

## Final Evaluation Report

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Your Details	
<b>Full Name</b>	María Alejandra Rojas Rivera
<b>Project Title</b>	Conservation strategies for Oophaga histrionica: from illegal trafficking to community participation based on population monitoring and sustainable ecotourism
<b>Application ID</b>	33047-1
<b>Date of this Report</b>	January 16 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
Determine the population status of this species through occupation models in the Santa Cecilia, Risaralda, Colombia.				Continue with the monitoring of the species, since more time is required to continue with the evaluation of the population parameters.
Know from the community the economic and sustainable activities that they develop in the region, in order to strengthen these activities and make their link to the "Festival de la Ranita Roja de Santa Cecilia"				
Implement in the region the "Festival de la Ranita Roja de Santa Cecilia". Activity designed to summon the entire community (Indigenous, black and mestizo) to be participants				
Socialization of preliminary results of the monitoring of the species and the development of the festival during phase one of this proposal to the entities participating in the research: ASOFAFA, CARDER, the local community and the scientific community				

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

**a).** The evaluation of the monitoring of the *Oophaga histrionica* population has provided partial results of the current state of its population. The results show that there are negative effects of anthropogenic factors (e.g., presence of crops, felling, pastures and livestock) on the abundance of the species in the Santa Cecilia area. In this work, the probability of detectability and the estimation of the abundance of *Oophaga histrionica* were modelled as a function of eight site covariates using occupancy models in the Alto Amurupá Ethnic Special Management Area (Santa Cecilia, department of Risaralda). The study covered two altitudinal strips with

variations in vegetation cover. The abundance of *O. histrionica* per assessment unit was calculated at 115 individuals with a probability of detectability of 0.1 individuals. Abundance was positively related to the presence of vegetation cover, while detectability was explained by altitude. The presence of crops and livestock were considered a threat to the species since they affected the abundance of the species in sites that did not have vegetation cover. The results presented represent the first estimates of population parameters for *O. histrionica*, which would be a baseline to continue with population studies to establish a future management plan for the species.

**b).** The monitoring carried out during the sampling months allowed to establish a new study area that has an abundant population of the species. It is important to continue monitoring in this study area.

**c).** The realisation of the "I festival of the Red Frog of Santa Cecilia" allowed to spread the message of conservation of the species not only to the local population but also to environmental entities, institutions and NGOs, since it was a large event that had people and local, regional and national institutions.

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

The work with the communities was very good, however, some people from the local communities felt excluded from the festival event. However, that is because some people did not attend the meetings called by us. Finally, to solve this impasse, we held a meeting with the director of the community council to explain what was intended to be done with the festival, in this way this problem was solved, and the event could be developed successfully.

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

The community of Santa Cecilia actively participated in the organisation and in the opening of the event. As well as in environmental talks. In addition, they were protagonists during the festival of Santa Cecilia because the members of the Afro-descendant and indigenous community sold handicrafts, traditional foods and ancestral drinks made by them.

### **5. Are there any plans to continue this work?**

Yes, the plan is to continue monitoring the population of *Oophaga histrionica* and increase sampling to a neighbouring region where a new population of the species was found. In addition, integrating the community into a monitoring process will be important for the process to continue once the researchers finish the project.

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

The "I festival de la Rana Roja de Santa Cecilia" was shared at the III International Congress of Herpetology in August 2022 within the environmental education

symposium that took place at this event. Likewise, the results obtained were disseminated through local media such as newspapers, social networks and radio stations.

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

It is important to collect more data on the species, as this will allow us to obtain more demographic data on *Oophaga histrionica*, and thus continue contributing to the realisation of the conservation plan for the species. It is also essential to continue with the community work that began the previous year, but now with a key community for us that is the recently formed "Asociación de Madereros de Santa Cecilia". This association seeks to make use of wood from the forests of Santa Cecilia, but in a sustainable way.

### **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 was mentioned at all the events where the project was presented. We use the logo in the following meetings:

- III National Herpetology Congress.
- "Festival de la Rana Roja de Santa Cecilia".
- "Encuentro regional de Semilleros de Risaralda, Colombia".
- Meetings in Santa Cecilia with the community.
- Meetings with the environmental authority (CARDER) and NGOs.
- Dissemination of the festival event through advertising (posters, posters, stickers).

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

**Blas Antonio Cárdenas:** Blas currently leads the ASOFA foundation, which is an organization from Santa Cecilia that has people from the community whose objective is to ensure the conservation of the flora and fauna of the region. Blas was in charge of leading the night field trip that took place in the study area for the recognition of the species.

**Santa Cecilia Community Council:** The council participated in all the logistics of the festival and was an active part of the event.

**Indigenous and Afro-descendant community:** they participated in each of the festival stands.

**Natalia Carrillo:** As an employee of the environmental corporation of Risaralda, CARDER was one of the organizers of the festival. She was in charge of summoning people from communities in the Colombian Pacific who also work with community conservation. In addition, CARDER supported the transportation of the entire community.

**Yenny Palacio:** university student carried out the monitoring of Oophaga and supported logistics activities during the two days of the festival.

**Zuley Echeverry:** university student carried out the monitoring of Oophaga and supported logistics activities during the two days of the festival.

### 10. Any other comments?

My work team and I would love to continue the work that we started in Santa Cecilia. The population monitors must be done in the long term, and it is important to continue with the conservation work that the local communities have already established and have demonstrated by creating various associations here.

**Conservation strategies for Oophaga histrionica: from illegal trafficking to community participation based on population monitoring and sustainable ecotourism.**



Festival opening event.



Left: Meeting with the community of Santa Cecilia. Right: Festival organizers.



Left: Exhibition of handicrafts from the Emberá-Chamí indigenous community of Santa Cecilia. Right: A sample of crafts from the Afro-descendant community of Santa Cecilia.



Left: Typical food of the region prepared by the Afro-descendant community of Santa Cecilia. Right: Field trip during the festival.



Left: Children from Santa Cecilia attending the photographic exhibition of the festival. Right: Blas Cárdenas talking about the conservation process of *Oophaga histrionica* in Santa Cecilia.



Festival promotional poster.



Data collection on *Oophaga histrionica*.



Blas Cárdenas during a field trip.



Field trip and data collection.