

Final Project Evaluation Report

Your Details	
Full Name	Teddy Angarita Sierra
Project Title	Category reassessment, occupation modelling, and extinction rate estimation of Pandi's mushroomtongue salamander, <i>Bolitoglossa pandi</i> in the Andes of Colombia
Application ID	24220-1
Grant Amount	£5000
Email Address	teddy.angarita@yoluka.org.co
Date of this Report	26/06/2019

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
To model the distribution range of the salamander <i>Bolitoglossa pandi</i> .				I am working on a scientific paper that describes the model the distribution range of the salamander <i>Bolitoglossa pandi</i> .
To evaluate the conservation status of the salamander <i>Bolitoglossa pandi</i> .				We directly observed a healthy and stable salamander population that showed a high population density, high replacement rate between body size classes, and constant recruitment. Additionally, the newly documented subpopulations in the municipalities of Guaduas and Villeta also showed healthy individuals. Nonetheless, we recommend that <i>Bolitoglossa pandi</i> is retained as Endangered (EN) on the IUCN Red List based on the IUCN Criterion B, given that it has a restricted extent of occurrence (ca. 2,500 km ²), despite the range expansion and discovery of new subpopulations reported in this study, and there is ongoing habitat loss within its range due to agriculture, cattle ranching, logging, and urban development
To estimate the extinction risks of the salamander <i>Bolitoglossa pandi</i> .				I am working on a scientific paper that describes the estimation of the extinction risks of the salamander <i>Bolitoglossa pandi</i> based on occupancy models.
To identify threats to the salamander <i>Bolitoglossa pandi</i> .				Habitat loss continues protruding as the central threat to be mitigated through the conservation strategies.
To include local communities in the monitoring and design of the conservation strategies				Local communities had full participation across of the study. Particularly, communities from Supatá municipality showed a strong interest. Right now they are formulating their own conservation strategies, looking to protect salamanders as well as other kind of amphibians and reptiles that inhabit in Supatá.

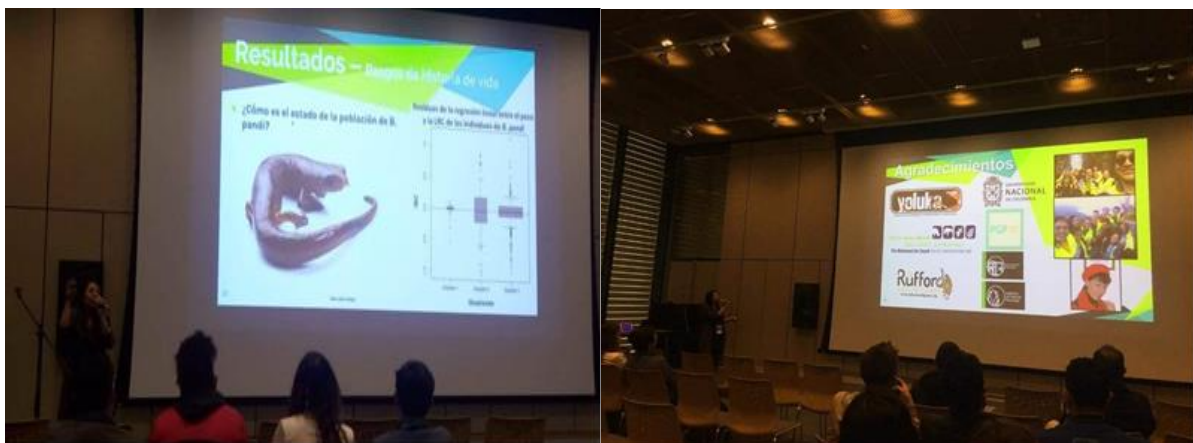
2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.

The major challenge was not finding the species in the type locality as were the initial plans. Climatic deviation from the typical seasonal variation has also been a problem to plan fieldwork, because rains have been delayed and not available when expected normally.

Besides, given the extreme climatic variability observed during study which provoked a big instability on the ground, we were forced in some occasions to delay or stop the surveys and sampling, as well as social work with local community because some locations were isolated or blocked. Despite of this, the project never stopped, we continue working hard. We reschedule the surveys and sampling and successfully achieved to finish the work plan and objectives.

3. Briefly describe the three most important outcomes of your project.

- a) We report the discovery of two new populations of *B. pandi* which extend the distribution of this species and represent the north-westernmost records.
- b) Our findings provide a strong biological baseline that expands the biological knowledge of *B. pandi*, and highlights some of the most important ecological interactions that will contribute to our understanding of the species' habitat suitability.
- c) We achieve that local communities and the stakeholders jointed us and helped us with the development of the conservation strategies as well as consolidation of local community commitment with the conservation of the *Bolitoglossa pandi*. Indeed, this project was the base.
- d) The results of the project were presented in the V Colombian Zoological Congress as well as in the II Colombian Herpetological congress on December of 2018



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

We worked closely with the local stakeholders, school student of secondary and further education levels, as well as local environmental activist from the municipality of Pandi, Venecia and Supatá who were very open to join us to this conservation initiative. As results of our intervention, they got involve in workshops that looking for identify the amphibians and reptiles housed in their municipalities. Also, they helped us to determine the main threat for conservation of this species. Particularly, most of the adult participants did not known at first look *Bolitoglossa pandi*, but after show them they told us that they recall seeing it sometime during their childhood.

This project has had a great reception in the Supatá's community. Thus, they have supported a second phase of this conservation initiative allowing us to use their facilities and local resources. (Radio advertisement, public places, among others).





Social work with local communities

5. Are there any plans to continue this work?

Currently, we continue joining efforts with the Universidad Nacional de Colombia to develop a second phase of this conservation initiative. Under project named "COMMUNITY EMPOWERMENT FOR THE CONSERVATION OF ENDEMIC SPECIES OF REPTILES AND AMPHIBIANS OF CUNDINAMARCA" fund by research budget Universidad Nacional de Colombia, our efforts done continues involving local communities into the conservation of *Bolitoglossa pandi*, as well as endemic species of reptiles and amphibians of Cundinamarca.

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

We are using the following strategies:

- A. Scientific Articles → Target population: Academic, researchers, environmentalist, conservationist precisionist. Currently, one of the four articles proposed has been submitted.
- B. Social presentations in the annual local festival named "Golden Supatá's dart-poison frog festival". → Local communities from Cundinamarca Department.
- C. Presentation National and international Zoological Congress. → Target population: Academic, researchers, students.
- D. Workshop local schools. → Target population: Student from secondary and Further education levels

7. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?

We used the grant awarded during the period February to September 2018

8. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount	Local exchange (Colombian Pesos)	Difference	Comments
Transportation and fuel	789	£ 789.47	\$ 3.138.735,35		
Food	1382	£ 1381.58	\$ 5.492.816,69		
Lodging	1658	£ 1657.89	\$ 6.591.356,17		
Materials and gear	1171	£ 1171.05	\$ 4.655.802,04		
TOTAL	5000	499.99		-0.01	

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

We consider that the next step must be to empower the local communities of the municipalities of Pandi, Vencia and Supatá with management and practical skills that help them to implement the conservation strategies as well as ecotourism initiatives.

10. 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 used The Rufford Foundation logo in all the workshop, congress, meeting and social work done along the project development.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

Teddy Angarita Sierra (Chief researcher)

Co-researcher:

Andres Rymel Acosta
David Antonia Sanchez
John A. Infante Betancour
Maria Argenis Bonilla Gómez

Undergraduate Student - Field work and lab assistants:

Anggi Yulieth Solano Moreno
Hefzi Lorena Medina Ovalle
Henry Fabián García Zambrano
Irma Lorena Bastidas Gómez
Janira Mariela Melgarejo Fuken
Juan Camilo Duque Rojas
Juan José Torres R.
Juan Sebastian Curaca

María Camila Acevedo Aguilar
María Daniela Guevara
Simón Ulloa Rengifo
Simón Zamudio

Luisa Fernanda Montaña Londoño (Yoluka ONG Staff, social media, field work and lab assistant)

12. Any other comments?

We are thankful with The Rufford Foundation as well as with all its staff for believe in our project and support it. Countries like Colombia have serious constrains to acquire funds for conservation initiatives. Thus, your contribution makes possible that the scientific, students and local communities like us, continuing with the dream that conservation the astonish diversity of the tropics is possible.