

# Progress Report- Rufford Small Grants

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**Title of Application:** A multi-method One Health study focused on primate coexistence through community collaboration in an urban biocultural hotspot in Mexico

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## 1. Summary

During these first months of work, we have advanced in the first phase of the project, which addresses Objective 1 of this proposal: “*Evaluation of the impact of urbanization on the behavior, spatial use, and diet of Alouatta pigra*” and to the key activities A: behavioral and spatial use sampling, and C: recording interactions between humans and monkeys, specifically provisioning interactions.

In this initial phase, I have completed over 500 hours of fieldwork, allowing me to identify three groups and one solitary male, whose daily movement routes across the city I have recorded. I repeatedly observed all three groups and the solitary male using rooftops, power lines, streets, and other urban structures as part of their trajectories. This reflects how urban infrastructure has become integrated into their daily lives and highlights the importance of understanding these interactions for their conservation in an environment increasingly modified by humans. These observations will be fundamental to assessing the behavioral flexibility and adaptation strategies of the species in urbanized environments.

The records include information on feeding, provisioning, social behaviors, interactions with urban structures (power lines, rooftops, streets), and the use of green areas. Each observation is associated with a GPS point and the height at which the individuals were located.

I have also carried out plant phenology records to assess the availability of food for the groups in the city.

I have also made a progress in the collection of fecal samples corresponding to point 2: “*Assessment of endoparasite prevalence in howler monkeys and potential disease transmission between monkeys, humans, and domestic animals*”, which will allow us to explore the health of the studied individuals in relation to the human and domestic animal population. These first samples have already been sent to the laboratory for analysis.

In parallel, groundwork has been laid for community workshops corresponding to point 3: “*Enhanced community involvement through citizen science, arts-based education,*

*participatory conservation workshops, and collaborative coexistence initiatives*”, which aim to promote appreciation of urban wildlife and strengthen the connection between residents and howler monkeys. Likewise, a “serious game” was designed to address coexistence issues between youth and howler monkeys. Progress was made in its design and a pilot was conducted at the Universidad Benito Juárez of Palenque, with the participation of 10 university students.

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## **2. Difficulties Encountered**

1. One of the challenges in fieldwork has been the collection of fecal samples for the planned analyses. In the urban environment, howler monkeys frequently defecate on rooftops of houses, bodies of water, or private gardens and other restricted areas. This limits direct access to samples, as it is often not possible to recover them.

To address this, I prioritized accessible public or green areas where feces can be safely recovered. This approach ensures data quality, although the pace of collection has been slower than initially planned, while still guaranteeing representative information for the project’s objectives.

2. I have also faced logistical challenges in following the monkey groups. Although municipal permits were granted, access to certain properties was still restricted, making continuous monitoring of the groups difficult at times. In addition, it has not always been easy to locate the groups each week, as they constantly change their areas of use. Despite this, I have so far managed to record each group within the planned timeframe.
3. Insecurity in certain areas has also been an important issue, as in some cases the monkeys move to resting sites that put my personal safety at risk. These included dead-end streets, areas near bars, houses with visible conflicts, and occasional discomfort from residents due to my frequent presence in the same locations.
4. In addition, due to a harassment incident directed at one of our student collaborators during fieldwork, the student decided not to continue with some of the activities she was in charge of, particularly the section on monkey-human interactions. Nevertheless, her participation continued partially in the development of educational and social activities (objective 3), and the team is seeking strategies to compensate for this part of the project through complementary activities. This episode highlights the gendered challenges that we women often face in field research and underscores the importance of creating safer and more caring environments in scientific practice.
5. The presence of stray dogs in several areas has also represented an obstacle to fieldwork, as they have repeatedly blocked passage or limited safe access to certain observation points.

6. Finally, there was an unfortunate incident of a howler monkey being electrocuted, which had a strong emotional impact on the team and highlighted the vulnerability of wildlife in urban environments. This event also revealed a lack of awareness among some residents about the consequences of such incidents. These reflect the need to strengthen community engagement, not only to prevent future accidents but also to raise awareness about the risks faced by the species in the city.
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### **3. Next Steps**

1. For the remainder of 2025, I will continue collecting behavioral and fecal data to consolidate a robust dataset for subsequent analysis (Objectives 1A, 1C, and 2A).
  2. Between October and December 2025, we will also involve students from local universities to encourage citizen participation and data collection corresponding to objective 3B.
  3. In 2026, we will begin the second phase, which corresponds to processing the data collected in the field: behavioral analysis, integration of GPS points for analysis in QGIS, development of detailed maps of home ranges and risk zones, and multiscale landscape analyses corresponding to objectives 1B and 1D.
  4. We will conduct interviews with local residents and people who interact with howler monkeys to document potential symptoms of parasitic infections in humans and domestic animals, as well as collect fecal samples from domestic animals and humans corresponding to objectives 2A and 2C.
  5. We will continue with fecal analyses from monkeys, domestic animals, and humans corresponding to objectives 2B and 2D.
  6. In parallel, in 2026 we will carry out workshops and talks with communities and schools aimed at translating research into awareness and collective action, corresponding to objectives 3A and 3C.
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### **4. Use of the Budget**

The Rufford support has primarily been used to cover accommodation and food expenses during fieldwork, and to ensure transportation to different sampling sites across the city. It has also been used to transport other team members and facilitate their stay during the period (September 2025) when an educational activity was implemented in local schools. These funds have been essential for maintaining field continuity and ensuring meaningful engagement with local communities.

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### **5. Impact So Far**

The project has already generated noticeable local visibility. Residents in areas used by the monkeys have shown genuine interest and engagement, often expressing curiosity about field activities and their purpose. This has provided ongoing opportunities to consistently and directly communicate the importance of howler monkeys, address residents' questions about their presence in the city, and raise awareness of the threats they face in urban environments.

In addition, I participated in a local radio program to share conservation recommendations for local howler monkey groups (Figure 1). These outreach efforts are contributing to building a foundation of coexistence and awareness that will support the next stages of the project.



Figure 1. Certificate of participation in the local radio outreach activity on howler monkey conservation.