

## The Rufford Foundation

### Final Report

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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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
<b>Your name</b>	Pedro Guillermo Méndez-Carvajal
<b>Project title</b>	Population, Distribution and Conservation of Panamanian Primates, Republic of Panama
<b>RSG reference</b>	21883-D
<b>Reporting period</b>	Six month report (final report)
<b>Amount of grant</b>	£9,000.00
<b>Your email address</b>	fcprimatespanama@gmail.com
<b>Date of this report</b>	November 28, 2017

**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
Population densities for each subspecies of non-human primates in Panama				The results are still with the need of more sites to enforce criteria in some areas we did not have the chance to visit.
Distribution map using MaxEnt.				The distribution maps were very well achieved using environmental variables, vegetation index and anthropogenic factors except for <i>A.g.grisecens</i> which was not found.
Map of primate species richness for Panama				Species richness map was achieved.
Produce educational material for primate conservation				First primate species poster was developed as well as more educational guides and bookmarks to distribute between local people in each area visited.

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

The densities were calculated without using transect line, most of them were taken using strip transect because it is less time consuming. Only where visibility was possible at least 20 m right and left from the observer and 1 km long trail, calculations of densities also were not systematic as some times the topography was not proper to do transect. As the most important objective to achieve was to detect presence/absence, and budget are not available for all the places, we first detected species by visiting forested areas (national parks and patches of forest into fragmented landscape) then applied strip transect, vocalization and road counts for areas where it could be applied. Basically we tried to cover areas as much as possible and as a consequence time invested in population densities research was less. Even with this inconvenient, we obtained good information, for all 12 subspecies first data in the field. Efforts to find *A.g.grisescens* were applied but with no success of presence.

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

The three most important outcomes are: 1) the distribution map using MaxEnt, 2) the densities for each subspecies, and 3) the first poster with updated information about distribution, taxonomy and conservation status. The three points are important to confirm key areas for conservation and translocation. This last point is becoming

important as mine activity have been deforesting vegetation and rescuers need to re-locate individuals or groups of primates, so this information was an urgency to understand suitable habitats.

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

Involvement of local people has been crucial, they have been helping as guides in the field, but also leading activities by themselves to do environmental education (over all teachers in schools). Biologists have been important to connect with the community and create links with indigenous groups and politicians.

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

Yes, FCPP normally re-visit at least once per year each of the communities, the idea is to keeping a strong link with the communities. Using technology as cell phones and emails, local people can send us pictures and chats by whatsapp to answer questions, ask for information and other. My plan is to return every year to repeat the same surveys and as a long term project have an idea about population density oscillation, so we can understand how the primates are.

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

I will publish some of the best material in a scientific journal, also use some other information to complete a book I am trying to write about an updated information related to the Panamanian primates. Other information will be used to up to date the environmental education and create new material in ethnoprimateology.

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

The period for this grant was from May to November (6 months), but this project have been completed after work in different time periods, so this support was basically to complete information in areas where our crew were not able to visit before, and also learn and apply GIS, MaxEnt and obtain comments and guide from my advisors in order to improve as best the material.

**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
Camping gear	250	250	0	All the amounts where used for the accorded

				proposed.
Airplane tickets	500	500	0	
Permission	50	50	0	
Food and transportation	2500	2500	0	
Car and gas	1200	1200	0	
Educational material	2000	2000	0	
Research and technical Equipment	2500	2500	0	
Total	9,000	9,000	0	

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

One of the most important steps is to increase the number of Panamanian primatologists at the academic level, because in this way we can lead different projects in different areas in Panama. So I am promoting the primatology in young biology students. Also we are trying to make strong links with leaders and authorities, and increase collaboration with other NGOs. In terms of local actions, I will keep promoting reforestation with native trees, over all to areas where connection between patches of forest and reserves or gallery forest are in need. Educational talks and educational material for kids are also next steps to increase conservation.

**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?**

Yes, Rufford Logo was included in several PowerPoint presentations, at national and international conferences in Chicago USA, Belize, Costa Rica, and Panama. We also promoted Rufford Small Grants in the Mesoamerican Congress for Biology and Conservation, in particular in the V Mesoamerican Primate Symposium carried out in Costa Rica in October 30-November 3, 2017. Rufford Logo will be present in a conservation documentary that we are involved with our partners from NatExplorers from France.

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

**Pedro Mendez-Carvajal:** FCPP director and PI of the team. To coordinate all the logistic and decide where to go and which methods to use for each area.

**Ivelisse Ruiz-Bernard:** FCPP staff. Coordinate administrative letters and permissions in Panama.

**Ovidio Jaramillo, Biologists:** Ornithologist, was uncharged to help in strip transect methods, taking informative data for primate densities. Recognize diversity of birds but also important contribution as this person knows very well the areas visited and was able to use previous trails, and suggests better options to search for primates.

**Abel Batista, Herpetologist:** was uncharged to help in strip transect methods, taking informative data for primate densities; also to recognize diversity of frogs. Important contribution as this person knows very well the areas visited and was able to use previous trails, and suggests better options to search for primates.

**Bonarge Rodriguez, Biologist:** Orquideologist, was uncharged to recognize diversity of birds but also important contribution as this person knows very well the areas visited and was able to use previous trails, and suggests better options to search for primates.

**Guests:** Barbara Rethore and Julien Chapuis were invited to document part of the most remote expeditions for the Darien site.

**Senafrent** (Servicio Nacional de Fronteras-National Frontier Service), was support to travel safe in areas where the guerrilla from Colombia used to be and for transportation over the Pacific side in Jaque, Sapo and Punta Cocalito, as well in Cupe, and Situro all of them from the Darien province, Panama.

**Academic advice:**

Professors from Durham University at United Kingdom, Dr Jo Setchell and Dr Russell Hill were an important support to create the MaxEnt distribution maps, as well Marco Neiba, and some other advice from the Durham Primatology Group regarding Distribution modelling.

**12. Any other comments?**

Results of densities could be improved, but are still usable for a fast evaluation of the conservation status of the primate species. This is in order to act quickly before the deforestation movement that have been happening in Panama put in risk the ecosystem where primates are living right now.