

Final Evaluation Report

We ask all grant recipients to complete a project evaluation that helps us to gauge the success of your project. This must be sent in **MS Word and not PDF 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 – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please DO NOT fill in and submit this form until the project has been completed.

Complete the form in English. Note that the information may be edited before posting on our website.

Please email this report to jane@rufford.org.

Your Details	
Full Name	Sarisha Trindade do Carmo
Project Title	Surveying remaining populations of the Northern-Muriqui in the Pedra Selada State Park, RJ and the surroundings of Itatiaia National Park, MG, Brazil
Application ID	42865-1
Date of this Report	April 2024 – December 2025

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
<p>Realize a survey of muriquis (<i>Brachyteles spp.</i>) and other primates in the forest areas surrounding the Itatiaia National Park and Pedra Selada State Park.</p>				<p>Through the survey we could find one new unregistered group of northern muriqui (<i>Brachyteles hypoxanthus</i>) at the surroundings of Itatiaia National Park. However, we could not find any group of muriquis at Pedra Selada State Park even covering the entire length of the park via drone flights with thermal cameras and some trails using playback.</p> <p>We used two sampling methodologies: the transect with playback and flights with a thermal camera drone. During this period we surveyed 11 transects with playback walking 66.06 km in total. Also, 159 drone flights were conducted, totaling 50 hours and 4 minutes, crossing 1090.96 km through the research areas.</p> <p>The method of transect with playback to survey areas with a high extent of forest is not very effective, due to the low possibility of finding primates near the trail, in an area where the playback vocalization reaches. Meanwhile, the use of a drone with a thermal camera has proven to be extremely efficient in surveying primates, accelerating sampling time and increasing detectability with the thermal camera. Furthermore, the thermal images provide an excellent tool for group counting and the zoom in color images allows the classification of the age and sex of the northern muriqui.</p>

				<p>We also conducted 20 interviews with local residents in 2024 throughout the study area, directing us to possible locations where primates may occur. In the interviews, we held an informal conversation about the occurrence of primates, showing a chart with images and vocalizations when necessary, to gain insight into the possible primates present in the region.</p> <p>Furthermore, by talking to local residents, we were able to gain insights about the threats to the primates, such as hunting which was cultural in some places and wildfires that occur occasionally in the region.</p>
<p>Confirm which species of <i>muriqui</i> (<i>Brachyteles spp.</i>) occurs in each area.</p>				<p>We could confirm the occurrence of northern muriqui (<i>Brachyteles hypoxanthus</i>) in the surroundings of Itatiaia National Park through the phenotypical characteristics. Genetic studies are needed to assure the species, as there are individuals with phenotypical characteristics of Southern Muriqui.</p>
<p>Obtain population demographic data and quantification of primate's groups found.</p>				<p>The result of the drone survey detected the presence of one new registered social group of northern muriqui, totaling 33 individuals. Three additional species of primates were recorded during the flights: one solitary male individual of Brown howler monkey (<i>Alouatta guariba</i>), the Black-horned capuchin monkey (<i>Sapajus nigritus</i>), recorded in 3 flights, totaling 13 individuals and the Black-fronted Titi monkey (<i>Callicebus nigrifrons</i>) recorded in 11 flights, totaling 32 individuals. The transect with playback resulted in two visual registers of Black-fronted titi monkey, totaling 9 individuals and one register of a Brown howler monkey female, although we detected more individuals in the group who have not been identified.</p>

Characterize the conservation status of the visited areas.

Preserved areas with primary trees and in more advanced successional stage of regeneration are found within the Itatiaia National Park (INP) and on its edges, in which a large part of its core remained unexplored due to difficult access.

In Pedra Selada State Park (PSSP) most of the visited areas are degraded or in an earlier to middle stage of regeneration. Most of the forests have been well explored, many of which were pastures and are regenerating, where we can find a few areas of forests interspersed with eucalyptus and ferns. The edge parts of PSSP contiguous with INP are in a more advanced stage of regeneration, making it possible for the INP muriqui groups to use these areas.

The “new” group registered near the giant's rock on the eastern edge of Itatiaia National Park was found approximately 1.2 km from the adjacent border with the Pedra Selada State Park, indicating that this group may also use this area. Furthermore, in September we received two reports: from a tour guide and from a tourist who were hiking in the Serrinha do Alambari forests and saw individuals of northern muriquis. The tour guide counted approximately 10 individuals while trekking and registered on video, and the tourist, registered with good quality photograph, some individuals. The registers were made in different days, but with a short period of time. These registers indicate that this group probably uses the PSSP area that are contiguous with INP.

Although, the areas not inserted in Itatiaia National Park and Pedra Selada State Park were highly exploited for timber extraction and pasture for dairy cattle production, the creation of Mantiqueira Mountain Range Environmental Protection Area (in portuguese: APA Serra da Mantiqueira) in

			<p>1985, enabled the regeneration of deforested areas and preservation of remaining forest areas.</p> <p>Even though most of the forests are secondary, there is a large ecological corridor that connects the conservation units, forming a mosaic of forests that allows the movement of animals through the areas, ensuring the integrity of ecological processes between conservation units. The Itatiaia National Park serves as a preservation matrix for the Northern muriqui population.</p>
<p><i>Produce a synthesis map containing all forest fragments visited, the size of their respective areas and geographic coordinates, highlighting those where the presence of the species is suspected or confirmed.</i></p>			<p>Maps were produced for each species observed (refer to progress report on the Rufford webpage).</p>

2. Describe the three most important outcomes of your project.

- a) Register of a new group of northern muriqui (*Brachyteles hypoxanthus*) in an important site for the species, improving the local knowledge.
- b) Start of a monitoring for the species improving the conservation efforts for the species locally.
- c) Disseminate knowledge about the species to the local community.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

We intended to do part of the project with transects using playback with vocalisation of the species to attract them, and part of it using the drone technology with a hybrid system that combines colour and thermal camera. However we notice that there are not many open trails and the forest areas are really extensive, making it hard to do an effective survey through transects. Therefore, we have tried to use the drone as much as we could. However, since we didn't have a drone specifically for the project and were using those of partners, we depended on the partners' availability to carry out the fieldwork.

4. Describe the involvement of local communities and how they have benefited from the project.

The work was well supported by the local community and conservation unit's managers with whom we approached, as they understand the importance of the species and are willing to preserve. Some people of local communities has a history of hunting, however nowadays some people who hunt say they don't hunt anymore.

5. Are there any plans to continue this work?

We are already raising funds and initiating the next steps to continue the research in this region, with the aim of expanding the study area to include other conservation units that are connected to Itatiaia National Park.

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

We presented the partial data at the Brazilian Primatological Congress. Also, we are continuing the work to gather a robust data to publish through scientific articles.

We have contact with the managers of the parks, as we are continuing the research and still working together to gather more information about the primates in the region. The data being gathered contribute to the National Action Plan of the Atlantic Forest Primates.

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

The most important next steps are: to continue the survey and monitoring, expanding the study area to the mosaic of conservation units that need more information about the species; monitor the region for the detection of migrant females; to carry out environmental education and awareness-raising activities in local communities regarding the threats to the species.

8. 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?

Yes, we used the Rufford Foundation logo in the presentations and materials we produced.

9. Provide a full list of all the members of your team and their role in the project.

Felipe Brandão: Researcher/ Drone Pilot
Camila Rezende: Researcher/ Drone Pilot
Jean Soares: Researcher/ Drone Pilot

10. Any other comments?

We are immensely grateful for Rufford's support to this project, understanding all unforeseen circumstances and making it possible for everything to be carried out in the best possible way. Foreign funding is very important for aiding in the conservation of endangered species in Brazil.

**ANNEX – Financial Report
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Picture of two individuals of Northern Muriquis interacting captured by the drone DJI Mavic 3T.



Copyright: Sarisha Trindade

Drone image illustrating at distance the contrast between a group of Muriquis warm body temperatures and the cool tree canopies through the thermal camera, represented in red at the left side, and the group at a zoomed scene, represented in the right side.



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Drone image illustrating the contrast between the individuals of Muriquis warm body temperatures and the cool tree canopies through the thermal camera at the left side and a female of Muriqui nursing her baby through the zoom of the colour camera at the right side.



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