

Final Evaluation Report

Your Details	
Full Name	Pedro Mendez Carvajal
Project Title	Population study and monitoring of the Panamanian spider monkey, <i>Ateles geoffroyi panamensis</i> , Central Mountain Chain, Republic of Panama
Application ID	25667-C
Grant Amount	£8,083
Email Address	fcprimatespanama@gmail.com
Date of this Report	February 2022

1. 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
Detection for distribution				We did not use camera traps in all areas due to accessibility for Covid-19, some cameras were damaged and at least two were stolen.
Group structure				We did observations for all groups as possible but mostly subgroups. We did count structure and obtained averages based on subgroups.
Diet list				We observed directly and obtained information from local people.
Reforestation with native plants				We did not have opportunity to set yet a reforestation activity after isolation for pandemic. We used the money to solve transportation and maintenance of equipment and vehicle.
Bocas del Toro				
Chiriqui				
Veraguas				
Coclé				
Colón				
Panama				
San Blas				
Darién				

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

We experienced periods where it was not possible to transit or travel around the country due to Covid-19. For remote areas we were not possible to arrive also to protect the people from the virus. The government suspended all permissions to transit around natural areas and towns, and any activity in group, so reforestation and talks in communities were not allowed. Some camera traps were damaged because we were not allowed to return to the areas and change battery.

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

From my results we accomplish a better understanding of total population for *Ateles geoffroyi* in Panama, regarding the forest cover where we detected them. We also established a modelling map using MaxEnt thanks to the detection points and direct observation. Other important information was the list of plants they use as food resource.

Using the following methods: 1) road counts, 2) strip transects, 3) listening posts, 4) Orion camera system, and 5) citizen scientists reports, we detected 10 sub-groups and 65 individuals - average was 6.5 individuals per subgroup.

Distribution models recognised the Bocas del Toro, Chiriqui highlands, Tabasara mountain chain, Portobelo and Chagres National Parks, but also La Amistad International Park (PILA), Cocobolo and Mamoni Natural Reserve, and the San Blas Mountain chain as suitable habitat for its survival.

For Costa Rica the model identified the Talamanca Mountain chain, part of PILA. Environmental variables of importance are precipitation seasonality >75%, annual precipitation and annual mean temperature both >70%, suggesting that these are a key constraint on this species. Indigenous presence is a constraining factor with 50%. Conservation activities include the establishment of a long-term monitoring system, frequent visits and involvement with the local communities to gain alliances with farmers. Educational material should be produced and alternatives to diminish the consumption of primate bushmeat by indigenous have to be settled.

4. What do you consider to be the most significant achievement of this work?

5. Briefly describe the involvement of local communities and how they have benefitted from the project.

It was good involvement of the people for this project, overall, as informants and some of them taking care of camera traps in remote areas. More than this was not possible due to Covid-19.

6. Are there any plans to continue this work?

Yes, the idea is always to keep track of the groups found and contact with the communities, so eventually we will try to accomplish the part we did not have chance to cover, as reforestation.

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

Our outcomes will be published soon. Some problems due to the English grammar have made it impossible to publish in English in Primate Conservation Journal (PCJ), so I will try to publish this important information in my native language, somewhere else.

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

May 2019, the money was deposited, but due to the Covid-19. It was until middle 2021 where we managed to end this grant. Thank you Rufford!

9. Budget: 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. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Transportation	600	600		Involve rent of houses, car and bus
Food	1600	1600		Involve food to buy in restaurant and items to buy at supermarket
Camera traps	2600	2600		Involve camera traps and replacing others damaged
Equipment (Binoculars), GPS, other.	1583	1583		Involve the equipment needed for the project to observe and detect primates
Gas and transportation (car rented)	1700	1700		Involve gasoline for boats or own transport
TOTAL	8083	8083		

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

It is very important to put this subspecies in any critical conservation status as its habitat is now on threat for mining activity and with the support of the government. As Panamanians, we are keeping the track of all the groups we found as possible.

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

I did virtual presentations, talks in person, wrote some information related to the educational material we do, and we acknowledge The Rufford Foundation for your amazing support. Thank you!

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

Pedro Méndez-Carvajal / FCPPs director and PI

Karol M. Gutiérrez-Pineda / FCPPs Researcher Assistant

Luz I. Loría Amores / FCPPs Researcher Assistant

Pedro González / FCPP Student assistant

Yarisbeth Alain / Environmental Ministry Researcher assistant

13. Any other comments?

We want to thank Rufford Foundation for all your help not only in this project but during all the projects that have been supported by RSG, thanks to this support we have been able to monitor different subspecies of primates and apply conservation. Also, thanks for this support we have been able to support young scientists from Panama to develop additional projects that together complement very well our knowledge about the non-human primates in Panama. Part of this and other information was used to complete the report of the conservation status of *Ateles geoffroyi* and a doctoral chapter at Durham University.