

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	Vanessa de Paula Guimarães Lopes
Project Title	Lost Primates: Conservation of the Northern Muriqui
Application ID	43203-2
Date of this Report	11/25/2025

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>Field expeditions will be carried out to survey the population, count the number of individuals and sex-age classification of northern muriquis (<i>Brachyteles hypoxanthus</i>) in different locations within the Rio Doce State Park. These expeditions will be carried out using an unmanned aerial vehicle (UAV), using a combination of cameras attached to the UAV, consisting of a high-resolution color camera and a thermal camera.</p>			X	<p>A total of 85 field expeditions were carried out in the northern, central, and southern regions of the Rio Doce State Park. In all, approximately 250 hours of drone flights were conducted, covering a distance of 1,636,000 m. By combining data collected through the demographic census of muriquis conducted with the aid of a drone and information obtained during active search expeditions, we estimated that the current muriqui population in park is approximately 214 individuals. These individuals are distributed across about nine groups located in the northern, central, and southern regions of the park. It is important to note that six of these groups are newly identified and had not been previously recorded in the area, representing a significant advancement in the monitoring of the species. The only previous study on the muriqui population in the park, conducted in 2003, estimated 132 individuals. These findings underscore the importance of continued research to obtain a more accurate assessment of the population of the largest primate in the Americas.</p>
<p>During the field expeditions, fecal</p>		X		<p>34 fecal samples were collected from northern muriquis in Rio Doce State</p>

<p>samples from adult northern miqui individuals will be collected opportunistically for parasitological analyses and genetic analyses.</p>				<p>Park. Due to the lack of partnerships for conducting parasitological analyses, this stage unfortunately could not be completed. On the other hand, the genetic analyses revealed that the northern miquis of park exhibit moderate genetic diversity, an important aspect to be considered for the species' conservation. However, evidence of inbreeding was also identified among the sampled individuals. Although moderate genetic diversity is a positive indicator, it is essential to emphasize that it is accompanied by high levels of inbreeding, which requires careful and strategic approaches to management and protection efforts. Given this scenario, it becomes clear that further and expanded research is needed to ensure a more robust and representative sampling. This will allow for a more accurate understanding of the genetic status of the social groups within the park, particularly those for which only a limited number of samples are currently available.</p>
<p>A primate-watching workshop will be held aimed at involving the regional community. The objective of this activity is to train local guides, promote scientific knowledge, and obtain important information about the northern miqui and other species of primates that are seen</p>			<p>X</p>	<p>The primate-watching workshop trained nine local environmental guides who volunteered and applied to participate in the activity. The training totalled 45 hours, including 12 hours of theoretical instruction and 33 hours of practical activities. Each guide received a complete kit containing a backpack, an event shirt, a writing pad, a pen, a water bottle, a project brochure, a pocket guide to the park's primates, and a</p>

<p>in the Rio Doce State Park, with the possibility of new occurrence records and increasing the visibility of the species, to contribute to its conservation. This activity, called “Primate observation: training research guardians”, aims to create a strong citizen Science network, training people from the communities surrounding the park and other enthusiasts in the practice of observing primates in nature. An immersion experience in forest areas of the park, where northern muriquis and other primates occur, will combine leisure, fun, science, and financial income for the local community, in addition to the feeling of pride in contributing to the protection of these species.</p>				<p>pair of binoculars, providing all the necessary items to begin observation activities. In addition to promoting sustainable tourism, this initiative plays an essential role in raising awareness about the importance of conserving species and their natural habitats. It is encouraging to see how this type of engagement can generate positive impacts within the local community, fostering greater respect and care for the environment. Without a doubt, the activity not only strengthened the guides’ connection with nature but also helped advance a more sustainable future, both environmentally and economically, for the region.</p>
<p>Environmental education actions will be held for tourists, employees, and the local community, for environmental awareness and mitigation of man-made damage. In addition to encouraging the creation and sale of local artisanal products made by women, such as</p>			<p>X</p>	<p>During the implementation of the project, 25 environmental education activities were carried out for children, youth, and adults, reaching approximately 2,000 people, with the aim of raising awareness about the northern muriqui found in the Rio Doce State Park. These activities covered topics such as the species’ biology, its ecological importance, the main threats to its survival, and</p>

<p>products printed with northern muriqui (bags and keychains), as a way to promote the products in fair, and increase the family income of the local community and promote the northern muriqui, contributing to its conservation.</p>				<p>the conservation efforts underway in the park. All activities included interactive panels, a life-size muriqui statue (handcrafted by a local artisan), discussion circles, photo and video exhibitions, informational banners, a height-comparison activity between children and the muriqui, and the creation of a muriqui figure using recyclable materials. In addition, the sale of more than 500 handcrafted products printed with northern muriqui (bags and keychains) made by local artisans was encouraged. As part of the awareness initiatives, a mural depicting the northern muriqui was also created by a local artist on one of the park’s walls. The site has since become an attractive and “Instagrammable” spot frequently used by visitors for photos.</p>
<p>Counting and individualization of groups of northern muriquis will be carried out and obtained through photographs collected opportunistically.</p>			<p>X</p>	<p>All photographic records of northern muriqui individuals, whether obtained by drone or through active search, were used in the individual identification of the groups. During this process, the images were compared and organized to produce a final identification diagram of the muriqui groups in the Rio Doce State Park. This diagram includes the photographs collected, illustrations of the individuals, and their distinguishing features. The material was titled “Identification and Age-Sex Classification Guide for the Muriquis of Rio Doce State Park.” Unfortunately, only 70 individuals could be identified, as it was not possible to obtain photographic</p>

				records of all the animals sighted within each group.
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2. Describe the three most important outcomes of your project.

- a) Current record of 214 murequi individuals, with six new groups never before recorded.
- b) The moderate genetic diversity observed in the murequis of the Rio Doce State Park is associated with high levels of inbreeding.
- c) Strengthening community engagement and environmental education.

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

One of the main challenges was the loss of signal between the drone and the controller, caused by the park’s uneven terrain. To mitigate this issue, we included sampling points located in higher areas of the park. There are technical solutions to reduce signal loss, such as installing external antennas or establishing access and relay points at higher elevations to improve line-of-sight communication between the drone and the controller. However, these solutions require additional equipment, infrastructure, and financial resources. Unfortunately, at present we do not have sufficient funding to implement these measures, which is why we mitigated the issue by prioritizing sampling points located at higher areas of the park.

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

The project promoted active participation from local communities, strengthening the connection between biodiversity conservation and the region’s socioeconomic development. Several initiatives were carried out to bring residents closer to the reality of the primates of the Rio Doce State Park and to encourage their engagement as partners in wildlife protection. The main actions included:

- Professional training: nine local environmental guides were trained through the primate-watching workshop, receiving both theoretical and practical instruction, as well as complete kits to begin their activities. This expanded opportunities for income generation through nature tourism.
- Support for local artisans: more than 500 handmade products created by women artisans from the community were promoted during project activities, directly contributing to household income and valuing local cultural production. In addition to supporting local artisans, we identified environmental guiding and wildlife observation as key potential income-generating activities with local community members. Given that the park is one of the largest protected areas in Brazil, investing in nature-based tourism, particularly fauna and primate observation, offers strong opportunities for sustainable livelihoods. Ecotourism not only generates direct income for local guides but also indirectly boosts

the local economy by increasing demand for accommodation, restaurants, supermarkets, transportation, and other local services, thereby strengthening the regional economic network while reinforcing conservation values.

- Environmental education for all ages: twenty-five educational activities were conducted with children, youth, and adults, highlighting the ecological importance of the northern muriqui and fostering pride in the region's wildlife. These actions also helped build a more aware and engaged community.
- Strengthening local identity: the creation of a mural depicting the northern muriqui within the park became an attractive and "Instagrammable" spot, reinforcing a sense of belonging and establishing the primate as a regional symbol.

Together, these initiatives helped raise environmental awareness, generate economic opportunities, promote sustainable tourism, and strengthen local support for the conservation of primates and their habitats.

5. Are there any plans to continue this work?

Yes. There are plans to continue and expand this work, primarily due to the results obtained. We see the urgency of drawing up new plans to protect the muriqui from the risk of extinction. These plans include:

- Continuation of the demographic monitoring of muriqui.

New population surveys will be carried out in areas that have not yet been sampled in the park, using drones and active searches, to refine population estimates of the northern muriqui, as well as to detect new groups or isolated individuals in the forest fragments surrounding the park.

- Monitoring the Muriqui Population

Effective 24-hour monitoring of the muriqui population in the park is essential to obtain behavioral data, individualize groups, and identify potential threats to the species. This activity will be aided by camera traps installed in the tree canopy.

- Expansion of genetic and health assessments

Future phases aim to increase sample size and continue collaborations with research institutions to better understand genetic diversity, inbreeding levels, and potential health threats to the primate population.

- Strengthening community engagement

Additional training programs for local guides, new environmental education activities, and continued support for local artisans are planned to maintain the strong relationship established with the community.

- Development of sustainable tourism initiatives

The primate-watching program will be expanded, helping generate local income while increasing public awareness of the species and their conservation.

- Search for long-term funding

Proposals are being prepared for national and international institutions to secure financial support for long-term conservation actions in the Rio Doce State Park.

In summary, the intention is not only to continue the work, but to transform it into a long-term conservation program that benefits both primates and local communities.

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

We are disseminating this information through our social media channels (Instagram: @primatasperdidos), presenting the content in a way that is accessible to the general public in the region. In addition, we intend to share the results at conferences and publish them in scientific journals.

The results have already been shared with the Rio Doce State Park management through a research seminar that we organized specifically to present and discuss the project's findings. This initiative strengthened our collaboration with park managers and staff, allowed open dialogue about the results, and helped identify priority conservation actions for the species studied. In addition, I participated in the most recent Management Plan process focused on the northern muriqui, which brought together specialists working on the species and contributed directly to the alignment of our findings with broader conservation strategies.

I also maintain direct communication with the IUCN SSC Primate Specialist Group, and we intend to continue sharing our results and updates with this network to ensure that the information contributes to regional and global primate conservation efforts.

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

Looking ahead, several next steps must be prioritized to ensure the long-term protection of the northern muriqui and to reverse its threatened status. Above all, securing stable and sufficient financial resources is essential. Without continuous funding, it will not be possible to maintain long-term monitoring, expand research efforts, or implement the conservation actions urgently required by this population. One of the most pressing concerns is the set of threats that currently affect the species within and around the Parque Estadual do Rio Doce. These include:

- Isolated individuals living in forest fragments surrounding the park, which increases the risk of local extinctions and reduces gene flow among groups.
- Evidence of inbreeding within the population is a factor that can compromise genetic health, reduce reproductive success, and make the species more vulnerable to diseases and environmental changes.

- The detection of respiratory syncytial virus (RSV) in another primate species that shares the same habitat, posing a severe risk to northern muriquis, as this virus is known to be fatal for them.

Given these threats, the continuation and expansion of the project are urgent.

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 use The Rufford Foundation logo in lectures, videos, and in all actions carried out.

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

Vanessa de Paula Guimarães Lopes, the project coordinator, carried out the fieldwork, environmental education activities, fundraising, and data analysis.

Éder Assis assisted in field activities and environmental education activities.

Maria Antônia Fortes volunteered for the fieldwork and data analysis.

Natasha Grosch Loureiro contributed to the development of content for social media.

Flávio Henrique Guimarães Rodrigues, assisted in the data analysis.

Rodrigo Lima Massara, assisted in the data analysis.

10. Any other comments?

I appreciate the opportunity that The Rufford Foundation has given me to contribute to the conservation of the northern muriqui, the largest primate in the Americas and one of the most endangered in the world. The results of this project are crucial for planning effective actions aimed at reversing the population decline of muriqui.

I am also sending some photos of the activities carried out during the project.



Figure 1 – Survey for the demographic census of the northern muriqui in Rio Doce State Park using drones. (a) Field team during data collection. (b) Drone controller displaying thermal and color cameras recording a newly identified muriqui group. (c) Image from the drone's thermal camera showing the largest group observed; each light-toned spot represents an individual muriqui. (d) Image of an infant muriqui on its mother's back, captured by the drone.

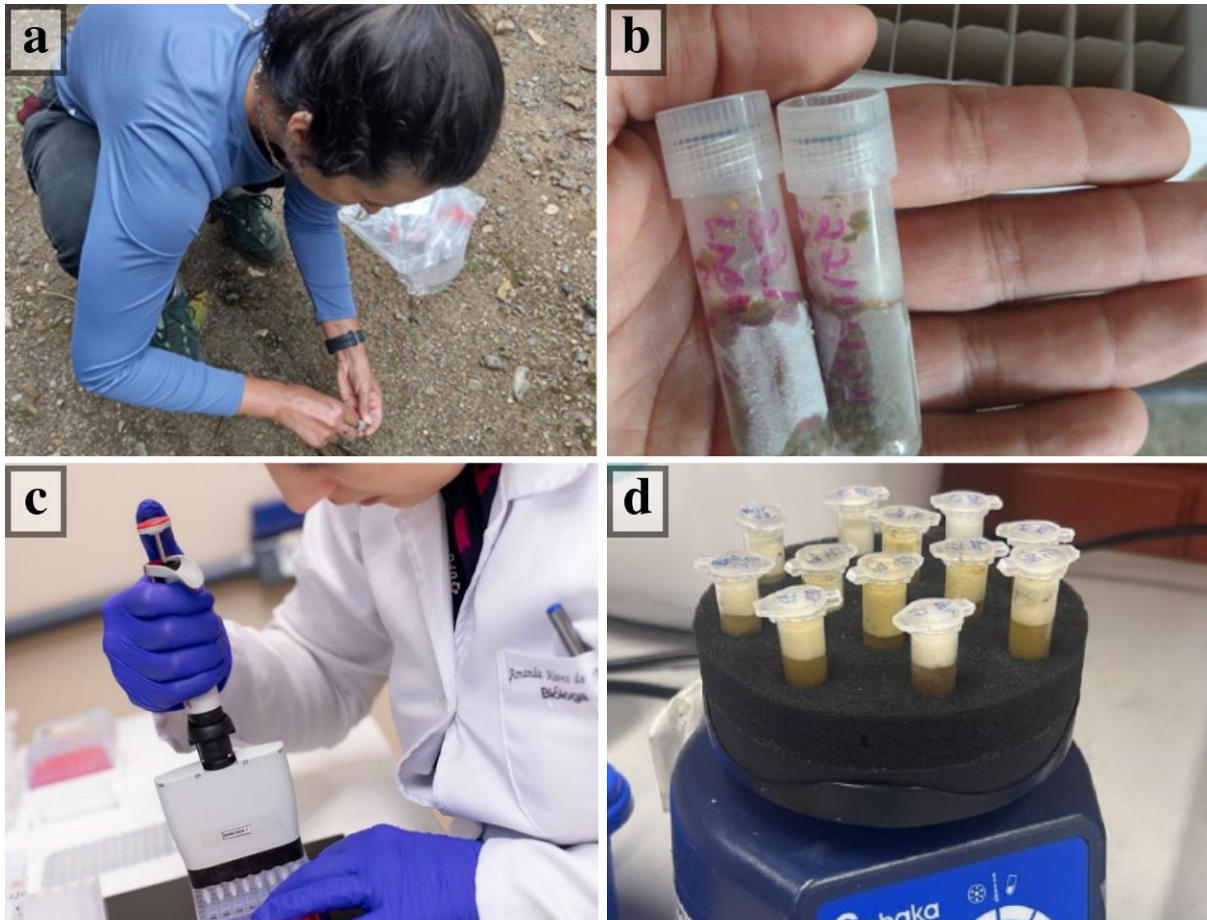


Figure 2 – (a-b) Collection of fecal samples from the northern muriqui in the Rio Doce State Park. (c-d) Records of the laboratory process for obtaining genetic data.



Figure 3 – (a–b) Theoretical content of the First Training Program for Primate Watching in Rio Doce State Park. (c–d) Practical activity in which a trail was explored for primate observation. (e–f) Observation of a muriqui group.

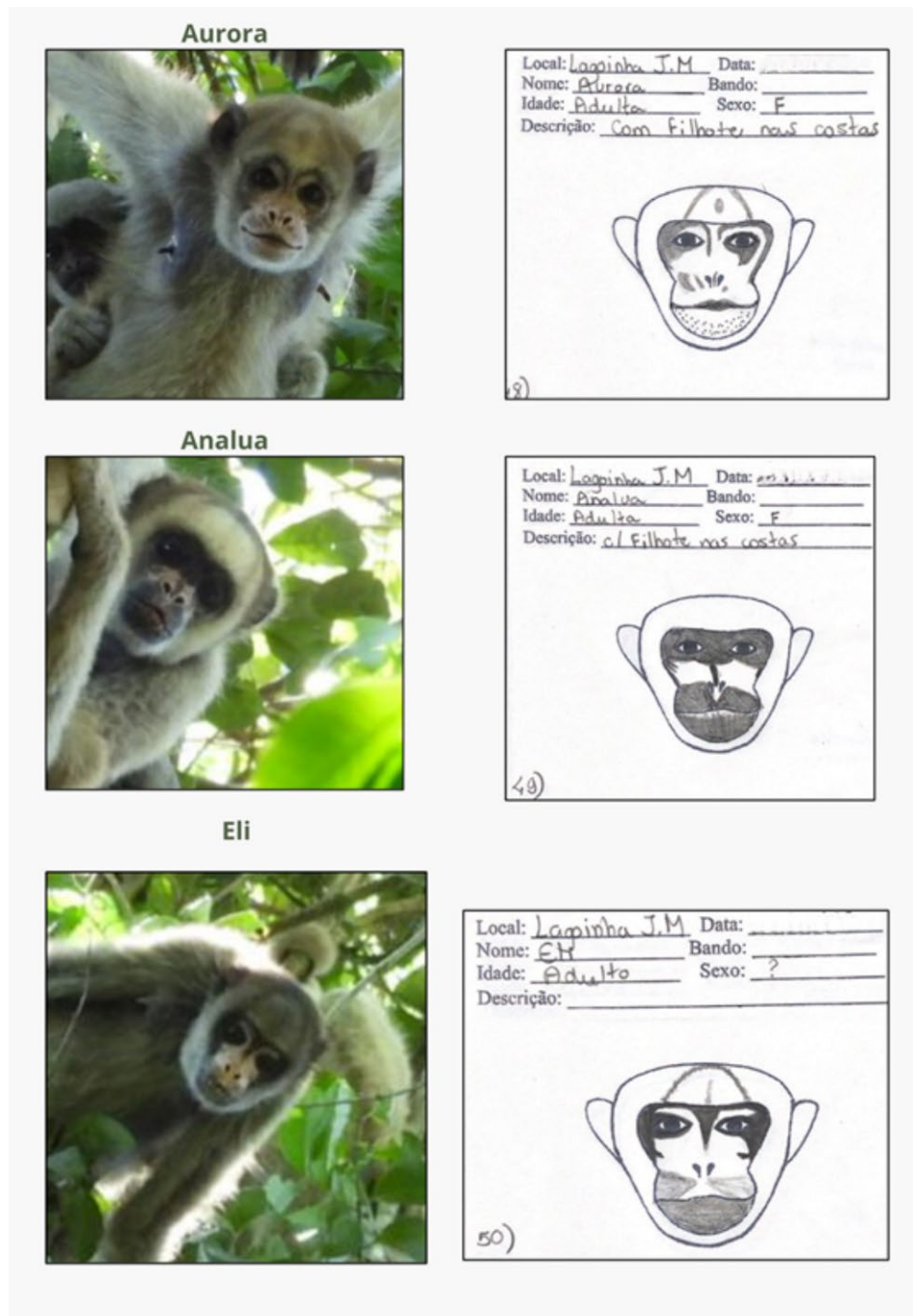


Figure 5 – Identification diagram of northern murreti individuals from the Rio Doce State Park.

ANNEX – Financial Report
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