

The Rufford Foundation

Final Report

Congratulations on the completion of your project that was supported by The Rufford 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.

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Omar Antonio Hernández Dávila
Project title	Influence of structure and composition of riparian strips and isolated trees of the cloud forest on the seed-dispersing frugivorous bird community
RSG reference	20471-1
Reporting period	November 2016- November 2017
Amount of grant	£4983
Your email address	omar.hernandez@posgrado.ecologia.edu.mx
Date of this report	6 November of 2016

1. Please indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Briefly, our main goal was determinate the characteristics (structure, composition and spatial configuration) of riparian remnants (riparian strips) that influence to frugivorous birds community. In order to achieve this, we did the following activities.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Sampling of vegetation				Originally we were going to do plots (10 x 10 m) to sampling vegetation, however, we did linear transects of 50 x 2 m along the river, We did six transects per site. We consider the linear transects are a better method to sampling riparian vegetation.
Sampling of birds with mist nets				-
Focal observations on riparian remnant				Originally, we were going to do linear transects, however, we did focal observations. Change of method was determinate by the structure of vegetation. The height of trees limits the identification of birds, so, we need more time for identification of birds. We want to do more observations in January and April of 2018.
Focal observations of isolated trees				Due to logistics of project, we decided do not perform this part. We preferred focus only in riparian remnants.
Spatial configuration				I have begun to digitize the riparian remnants I think that in the first months of next year, this part will be ready.

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

One of the unforeseen difficulties that we experienced was the property owner's disposition to work with us, and enter their property. Some owners prohibited entrance to riparian zones. To resolve this, we found other study sites. Another aspect to consider was the danger at the sites. Some sites were reported to have delinquents, therefore, they were avoided as well. In the end, we had 14 sites.

The presence of cattle, in some places, caused the loss of some mist nets. More important, on one occasion, someone stolen a mist net. I think it could have been a person who is engaged in the illegal extraction of species. This was reported to the corresponding authorities of the community.

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

The three most important outcomes are that 85% of the field work is complete. We just began writing the scientific articles. While processing the data, I found that we have very important information. First, the riparian remnants provide amazing plant diversity, with more than 100 species, some of which are native to cloud forests. We hoped that in riparian remnants we would find important species information, but not this magnitude of diversity. This reinforces the importance of these remnants as a reserve for cloud forest vegetation species, as well as habitat to frugivorous birds. Second, the number of seed dispersing bird species ascends 23 species, which consume at least 27 plant species. Considering that the riparian remnants are in fragmented areas, the number of seed dispersing bird species are extremely important for cloud forest regeneration.

Some of the plants that the birds consumed are, *Conostegia xalapensis*, *Miconia glaberrima*, *Rhamnus longistyla*, *Trema micrantha*, *Oreopanax liebmannii*, etc.

Some of the seed dispersing birds are, *Catharus mexicanus*, *Myadestes occidentalis*, *Euphonia hirundinaceae* *Atlapetes bruneinucha*, *Chlorospingus flavopectus*, *Turdus asimilis*, etc.

These birds and plants are some of the most important species to seed dispersal on riparian remnants of cloud forest. We have to focus our conservation efforts in these species. In short time, we will have the analysed information of structure and composition of riparian remnants to complete the view about this areas and its importance for the biodiversity of birds.

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

The communities near the site location did not directly benefit from this project. However, I plan to give talks to the schools within the communities to share information about my major results, and achievements from this project. I also plan on communicating the importance of riparian fragments for the avifauna and ecological processes such as seed dispersal.

5. Are there any plans to continue this work?

I am interested in continuing this work. In a second phase, I could evaluate the restoration aspects in riparian remnants that are extremely fragmented, considering the information that this project generated. Currently, I am focused on completing this project, which involves taking data that I am missing, processing the information on ArcGIS, analyzing the data, and finally, publishing the results.

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

First, I will send information about my results to the communities where I worked on the project. Second, I will publish the results in an indexed journal. Third, I will transmit this information at national and international meetings and conferences.

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

I used the Rufford Foundation grant in the initial months (November 2016-January 2017) to buy field equipment necessary for my samples. The project has a 2-year timescale, and I hoped to complete most of my field work in the 1st year (bird and vegetation monitoring), which is 85% complete. Next year (August 2017-August 2018), I plan on writing scientific articles and giving talks to the communities. I have also started a small illustrated guide to all of the seed dispersing birds in the cloud forest in central Veracruz.

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.

1 £ sterling = 25.04 pesos mexicanos

Item	Budgeted Amount	Actual Amount	Difference	Comments
Vortex Crossfire 10x50 Vortex	280	287.28	7.28	Overall, the equipment costs were more expensive than expected because the mexican peso was devalued from the change of United States president.
Standard Wing Rule 30cm/ Universal Wide	33	34.12	1.12	
12 sets of Aluminium Net Poles, 1 in. x 43 in. sections - 4 tops and 2 bottoms	2180	2234.4	54.4	
Sony Cyber-shot DSCHX90V	295	302.48	7.48	
8 mist nets 2.6 x 6	415	425.6	10.6	
8 mist nets 2.6 x 9	574	588.24	14.24	
8 mist nets 2.6 x 12	691	708.32	17.32	
2 Net Pole Carries	35	36.48	1.48	
GPS Garmin eTrax 10	221	171.26	49.74	
Coleman Tent	192	100	92	I found a more economic tent.
Coleman Camp Grill	67	69.16	2.16	-
TOTAL	4983	4957.34		

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

The national water law in Mexico claims a 5 m contiguous federal zone around rivers, however, this does not apply to birds. Now that we found that natural riparian remnants are vital for survival, I believe that the next step would be to elaborate a management plan that makes the federal riparian margin larger, protecting the flora and fauna living in those remnants. In addition, more studies that include more taxonomic groups such as terrestrial mammals, amphibians, reptiles, insects, etc., are necessary denoting the importance of this habitat. An active restoration process would be important in the sites with more agricultural activity.

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

As of now, I have used the Rufford Foundation logo in all of my presentations to my committee advisor, and meetings that evaluate my project advances.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

Dr. Vinicio Sosa Fernández, has participated in the data collection in field and in the data analysis.

Dr. Javier Laborde Dovali, has actively participated in the design of methods to census the vegetation of riparian remnants.

Cecilia Díaz Castelazo, has contributed to analyze the data to determine the interaction networks between frugivorous plants and birds.

Dr. Mauro Galetti, like Dr. Cecilia, has contributed to the analysis of interaction networks

12. Any other comments?

When my results are published from this project in indexed journals, I will happily send you the articles as well as other reports or updates that I generate in the process.

Finally, I would like to thank The Rufford Foundation again for the economic support provided because without it, this project would not be possible.