

Amphibian ARK project proposal
Fundación Zoológico Santacruz

1. Project Title

Establishing a breeding laboratory specializes in gender *Pristimantis*

2. Names, institutional affiliations, and email addresses of project leaders

Haydy Monsalve, Fundación Zoológico Santacruz, hmonsalve@zoosantacruz.org

Sandra Gómez, Fundación Zoológico Santacruz, sgomez@zoosantacruz.org

3. Total funding amount requested from Amphibian Ark in USD\$

Funding request to Amphibian Ark: \$5.000

4. Executive summary

Fundación Zoológico Santacruz has been working for around 5 years in amphibian *insitu* and *exsitu* researches. The *insitu* component worked at the Natural Reserve of Peñas Blancas located at San Antonio del Tequendama in Colombian, place in a privilege geographical position in middle of the High Andean Mountains in a Cloud Forest Ecosystem. This ecosystem have highly anthropic intervention, transforming forest areas in agriculture spaces and deforestation for wood trade. *Exitu* results achieved were focused to develop the protocol management for 3 principal species: *Rheobates palmatus*, *Dendropsophus padreluna*, and *Pristimantis renjiformis*. Until 2015, results of the 2 components of the Amphibian conservation project, includes a species catalog with ecological information, with nine species found. Results include successful reproduction of *Dendropsophus padreluna*, *Rheobates palmatus*, running reproductive observations and oval development observations and nutritional studies; the last year for *Pristimantis renjiformis* (EN, IUCN) was achieved for first time in captivity a reproductive event obtaining results of behavioral reproductive and development tracking of the offspring for an average period of three months. *Pristimantis* is consider a genus with lack of information and important for conservation programs. During the *insitu* research, other species from *Prinstimantis* genus, *P. bogotensis* (LC, IUCN) and *P. susaguae* (DD, IUCN) was found at the study area.

The *exsitu* amphibian lab will be a conservation center for *Pristimantis* species, establishing parameters for *exsitu* management and *insitu* studies of its basic ecology achieving reproduction events, and maintain viable captive populations. The 3 selected species had different ranges of distribution, required different environmental conditions that needs to be provide at *exsitu* lab; structural changes, special equipment's will needed to guarantee perfect conditions for captive population and continue research studies of species. That way the conservation program will continue to contribute and improve knowledge of the genus to develop local conservation plan.

5. Introduction

Municipality of San Antonio del Tequendama located in Andean Cloud Forest-Colombia, region with highly Biodiversity, is a region consider as priority for conservation actions. In recent years have suffer important levels of degradation caused: increase of population, natural areas transformation for agriculture and livestock, illegal trade for wood, and previous suspects of Quitridium, issues that put in constant risk the survival for Amphibians and also other species. With presence of *Pristimantis* genus, species categorized in EN (*P. renjiformis*), DD (*P. susaguae*) and LC (*P. bogotensis*), having lack information and *insitu* studies, put the Tequendama region as a crucial area for continue conservation programs. FZS is the only Colombian Zoo institution with experience in *exsitu* conservation of High Andean amphibians, proposed to develop his laboratory in a conservation program for species of the genus *Pristimantis*, and ensure the survival of the species. The conservation program will be leading *insitu* and *exsitu* investigations of the species found in the region that can provide essential information for continue the local actions with community and evolve government institutions to support the program. FZS has a local community credibility, strength relations with local government and private companies a strength educational program with schools of the influence area of the amphibian species, that permit ensure the importance to continue efforts in promote sustainable management of resources, and sustainable captive population for danger Amphibian species.

6. Methodology

The project proposal include all the items and requirements to develop separately management areas for the 3 *Pristimantis sp* species.

- Adjustments laboratory breeding species: separate the currently place in three areas created for each focal species.
- Environmental conditions: include necessary equipment's as heaters, air conditioner, weather stations for control of the critical temperature changes cause by climate change.
- Terrariums: assemble specifically terrariums for *Pristimantis sp* with all the physical enrichment and drain system.
- Temperature control terrarium system: timer techniques at reproduction terrariums that can activate water aspersion when thermometer register high temperature inside. We are located in a tropical area were clime can change suddenly.
- Lighting: handling UV lamps for terrariums.
- Wastewater management: improve a drain and residual water system to prevent possible diseases transfer to environmental. The system will be did with natural materials as a wetland system that can be use as an interpretation space for education purpose.

7. Budget

Budget Category	Item/amount	Request from AARK	Other Sources	
			CBOT	Zoo
Field Study	Transportation \$36, 10 field trip		360	
	Field equipments lamps \$ 16, 4 units		64	
	Field equipments GPS \$140			140
Exsitu facility	Terrariums ajustment \$60, 12 terrariums	720		
	Terrariums enrichment, substrate, plants \$10, 12 terrariums, 12 months	1.440		
	Light ajustment \$27, 12 lights	326,4		
	Environmental conditions \$261, air conditioner	261		
	Environmental conditions \$90, 2 oil heater	180		
	Temterature terrarium system, timer \$ 480	480		
	Drain residual water system \$ 340	340		
	Quitridium preventive treatment \$ 128	128		
	Infraestructure adjustment, separately areas \$488	488		
	Quarantine area \$348			348
Education	Teachers training workshop \$48, 10 wokshops, 55 teachers			480
	Education workshops in rural schools \$ 80, 8 schools, 10 months		3.200	3.200
Field collection	Field Trip \$36, 10 trips	360		
	Personal \$24, 10 field trips			240
Total		4723,4	3624	4408
Percentage		37%	28,40%	34,60%

8. Scientific citations

LYNCH, J., & DUELLMAN, W. 1997. Frogs of the genus *Eleutherodactylus* (Leptodactylidae) in western Ecuador: Systematics, Ecology, and Biogeography.

9. Time line of work

	Jul-Sep 2015	Oct-Dec 2015	January-Mars 2016	April-June 2016
Field Trip	X	X	X	X
Exsitu facility	X	X	X	
Education			X	X