

Final Evaluation Report

Your Details	
Full Name	Agustina Murgia
Project Title	Small Mammal Communities of Northwestern Argentina as Biomonitoring Strategy for the Effects of Climate Change on High Mountain Ecosystems
Application ID	37428-1
Date of this Report	03/07/2023

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				We conducted two fieldtrips to 20 localities for studying the rodent communities.
Fieldwork: dataloggers				In each locality we set a datalogger which measures temperature each 90 minutes.
Photo/video records				We generated audiovisual material of rodent species and the study area.
Statistical analysis				We performed exploratory statistical analysis studying the communities and their genetic diversity. We will continue with complex analyses which bring us a better understanding of the situation.
Ambiental education				We conducted a degree course and participated in several workshops and science fairs.
Delineate management and conservation plans				Based on the obtained information, we will prepare reports to the government and other institutions.

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

- a) Surveys of small rodents:** One of the goals of this project was generate basic information about small mammals that inhabit mountainous regions in northwestern Argentina. We recorded 13 species in the study area, and we were able to generate valuable information for many of them.

- b) Genetic diversity of small rodents:** We proposed a combination of taxonomic and genetic studies in order to improve the comprehension about small mammals communities. We generated mitochondrial DNA sequences for highland sigmodontine rodents which will be published in GenBank (<https://www.ncbi.nlm.nih.gov/genbank/>). By including genetic diversity, we are able to identify areas that may be essential to the survival of the species.

- c) Ambiental education:** Rodents are commonly associated with a negative social perception, principally due to the lack of information about them. Our goal was to show the incredible diversity of this group, focused on mountain rodents presents in northwestern Argentina. We obtained very positive results

due to people showed genuine interest in these animals and the landscape they inhabit.

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

There were no major difficulties in the development of the proposed objectives.

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

Local communities helped us to select the sampling sites. We are in process of generate a guide of local rodents for these localities, that we will handle to local communities, and they will help us to disseminate the project to tourists.

5. Are there any plans to continue this work?

Yes, this study will be the starting point which allow us to stablish a baseline for further research involved in the precise monitoring for future alterations caused by climatic change. Also, this project is part of my PhD research, and I will continue working with small mammals present in mountainous regions.

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

We strongly believe in diffusion of obtained results, and this objective was transversal to the developing of this project. We encouraged students from the National University of Jujuy to collaborate in both field trips. They learned the methodology involved in fieldwork and the way to work with small rodents.

In order to extend this knowledge to a larger number of students, with the support of National University of Jujuy we taught a course in September 2022 destined to students about small mammals. One of the topics was the conservation issues concerning to small mammals, and we exposed this project.

We participated in numerous school talks, workshops, science fairs and scientific meetings. We will present the results for two different publics. In one hand, we prepared divulgation talks for schools and interested people. Our goal was exposed small mammals as an essential part of natural ecosystems, the importance of mountains and their threats as climatic change and the novel insight of genetic conservation. On the other hand, we will prepare reports to the authorities, identifying priority conservation areas, and suggesting action guidelines for the development of different monitoring programs in this region.

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

Is essential to continue this work to stablish a long-term biomonitoring system. We set dataloggers which measure temperature in the selected localities, and we have to replace them every 4 months, and our goals to achieve is continue with this monitoring of climatic conditions. Also, in order to understand how small mammals

communities, react to changes in these conditions, is important to continue studying the local communities. In this way, we will have a long-term database which allow us to propose effective conservation plans.

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?

We use the Rufford Foundation logo in each poster presented in workshops. We also use the logo in divulgation material and reports made for the project.

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

Ignacio Ferro, PhD in Biology. Collaborated in fieldwork and statistical analyses.

Juan José Martínez, PhD in Biology. Collaborated in laboratory work and statistical analyses.

José Urquiza, PhD in Biology. Collaborated in fieldwork.

Flavia Cassinelli, PhD student at National University of Jujuy. Collaborated in fieldwork.

Miguel Cura, PhD student at National University of Jujuy. Collaborate in fieldwork and audiovisual production for the communication of results, education material and workshops.

Students at the National University of Jujuy. Collaborate in fieldwork and educational workshops.

10. Any other comments?

We would like to thank The Rufford foundation, because this support has been crucial to the development of this project. We hope that future funding will contribute to this and other projects in developing countries. We understand the importance of continue working for the conservation of these understudied sites and species as are mountains and small rodents.