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	Natalia Ocampo-Peñuela
Project title	Effects of deforestation on the elevational ranges of montane birds in the Western Andes of Colombia
RSG reference	14204-1
Reporting period	April 2014 - February 2015
Amount of grant	£5941
Your email address	no19@duke.edu
Date of this report	February 5, 2015

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 the lower and upper elevational range limits of montane birds along an altitudinal gradient covered by forest in Mesenia-Paramillo Reserve, in the Western Andes of Colombia			X	For 207 bird species recorded during the field season, I now have elevational data for the lower and upper range limit. These data do not necessarily reflect the complete elevational range of the species but thanks to equal sampling effort it can help to understand the effect of deforestation on the elevational range.
Quantify the variation in abundance of montane birds along an altitudinal gradient covered by forest in Mesenia-Paramillo Reserve			X	After completing 600 net-hours for each elevation, on each transect, and 20 repetitions for each point count along the altitudinal transects, I have gathered enough abundance information for 207 species to quantify their variation. Although the analyses are not finished yet
Evaluate the effect of lowland deforestation on the elevational ranges of montane birds, and the variation in abundance, by comparing intact forest transects with transects lacking forest in the lowlands.			X	Preliminary results show distinct species composition in forested transects, compared to deforested ones. Interior species are affected by deforestation and possibly shift their elevational ranges. Further analyses are being done and results will be published as a scientific paper before the end of 2015.

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

The first difficulty was following the exact methodology for point counts and mist netting. I had designed a methodology that would be standardised and perfect for statistical analyses. Once we got to the transects, the terrain was steep, slippery, and impossible to work on. I had to make fast decisions and sacrifice some statistical power for the ability to work. While my assistants were opening trails with machetes, I tried to think of alternatives to the methodology I had proposed, trying to keep the scientific method as pure as I could, given the circumstances. My team and I managed to squeeze in 15 mist nets where it seemed impossible to set up even one! And my point counts were distributed evenly along the gradient, although they were not placed exactly where I had designed for them to be. Looking at the data now, I think the decisions I made worked out well and we now have a healthy team and good data.

The field season went smoothly otherwise. The teams were healthy and energetic, we got used to eating rice and beans, and the rain became an usual condition that we learned to adapt to.

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

1. All data needed for analyses was gathered in an organised, standardised way. Presence-absence and abundance bird data will help answer the questions asked for this project
2. Bird data that allows a comparison of forested and deforested transects is unprecedented for Colombia. Now, we are able to determine how deforestation in lowlands is affecting bird at higher altitudes, and that is an important result for present and future conservation activities.
3. During the 6-month field season, 12 field assistants (90% of which were local) were trained in bird monitoring and banding techniques. Now they are ready to participate in other research projects and have started getting involved in biodiversity and conservation activities. This was my most important achievement, and the best outcome of this project (in my opinion).

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

The involvement of local communities was done through providing temporary jobs and training. Each of my field teams had five people for a period of 1.5 months (a leader/bander, an assistant bander, a point counts person, a cook, and a general assistant). During the entire field season, I provided jobs and training opportunities for 16 locals, all of which are now trained in identifying, monitoring, and banding birds. Most of these people did not have previous experience with bird projects. Now they are enthusiastic about bird research and conservation, and seeking opportunities to continue their involvement in this realm.

5. Are there any plans to continue this work?

I am finishing up a PhD and do not plan to go back to do any more sampling on these transects in the near future. However, other researchers have already used our transects to monitor birds as part of a "Paramo project" of the Alexander von Humboldt Biodiversity Institute. Mesenia-Paramillo is a research station used by the Antioquia University, as well as many other research organisations, and I am sure these transects will be used for further research in the near and far future. I plan on resampling these transects sometime in the far future (10 years from now) to determine the changes occurred on bird elevational ranges.

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

Currently. I am working on two scientific publications to share the important information gathered in this project. One publication will deal with the natural distribution of bird species along elevational gradients in the east slope of the west Andes of Colombia. The second will discuss the effect of lowland deforestation on the elevational ranges of birds on the east slope of the west Andes of Colombia.

I plan to present results of this project in several conferences including: Association for Tropical Biology and Conservation, Society of Conservation Biology, Colombian Ornithological Meeting, International, and other future conferences. I often get invited to present to local bird clubs and will soon give two talks about this project: one to the Chapel Hill Bird Club, and another to the NC State University Conservation Club. I will continue to share results from this projects for years to come, since I enjoyed doing it and it is important and novel research.

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

The RGS was used during May 2014 and October 2014. This period was within the anticipated dates.

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
Field Transportation (4WD and mules)	285	285	0	This paid partially for the transportation, other grants covered the remaining cost
Lodging and food for 10 person team	3162	3906	744	Surplus from mist nets was used for this item because it was the most costly
Mist-nets	744	0	744	All mist-nets donated by IdeaWild
Banding equipment	400	400	0	All equipment ordered as requested
Binoculars (x2)	310	310	0	Two pairs of Nikon binoculars were purchased and donated to the reserve
Field assistant (x2)	792	792	0	This partially covered field assistant expenses that were complemented by other grants
4 tents	248	248	0	Camping gear (not necessarily all tents) purchased with this money
TOTAL	5941	**5941**		Exchange rate US$1= £0.62 = COL $2100

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

This project has opened opportunities for other researchers to study altitudinal gradients. We have opened trails, marked elevation points, and developed an initial bird database. It would be great to see other researchers using these facilities. As for my research, I want to produce two noteworthy scientific publications to communicate the results to the scientific community, but I also intend to share these results with the non-academic community. Most importantly, this project has planted a seed of bird knowledge in locals that are now interested in researching and protecting their birds. Along with the local community, I would like to see Fundacion Colibri (owner of the reserve) invest in altitudinal conservation corridors. Fundacion Colibri has already invested in these corridors on the W slope, and it would be great to see them do the same on the E slope, which is most deforested but in urgent need of restoration. Other conservation stakeholders will hopefully look at this project as evidence of the negative effects of deforestation, and will understand the importance of conservation along elevational gradients.

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 has been and will continue to be used in all my presentations. The RSGF will continue to be part of the acknowledgements in every publication of this project.

11. Any other comments?

This project received additional funding from: National Science Foundation DDIG, The Explorer's Club, IdeaWild, Duke University Graduate School, and the Duke University Center for Latin-American and Caribbean Studies.

Admiring the beautiful tail of a Violet-tailed Sylph (Aglaiocercus coelestis), a small-ranged bird species from the Western Andes.