggesting different selection pressures, or the loss of diversity due to recent fragmentation.

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

In every place we visited the people were very involved. We inform the community about the project content with a brochure. Also, some members of the communities were fieldwork assistants of this project. Actually, I am working in a poster to show the communities the overview of this project.

5. Are there any plans to continue this work?

1. There are plans to continue with this work by searching at the landscape connectivity and genetic structure of *Quercus humboldtii* in its wide distribution in Colombia. It will be important as we demonstrate an effect of fragmentation over the juveniles of the population of the conservation corridor Guantiva – La Rusia – Iguaque. Moreover, there are areas of Colombia where there are no conservation areas or natural reserves where the effect of fragmentation could be more evident.
2. We want to compare this long live species with other two endangered species with two different life types (e.g. Shrubs and herbs) looking for the effect of fragmentation on their genetic structure.
3. We expect to compare *Q. humboldtii* relationship with its endangered relative *Colombobalanus excelsa* as its population seems to be more vulnerable to fragmentation.

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

We are working in a publication in an international journal, in a book of the Fundación Natura, and a poster for the communities of the conservation corridor Guantiva – La Rusia – Iguaque.

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

I used the RSG between February and September 2008. I planed to use the RSG between November 2007 and June 2008. I used the grant in the same amount of time but I started lather than planed.

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
Materials	£70.00	£300.00	£230.00	
Housing	£1,228.00	£1,500.00	£272.00	
Housing for bachelor assistant	£0.00	£200.00	£200.00	It was unexpected
Local transportation	£140.00	£200.00	£60.00	
Field work assistant	£310.50	£320.00	£9.50	
Laboratory expenses	£3,926.00	£3,926.00	£0.00	
Laboratory assistant	£0.00	£375.00	£375.00	It was unexpected
International transportation	£689.00	£800.00	£111.00	
TOTAL	£6,363.50	£7,621.00	£1,257.50	

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

In the next step is important to add a proportion of unexpected issues of around 10% of the total of the project.

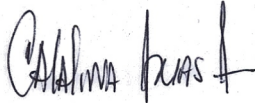
10. Did you use the RSGF logo in any materials produced in relation to this project? Did the RSGF receive any publicity during the course of your work?

I used the logo of the RSGF in a brochure of the project to explain the objectives to the communities of the zone. I also use the logo in the partial presentation in The Biological Resources Research Institute Alexander von Humboldt and in my final presentation of the project in the Universiteit van Amsterdam. It will also be in any presentation or poster.

11. Any other comments?

I wish to thanks the RSG team because without your help this project could not be possible.

12. I agree to this report being published on the Rufford Small Grants website

Signed (or print name):  Catalina Arias Agudelo