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	Agustina Murgia
Project Title	Unveiling the Diversity of Small Mountain Mammals in Northwestern Argentina: a Scientific Exploration and Outreach Journey
Application ID	43850-2
Date of this Report	15/08/2025

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
Fieldwork: trapping and dataloggers			x	We successfully established our planned environmental monitoring network by installing temperature dataloggers at 30 new sites, fulfilling our original target for environmental monitoring. This extensive network was designed specifically to capture fine-scale microclimatic variations across the region. Concurrently, intensive rodent sampling was completed in 15 new localities within this network. The installed dataloggers are already generating unique environmental data, contributing to our understanding of species' ecology and their potential responses to climate change.
Fieldwork: Audiovisual material			x	All planned photographs and short videos were successfully captured during fieldwork, documenting rodent species and their habitats. These materials are already being used for outreach and communication purposes.
Statistical analysis			x	Data analyses were completed, providing important insights into rodents diversity, the effects of temperature on community composition, and taxonomic validation of species, including genetic analyses.
Ambiental education			x	Outreach activities with local communities and schools were carried out successfully. Printed guides, participatory talks, and social media engagement helped raise awareness and generate interest in high-Andean rodents and their ecosystems.
Short film and fascicle		x		The short film is in its editing stage, and the fascicle is in preparation for publication and distribution to local communities and broader audiences.
Delineate management and conservation plans		x		Conservation actions are currently being developed and coordinated with local authorities and communities, with implementation expected in the near future.

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

a) Fieldwork and data collection: We expanded our sampling to 15 new localities, adding to our existing sites, and captured a total of 234 individuals from 13 small rodent species. The recorded species are listed below:

Scientific name	English name	Spanish name
Abrothrix jelskii	Jelski´s altiplano mouse	Ratón tricolor
Abrothrix olivacea	Olive grass mouse	Ratón oliváceo
Akodon boliviensis	Bolivian grass mouse	Ratón plomizo
Andinomys edax	Andean mouse	Rata andina
Auliscomys sublimis	Painted big-eared mouse	Pericote de la Puna
Calomys lepidus	Andean vesper mouse	Laucha vespertina andina
Galea comes	Southern highland yellow-toothed cavy	Cuis puneño
Necromys amoenus	-	Ratón cavador de vientre blanco
Necromys lactens	Rufous-bellied bolo mouse	Ratón cavador de vientre canela
Neotomys ebriosus	Andean swamp rat	Ratón de las vegas
Oxymycterus paramensis	-	Páramo hocicudo
Phyllotis chilensis	-	Pericote andino
Phyllotis tucumanus	-	Pericote tucumano

Each captured animal was measured, weighted and we collect a tissue sample for genetic analyses. We set a total of 40 traps per site, during three consecutive nights. In total, our sampling effort was 3600 traps-night. This effort generated valuable biological information, including reproductive periods and activity patterns. Additionally, we installed new temperature loggers that provided unique data on local environmental conditions, which are crucial for understanding species' responses to climate change.

b) Data analysis, genetic validation, and taxonomic clarification: Our analyses revealed that differences in species composition between rodent communities,

known as beta diversity, are strongly influenced by temperature. In simple terms, beta diversity shows how communities change from one site to another, which is crucial to understand which areas are unique and should be prioritized for conservation. Using genetic data, we confirmed the taxonomic identity of several species; for example, *Abrothrix andina* was re-categorized as *A. olivacea*, and evidence suggests that *A. andina* may now be extinct in Argentina. These studies were published in peer-reviewed journals and conducted in collaboration with other research teams, ensuring rigorous scientific validation. By establishing which species are present and understanding their genetic diversity, we take essential first steps for effective conservation: you cannot protect what you do not know. We are currently applying the same genetic approach to other species, and all generated sequences are publicly available in GenBank, ensuring transparency and accessibility for future research. This foundation of validated species information is key for designing informed management and protection strategies for high-Andean rodents.

c) Environmental education and outreach: Our outreach activities have generated a very positive response from local communities and the general public. Our key outreach activities included:

- Participation in four large-scale science fairs, organized by municipal authorities, which ensured significant public attendance.
- Conducting two targeted workshops with local communities to share knowledge and experiences about the role of Andean rodents.
- Expanding our reach to a broad public audience through two radio interviews.
- Leading an academic field trips, with 30 students from National University of Jujuy, orientated to obtain experience in rodent surveys.

We measured the positive impact of these activities qualitatively. We frequently observed attendees approaching our stand with initial hesitancy of expressing common negative perceptions of rodents. However, after engaging with our team, photographs and educational material, we witnessed a demonstrable shit towards genuine interest and positive curiosity. To actively capture this change, our stand featured an interact activity title "¿Qué me enseñaron los ratones? (What did the mice teach me?), where participants (especially children) could document their new understanding. The enthusiastic participation in this activity provided a direct

measure of successful engagement and confirmed our role in counteracting negative perceptions.

We are currently working in the short film, and along with printed guides and social media content, it will serve as an effective tool to engage audiences, raise awareness about these species, and promote the conservation of high-Andean ecosystems. Additionally, thanks to the quality of our photographs, we were invited to contribute to the book "Mamíferos de Argentina. Tomo III: Roedores" (*Mammals of Argentina. Volume III: Rodents*). Many of our images are the only ones available for certain species, and we are very excited about this opportunity, as the book is a key reference for governmental authorities, the scientific community, and the general public regarding the mammals of Argentina. The book is already published.

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

During the project, we faced the well-known economic instability in Argentina, which, although expected to some extent, reached levels that were difficult to manage. High inflation and rapid currency devaluation significantly reduced the purchasing power of the grant, especially affecting outreach activities such as the production of the planned short film. The sharp increase in audiovisual services and equipment rental costs forced us to reallocate resources, prioritizing essential conservation and research activities in the field. As a result, the short film remains in the editing stage, and we plan to complete and release it as part of our ongoing outreach strategy. Despite these obstacles, all key activities were completed, and the adaptive strategies developed during the project have strengthened our capacity to respond to similar challenges in future conservation work.

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

Local communities played an active role in the project from its early stages, collaborating in the selection of sampling sites based on their knowledge of the landscape and local wildlife. Their participation ensured that our fieldwork was both logistically feasible and aligned with community priorities. Throughout the project, we maintained regular exchanges with community members, sharing preliminary

results and discussing the ecological importance of local rodent species. As part of our outreach, we elaborate an illustrated guide to local rodents specifically tailored for these communities, which will be distributed in print and digital formats. This resource is designed to serve as both an educational tool and a means to promote wildlife-based tourism, as community members will be able to use it to inform visitors about the biodiversity of the area. Involving local people in these activities has strengthened their capacity to contribute to conservation efforts, increased awareness of the ecological roles of high-Andean rodents, and fostered a sense of ownership over the conservation of their natural heritage.

5. Are there any plans to continue this work?

Yes. We are continuing this work by implementing the conservation actions developed during the project in collaboration with local authorities and communities, with a focus on high-Andean rodents and their habitats. Field monitoring will be maintained to evaluate the effectiveness of these actions, supported by long-term protocols already in place. We will also keep working with local students, providing training in field techniques and conservation principles, and will expand our outreach activities through the release of the short film, printed guides, and ongoing social media engagement. In parallel, we are advancing the publication of our scientific results and exploring opportunities to apply the methods and lessons learned here to other mountain regions in Argentina.

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

We are sharing the results of this project through different formats and audiences to maximize their impact. In the academic sphere, we have already published articles related to the project and have additional manuscripts in preparation, which will be submitted to peer-reviewed journals (published results available at https://doi.org/10.59763/mam.aeq.v7i2.119 and dx.doi.org/10.1111/jbi.15186). For decision-makers, we are working directly with local authorities to incorporate our findings into conservation planning and management actions. For local communities, we are producing and distributing accessible materials —including a short film currently in its final editing stage, printed guides, and participatory talks in

schools and community spaces— to strengthen local awareness and involvement. An important part of our outreach also involves training undergraduate students from local universities in field techniques and the principles of small rodent conservation, building local capacity for future research and conservation work. In parallel, we maintain an active presence on social media (Instagram account @ratonesandinos, https://www.instagram.com/ratonesandinos/), where we share project updates, photographs, and educational content that highlight the ecological importance of high-Andean rodents and their habitats, fostering broader public engagement with their conservation.

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

Looking ahead, the next steps for this conservation project focus on consolidating and analysing the extensive field data to build a comprehensive understanding of the distribution and ecology of the studied species. We are already strengthening the design of conservation actions in close collaboration with local authorities and communities, with the aim of putting them into practice in the near future. Alongside these efforts, we are finalizing the editing of a short film and continuing to share the project's progress through social media and other outreach materials to raise awareness and engage the public. We are also preparing the scientific publication of our findings to contribute to the broader knowledge of these species and their ecosystems. Establishing long-term monitoring protocols and maintaining connections with institutions that value and support this type of initiative will be key to ensuring the sustainability and impact of our work.

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?

The Rufford Foundation logo appeared in all outreach and dissemination materials for this project, including posters, educational brochures, and presentations in schools and community spaces. It was also shared in multiple social media posts, helping us reach audiences across Argentina and beyond. The logo will also appear in upcoming outreach materials currently in preparation, such as printed field guides and new online content, ensuring continued visibility for the Foundation's support.

Throughout the project, The Rufford Foundation was publicly acknowledged in diverse settings —from local conservation talks to educational events organized by government institutions— as well as in media coverage through local newspapers and radio interviews. These activities not only highlighted the goals of our work but also reinforced the key role of the Foundation in making it possible.

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

- Agustina Murgia – PhD student. Role in this project: responsible for fieldwork, data collection and analysis, and preparation of outreach materials, including audiovisual content and scientific communication. Responsible for coordination of conservation plans with local authorities.
- Ignacio Ferro – PhD in Biology. Role in this project: co-responsible for projected supervision and data interpretation.
- Juan José Martínez – PhD in Biology. Role in this project: support in data analyses, population genetics, and provide expertise in genetic approaches for conservation.
- Camila Romero – Student of audiovisual production. Role in this project: production of audiovisual materials and short film; responsible for capturing field activities and supporting communication of project results. Future role: finalize and disseminate the short film and other outreach materials.
- Soledad Palomas – Environmental Management Technician. Role in this project: coordination of dissemination and educational materials, support in fieldwork logistics, and editing of the project fascicle. Future role: support ongoing outreach and educational initiatives linked to the project.
- Sofía Ocaranza – Biologist. Role in this project: collaboration in fieldwork and data analyses.
- Local community members from mountainous areas – Role in this project: assisted in selecting sampling sites and fielwork logistic. They also collaborate in the production and distribution of audiovisual materials.
- Students of the National University of Jujuy – Role in this project: support in fieldwork, data collection and educational activities.

10. Any other comments?

We would like to express our sincere gratitude to The Rufford Foundation, whose support was essential for the successful development of this conservation project. In the current economic and social context of Argentina —with annual inflation rates exceeding 87% in 2024 and a significant currency devaluation that reduced the purchasing power of funds by more than half within a year— this type of international support becomes not only valuable but indispensable. Despite these challenges, the grant allowed us to carry out key conservation actions that would have otherwise been impossible. This project also highlights the urgent need to design conservation strategies for overlooked species such as small rodents, which play critical ecological roles yet are rarely considered in management plans. Having received two Rufford Small Grants, we are deeply grateful for the continued trust and support, and we look forward to building on this partnership to further promote conservation in understudied regions and with undervalued species.

ANNEX – Financial Report

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