YARÉ II PROJECT: Serranía de los Yariguíes Assessment and Research of Endangered Species, Santander, Colombia.







Final Report - 2013

Conservation Leadership Programme Follow-Up Award

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Serrania de los Yariguíes, municipalities of San Vicente de Chucurí and Zapatoca, Santander - Colombia (July 2010 - October 2011)

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SECTION 1

SUMMARY

YARÉ Project is a conservation initiative, which had in its first phase the main objective to produce scientific basis for the development of an effective, long-term strategy for the conservation of threatened species of the Serrania de los Yariguíes. From the obtained results in the first phase of the project YARÉ, which is demonstrated a critical area for biodiversity and the importance of implementing conservation strategies, raised a second phase focused on establishing a conservation corridor that would allow connectivity of different protected areas in the municipalities of San Vicente de Chucurí, Zapatoca and Betulia, Santander. Reforestation with native trees and bushes in the conservation corridor included the active participation of the community and the owners of the farms where it had influence, allowing reforestation of more than 300 hectares. The Lengerke path, historic symbol of the area, has been recovered and cleaned most of his course with the help of community volunteers, local guides and the participation of different organizations, in order to be promoted as an eco-route that would allow guides and local communities perform ecotourism activities. Rapid Biodiversity Assessments were conducted at four sites along the corridor that had not been explored biologically, obtaining important results in plants, birds, butterflies, mammals and herps. With the community, it was possible to develop different activities including the corridor design, training people in the community as ecoguides, environmental education to children in rural areas, implementing the Migratory Birds and Biodiversity Festival, delivering and sharing posters and brochures, among others. Although conservation efforts led in the Serrania de los Yariguíes are an important step to ensure the habitat of threatened and endemic species in the region, it is still necessary to continue these processes to involve more organizations in the region and promote the importance of community participation in strategies for biodiversity conservation in the region.

INTRODUCTION

The YARÉ Project is a conservation initiative which won two prizes on behalf of the Conservation Leadership Programme in 2005 and 2010. Through the research conducted by Project EBA (Evaluation of the Biodiversity in the Andes) conducted by some of the members of the YARÉ Project (see Donegan et. al. 2003b; Donegan & Huertas (eds.) 2005), it was made clear that the "Serrania de los Yariguíes" is an important area for research and conservation of the biodiversity therin, as well as the importance of generating conservation strategies which are aligned with the processes of already declared protected areas in the region. As a result of the aforementioned came about Project YARÉ II, focused primarily in producing a solid scientific foundation for the development of an effective long-term strategy for the conservation of the "Serrania de los Yariguíes" (Huertas & Donegan (eds.) 2006).

The collected, published and disseminated data for the first phase of Project YARÉ proved the importance of the Yariguíes forests as well as the strong anthropic pressures to which they are exposed. The forests hold one of the greatest concentrations of biodiversity in the Andes as well as a high risk for endemic species given the fact that the forest is isolated from the Andean mountain range (Huertas & Donegan (eds.) 2006). Additionally, the aforementioned research conducted discovered new species for science and important conservation-related species (Donegan et al 2003b, Donegan & Huertas (eds.) 2005; Huertas & Donegan (eds.) 2006).

This allowed the establishment of protected areas and almost 200,000 acres of citrus habitats. Based on the aforementioned accomplishments, the Project YARÉ II established a conservation corridor next to a historic stone path called "Lengerke," where some important and endangered habitats were rescued, such as lowland tropical forests, mountainous and dryland forests. The Conservation Corridor includes two places for the "Alliance Zero Extinction," two IBA and protected areas in various places, like the National Park, three bird reserves and eight ecological easements.

The Project YARÉ II counted on several strategic partners, which allowed for the optimum development of the different conservation activities, research, environmental education and ecotourism. For the implementation of the project in the municipalities of San Vicente de Chucurí and Zapatoca, the project team counted on the support of the government and local authorities. Institutions like "El Sistema de Parques Nacionales y la Corporación Autonoma Regional de Santander" was fundamental in developing activities related to recovering the path of Lengerke and the research phase of the project. The local community, local guides, and the tourism organizations (e.g.

EcoTurs, Caminos Verdes, Ecoagroturs, Retoxchucureños, and Travesías Lengerke) were part of the ecotourism strategy of the "Ecoruta Camino de Lengerke." The contact with the local leaders was fundamental for the dissemination of the project during all of its Phases through different communication outlets. The constant support of rural farmland owners, environmental leaders and organizations like Ecoplantar and the project Conservation Corridor Cerulean Warbler Bird of the ProAves Foundation were fundamental in establishing the conservation corridor, developing the reforestation activities, and accomplishing project goals. As a result of the environmental strategy, the students and teachers of the rural schools had the opportunity to learn about the biodiversity in the "Serrania de los Yariguíes" as well as the importance of being a part of its conservation. Students of the Industrial University of Santander were part of the project's research team, including one student from the National University of Colombia and one researcher from the ProAves Foundation, which were trained in biological expeditions during the research. With the support of the local leaders, both the rural and urban communities were involved in the project and represented a critical factor in reaching the conservation objectives of the project as well as ensuring its long-term sustainability.

Overview of Edge Pamplona Serrania de los Yariguíes. © B. Huertas / YARÉ I Project

YARÉ II TEAM

YARÉ Project is an initiative of young professionals and student volunteers interested in research and conservation of endangered species, involving communities. YARÉ II team has members from various regions of Colombia and collaborators from England.

Blanca Huertas. Manager of the project YARÉ and researcher in butterflies. Curator in charge of the butterfly collection of the Museum of Natural History in London.

Diana Carolina Villanueva. Coordinator of the project YARÉ II and researcher in mammals. Biologist at the University of Caldas, Colombia.

Thomas Donegan. Researcher in birds and scientific advisor. ProAves Foundation.

Leidy Viviana Romero. Student researcher in herps. Student of Biology, Universidad Industrial de Santander - UIS, Bucaramanga, Colombia.

Jose Aguilar. Researcher in vascular plants. Biologist from the Universidad Industrial de Santander - UIS, Bucaramanga, Colombia.

John Jairo Arias. Researcher in insects. Biology Degree in National Pedagogical University, Colombia.

Juan Carlos Luna. Researcher in birds. Instructor during Ecoguías and birdwatching for the community in the project YARE. Ecoturs Colombia.

Jose Pinto. Guide and field assistant. A resident of San Vicente de Chucurí, Santander, Colombia.

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Heidy Valle. Advisor in the establishment and implementation of conservation corridor. Biologist - ProAves Foundation.

Christian Olaciregui. Volunteer in ornithological team, stage I. Training expeditions by YARÉ II project. ProAves Foundation.

Daniel Diaz. Volunteer in team butterflies, stage I. Training Project expeditions by YARÉ II. Student of Forestry, National University of Colombia. Zapatoca resident, Santander, Colombia.

Reinaldo Diaz. Community volunteer in different activities YARÉ II project. Zapatoca resident, Santander, Colombia.

Joshua Rueda. Community volunteer in the corridor of conservation and recovery Ecoroute Lengerke Road. Ecoroute local guide. Zapatoca resident, Santander, Colombia.

Hugo Fuentes. Community volunteer and support in the recovery of the ecoroute in Lengerke path. A resident of San Vicente de Chucurí, Santander, Colombia.

Carlos Julio Rojas, Hoover Meneses and Douglas Meneses. Support in the recovery of the ecoroute in Lengerke path and in conservation corridor. ProAves Foundation.

YARE team in the field © Proyecto YARÉ II

SECTION 2

AIM AND OBJECTIVES

General goal

Our goal of the second phase of the project YARÉ is to establish a 200,000 acre Conservation Corridor from lowland forest to Andean montane cloud forest to dry forest to connect protected areas and key habitats and ensure survival of threatened and endemic biodiversity in perpetuity.

In order to achieve our goal, we established the following specific objectives:

1. Reforestation along a ancient path to be used as an eco-route.
2. Recover and promote the "Lengerke Eco-route".
3. Targeted biodiversity studies within the proposed Corridor area.
4. Build team member skills through designing and implementing the Conservation Corridor.
5. Involve local community in planning for ecotourism and conservation.
6. Train local people as eco-guides and ensure continuity of the project locally.
7. Produce educational materials about local biodiversity.

MATERIALS AND METHODS

STUDY AREA

The Serrania de los Yariguíes is a spur on the western side of the Eastern Cordillera of the Colombian Andes, located in the department of Santander, which reaches elevations from approximately 500m to 3400m (Donegan & Huertas (eds.) 2006). The Serranía comprises an area of approximately 500,000 hectares, with about 39% of its extent in well-preserved forests and 61% distributed among agricultural systems, pastures and livestock (Fig. 1) (Donegan & Huertas (eds.) 2005).

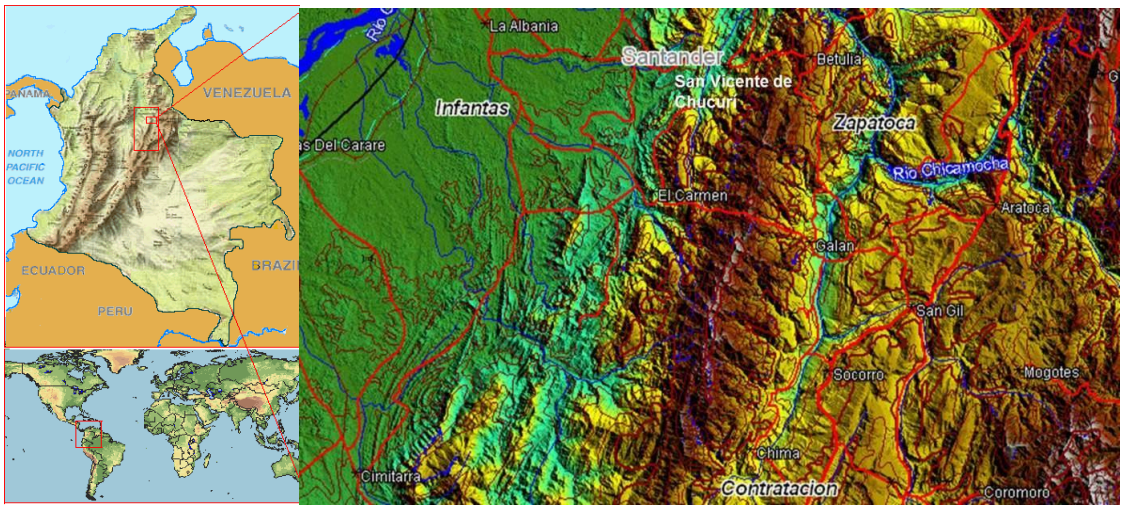


Figure 1. Location of the Serrania of the Yariguíes, Department of Santander, Colombia. Left: red box. Right: area of influence YARÉ II between the municipalities of San Vicente de Chucurí and Zapatoca in Yariguíes. © Multimap.

The Serrania presents on its western side rainforests influenced by the cloudiness of Magdalena, while the eastern side is drier and shows environments that vary between the subtropical and the moor. This mountain range is isolated from the Eastern Cordillera by the rivers Suarez (east), Sogamoso (northeast) and depressions Horta and Opon river (south). Northeast of the Serrania the foothills have been appointed as El Cerro or Cuchilla de la Paz (Donegan et al. 2010).

Human settlements and agricultural activities in the Highlands have been developed mainly in the temperate zones, causing deforestation in these areas. Although forests are well preserved in the Yariguíes, evidenced a strong process of deforestation due to

agricultural and livestock expansion, which has resulted in decreased habitat of endemic and endangered categories (Huertas & Donegan (eds.) 2006). However, the Serrania of the Yariguíes account today with the establishment of different protected areas to ensure the preservation of much of its forests, such as the National Park Serranía of the Yariguíes and three reserves of the ProAves Foundation located to the north of the Highlands.

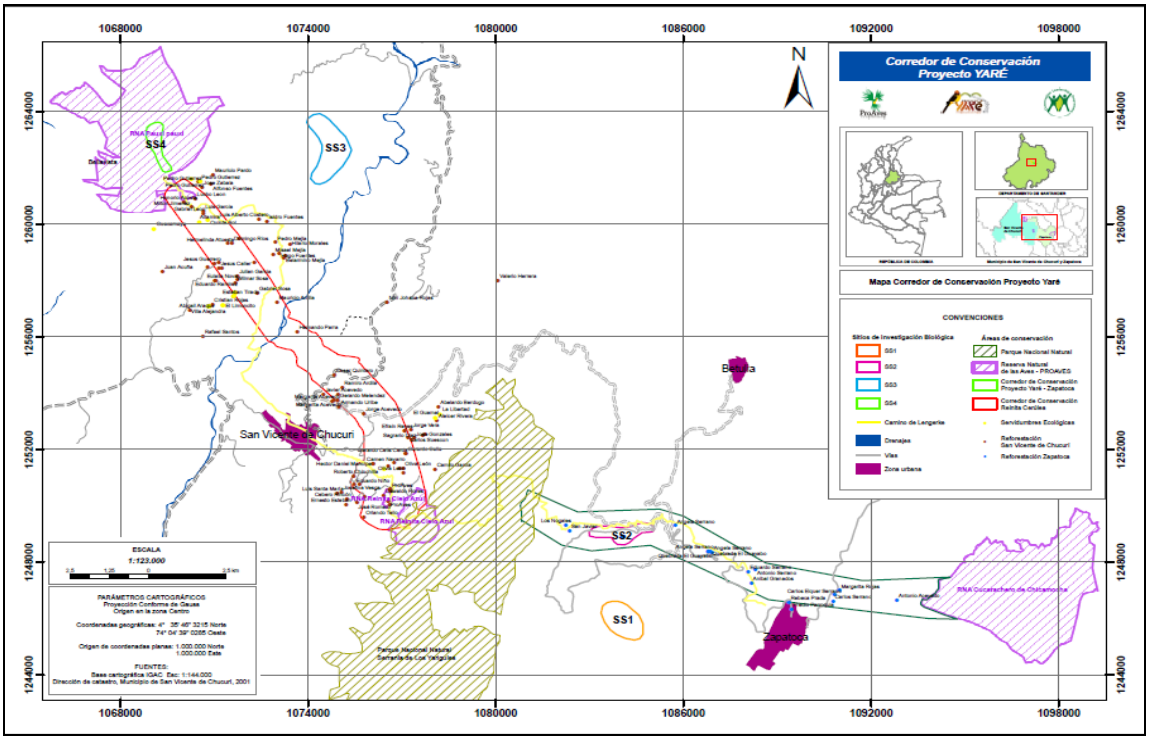


Figure 2. Area of influence conservation corridor YARÉ Project, in the northern part of the Serrania de los Yariguíes, Santander Department. It shows on the map the location of the three ProAves reserves (in purple), the National Park Serrania de los Yariguíes (green) and the population centers of the towns of San Vicente de Chucurí Betulia and Zapatoca. They highlight the area of influence of Conservation Corridor on the western flank of the Serrania (red) and Eastern (in dark green). Corridor is indicated within the plots (points) which hosted reforestation. They just four study sites (SS) explored in the research phase of the project YARÉ II.

The area of influence of the Conservation Corridor in the municipalities of San Vicente de Chucurí and Betulia, corresponds to tropical rainforest with an altitudinal range between 800m and 1300m in Pauxi pauxi Reserve, and between 1354m to 2050m in the Cerulean Warbler Bird Reserve (ProAves Foundation). The north part of the National Park Serrania de los Yariguíes in the town of San Vicente de Chucurí corresponds to rainforest, and subpáramo in the Cerro Santa Lucia to 2,500 meters (Fig. 2). This municipality is characterized by a highly productive rural agricultural level (cacao,

coffee, fruit, etc.), and with large areas of pasture for livestock. The area of influence of the conservation corridor in the municipality of Zapatoca between La Cuchilla del Ramo and the Serrania de los Yariguíes, is characterized by humid forest, which has been strongly subjected to deforestation, mainly for livestock and for fruit growing. Towards the town of Zapatoca evidenced an area with very dry, rocky, low fertility and highly eroded soils as a result of various geological, climatic and anthropogenic factors (Parra *et al*. 2010). Towards Chicamocha Cucarachero Reserve, predominate dry forest, which extends to Sogamoso River basin, with an altitudinal range between 300 and 2100m. (ProAves Foundation).

Research sites

For the research phase of the YARÉ II project, it was selected four study sites (SS) at different elevations and northern slopes of the Serrania de los Yariguíes, referencing the Conservation Corridor. The SS selected were located in the municipalities of Zapatoca (eastern and western side) and Betulia (western slope) (Table 1).

Table 1. Description of the study sites (SS) explored for the research phase.

Locality	Coordinates	Altitudinal Range	Life zone	Bioclimatic zone	Natural region
SS1 - Reserva Páramo de la Floresta, Vereda Bellavista, municipio de Zapatoca	N 06°49'19.6" W 73°19'20.1"	2400-2600m	bmh-MB	Andino con Subpáramo azonal	Región Andina
SS2 - Parte alta Cuenca Quebrada el Ramo,predio Matecaña, Vereda San Javier, municipio de Zapatoca	N 06°50'51.4" W 73°19'14.4"	1780-2000m	bh-PM	Subandino	Región Andina
SS3 - Cerro San Pablo, Hacienda Belmonte, Vereda Belmonte, municipio de Zapatoca	N 06°58´35.3" W 73°24'19.1"	400-800m	bh-T	Ecuatorial	Región del piedemonte de la cordillera Oriental.
SS4 - Sector Los Alpes, Vereda La Putana, RNA Pauxi Pauxi, Cerro de la Paz, municipio de Betulia	N06°58'38.3'' W 73°27'11.5''	1075-1370m	bh-T	Ecuatorial	Región del piedemonte de la cordillera Oriental.

METHODOLOGY

Establishment of the Conservation Corridor

Dialogues and alliances with local governments and community organizations: For the establishment of the Conservation Corridor of the project YARÉ, protocols and dialogues were conducted with local governments in the municipalities of San Vicente de Chucurí, Zapatoca and Betulia, with local leaders and the urban and rural communities. At these meetings it was defined the area of influence the corridor, identified key areas for the protection of biodiversity and the methodology to follow. These had the support and advice of ProAves Foundation project "Conservation Corridor Cerulean Warbler Bird", in the area of influence of the corridor and the process of reforestation with native plants. It was made important alliances with local governments, environmental organizations, and counted with the participation of community volunteers to develop different activities.

Left: Meeting with local community veredas la Germania and El Centro, San Vicente de Chucurí. *Right*: Meeting with the community and 'Junta de Acción Comunal' vereda San Javier, Zapatoca. © YARÉ

Recognition and evaluation tours: Tours were conducted with the support of people in the community with knowledge about the area and the area of influence of ancient rock road "El Camino de Lengerke (Lengerke Path)", which was taken as a reference to establish the conservation corridor. It was evaluated the conservation status of the areas of influence of Lengerke path and the corridor, the type of vegetation of the traveled areas, agricultural systems and possible species of trees and bushes to propagate in the reforestation process. During the tour, it was geographically referenced the old road route and sites of interest. Given the information obtained in the tours, it was designed the route map of "Lengerke Path". Subsequently established the area of influence of the conservation corridor (Fig. 2).

Plant Nurseries: The reforestation stage featured four plant nurseries to produce seedlings of native trees. Two plant nurseries located in the municipality of San Vicente de Chucurí, one in the Cerulean Warbler Bird Reserve and the other in the Pauxi Pauxi Reserve ProAves Foundation. In the municipality of Zapatoca it had the support of the municipal plant nursery and other small plant nursery, which were by Ecoplantar Association. Activities in nurseries consisted in obtaining field of seeds, cuttings and seedlings of native trees, seeds were placed on germination and seedlings and cuttings are planted directly into bags with soil.

Left: Collecting small plants of cedar (*Cedrela* sp.). *Right*: Transplanting small plants in tree nursery Cerulean Warbler Bird Reserve, ProAves Foundation. © YARÉ Project

Reforestation: The reforestation process for the conservation corridor was to identify key land for planting trees. Having identified the land, it was contacted, through workshops and personal contact, to the owners, to become involved in the establishment of conservation corridor through the planting of native trees. In the case of San Vicente de Chucurí, the reforestation crop was for bleak of coffee, cocoa plantations and living fences. Between the project team and the owner of the estate, it was settled the amount of trees that needed the land and what were the appropriate species for the area and climate. Subsequently transported to the farm, it was performed the planting process and signed a voluntary commitment document between the project and the owner of the property, which consisted of recording the delivery of trees and commitment to care and protect the planted trees on their land to support the conservation corridor.

In the municipality of Zapatoca the reforestation process was more complex due to the terrain, being essential the use of fertilizer to plant trees, and so ensure the proper growth of the same. Finally, data from planting trees, reforested area and the coordinates of the reforestation sites were organized in databases for later analysis and location maps. In some properties were made sporadic visits to assess the growth and survival of trees.


Left: Native trees planting sessions in Zapatoca. *Right*: Monitoring a tree of a native species of caracoli (*Ancardium excelsum*), planted in November 2010 in Zapatoca. © YARÉ Project

Recovery of the ecoroute Lengerke path

To recover the Lengerke Path as an ecoroute, it was performed the procedure of dialogue and alliances with local governments, community organizations interested in the subject in the municipalities of San Vicente de Chucurí and Zapatoca. This proposal was submitted to the municipal authorities, local leaders, other organizations such as the National Parks Unit (National Park Serrania de los Yariguíes), tourism associations, environmental NGOs, among others.


Left: Walkers' group from the communities of San Vicente de Chucurí and Zapatoca. Day trip along the Lengerke trail in order to plan future activities. *Right*: Assessment of current state of the trail. © D. Villanueva/ YARÉ.

There were done several tours of recognition of the "Lengerke Path" by different sectors to assess their status, plan activities for the cleanup and recovery of the way, identify key sites for ecotourism and georeference all the way from Zapatoca to San Vicente de Chucurí (Fig. 3). All reconnaissance activities were supported by the people

of the community with more experience in the subject, as with local guides and environmental authorities.

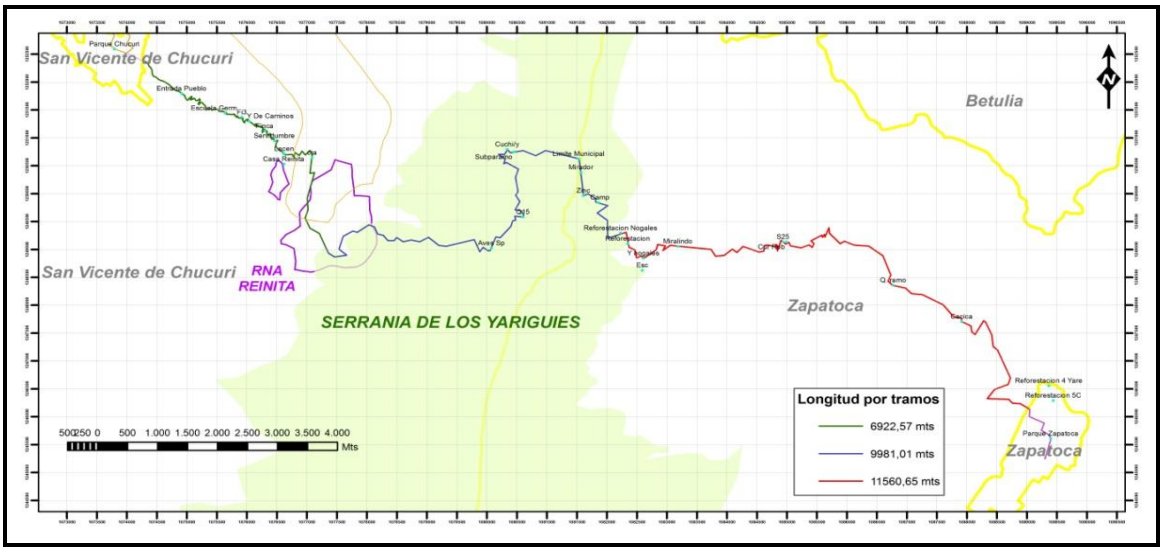


Figure 3. Route Map of Lengerke Path from the town of Zapatoca to San Vicente de Chucurí. © Project YARÉ

The recovery and cleanup activities of the Lengerke Path were performed with the support of community volunteers, the project team and the Cerulean Warbler Reserve of ProAves. The recovery of the path consisted in reopen the path sites that were lost, clean the edges of the path and recover in some sectors the stone that was covered by soil and the steps damaged by erosion. As part of reforestation activities in Zapatoca conservation corridor, it was delimited some areas of the path with trees and bushes, allowing greater demarcation points especially those which were lost.

Studies of biodiversity

To carry out the research phase of the project, it was purchased some equipment and demanded some permits to the local governments and environmental authorities. It was acquired the mapping of the municipalities of Zapatoca, Betulia and San Vicente de Chucurí to identify ProAves reserves, the National Park Serranía de los Yariguíes and key research sites. Subsequently, it was planned with the project team and local community leaders, the sites without biological exploration and with high value of importance for research and conservation in the area of influence of the project's conservation corridor. It was evaluated the methodologies to use in the different taxonomic groups and the logistics of the expeditions and travels to selected sites.

Quick Studies of Biodiversity were conducted at four study sited (SS) which had not previously explored in the project YARÉ, referencing the conservation corridor. Researches were conducted on plants, birds, butterflies, mammals and herps.

Left: Selection of research sites with community support. *Right*: Studying birds in Páramo de la Florestas, Zapatoca. © YARÉ Project

Plants

Field phase: It was carried out a floristic characterization in three of the four study sites (SS1, SS2 and SS3). At each site were made general collections and records of vascular plants in fertile state for three days, following the classical methods of collection and preservation.

Laboratory phase: the material that was needed to collect was processed for conservation according to standard procedures for herbarium specimens. These were determined based on specialized literature as regional floras, monographs and illustrated catalogs. The specimens determined were compared to the reference collections of the Herbarium of the Universidad Industrial de Santander (UIS), the Colombian National Herbarium (COL) and Virtual Herbarium (COL, Field Museum, MO, NYBG). All the collected material is deposited in the Herbarium UIS.

Birds

Birds were mainly studied by mist net captures, making visual and audio records, and recordings of bird songs. The bird studies were conducted in three study sites (SS1, SS2 and SS3). For the study of birds, there were settled 15 mist nets, each 12 m long at each study site, open daily before dawn (05:30 hrs.) and closed at sunset (17:45-19:00 hrs). The networks were continuously revised. The processing of the captured birds was standardized as follows: (1) Identification (mainly Hilty & Brown 1986, McMullan et al. 2010 and Restall et al. 2006), (2) Banding, using metal rings with ProAves unique serial number, (3) Determination of the age and sex (based on plumage, brood patches

or cloacal protuberance), (4) Evaluation of molt (body, wings and tail), (5) Measures as weight, plane wing, tail, tarsus and culmen total, (6) Photographs of each species in all states of plumage (eg, adult male, adult female and immature) at various angles, and (7) Liberation.

To recaptured birds it was recorded only the time of capture and band number. The observations and recordings were *ad libitum*, concentrated at dawn and during periods of net review.

Butterflies

For the study of butterflies were conducted patrols, observations and collections with networks in three of the four study sites (SS1, SS2 and SS4), which consisted of walking unbounded transects type and along trails, forest clearings, edge trail and streams from 07:00 to 17:00 hrs with an effort of two people per day. It was used binoculars to observe canopy species and was collected a sample of those that could not be identified in the field using butterfly nets capture standard. From 10 traps type VSR-Van Someren Rydon were used to capture (Rydon 1964, DeVries 1987), black and white with comparative purposes and installed to the highest point possible in the foliage (up to 10m where possible) and 25m distance between each one. Traps were baited with fermented fruit (banana and pineapple mainly), and decaying fish and seafood.

The field and laboratory identification was made taking into account as a primary reference work done in the Yariguíes by the authors of this study (Huertas 2004, Orchards & Arias 2005, Orchards & Rivers 2006). Although there is not a unique field guide of Colombian butterflies species, other general guidelines were also used as reference and photography comparison with specimens in museums. However, there is still no certainty about the identity of some specimens, mainly taxonomically complex groups. The species identified were extended, labeled and deposited in the collection of the Alexander von Humboldt Institute.

Mammals

Since mammals occupy diverse habitats and have different behaviors (Voss & Emmons 1996), there were used several methodologies trying to cover as many of the habitats and record the highest number of species during the investigation.

A total of 15 capture traps Naza type were used over 4 nights at each sampling sites. To catch three bats were used mist nets 12m for four nights at each study site. Three trap cameras were installed for four days (24 hours) at each site in order to directly record medium and large mammals. Observations were also made daily and nightly *ad-libitum*. During the tours, fortuitous observations were conducted to search for any

traces that could detect the presence of mammals, marks on tree trunks, nuzzle sites, footprints, step sites, feeders, burrows, hair and latrines. Informal talks were held to over 18 years-old residents and workers in the study areas. The identification of mammals by the people, was conducted through visual aids with sheets of flying and non-flying mammals (Emmons 1997, LaVal & Rodríguez 2002, Defler 2003, Morales et al. 2004). This identification was supplemented with questions concerning to the characteristics of animals, places of observation, use of local wildlife and frequency of observation.

When a small mammal specimen represented a new finding for the area or was impossible to identify in the field, they were prepared by way of skin and skull (Hall 1996). The determination of the species was conducted at the Natural History Museum of the University of Caldas (MHNUC). The specimens are deposited in the mammalogy collection of MHNUC under the collection series DC Villanueva_C.

Herps

For the study of the herps, it was applied unconstrained search methodology that allows cover larger area and a greater likelihood of finding specimens (Heyer 1994). There were performed day and night searches for four days per site. Photographic record and data was taken of the species including capture time, the height of the hanger and activity (call, amplexus, rest, etc..) Data were also recorded of their morphology including determining features in the case of the species collected are lost after setting process (eg coloring, pupil, etc.).

The specimens which identification was not possible in the field were collected. The identification of the collected species was performed in the laboratories of the Universidad Industrial de Santander (UIS) using reference material of the Herpetological Collection of the same university, and bibliography as identification keys of Professor Fernando Castro of the Universidad of Valle, including as Lynch & Duellman (1997), Peters & Donoso (1970), taking into account updates. The specimens collected were deposited in the aforementioned collection under the codes and UIS UIS-r-A.

Planning meetings of the project team: during the development of the YARÉ II project, there were several meetings with team members and ProAves to plan different activities established during the project development. Meetings were held with the community, in order to establish the conservation corridor, reforestation and recovery activities in the Lengerke Path. The information obtained in the training course of June 2010 provided by the CLP was transmitted to the members of the project team YARÉ II. This training was conducted with the main objective of the project planning YARÉ II, based on the development of different products learned in the training of the CLP.


Left: CLP materials based-training session with YARE team in Bucaramanga, Santander. *Right*: Meeting to organise and delimitate the Lenkerke trail and conservation activities in the Cerulean Warbler Bird Reserve, San Vicente de Chucurí. © YARÉ Project.

Working with the community

Dialogue with local governments and community leaders: With the participation of the community, there were developed planning workshops of the different activities for conservation and ecotourism of the project. Several meetings were held with local leaders, experts and stakeholders in tourism in the region, to create the proposal of ecotourism in the municipalities of the influence area of the project YARÉ II. There were visited different important sites for ecotourism in the area and key points along the Lengerke Path as attractive to the ecoroute.

Ecoguides intensive courses for the local community: From the various meetings with the community and local governments, there were established contacts with interested people in ecotourism in the region, which could ensure the application of the acquired knowledge in the course of Ecoguides and the continuity of the strategy of ecotourism in long-term. Previous meetings were established with stakeholders in the course, to strengthen the group of local people and to give a focus to it, taking into accounts the needs and potential activities to be performed in this area along the Lengerke Path.

Environmental Education and Biodiversity Festival: Activities were developed with children in rural schools and some schools in urban areas of the municipalities of San Vicente de Chucurí, Zapatoca and Betulia towards the preparation of the Migratory Bird and Biodiversity Festival. Environmental awareness workshops were developed with children in rural areas of the municipalities of influence. As part of the environmental education strategy, there were developed different articles on the project YARÉ, programs about the project and its results through radio talk show and local television channels.

Design of educational material: As part of the environmental education and ecotourism with the community, it was designed a poster calendar of the Serrania de los Yariguíes from biological expeditions undertaken by the project team YARÉ. It was designed a brochure with some representative species of the Serranía de los Yariguíes and of the ecoroute, as well as places of interest along the ecoroute and the map of all the way with details about altitude, ecosystem type, level of difficulty, and key locations. Signaling was performed in different sectors of the "Ecoroute Lengerke Path", through information and indications billboards. It was promoted the Ecoroute Lengerke Path with the community and visitors from other places. The Educational materials designed in this second phase YARÉ was performed as support material for local guides and tourists visiting the area of Lengerke Path and to report to the community the biodiversity and conservation of the Serranía de los Yariguíes.

PRODUCTS AND RESULTS

Establishment of the Conservation Corridor

From alliances with local governments, with the Association Ecoplantar with the community, owners of the properties located in areas affected by the project and with the support of ProAves under the Conservation Corridor Cerulean Warbler, it was established the Conservation Corridor YARÉ II Project between the municipalities of San Vicente de Chucurí and Zapatoca, which has a length of 30 km and 1 km wide (Fig. 2).

Left: Selection of trees for planting - nursery in Zapatoca. *Right*: Selection of trees for planting - nursery in Cerulean Warbler Bird Reserve, ProAves Foundation © YARÉ Project

Between the period of July 2010 and October 2011, it was performed the reforestation process of different properties located throughout the conservation corridor, with the production of trees from the nursery plants of Cerulean Warbler Reserve (production capacity of 25,000 seedlings), nursery plant from PauxiPauxi Reserve (production capacity of 20,000 seedlings) and nurseries plants from Zapatoca and Ecoplantar (production capacity of 5000 seedlings). The result was the planting of 39,454 native trees, with the participation of 95 properties, which allowed the reforestation of 310 hectares (Appendix). It included the planting of 30 species of trees and bushes as the saman (*Albizia saman*), nauno (*Albizia guachapele*), cedar (*Cedrela montana*), oak (*Quercus humbolodtii*), caracoli (*Ancardium excelsum*) and arum maculatum (Trichanthera gigantea) (Appendix xx). Each property that was included in the reforestation process was georeferenced and located on the conservation corridor map and vegetation cover (Appendix).

Left: Planting trees for shading of crops in San Vicente de Chucurí. *Right*: Planting trees in open ground in Zapatoca. © YARÉ Project

In San Vicente de Chucurí, reforestation was mainly for gloomy cocoa and coffee, live fences, protection of streams, among others. In Zapatoca reforestation was mainly for protection of streams, live fences and reforestation of pastures. In San Vicente de Chucurí was planted native trees as much compared with the municipality of Zapatoca (Fig. 4), since for the first municipality there were taken into account increased production nursery plants that had been previously established by ProAves, also with soil and climatic conditions were more favorable. In Zapatoca the conditions for the reforestation process was more difficult due to the extensive deforestation that has occurred in this area, by the characteristics of the soil and the conditions of the already established nursery plants (Fig. 2). To increase the likelihood of survival of the trees planted in the area of influence of Zapatoca, it was used fertilizer, water transport to spray the seedlings during drought and planting techniques proposed by the community for this type of ecosystem; making it difficult in turn, the number of trees planted in this part of the corridor.

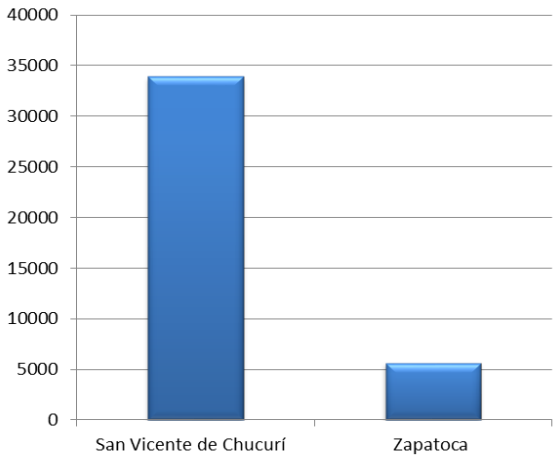
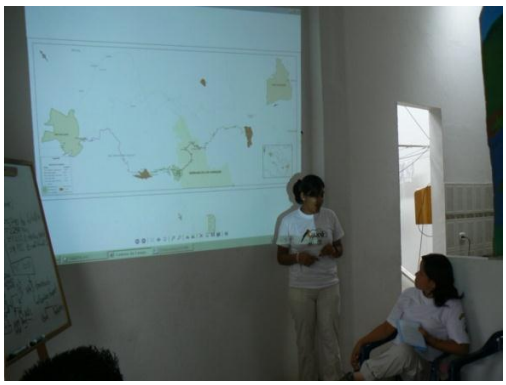


Figure 4. Number of trees planted in the Conservation Corridor in each municipality

Recovery of the Ecoroute Lengerke Path

With the recovery and cleanup of the Lengerke Path, made by the project team YARÉ, ProAves, EcoTurs, the community of municipalities affected by the project and stakeholders in the ancient roads that are part of the volunteers, it was recovered 20 kilometers of the path. This recovery of the path has allowed to georeference it for the first time on the map of the region, and to use the road again by the people of the community and expert walkers who want to know the region and the "Ecoroute Lengerke Path" as an ecotourism, historical and adventure proposal in the mountainous region of Yariguíes (Fig. 3). Different organizations of tourism in the area and the community living along Ecoroute supported by local governments, will continue with the eco-tourism along this ancient road, enabling them to present their region, customs, crafts, typical food, hotels, and places of interest in each municipality.

Left: Presentation of YARÉ with local community and identification of local leaders and volunteers in Zapatoca. *Right*: Feedback activity when presenting the design for the Lengerke path and planned activities to recuperate it with representatives of National Parks and Government. © YARÉ Project

As part of the recovery strategy of the "Ecoroute Lengerke Path" there were installed four information billboards and five billboards of indications in different parts of the eco-route, making easier the trip from San Vicente Chucurí to Zapatoca for interested hikers in the area. To support local guides and knowledge of the community and tourists who want to explore the region, there were designed and printed 1000 brochures ("Ecoroute and Mini-Guide of Lengerke Path"), and were distributed to local governments, local guides, tourism agencies, the National Park, ProAves Reserves and community in general, which allows to promote the biodiversity of the Serrania in species and landscapes.

Left: Recovery and clearing of the Lengerke Trail with volunteers of YARÉ II in Zapatoca. *Right*: Ecoroute tour Lengerke Road with community in San Vicente de Chucurí and information billboards. © D. Villanueva/YARÉ.

With the support of the community and tourism organizations it has been promoted the "Ecoroute Lengerke Path" through regional media and the socialization of the results obtained in the recovery of the path. Tourism organizations from the municipalities affected by the project as Ecoagroturs, RetoxChucureños, Travesias Lengerke and Caminos Verdes have taken this initiative and the obtained results in the project YARÉ, to continue the process of conservation, maintenance, promotion and exploitation of the Ecoroute in an ecotourism level.

Biodiversity studies

In the expedition of the YARÉ II project, it was attended by 11 people in the field, including researchers from the project team and community companions who were trained in biological expeditions. Biodiversity studies were performed in plants, birds, butterflies, mammals and herps that allowed evidencing other important areas for conservation.

Left: Yariguíes Brush Finch (*Atlapetes latinuchus yariguierum*) in Paramó de la Floresta, Zapatoca. *Right*: Zarigüeya (*Marmosa* sp.) © B. Huertas and D. Villanueva/YARÉ.

Plants

Floral characteristics

There were collected a total of 193 vascular plant species distributed in 135 genders and 69 families, based on 210 numbers of collection and field recordings. The determination of plant material to species level was 34.7%, while the remaining 65.3% corresponds to morphospecies. The best represented group is angiosperms with the 91.1% of the flora, along with the eudicots are the group with the highest number of households, followed by monocots. The family that had greater wealth in terms of number of genera was the Asteraceae (Table 2). As for the number of species, the Bromeliaceae family comes first, followed by Clusiaceae and Asteraceae. Comparing the study sites, it appears that the SS1 has the greatest wealth of families, genera and species compared to the other two sites (Table 3).

Table 2. Families with most genera and species.

Families	Goods	Species	Morphospecies
Asteraceae	10	5	10
Rubiaceae	8	4	5
Orchidiaceae	7	3	8
Fabaceae	7	1	9
Melastomataceae	6	3	6
Bromeliaceae	5	7	3
Ericaceae	5	3	6
Poaceae	5	3	2
Clusiaceae	4	5	5

Table 3. Wealth of the Study Sites (SS).

Study site	Families	Goods	Species	Morphospecies
SS1	36	74	43	54
SS2	34	42	21	32
SS3	24	38	6	37

Physiognomic characterization

Study site 1 (SS1): The vegetation of this place is differentiated into two major habitat types: the first corresponds to a clearly high-Andes pattern, where the tree component is

dominated by oak, *Quercushum boldtii*, such setting is fragmented into several patches, which do not exhibit noticeable differences in composition. This oak forest forms consociations with species of the *Podocarpaceae* family, with approximate heights of 20m and DAP between 1 and 3m. The second habitat corresponds to a sub-moor pattern of equal elevation than the patches in the oak forest. Such formations have a typical physiognomy of the highest areas of the Serrania de los Yariguíes with floristic elements mainly of Ericaceae, Asteraceae, Clusiaceae and Orquidiaceae families. A third and fewer representatives is a small swamp area with an abundance of Gramineae and Juncaceae, forming a broad grassland-pasture growing on an area with high humidity coming to form a swampy area with moderate depths.

Study Site 2 (SS2): The vegetation of this part of the basin of the El Ramo stream evidences an ongoing process of deforestation, only small patches remain forested towards the high sloped lands of the aquifers of lesser extent, adjacent to the creek. In these areas there are specimens of *Chrysochlamys dependens* oak, which allow conditions of "understory" in the lower-dominant species of the genera Hedychium, Aechmaea, and Pleurothalis Mezobromelia both epiphytes and lithophytes. This area has a high degree of involvement of plant ecosystems. However, these ecosystems preserve floristic elements that are unique to this area of the Serranía de los Yariguíes (personal observation), so they are considered necessary for the recovery and conservation of plant ecosystems in this area, located in one of the major watersheds of the Yariguíes.

Study site 3 (SS3): The vegetation of this area is located in the upper middle part of the western flank of Cerro de San Pablo, located on the lower middle basin of the Chucurí river. As physiognomic characteristics of this area, there are highlighted the emerging tree species with heights up to 35m and a well-marked canopy layer with heights of about 25m. Individuals in these strata belong mainly to the Fabaceae, Sapotaceae, Bombacaceae, Euphorbiaceae and Urticaceae families.

A substantial proportion of specimens have not yet been determined completely, this mainly due to the number of samples collected and the exploratory stage currently of the vascular flora of the northeastern Andes area. However, the preliminary floristic listing obtained so far can be used complementarily with the fauna information, allowing more complete data of the major components of biodiversity of the Serrania de los Yariguíes.

Birds

A total of 193 species of birds were reported during the study. Among them, two species had not been recorded before in the Serrania de los Yariguíes (*Troglodytess olstitialisy Elaeniafrantzii*) (compared with the listing in Doneganet al. 2010), perhaps because there were studied more disturbed habitats than in previous studies.

The SS1 could be very important for ecotourism, as it is the site of increased affordability to observe several newly described subspecies or endemic birds of the Yariguíes. The sparrow of the Yariguíes *Atlapetes latinuchus yariguierum* was very common in this site (10 catches), compared with only 2 captures through all projects and YARÉ EBA (Donegan & Huertas (eds.) 2006). Also, endemic tapaculo *Scytalopus griseicollis gilesise* was observed around the cliffs of the place. 99 species were recorded here. It was registered a great number of good recordings of the population of *Grallaria ruficapilla o*f Yariguíes during the study, which suggests that it may be of a different subspecies found in the eastern cordillera. Finally, there were several species of mountain forest at an elevation higher than previously recorded.

Two endangered species were recorded; *Coeligena prunellei* (VU) was more or less common in networks, with 7 catches. The most important species recorded, was *Macroagelaius subularis* (EN). The following information was sent to BirdLife International in connection with its recent consideration of the status of this species: http://www.birdlife.org/globally-threatened-bird-forums/2010/12/mountain-grackle-macroagelaius-subalaris-request-for-information/

The SS2 is a very disturbed habitat. Only 36 species were recorded and there were very few catches in network. The low diversity of this place is typical of habitats around the Lengerke Path in the Zapatoca region, and even the site is one of the best preserved in this area. Thus the low diversity was determined with only a few days of work in this study site.

In SS3 there were recorded 88 species of birds, but only with only one ornithologist conducting the study. It is expected that species richness be greater, since it is a site that is worth studying in more detail. The birds recorded are typical of lowland forest of the Magdalena Valley, including several endangered species including as *Capito hypoleucus* (EN), *Habiagutturalis* (NT) and *Contopuscooperi* (NT). This place has very good chances to be included in future conservation plans for the region, as it is located near the ProAves "PauxiPauxi Reserve" and hosts important populations of endangered species.

Butterflies

60 species of daytime butterflies were registered (*Lepidoptera: Papilionoidea*) during the study in three inspected locations during the project YARE II. This species richness corresponds approximately to 26% of the previously recorded for such Serrania (Huertas 2004; Huertas & Arias 2005; Huertas & Ríos 2006).

The highest species richness occurred in the Nymphalidae family with 70% of the total recorded species widely distributed along different elevations studied between 500 - 2700m. The subfamilies *Ithomiinae* and *Satyrinae* represent 20% of the diversity of species, in contrast to previously reported in the Serrania (Huertas & Arias 2004, Huertas & Ríos 2006). When encountering native species of primary forests or well preserved in these subfamilies, it is reflected the pristine character of the first study site (SS1) and the good condition of the forest, despite being a less diverse area compared to the other two study areas. In contrast, the presence of several species from open areas in the SS2 of these groups reflects a high degree of intervention and disturbance in some forest product observed various human activities such as livestock and agriculture.

The site SS1 presented the lower species diversity, a fact that may be due to the small size and forest patch isolation of this place. This habitat is dominated by mostly herbaceous strata, represented in espeletia and wetland vegetation, not well known is widely used as food, habitat and / or shelter for butterflies. However, the presence of species of pristine habitats (*Idioneurula donegani*) shows its own importance. It is also noteworthy that this result is consistent with those reported by several authors, where species richness showed an increase with decreasing altitude and a decrease with increasing elevation (see references in Huertas 2004).

SS2 and SS4 harbored similar numbers of species for almost 50% of the total registered, although only three species are shared in common, which shows a separation between lepidopteran fauna of the two areas of study. The SS4 fauna is native of best preserved places and reflect a better state of the forest, a fact that is corroborated by the presence of *Cithaeriaspyritosa magdalenensis*, an endemic and native species of pristine forest areas with a minimum degree of human intervention (Arias & Huertas obs. pers). However, in the lower parts of the mountains, as species were recorded *Anarthia jatrophae* and *A. amathea* native species of disturbed environments and open areas which could be an indicator not only of the impact that it has received the Sierra and its foothills in the areas of human influence, but of what might happen in the future with those areas well preserved at higher elevations, but they are becoming affordable for locals.

Although most individuals recorded were identified to genus and species, still have various unnamed taxa, mainly due to the complexity of certain groups which requires detailed studies for identification. With the contribution made during this study, an identification guide has been created to the butterfly fauna recorded, which can be used as a reference for visitors and hitchhikers of the Serrania or for future studies. This knowledge is handled as environmental education, that can be transmitted to the inhabitants of the mountainous communities of Yariguíes in order to create in them environmental awareness through participatory activities, with which they can interact and relate directly with nature.

Mammals

During the field work and with the community, there were collected data on the presence of 45 species of mammals in the four study sites, grouped in 9 orders and 21 families. The order with the highest number of species recorded was Carnivora, followed by Chiroptera and order less representative was Lagomorpha with one species (Fig. 5).

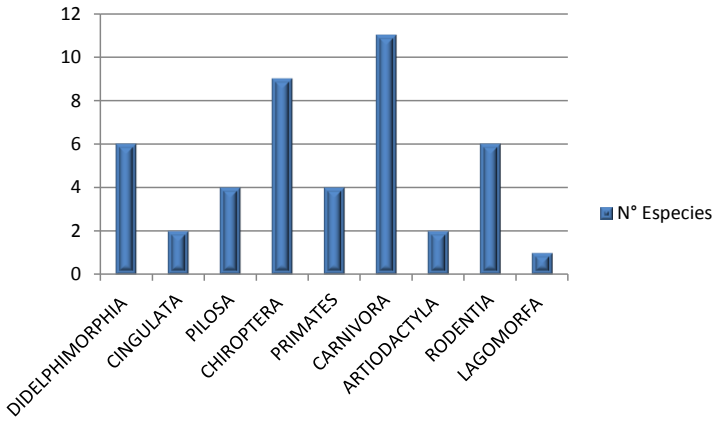


Figure 5. Number of species per order of mammals recorded during the investigation.

The study site that had the highest diversity of mammal species recorded in all sampling methodologies was SS3, followed by SS1, SS4 and finally SS2 (Table 4). However, taking into account the methodologies to keep track of the most direct and regardless discussions with the community, SS3 registered 16 species of mammals and SS4 15 species, which were reported mostly by camera trap methodology.

From the 45 mammal species recorded in the four study sites, five are listed by the IUCN as species with no sufficient data for evaluation (DD), *Cuniculus taczanowskiise* is categorized as near-endangered (NT), *Aotussp* and *A. griseimembra* are vulnerable to extinction (VU). According to CITES, 9 species recorded in this study are included

in Appendix III, 8 are in Appendix II and finally 4 in Appendix I (*Cerdocyon thous, Leopardus pardalis, Leopardus wiedii, Lontra longicaudis*).

Table 4. Number of species per study site.

Study site	N° of Species
SS1	23
SS2	18
SS3	29
SS4	19

Given that in this study are reported species with some characteristics of endanger according to the IUCN and located in some CITES Appendix, it is vital that these individuals are receiving urgent and serious actions to preserve them in response to their classification at different sites were the were reported.

As one of the important results to note out in this research, it is the record of a population of more than five individuals of the species *Cebus albifrons* in the Cerro San Pablo (SS3), indicating the importance of lowland forest habitat for medium and large species of mammals. In turn, this forest possibly connects to the Cerro de la Paz, allowing the flow of species in this area. Unfortunately, the Cerro de San Pablo is subject to thinning wood, which is reducing the habitat of the species that live there.

In Pauxi pauxi Reserve in the Cerro de la Paz (SS4), through the methodology of camera traps were registered 6 species of medium and large mammals (*Leopardus pardalis, Puma concolor, Eira barbara, Pecari tajacu, Dasyprocta punctata* and *Cuniculus paca*), indicating that this protected area is a place of great importance for the conservation of the region mastozoofauna.

Herps

There are 20 species of herps, grouped into 8 scaled families, 3 of snakes and 5 of lizards. The most diverse family was *Gekkonidae* with 5 species (25%), followed by *Polychrotidae* and *Teiidae* (15%) with 3 species each (Fig. 6). The most diverse site was SS3 with 16 species, followed by SS2 (Fig. 7). The species with the highest representation was *Micrurus mipartitus* found in three of the four explored sites; the rest were more in higher degree in a single site of the four.

Figure 6. Representation of percentage of species richness per family of the order Squamata.

Figure 7. Representation of the distribution of species richness by sampling site for the two groups of herps.

There were found 21 species of amphibians of two orders Caudata and Anura, with 7 families of frogs and 1 of salamanders. The most diverse family was *Strabomantidae* (36%) with 2 species to be confirmed and 6 morphotypes, followed by the Hylidae family (18%) with 3 species (Fig. 8); the most diverse genus was Pristimantis with 8 species (36%), the following was Bolitoglossa with 2 species (9%). The site with more species was SS4 with 14 species, followed by SS3 with 11 species (Fig. 6). Species like *Rheobates palmatus* and *Engystomops pustulosus* were found in three out of the four sites, the other species were found in two or in only one place.

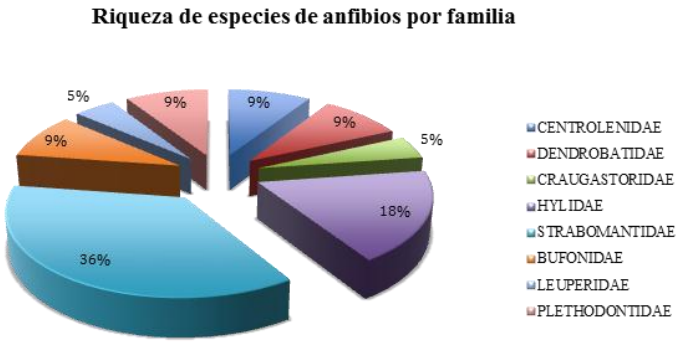


Figure 8. Percentage representation of species richness per family of Amphibians.

There was reported a species (*Rulyrana* cf. *adiazeta*) in vulnerable category (VU) and two with deficient data (DD). Also, it was reported a species (*Dendrobates truncatus*) which is found in Appendix II of CITES but their status in the IUCN is of minor concern (LC).

The species reported in this research as *Iguana iguana* and *Dendrobates truncatus* have some trading interest as food or pets. *Rulyrana* cf. *adiazeta* and *Bolitoglossa lozanoi* species are found vulnerable by the IUCN. The lizard *Lepidoblepharis* cf. *xanthostigma* registered in SS3 is considered as of good condition forests, which can be an indicator of the optimal condition of the forests of Cerro San Pablo.

During the investigation of the herps fauna of the four study sites, it is reported extension of the range for two species. It is reported in this study to the township of Zapatoca, Santander a population of *Anolis heterodermusse*. This species is reported for Colombia in the three mountain ranges, but in the eastern one is located up to the department of Cundinamarca (Torres-Carvajal et al. 2010). As *Diasporus* cf. *anthrax*, it is reported a population at 1000m in the department of Santander in the municipality of Zapatoca in the eastern range; this species was described in 2001 (Lynch 2001) with two individuals of the Department of Caldas and Antioquia in the Central Cordillera (Acosta-Galvis et al. 2006), and is found in the IUCN lists as (DD) data deficient.

This preliminary study of herps fauna is satisfactory, comparing the previous study of project YARÉ (Montealegre 2006) which reported 4 species of lizards and 3 amphibians. In the second phase of the project it was possible to record 20 species of lizards and 21 species of amphibians. This makes a great contribution to the knowledge of the herp fauna of the area and the department. While it is considered the lack of

sampling effort, major reports were obtained as the expansion of the range of distribution of the species; and the report of new populations of conservation importance, as well as species that give data of sites with some level of human impact.

Working with the community

There were performed training courses of Ecoguides with emphasis on birdwatching for the community of the municipalities of San Vicente de Chucurí and Zapatoca. The course was held for seven days, with the training of 23 people, including people who were volunteering at the project in the different activities. The course dealt with various issues in ecological guidance, birdwatching, group management and first aids. The course was conducted in order to train people in the community in ecological guidance with an emphasis on birdwatching, for communities to acquire knowledge and tools in this area to get benefits from ecotourism in the region and can use the "Ecoroute Lengerke Path". As part of the ecotourism training to the community, the National Apprenticeship Service - SENA in Colombia conducted training in entrepreneurship in Tourism Services Development to 34 people of Zapatoca and 43 of San Vincente de Chucurí, which supported the ecotourism strategy of the YARÉ project with the community.


Left: Fieldwork practical for the Ecoguides Cerulean Warbler Bird Reserve, San Vicente de Chucurí. *Right*: People certified during training course © Proyecto YARÉ.

In environmental education, there were visited rural schools of the influence zone in the municipalities of San Vicente de Chucurí and Zapatoca, where some leisure activities and Migratory Bird and Biodiversity Festival were done with children in parades on the streets of these municipalities. 13 activities were carried out among project socialization workshops, establishment of conservation corridor, walks through the Ecoroute and socialization of the results of the project. All these activities were attended by over 500 people. There were also broadcast 4 radio talk shows in the two municipalities, 4 local television programs, 6 publications on the website of ProAves Foundation and local government sites, a publication in the local newspaper of San

Vicente de Chucurí and presentation of the research results into three national conferences and the overall project presentation on a regional seminar-workshop.


Left: Street parade during Festival de la Biodiversidad y de las Aves Migratorias involving local students mainly children, in San Vicente de Chucurí. *Right*: Workshop in Environment with students of local school San Javier in Zapatoca. © Y. Bautista and D. Villanueva/YARÉ.

The educational materials produced by the project YARÉ II were socialized with the community, local governments, schools, colleges, environmental and tourism organizations. There were designed 2000 posters, 1000 mini-guides and ecoroutes, 9 signaling billboards for the Lenguerke Path and 80 t-shirts of the project, which were distributed at the workshops with the community and institutions, and during the different activities of environmental education of the project.


Left: Distribution of posters to trainees by SENA in Zapatoca. *Right*: Distribution of mini-guides and ecoroutes. © D. Villanueva/YARÉ.

ACHIEVEMENTS AND IMPACTS

YARÉ Project from its beginnings is contributed with the research and conservation of the Serranía de los Yariguíes, continuing in the second phase with the implementation of conservation strategies that would allow guarantee habitats of the Serranía threatened and endemic species. Through the Conservation Corridor establishment and the reforestation of 310 hectares, it is generating connectivity between eight ecological servitudes and the three bird reserve established by the ProAves Foundation (RNA Pauxi pauxi, Reinita Cielo Azul Bird Reserve and the Chicamocha Cucarachero Reserves), with the Natural National Park Serranía de los Yariguíes, through the silvopastoril and agroforestry established in the project area and with previous efforts of the ProAves and other actors. This conservation strategy is mitigating the loss of the wooded coverage in the north part of the Serranía of the Yariguíes and its area of influence, allowing in turn habitat extending the threatened and endemic species of the region, and generating behavior changing towards natural resources adequate use and its contribution to the environmental conservation.

The owners of the farms along the Conservation Corridor will get benefited for the environmental services that are generated by the sowing of the native trees, such as the protection of water sources, protection of soils, shaded for the crops that generate major performances in its production, shaded for the livestock, among others. This conservation strategy will contribute in the long term with the biodiversity of the region, the water sources conservation, the transformation of the inadequate agricultural practices to more environmentally friendly productive systems (agroforestry, shepherding systems, etc.), also the fixation and storage of atmospheric carbon that contributes with the mitigation of the climate change (Strewe *et al*. 2009).

The interaction of the members of the project with the local community, through each activity, it has strengthened their knowledge on the application of conservation actions, also the increase in the confidence and enthusiasm in realizing activities tending to the conservation of the biodiversity. The studies of biodiversity have allowed to know other biologically unknown places of the Serranía, registering important results that support the offer to increase the protected areas in the region and the record of important species for the conservation, as well as the possibility of registering new species to Science in cases of the plants. In turn, they qualified two young researchers in biological expeditions and conservation, which were generating processes of conservation in other regions of the country.

The joint work with the community allowed the alliances with local governments for recovering the path of Lengerke as an Ecorute, the training of 23 persons of the community as Ecoguides, also with the support and management of entrepreneurship basic courses in the tourist development for the municipalities of San Vicente de

Chucurí and Zapatoca by the SENA, which will strengthen the processes of ecotourism of the region. The elaboration of an ecotourism plan with the tourism organizations and local guides, the promotion of the Ecorute and the production of educational material, is a great support for the conservation of the north part of the Serranía, which will announce the richness of this important region and it is generating the possibility of economic income for the community. The different activities of the project involved diverse private and public organizations in each of the processes. The processes of environmental education and spreading allowed to directly sensitize more than 500 adult persons and children, besides the persons who got the message of the project by different mass media about the biodiversity of their forests and the importance of their natural resources, also the great role that fulfills the community in the processes of conservation of their ecosystems.

Left: Members of the local parliament in Zapatoca. Mr Reynaldo Díaz is currently one of YARE volunteers. He was interviewed by the radio station "Radio Lasér" to present YARE. *Right*: Presentation of YARE with local parliament in Zapatoca, activity broadcasted by local TV © D. Villanueva/Proyecto YARÉ.

SECTION 3

CONCLUSION

The creation of the Conservation Corridor through the development of activities of reforestation with native plants in different ecosystems and altitude ranges, in diverse agricultural systems and with the joint work with the rural communities in the Area of influence of the project, is the beginning of a long-term process that allows the connectivity of the protected areas from the north part of the Serranía of the Yariguíes, through the increase of the wooded covering that contributes with the habitat conservation of threatened and endemic species of the Colombian Andes. It is necessary to continue promoting the strengthening of the Conservation Corridor of the project YARÉ, with the monitoring of the sowed trees in the reforestation process of the endemic and threatened fauna species of the zone, in order to know the efficiency of the corridor.

The recovery of "Ecoroute Lengerke Path" is a relevant conservation strategy in the zone, since it involves the community in the conservation process of Serranía de los Yariguíes and its cultural legacy, it allows to generate economic income to the local guides, families and merchants of the zone by a suitable and responsible ecotourism.

The studied places in research, which are part of the most representative biomes of the Yariguíes, demonstrate strong and intensive processes of intervention, this is why, the knowledge of the floristic composition is a fundamental input for the establishment of restoration process of the ecosystems above mentioned, allowing with this to contribute to a suitable design of the Conservation Corridor and of the Ecorute to this Serranía of the Yariguíes area. In turn, the generated information by the researches is fundamental in the characterization of the different habitats of the Serranía, which demonstrates the conservation condition of the ecosystems.

The fast samplings of biodiversity realized in the places named Reserve Páramo de la Floresta (SS1) and Cerro San Pablo (SS3) in Zapatoca municipality, they demonstrated important areas for the conservation of the threatened and endemic biodiversity of Serranía de los Yariguíes. Though the SS1 is a private reserve, the SS3 does not possess any conservation category, being an important area because of its lowlands forest, submitted to deforestation. It is recommended that the Cerro San Pablo should be evaluated as a protected area to regional level.

The constant approximation of the work team of the YARÉ Project with the community, using the planning and development of each one of the conservation strategies, was fundamental to spread the efforts that for years its collaborators have had in favor of knowing and preserving the biodiversity of Serranía de los Yariguíes.

ENCOUNTERED PROBLEMS AND LEARNED LESSONS

YARÉ II Project developed satisfactorily in a general view. One of the activities that presented major results was the process of reforestation in the Conservation Corridor towards the western slope of the Serranía de los Yariguíes in San Vicente municipality, mainly owed to the climatic conditions, type of soil, most owners' quantity of farms inside the corridor and the support of the nursery of the ProAves Foundation. The recovery of the Ecoroute Lengerke Path, was another activity that was developed satisfactorily, thanks to the collaboration of tourism organizations such as Ecoturs and the community volunteers' constant support. The above mentioned strategies were principally developed by the community and its wide spreading about the project from the initial stage, and the summons of the communities in the design and execution of every component.

During the project execution, there were presented some disadvantages for the development of the reforestation activities and the recovery of Lengerke Path. In the oriental slope in Zapatoca municipality there was demonstrated the connection among the Chicamocha Cucarachero Reserve e and the Serranía de los Yariguíes needs more reforestation efforts, due to the strong antropogenic pressure that the area has presented, to the climatic conditions, to the influence of dried enclaves and to the forest relicts that exist at the moment; added to the previous, the garden centers that this municipality had a few capacity and budgetary managing. To increase the survival probability of the sowed trees in this area, more efforts were needed in the stage of sowing as the application of fertilizers, water transport to water the seedings in times of drought and sowing techniques proposed by the community for this ecosystem type. In Zapatoca municipality, it is important to promote the conservation of the forests that still exist and offer environmental services as the water resource to the community by the establishment of protected areas, and to develop more environmental education activities.

The project was developed mainly in San Vicente de Chucurí and Zapatoca. In the methodology a joint work appeared with Municipality of Betulia in the Conservation Corridor and the recovery of Lengerke Path, but this did not produced a full satisfaction due to the fact that the municipality is more withdrawn from the area of influence of the YARÉ II project and the communication was more difficult with the community and local government. Nevertheless, it was involved with the community in the activities of environmental education.

In the methodology proposed for the reforestation of the Conservation Corridor, there was not included a monitoring phase of the species of the planted trees that could demonstrate quantitatively the survival and growth of the seedlings. Also it is important

to be able to realize monitoring fauna species in different stages of the establishment of the corridor to evaluate its efficiency.

One of the most important lessons in the execution of the YARÉ II project and that allowed its success, were the diverse workshops, activities and approximations of the teamwork project with the local community; this allowed to create a great confidence and support of the local and voluntary leaders of the community who now are a fundamental part of the team of the YARÉ project and who still continue strengthening the process of reforestation, follow-up to the planted trees and the maintenance of Ecoroute Lengerke Path. In the conservation projects, the active participation of the community is essential; local leaders, local governments and environmental entities, and a sense of property, guarantees the success of the long-term process.

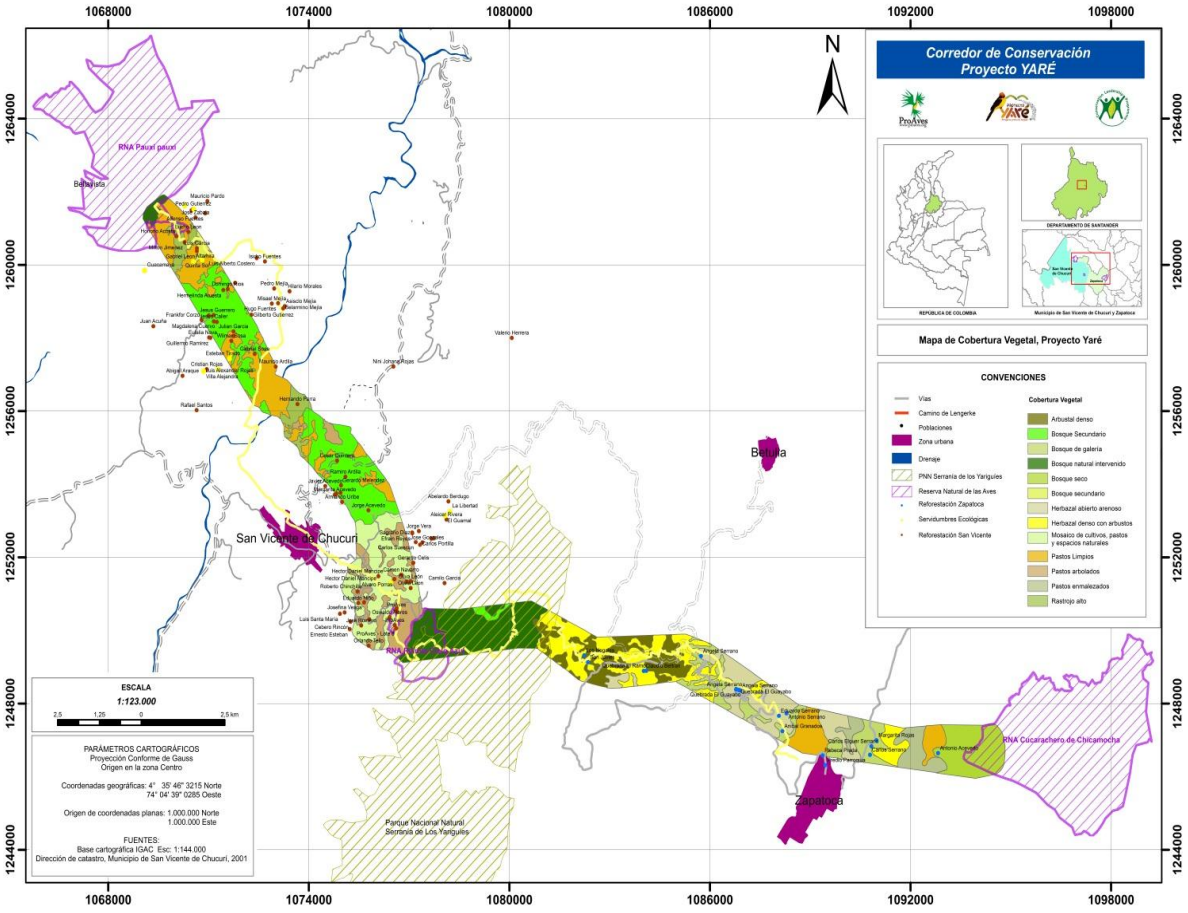
FUTURE ACTIVITIES

To achieve a connectivity of the protected areas located between San Vicente de Chucurí and Zapatoca, through the conservation corridor established by the YARÉ project and that it would include 200.000 acres of forests of lowlands of the Andean mountains, cloudy forest and dry forest in order to guarantee the survival of the threatened and endemic biodiversity of the region, a constant and long term process is needed. In this respect, the support of the ProAves Foundation with the reforestation processes that it has carried out in municipality of San Vicente de Chucurí, between the Cerulean Warbler Bird Reserve and Pauxi pauxi reserve, there is fundamental to continue with the strengthening of the conservation corridor, at present this process continues being carried out. To strengthen the corridor towards the municipality of Zapatoca, it is necessary to have the support of the community and of the Ecoplantar Association; nevertheless, in this area it is needed more institutional efforts and of financing to continue with the process. The YARÉ project wants to continue with the strengthening of the processes of reforestation inside the corridor increasing efforts in Zapatoca. In a next phase of the project it is wanted to be evaluated the application of other strategies of conservation as the establishment of ecological easements by the community for the forests conservation in private lands, the payment for environmental services, more biological research and species monitoring, inside the corridor, and strategic alliances by local, regional, national and international institutions to contribute with the mitigation of the climate change.

SECTION 4

APPENDICES

1. Map of the vegetation in Conservation Corridor including protected and not protected areas, areas in reforestation produced during YARE with support of ProAves Foundation.



2. General list reforested property Conservation Corridor.

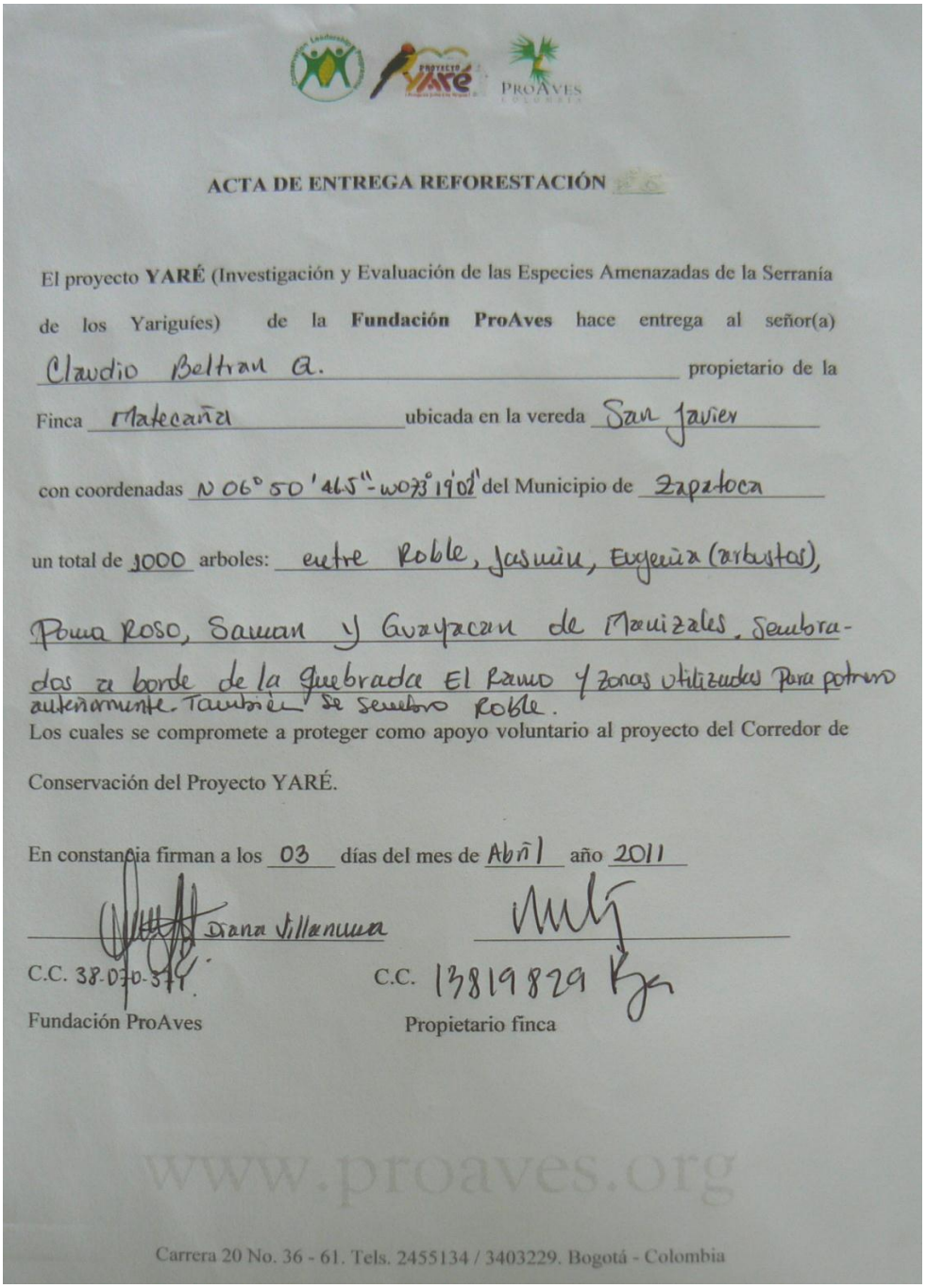
Municipio	Centro Poblado	Sitio	Propietario - predio	Año	Objetivo	Arboles
San Vicente de C.	Vereda Cantarranas	Finca El Rubi	Esteban Tirado	jul-10	Servidumbres - Reforestación	500
San Vicente de C.	Vereda Cantarranas	El Diamante	David Gutierrez	jul-10	Servidumbres - Reforestación	500
San Vicente de C.	Vereda Barro Amarillo	El Regalo	Abigail Araque	ago-10	Reforestación	200
San Vicente de C.	Vereda Barro Amarillo	Sandro Peña	Sandro Peña	ago-10	Reforestación	200
San Vicente de C.	Vereda Barro Amarillo	Los Naranjos	Mario Porras	ago-10	Reforestación	200
San Vicente de C.	Vereda Barro Amarillo	Gabriel León	Gabriel León	ago-10	Reforestación	200
San Vicente de C.	Vereda Barro Amarillo	Bella Vista	Pedro Gutierrez	sep-10	Reforestación	600
San Vicente de C.	Vereda Barro Amarillo	El limon	Alfonso Fuentes	sep-10	Reforestación	100
San Vicente de C.	Vereda Barro Amarillo	Bella Vista	Pedro Gutierrez	oct-10	Reforestación	600
San Vicente de C.	Vereda Barro Amarillo	El rinconcito	Luis Garcia	nov-10	Reforestación	590
San Vicente de C.	Vereda Barro Amarillo	Finca Palestina	Rafael Santos	dic-10	Reforestación	700
San Vicente de C.	Vereda Barro Amarillo	Villa Claudia	Milton Jimenez	dic-10	Reforestación	300
San Vicente de C.	Vereda El Cerro	Finca Monserrate	Gerardo Melendez	jun-10	Reforestación	500
San Vicente de C.	Vereda El Cerro	Finca La Campesina	Margarita Carreño	jun-10	Reforestación	500
San Vicente de C.	Vereda El Cerro	Finca La Vega	Hernando Parra	jun-10	Reforestación	500
San Vicente de C.	Vereda El Centro	RNA Reinita Cielo Azul	ProAves - Potrero	jun-10	Reforestación	240
San Vicente de C.	Vereda El Centro	San Martin	Margarita Acevedo	jul-10	Reforestación	450
San Vicente de C.	Vereda El Centro	El Diamante	David Gutierrez	jul-10	Reforestación	450
San Vicente de C.	Buena Vista	Buenos Aires	Cesar Quintero	jul-10	Reforestación	450
San Vicente de C.	Vereda El Centro	RNA Reinita Cielo Azul	ProAves	ago-10	Reforestación	330
San Vicente de C.	El Cerrito	Rosen Valle	Jaime Rueda	ago-10	Reforestación	500
San Vicente de C.	Vereda Buena Vista	La Floresta	Jorge Acevedo	ago-10	Reforestación	480
San Vicente de C.	Vereda El Centro	San Pablo	Carlos Suescun	sep-10	Reforestación	500
San Vicente de C.	Vereda El Centro	El Vergel	Sagrario Diaz	sep-10	Reforestación	700
San Vicente de C.	Vereda El Centro	Oliva León	Oliva León	sep-10	Reforestación	100
San Vicente de C.	Vereda El Centro	La Minifalda	Alvaro Porras	sep-10	Reforestación	60
San Vicente de C.	Vereda El Centro	El Mirador	Camen Navarro	sep-10	Reforestación	50
San Vicente de C.	Vereda El Centro	Finca Holanda	Armando Uribe	oct-10	Reforestación	500
San Vicente de C.	Vereda El Centro	Finca El Cambuche	Jorge Vera	oct-10	Reforestación	500
San Vicente de C.	Vereda El Centro	RNA Reinita Cielo Azul	ProAves - Potreros	nov-10	Reforestación	405
San Vicente de C.	Vereda El Centro	Sector Morelia, Finca San	Gerardo Celis Cerda	nov-10	Reforestación	472
San Vicente de C.	Vereda El Cerro	Finca Miramar	Javier Acevedo	dic-10	Reforestación	470
San Vicente de C.	Vereda El Centro	RNA Reinita Cielo Azul	vicas)	dic-10	Reforestación	150
San Vicente de C.	Vereda Barro Amarillo	Finca La Herencia	Cristian Rojas	feb-11	Reforestación	355
San Vicente de C.	Vereda Barro Amarillo	Finca El Recuerdo	Nini Johana Rojas	feb-11	Reforestación y Servidumbre	380
San Vicente de C.	Vereda Barro Amarillo	Finca Villa Alejandra	Luis Alexander Rojas	feb-11	Reforestación y Servidumbre	380
San Vicente de C.	Vereda Barro Amarillo	Finca Bella Vista	Honorio Acosta	feb-11	Reforestación	103
San Vicente de C.	Vereda Barro Amarillo	Finca El Remolino	Ernesto Camacho	abr-11	Reforestación	260
San Vicente de C.	Vereda Cantarranas	Finca El Sol	Olivia Zanabria	abr-11	Reforestación	500
San Vicente de C.	Vereda Palestina	Finca Villa nueva	Hector Rodriguez	abr-11	Reforestacion	195
San Vicente de C.	Vereda Palestina	Finca Agua dulce	Jesus Guerrero	abr-11	Reforestación	240
San Vicente de C.	Vereda Palestina	Finca El Bambu	Jesus Calier	abr-11	Reforestación	240
San Vicente de C.	Vereda Palestina	Finca La Esperanza	Juan Acuña	abr-11	Reforestacion	150
San Vicente de C.	Vereda Palestina	Finca Casa teja	Frankfor Corzo	abr-11	Reforestación	400
San Vicente de C.	Vereda Cantarranas	Finca Aguadulce	Hermelinda Atuesta	abr-11	Reforestación	150
San Vicente de C.	Vereda Palestina	Finca El Bijagual	Magdalena Cuervo	abr-11	Reforestacion	150
San Vicente de C.	Vereda Palestina	Finca Campo Alegre	Julian Garcia	abr-11	Reforestación	300
San Vicente de C.	Vereda Cantarranas	Finca San Jose	Eulalia Nova	may-11	Reforestación	450
San Vicente de C.	Vereda Cantarranas	Finca El Tamarindo	Guillermo Ramirez	may-11	Reforestacion	310
San Vicente de C.	Vereda Palestina	Finca Agua dulce	Domingo Rios	may-11	Reforestación	700
San Vicente de C.	Vereda Palestina	Finca El Consuelo	Lucho Leon	may-11	Reforestación	300
San Vicente de C.	Vereda Palestina	Finca Buena Vista	Luis Francisco Maldonad	may-11	Reforestacion	300
San Vicente de C.	Vereda Cantaranas	Finca Miraflores	Asisclo Mejía	ago-11	Reforestacion	460
San Vicente de C.	Vereda Cantaranas	Finca la Esperanza	Belarmino Mejía	ago-11	Reforestacion	520
San Vicente de C.	Vereda Cantaranas	Finca Los Curos	Hugo Fuentes	ago-11	Reforestacion	25
San Vicente de C.	Vereda Barroamarillo	Finca la cuadrita	Isidro Fuentes	ago-11	Reforestacion	55
San Vicente de C.	Vereda Cantaranas	Pedro Mejía	Pedro Mejía	ago-11	Reforestacion	150
San Vicente de C.	Vereda Cantaranas	Misael Mejía	Misael Mejía	ago-11	Reforestacion	101
San Vicente de C.	Vereda Cantaranas	Hilario Morales	Hilario Morales	ago-11	Reforestacion	240
San Vicente de C.	Vereda Barroamarillo	Finca El Turismo	Luis Alberto Costero	ago-11	Reforestacion	29
San Vicente de C.	Vereda Barroamarillo	Finca El Porvenir	Gabriel Leon	ago-11	Reforestacion	40
San Vicente de C.	Vereda mata de cacao	Finca Bellavista	Mauricio Pardo	sep-11	Reforestacion	200
San Vicente de C.	Vereda mata de cacao	Finca La Palmita	Jose Zabala	sep-11	Reforestacion	500
San Vicente de C.	Vereda mata de cacao	Finca Buena Vista	Pedro Gutierrez	sep-11	Transporte	800
San Vicente de C.	Vereda cantarranas	Finca Las Palmas	Gilberto Gutierrez	oct-11	Reforestacion	500
San Vicente de C.	Vereda El Centro	Finca San Jose	Gerardo Celis	ene-11	Reforestación	130
San Vicente de C.	Vereda El Centro	RNA Reinita Cielo Azul	ProAves - Lote 8	ene-11	Reforestación	300
San Vicente de C.	Vereda Cantarranas 1	Finca Villa Daniela	Mauricio Ardila	ene-11	Reforestacion	1000
San Vicente de C.	Vereda El Centro	RNA Reinita Cielo Azul	ProAves	feb-11	Reforestación	120
San Vicente de C.	Vereda El Centro	Finca La Picapiedra	Eduardo Niño	feb-11	Reforestación	100
San Vicente de C.	Vereda Cantarranas 1	Finca Villa Lucero	Valerio Herrera	feb-11	Reforestacion	500
San Vicente de C.	Vereda El Centro	RNA Reinita Cielo Azul	ProAves - Pozo y lote 5	mar-11	Reforestación	130
San Vicente de C.	Canta Ranas - Santa Ele	Finca Villanueva	Wilmar Sosa	mar-11	Reforestación	200

San Vicente de C.	Canta Ranas - Santa Ele	Finca La Aurora	Eduardo Ramirez	mar-11	Reforestacion	300
San Vicente de C.	Canta Ranas - Santa Ele	Finca El Florito	Gabriel Sosa	mar-11	Reforestación	200
San Vicente de C.	La Germania	Finca La Fortuna	Leonidas Morales	mar-11	Reforestación	500
San Vicente de C.	El Cerro	Finca Miraflores	Ramiro Ardila	mar-11	Reforestación	700
San Vicente de C.	Vereda El Centro	Finca El Oriente	Carlos Portilla	abr-11	Reforestación	200
San Vicente de C.	Vereda El Centro	El Manantial	Efrain Reyes	abr-11	Reforestación	500
San Vicente de C.	Vereda El Centro	El Rubi	Jose Gonzales	abr-11	Reforestación	100
San Vicente de C.	Vereda El Centro	La Siberia	Oswaldo Flores	abr-11	Reforestación	500
San Vicente de C.	Vereda El Centro	El Tesoro	Roberto Chinchilla	abr-11	Reforestación	50
San Vicente de C.	Vereda El Centro	RNA Reinita Cielo Azul	ProAves	abr-11	Reforestación	300
San Vicente de C.	Vereda El Centro	Quebrada la tigra/la fortuna	Orlando Tello	abr-11	Reforestación	350
San Vicente de C.	Vereda El Centro	Finca Santa Rosa	José Romero	may-11	Reforestación	900
San Vicente de C.	Vereda El Centro	Finca El Diviso	Aleicer Rivera	may-11	Reforestación	700
San Vicente de C.	Vereda El Centro	Las Flores	Edit Montañez	jun-11	Reforestación	500
San Vicente de C.	Vereda La Germania	Finca Santa Rosa	Ernesto Esteban	jun-11	Reforestación	390
San Vicente de C.	Vereda El Centro	Finca El Progreso	Cebero Rincón	jun-11	Transporte	336
San Vicente de C.	Vereda Canoas	Finca Buenos Aires	Luis Santa María	jun-11	Transporte	406
San Vicente de C.	Vereda Santa Ines	Finca La Campesina	Margarita Acevedo	ago-11	Transporte	600
San Vicente de C.	Vereda Cerro	El Bambu	Josefina Vesga	ago-11	Reforestación	400
San Vicente de C.	Vereda El Centro	Finca Irelba	Jose Angel Buitrago	ago-11	Reforestación	72
San Vicente de C.	Vereda El Centro	Villa Amparo	Hector Daniel Mancipe	ago-11	Reforestación	120
San Vicente de C.	Vereda El Centro	Finca Mandela	Orlando Monsalve	sep-11	Transporte	304
San Vicente de C.	Vereda El Centro	Finca El Limon	Camilo Garcia	sep-11	Reforestación	20
San Vicente de C.	Vereda El Centro	Finca Olivia Leon	Olivia Leon	sep-11	Reforestación	30
San Vicente de C.	Vereda El Centro	Finca El Vijagual	Abelardo Berdugo	sep-11	Reforestación	50
San Vicente de C.	Vereda El Centro	Finca Mandela	Hector Daniel Mancipe	sep-11	Transporte	5
San Vicente de C.	Vereda El Centro	Villa Amparo	Hector Daniel Mancipe	sep-11	Transporte	5
San Vicente de C.	Vereda El Centro - More	Finca Elvinia Muñoz	Elvinia Muñoz (Pablo Ro	sep-11	Transporte	300
San Vicente de C.	Centro Poblado	Parque Principal	Donados a Alexander De	oct-11	Transporte	150
Zapatoca	San Javier	Los Nogales	Los Nogales	sep-10	Sombrio	25
Zapatoca	San Javier	Varias fincas	San Javier	sep-10	Sombrio	25
Zapatoca	Periferia	El Pedregal	Margarita Rojas	oct-10	Sombrio y alimento	80
Zapatoca	Periferia	El Camping	Carlos Elquer Serrano	oct-10	Sombrio	130
Zapatoca	Periferia	El Pino	Rebeca Prada	oct-10	Reforestación potrero	150
Zapatoca	Periferia	El Pino	Rebeca Prada	nov-10	Reforestación potrero	250
Zapatoca	Periferia	Predio de la parroquia	Predio Parroquia	oct-10	Reforestación potrero	65
Zapatoca	San Javier	Matecaña	Claudio Beltran	abr-11	Reforestación potrero y borde	950
Zapatoca	San Javier	Quebrada El Ramo	Quebrada El Ramo - Cla	may-11	Reforestación quebrada	50
Zapatoca	Santa Rosa	Quebrada El Guayabo	Quebrada El Guayabo	may-11	Reforestación potrero y borde	180
Zapatoca	Santa Rosa	Finca Venecia	Anibal Granados	may-11	Reforestación potrero	250
Zapatoca	Santa Rosa	Finca Venecia	Anibal Granados	may-11	Reforestación potrero	250
Zapatoca	Vereda La Cacica	Hacienda La Cacica - Quel	Angela Serrano	jun-11	Reforestación potrero y borde	230
Zapatoca	Vereda La Cacica	Hacienda La Cacica - Cam	Angela Serrano	jul-11	Reforestación potrero	200
Zapatoca	Vereda La Cacica	Hacienda La Cacica - Cuch	Angela Serrano	ago-11	Reforestación potrero	600
Zapatoca	Vereda La Cacica	Finca Santa Isabel	Antonio Serrano	sep-11	Reforestación potrero	1017
Zapatoca	Vereda La Cacica	Finca Santa Isabel	Eduardo Serrano	oct-11	Reforestación potrero	418
Zapatoca	Vereda El Carrizal	Finca El Alto del Granadillo	Antonio Acevedo	oct-11	Reforestación potrero	400
Zapatoca	Vereda El Carrizal	Finca Villamaria	Carlos Serrano	oct-11	Reforestación potrero	200
Vivero municipal	Vereda El Carrizal	Finca Villamaria	Carlos Serrano	oct-11	Reforestación potrero	150

3. List of species of trees and shrubs used for reforestation.

SCIENTIFIC NAME	COMMON NAME
Cedrela montana	Cedro común o rosado
Myrtifolia grandiflora	Eugenia
	Cítrico
Manguifera indica	Mango
Tabebuia rosea	Guayacán rosado
Tabebuia chrysantha	Guayacán
Bombacopsis sp.	Ceiba
	Pipo
Ancardium excelsum	Caracolí
Jasminum officinale	Jazmín
	Hueso
Fabebura crhysantha	Guayacán amarillo
Albizia saman	Samán
Albizia guachapele	Nauno
Cedrela oliodora	Cedro común
Lafoensia acuminata	Guayacán de Manizales
Erisma uncinatem	Flor Morada
Quercus humboldtii	Roble
Syzygium jambos	Pomarrosa
Trichanthera gigantea	Aro
Cordia alliodora	Moncoro - Nogal cafetero
Licania tomentosa	Oity
	Galapo
Leucaena leucocephala	Leucaena
Erithrina espinosa	Bucaro o mión
	Mataratón
Inga sp.	Guamo santafereño
Erythrina poepiyana	Anaco
Anona muricata	Guanábano
	Cedro Tagua

4. Example of one of the documents signed by farmers owners of land, volunteering to care and look alter their farms alter reforestation in Zapatoca.



ACTA DE ENTREGA REFORESTACIÓN

El proyecto **YARÉ** (Investigación y Evaluación de las Especies Amenazadas de la Serranía de los Yariguíes) de la **Fundación ProAves** hace entrega al señor(a) Claudio Beltran A. propietario de la Finca Matecaña ubicada en la vereda San Javier con coordenadas N 06° 50' 46.5" - W073° 19' 02" del Municipio de Zapatoca un total de 1000 arboles: entre Roble, Jasmin, Exgenia (arbustos), Roble Roso, Saman y Guayacan de Manizales, Sembrados a borde de la Quebrada El Ramo y zonas utilizadas para potrero anteriormente. También se sembro Roble.

Los cuales se compromete a proteger como apoyo voluntario al proyecto del Corredor de Conservación del Proyecto YARÉ.

En constancia firman a los 03 días del mes de Abril año 2011

Diana Villamuza
C.C. 38-070-371
Fundación ProAves

C.C. 13819829
Propietario finca

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Carrera 20 No. 36 - 61. Tels. 2455134 / 3403229. Bogotá - Colombia

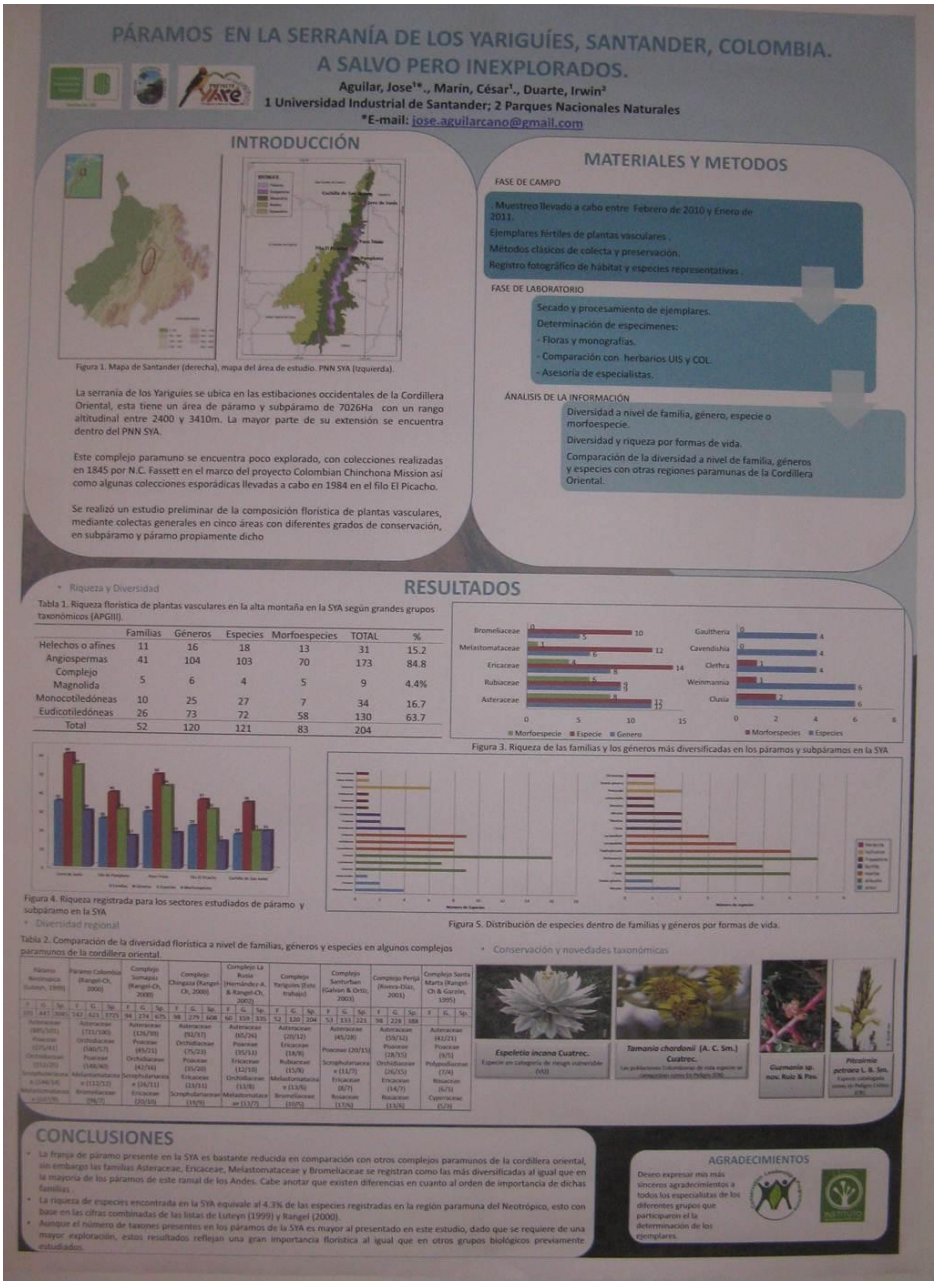
5. Published note in BirdLife website on *Macroagelaius subalaris* produced by YARE team members.

"The Yariguíes population is clearly the core remaining population for this species with large tracts of inaccessible habitat where the species occurs. The population in the main East Andes is highly fragmented and of questionable viability, as described in the proposal and by other participants on the forum. However, the Yariguíes massif constitutes a c.100 km long, steep, forested mountain range with considerable forest at suitable elevations for this species. As a result, it does not mandate upgrading. In January 2011, on Proyecto YARE II (a project supported by ProAves and Birdlife / CLP Programme), we found a very significant new population for this species in Serranía de las Yariguíes at Reserva Paramo La Floresta. This location is a private nature and water-source reserve owned by a private landowner and administrated by the mayoralty of the municipality of Zapatoca, Santander. This locality includes secondary growth, sub-páramo, some oak forest fragments and, importantly, a humedal (marshland) at around 2600m elevation. In the forest and forest border surrounding the humedal, Mountain Grackle was the most conspicuous and possibly the most abundant bird species. Several flocks, each of tens of individuals, roamed this region. Birds were seen largely in the oaks bordering the humedal but also foraged on fruit in small shrubs within the humedal and used the humedal for drinking water. The Paramo La Floresta reserve probably holds at least 100 individuals of this species. In other sites in Serranía de los Yariguíes, we had found the species to be rare in primary montane forest treefall gaps or landslides and at forest borders, where small numbers can be found. Individuals sometimes associated loosely with larger groups of Mountain Cacique Cacicus leucorhamphus. In contrast, at Paramo La Floresta, very few individuals of Mountain Cacique were observed among much larger flocks of Mountain Grackle.

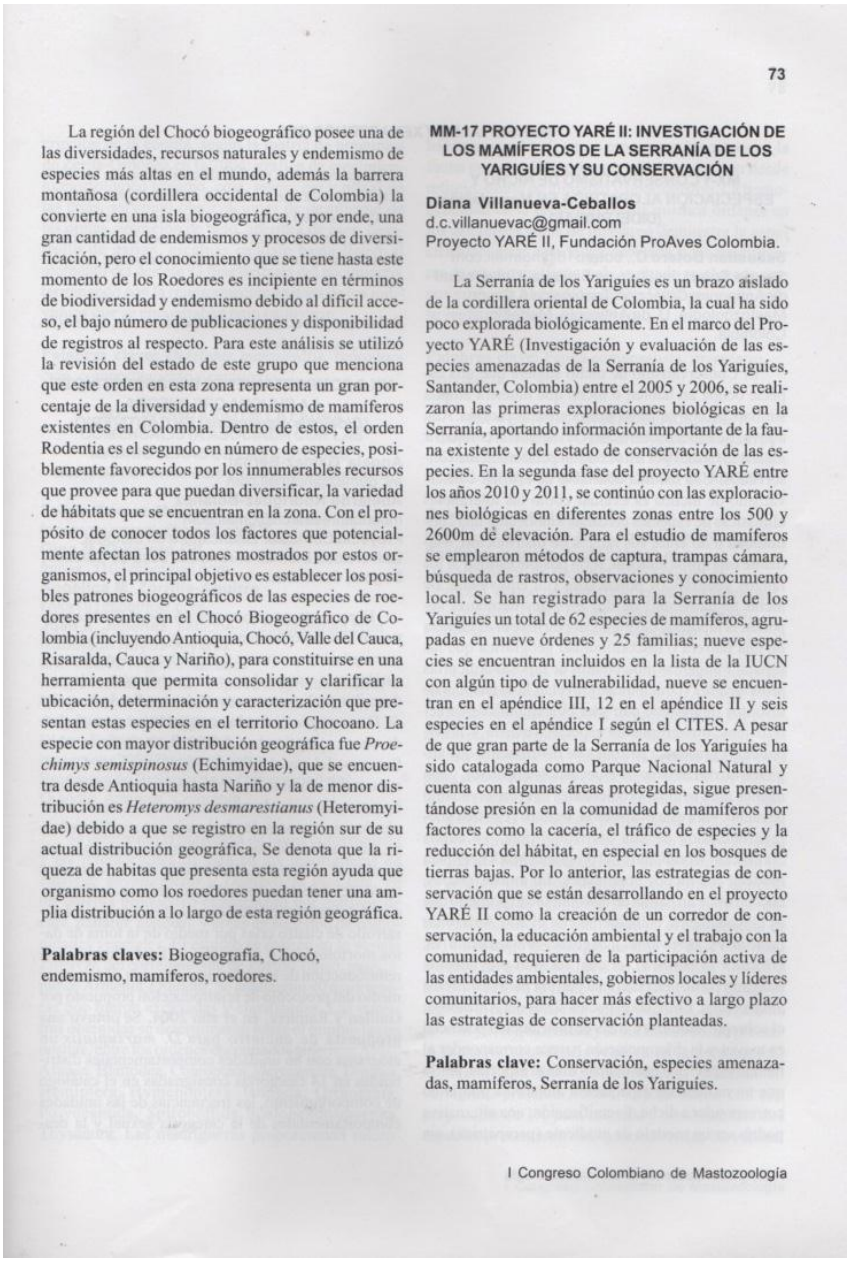
Natural forest / humedal borders appear to be an important core natural habitat for the species. Now that this is known, searches and conservation efforts for this species may be capable of being better focused. Notably, most humedales in the East Andes are not bordered by natural oak forest, but by pastureland – and probably do not hold the species for this reason. Our observations in montane forest / farmland borders at other sites in the Yariguíes are in a habitat which replicates certain aspects of a forest / humedal ecotone. During EBA and YARE I projects in the Yariguíes in 2003-2005, we observed various other high elevation humedales (from distance) within the Yariguíes range. Most of these are difficult to access and found on isolated plateaux of steep, forested mountains but they probably support important populations of Macroagelaius.

As a result of these findings, assuming similar populations in other humedales of the Yariguíes, the population of Mountain Grackle in Serranía de las Yariguíes can be considered to be likely at least 800 individuals (see previous comments). We consider the species warrants maintaining as Endangered rather than upgrading to Critical. Whilst has already lost the vast majority of its habitat in the Eastern Cordillera, the Yariguíes population appears strong. It should be looked for in other forested humedales and the Zapatoca mayoralty should be supported further in its efforts to protect this important new locality."

6. Poster of plant research at the Congress of Botanica - 2012



7. Summary published in the I Congreso Colombiano de Mastozoología (Colombian National Congress of Mastozoology) on Fauna of mammals in Yariguíes, presented by YARE team.



La región del Chocó biogeográfico posee una de las diversidades, recursos naturales y endemismo de especies más altas en el mundo, además la barrera montañosa (cordillera occidental de Colombia) la convierte en una isla biogeográfica, y por ende, una gran cantidad de endemismos y procesos de diversificación, pero el conocimiento que se tiene hasta este momento de los Roedores es incipiente en términos de biodiversidad y endemismo debido al difícil acceso, el bajo número de publicaciones y disponibilidad de registros al respecto. Para este análisis se utilizó la revisión del estado de este grupo que menciona que este orden en esta zona representa un gran porcentaje de la diversidad y endemismo de mamíferos existentes en Colombia. Dentro de estos, el orden Rodentia es el segundo en número de especies, posiblemente favorecidos por los innumerables recursos que provee para que puedan diversificar, la variedad de hábitats que se encuentran en la zona. Con el propósito de conocer todos los factores que potencialmente afectan los patrones mostrados por estos organismos, el principal objetivo es establecer los posibles patrones biogeográficos de las especies de roedores presentes en el Chocó Biogeográfico de Colombia (incluyendo Antioquia, Chocó, Valle del Cauca, Risaralda, Cauca y Nariño), para constituirse en una herramienta que permita consolidar y clarificar la ubicación, determinación y caracterización que presentan estas especies en el territorio Chocoano. La especie con mayor distribución geográfica fue *Proechimys semispinosus* (Echimyidae), que se encuentra desde Antioquia hasta Nariño y la de menor distribución es *Heteromys desmarestianus* (Heteromyidae) debido a que se registro en la región sur de su actual distribución geográfica, Se denota que la riqueza de habitas que presenta esta región ayuda que organismo como los roedores puedan tener una amplia distribución a lo largo de esta región geográfica.

Palabras claves: Biogeografía, Chocó, endemismo, mamíferos, roedores.

MM-17 PROYECTO YARÉ II: INVESTIGACIÓN DE LOS MAMÍFEROS DE LA SERRANÍA DE LOS YARIGUÍES Y SU CONSERVACIÓN

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La Serranía de los Yariguíes es un brazo aislado de la cordillera oriental de Colombia, la cual ha sido poco explorada biológicamente. En el marco del Proyecto YARÉ (Investigación y evaluación de las especies amenazadas de la Serranía de los Yariguíes, Santander, Colombia) entre el 2005 y 2006, se realizaron las primeras exploraciones biológicas en la Serranía, aportando información importante de la fauna existente y del estado de conservación de las especies. En la segunda fase del proyecto YARÉ entre los años 2010 y 2011, se continúo con las exploraciones biológicas en diferentes zonas entre los 500 y 2600m de elevación. Para el estudio de mamíferos se emplearon métodos de captura, trampas cámara, búsqueda de rastros, observaciones y conocimiento local. Se han registrado para la Serranía de los Yariguíes un total de 62 especies de mamíferos, agrupadas en nueve órdenes y 25 familias; nueve especies se encuentran incluidos en la lista de la IUCN con algún tipo de vulnerabilidad, nueve se encuentran en el apéndice III, 12 en el apéndice II y seis especies en el apéndice I según el CITES. A pesar de que gran parte de la Serranía de los Yariguíes ha sido catalogada como Parque Nacional Natural y cuenta con algunas áreas protegidas, sigue presentándose presión en la comunidad de mamíferos por factores como la cacería, el tráfico de especies y la reducción del hábitat, en especial en los bosques de tierras bajas. Por lo anterior, las estrategias de conservación que se están desarrollando en el proyecto YARÉ II como la creación de un corredor de conservación, la educación ambiental y el trabajo con la comunidad, requieren de la participación activa de las entidades ambientales, gobiernos locales y líderes comunitarios, para hacer más efectivo a largo plazo las estrategias de conservación planteadas.

Palabras clave: Conservación, especies amenazadas, mamíferos, Serranía de los Yariguíes.

8. Certificate given to local guides trained in San Vicente de Chucurí and Zapatoca.

ProAves
www.proaves.org

PROYECTO YARÉ
¡Protejamos juntos a los Yariguíes!

EcoTurs Colombia
www.ecoturs.org

Certifica que:

ALEXANDER DELGADO

Participó en el curso de guías naturalistas con énfasis en aviturismo, enmarcado en el proyecto YARÉ II (Investigacíon y Evaluación de las Especies Amenazadas de la Serranía de los Yariguíes, Santander).

octubre de 2011

Ecól. Juan Caicedo
Director de Operaciones
EcoTurs Colombia S.A.

Lina Eugenia Daza Rojas
Directora Ejecutiva
Fundación ProAves de Colombia

Diana Carolina Villanueva C.
Coordinadora de Proyecto YARÉ
Fundación ProAves de Colombia

Con el apoyo de:

Reserva Natural de las Aves
REINITA CIELO AZUL

9. Note published in Colombian newspaper about Proyecto YARÉ.

EL ATRIO — Municipio de San Vicente de Chucurí | Enero de 2011 — 7

Proyecto YARÉ trabajando por la conservación de la Serranía de los Yariguíes

Desde el año 2003 al 2006 investigadores de la fundación ProAves y el proyecto YARÉ, Investigación y Evaluación de las Especies Amenazadas de la serranía de los Yariguíes, han trabajado en la región de la Serranía de los Yariguíes, realizando exploraciones biológicas en la zona que han contribuido con valiosa información para declaratoria de las diferentes áreas protegidas de la región apoyados por las comunidades organizaciones locales y loe gobiernos de los municipios que comprenden la Serranía.

Los resultados del poyecto YARÉ que incluye el descubrimiento de especies de aves y mariposas únicas para la región y el registro de especies en peligro de extinción, han dado un merecido reconocimiento a la Serranía de los Yariguies como centro importante para la conservación de la biodiversidad de nuestro país. Debido a los valiosos logros obtenidos, el proyecto YARÉ fue ganador nuevamente este año de una beca del programa de liderazgo para la ó (www.conservationleadershippro gramme.org), para seguir trabajando por la conservación de esta importante área y de las comunidades que habitan en ella.

Desde Junio de 2010 se están desarrollando diferentes actividades en esta segunda fase del proyecto YARÉ de la fundación ProAves, con el fin de crear un corredor de conservación que una las áreas protegidas como el Parque Nacional Natural Serranía de los Yariguíes y tres reservas naurales, a través de las tierras aledañas al camino de Lenguerke, para contribuir con la supervivencia de la biodiversidad amenazada y endémica. Además, se está llevando a cabo la recuperación del camino antiguo considerando la importancia histórica, cultural y natural que posee, para conformar una eco-ruta que contribuirá con el eco-turismo de los municipios del área de influencia del proyecto, promocionandolos a nivel departamental, nacional e internacional. Otras actividades como trabajo con la comunidad, educación ambiental y producción de material educativo, serán desarrolladas en el proyecto.

Todas estas actividades se están llevando a cabo con la participación de las comunidades de los municipios de San Vicente, Zapatoca y Betulia, organizaciones locales y las alcaldías municipales. Uniendo esfuerzos entre la comunidad en general y las diferentes organizaciones, contribuiremos con la conservación de la biiodiversidad de esta única e importante área de nuestro país y el desarrollo sustentable de nuestra región.

El proyecto YARÉ de la Fundación ProAves invita a la comunidad interesada en esta iniciativa a ser partícipe de la conservación de la biodiversidad y del patrimonio histórico de la Serranía de lo Yariguíes.

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10. Poster-Calendar produced by Proyecto YARE II.

11. Example Signalisation of 'Ecoroute Lengerke'.

F0611710*: YARÉ II Project:* Serranía de los Yariguíes Assessment and Research of Endangered species, Santander, COLOMBIA.

12. Leaflet front and back pages produced by YARÉ II project including a mini-guide of the Fauna and Flora of Yariguíes Mountains, mainly on the recovered Eco-trail Lengerke.

13. List of plants recorded in the expedition YARÉ II project.

FAMILIA	GENERO	*ESPECIE*	SS
ACANTHACEAE	Aphelandra	*Aphelandra sp1*	3
ACANTHACEAE	Aphelandra	*Aphelandra sp2*	3
ALSTROEMERIACEAE	Bomarea	*Bomarea hirsuta (Kunth) Herb.*	1
ALSTROEMERIACEAE	Bomarea	*Bomarea sp.*	1
ANEMIACEAE	Anemia	*Anemia hirsuta (L.) Sw.*	2
APIACEAE	Azorella	*Azorella sp.*	1
APIACEAE	Eryngium	*Eryngium paniculatum Cav. & Dombey ex F. Delaroche*	1
APOCYNACEAE	Asclepias	*Asclepias curassavica L.*	2
APOCYNACEAE	Asclepias	*Asclepias fruticosa L.*	2
ARACEAE	Anthurium	*Anthurium bogotense Schott*	2
ARACEAE	Anthurium	*Anthurium breviscapum Kunth*	1
ARACEAE	Anthurium	*Anthurium crassinervium Schott*	2
ARACEAE	Anthurium	*Anthurium sp1*	2
ARACEAE	Anthurium	*Anthurium sp2*	2
ARACEAE	Syngonium	*Syngonium sp1*	3
ARACEAE	Syngonium	*Syngonium sp2*	1
ARALIACEAE	Schefflera	*Schefflera paniculitomentosa Cuatrec.*	1
ARALIACEAE	Schefflera	*Schefflera sp1*	2
ARALIACEAE	Schefflera	*Shefflera sp2*	3
ARECACEAE	Geonoma	*Geonoma sp.*	3
ARECACEAE	Phytelephas	*Phytelephas macrocarpa Ruiz & Pav.*	3
ASPLENIACEAE	Asplenium	*Asplenium sp.*	2
ASTERACEAE	Achyrocline	*Achyrocline sp.*	1
ASTERACEAE	Ageratina	*Ageratina popayanensis (Hieron.) R.M. King & H. Rob.*	1
ASTERACEAE	Ageratina	*Ageratina sp.*	2
ASTERACEAE	Baccharis	*Baccharis brachylaenoides DC.*	1
ASTERACEAE	Baccharis	*Baccharis sp.*	1
ASTERACEAE	Calea	*Calea trianae Cuatrec.*	1
ASTERACEAE	Critoniopsis	*Critoniopsis glandulata (Cuatrec.) H. Rob.*	1
ASTERACEAE	Diplostephium	*Diplostephium sp.*	1
ASTERACEAE	Gnaphalium	*Gnaphalium sp*	1
ASTERACEAE	Mikania	*Mikania sp.*	1
ASTERACEAE	Pentacalia	*Pentacalia sp1*	1
ASTERACEAE	Pentacalia	*Pentacalia sp2*	1

ASTERACEAE	Vernonia	*Vernonia canescens Kunth*	1
ASTERACEAE	Vernonia	*Vernonia sp1*	3
ASTERACEAE	Vernonia	*Vernonia sp2*	3
BLECHNACEAE	Blechnum	*Blechnum loxense (Kunth) Hook. ex Salomon*	1
BLECHNACEAE	Blechnum	*Blechnum sp.*	2
BROMELIACEAE	Aechmaea	*Aechmaea sp.*	1
BROMELIACEAE	Puya	*Puya nitida Mez*	1
BROMELIACEAE	Racinaea	*Racinaea schumanniana (Wittm.) J.R. Grant*	1
BROMELIACEAE	Racinaea	*Racinaea subalata (André) M.A. Spencer & L.B. Sm.*	1
BROMELIACEAE	Tillandsia	*Tillandsia biflora Ruiz & Pav.*	1
BROMELIACEAE	Tillandsia	*Tillandsia confinis L.B. Sm.*	2
BROMELIACEAE	Tillandsia	*Tillandsia fendleri Griseb.*	1
BROMELIACEAE	Tillandsia	*Tillandsia sp1*	3
BROMELIACEAE	Tillandsia	*Tillandsia sp2*	2
BROMELIACEAE	Vriesea	*Vriesea crenulipetala (Mez) L.B. Sm.*	1
BURSERACEAE	Bursera	*Bursera sp.*	2
CAMPANULACEAE	Centropogon	*Centropogon sp.*	2
CAMPANULACEAE	Siphocampylus	*Siphocampylus sp.*	1
CAPRIFOLIACEAE	Viburnium	*Viburnium sp1*	1
CAPRIFOLIACEAE	Viburnium	*Viburnum sp2*	2
CECROPIACEAE	Cecropia	*Cecropia sp.*	3
CHLORANTHACEAE	Hedyosmum	*Hedyosmum colombianum Cuatrec.*	2
CHLORANTHACEAE	Hedyosmum	*Hedyosmum sp*	2
CLETHRACEAE	Clethra	*Clethra fagifolia Kunth*	2
CLUSIACEAE	Chrysochlamys	*Chrysochlamys dependens Planch. & Triana*	2
CLUSIACEAE	Clusia	*Clusia elliptica Kunth*	1
CLUSIACEAE	Clusia	*Clusia multiflora Kunth*	1
CLUSIACEAE	Clusia	*Clusia sp1*	1
CLUSIACEAE	Clusia	*Clusia sp2*	1
CLUSIACEAE	Clusia	*Clusia sp3*	1
CLUSIACEAE	Clusia	*Clusia sp4*	2
CLUSIACEAE	Hypericum	*Hypericum laricifolium Juss.*	1
CLUSIACEAE	Hypericum	*Hypericum sp.*	1
CLUSIACEAE	Vismia	*Vismia baccifera (L.) Triana & Planch.*	1
CLUSIACEAE	Vismia	*Vismia baccifera (L.) Triana & Planch.*	2
CUNONIACEAE	Weinmannia	*Weinmannia sp.*	1
CYATHEACEAE	Cyathea	*Cyathea sp.*	1

DAVALLIACEAE	Nephrolepis	*Nephrolepis cordifolia (L.) C. Presl*	2
DYOPTERIDACEAE	Elaphoglossum	*Elaphoglossum sp1*	2
DYOPTERIDACEAE	Elaphoglossum	*Elaphoglossum sp2*	1
DYOPTERIDACEAE	Elaphoglossum	*Elaphoglossum sp3*	1
ELAPHOGLOSSACEAE	Elaphoglossum	*Elaphoglossum sp4*	1
ERICACEAE	Bejaria	*Bejaria glauca Bonpl.*	1
ERICACEAE	Bejaria	*Bejaria sp.*	1
ERICACEAE	Cavendishia	*Cavendishia angustifolia Mansf.*	1
ERICACEAE	Cavendishia	*Cavendishia sp1*	1
ERICACEAE	Cavendishia	*Cavendishia sp2*	1
ERICACEAE	Cavendishia	*Cavendishia splendens (Klotzsch) Hoerold*	1
ERICACEAE	Gaultheria	*Gaultheria sp.*	1
ERICACEAE	Macleania	*Macleania sp.*	1
ERICACEAE	Vaccinium	*Vaccinium sp.*	1
ESCALLONIACEAE	Escallonia	*Escallonia paniculata (Ruiz & Pav.) Roem. & Schult.*	2
ESCALLONIACEAE	Escallonia	*Escallonia pendula (Ruiz & Pav.) Pers.*	2
EUPHORBIACEAE	Alchornea	*Alchornea sp.*	3
EUPHORBIACEAE	Croton	*Croton sp.*	2
EUPHORBIACEAE	Hura	*Hura sp.*	3
FABACEAE	Bauhina	*Bauhina sp.*	3
FABACEAE	Brownea	*Brownea macrophylla*	3
FABACEAE	Brownea	*Brownea sp.*	3
FABACEAE	Crotalaria	*Crotalaria sp.*	3
FABACEAE	Inga	*Inga sp1*	2
FABACEAE	Inga	*Inga sp2*	3
FABACEAE	Inga	*Inga sp3*	3
FABACEAE	Macrolobium	*Macrolobium sp.*	3
FABACEAE	Mucuna	*Mucuna sp.*	3
FABACEAE	Tamarindus	*Tamarindus sp.*	3
FAGACEAE	Quercus	*Quercus humboldtii Bonpl.*	2
FAGACEAE	Quercus	*Quercus humboldtii Bonpl.*	1
FLACOURTIACEAE	Casearia	*Casearia sp1*	3
FLACOURTIACEAE	Casearia	*Casearia sp2*	3
FLACOURTIACEAE	Ryania	*Ryania speciosa Vahl*	3
GENTIANACEAE	Chelonanthus	*Chelonanthus sp.*	3
GESNERIACEAE	Besleria	*Besleria sp.*	1
HELICONIACEAE	Heliconia	*Heliconia aurea G. Rodr.*	3
HIPPOCASTACEAE	Billia	*Billia rosea (Planch. & Linden) C. Ulloa*	2

		& P. Jørg.	
IRIDACEAE	Orthrosanthus	*Orthrosanthus chimboracensis*	1
IRIDACEAE	Sisyrinchium	*Sisyrinchium sp.*	1
JUNCACEAE	Juncus	*Juncus sp.*	1
LAURACEAE	Ocotea	*Ocotea cariophylla*	2
LAURACEAE	Persea	*Persea sp.*	1
LILIACEAE	Excremis	*Excremis coarctata (Ruiz & Pav.) Baker*	1
LYCOPODIACEAE	Huperzia	*Huperzia reflexa (Lam.) Trevis.*	1
LYCOPODIACEAE	Huperzia	*Huperzia reflexa (Lam.) Trevis.*	2
LYCOPODIACEAE	Lycopodium	*Lycopodium clavatum L.*	1
LYTHRACEAE	Cuphea	*Cuphea sp1*	2
LYTHRACEAE	Cuphea	*Cuphea sp2*	2
MALPIGHIACEAE	Byrsonima	*Byrsonima sp.*	1
MALVACEAE	Herrania	*Herrania sp.*	3
MALVACEAE	Luchea	*Luchea seemannii Tr. & Planch.*	3
MELASTOMATACEAE	Bellucia	*Bellucia grossularioides (L.) Triana*	3
MELASTOMATACEAE	Blakea	*Blakea sp.*	2
MELASTOMATACEAE	Chaetolepis	*Chaetolepis microphylla (Bonpl.) Miq.*	1
MELASTOMATACEAE	Clidemia	*Clidemia sp.*	2
MELASTOMATACEAE	Miconia	*Miconia sp1*	2
MELASTOMATACEAE	Miconia	*Miconia sp2*	2
MELASTOMATACEAE	Monochaetum	*Monochaetum myrtoideum Naudin*	1
MELASTOMATACEAE	Monochaetum	*Monochaetum sp1*	1
MELASTOMATACEAE	Monochaetum	*Monochaetum sp2*	1
MONIMIACEAE	Siparuna	*Siparuna sp.*	1
MORACEAE	Moraceae	*Moraceae sp.*	1
MYRSINACEAE	Ardisia	*Ardisia sp1*	2
MYRSINACEAE	Ardisia	*Ardisia sp2*	2
MYRSINACEAE	Cybianthus	*Cybianthus sp.*	2
MYRTACEAE	Myrcianthes	*Myrcianthes leucoxyla (Ortega) McVaugh*	2
ONAGRACEAE	Ludwigia	*Ludwigia sp.*	2
ORCHIDACEAE	Elleanthus	*Elleanthus sp1*	1
ORCHIDACEAE	Elleanthus	*Elleanthus sp2*	1
ORCHIDACEAE	Epidendrum	*Epidendrum fimbriatum Kunth*	2
ORCHIDACEAE	Epidendrum	*Epidendrum secundum Jacq.*	1
ORCHIDACEAE	Epidendrum	*Epidendrum sp.*	1
ORCHIDACEAE	Lepanthes	*Lepanthes sp.*	1
ORCHIDACEAE	Masdevallia	*Masdevallia sp*	2
ORCHIDACEAE	Maxillaria	*Maxillaria porrecta Lindl.*	2

ORCHIDACEAE	Oncidium	*Oncidium sp.*	1
ORCHIDACEAE	Pleutothalis	*Pleurothalis sp1*	1
ORCHIDACEAE	Pleutothalis	*Pleutothalis sp2*	1
OXALIDACEAE	Oxalis	*Oxalis sp.*	1
PASSIFLORACEAE	Passiflora	*Passiflora sp.*	3
PHYTOLACCACEAE	Phytolaca	*Phytolaca sp.*	2
PIPERACEAE	Peperomia	*Peperomia sp1*	2
PIPERACEAE	Peperomia	*Peperomia sp2*	3
PIPERACEAE	Piper	*Piper aequale Vahl*	2
PIPERACEAE	Piper	*Piper sp.*	2
POACEAE	Andropogon	*Andropogon aequatoriensis Hitchc.*	1
POACEAE	Bromus	*Bromus sp.*	2
POACEAE	Chusquea	*Chusquea subtessellata Hitchc.*	1
POACEAE	Cortaderia	*Cortaderia cf. columbiana (Pilg.) Pilg.*	1
POACEAE	Paspalum	*Paspalum sp.*	1
PODOCARPACEAE	Podocarpus	*Podocarpus oleifolius D. Don ex Lamb.*	1
PODOCARPACEAE	Prumnopitys	*Prumnopitys harmsiana (Pilg.) de Laub.*	1
POLYGALACEAE	Polygala	*Polygala sp.*	1
POLYPODIACEAE	Polypodium	*Polypodium sp.*	1
PTERIDACEAE	Pteris	*Pteris sp.*	3
ROSACEAE	Hesperomeles	*Hesperomeles sp.*	1
ROSACEAE	Rubus	*Rubus coriaceus Poir.*	1
ROSACEAE	Rubus	*Rubus sp.*	1
RUBIACEAE	Archythophilum	*Archythophilum nitidum*	1
RUBIACEAE	Coccocypselum	*Coccocypselum sp.*	3
RUBIACEAE	Faramea	*Faramea multiflora A. Rich. ex DC.*	1
RUBIACEAE	Galium	*Galium hypocarpium (L.) Endl. ex Griseb.*	1
RUBIACEAE	Ladenbergia	*Ladenbergia sp.*	1
RUBIACEAE	Palicourea	*Palicourea sp1*	1
RUBIACEAE	Psychotria	*Psychotria sp1*	3
RUBIACEAE	Spermacoce	*Spermacoce capitata Ruiz & Pav.*	1
RUBIACEAE	Spermacoce	*Spermacoce densiflora (DC.) Alain*	1
SAPINDACEAE	Paullinia	*Paullinia sp.*	3
SAPINDACEAE	Serjania	*Serjania sp.*	2
SAPOTACEAE	Manilkara	*Manilkara sp.*	3
SAPOTACEAE	Pouteria	*Pouteria sp.*	3
SCROPHULARIACEAE	Castilleja	*Castilleja integrifolia L. f.*	1
SCROPHULARIACEAE	Castilleja	*Castilleja sp.*	1
SELAGINELLACEAE	Selaginella	*Selaginella sp.*	1

SOLANACEAE	Cestrum	*Cestrum sp.*	3
SOLANACEAE	Solanum	*Solanum sp.*	3
THEACEAE	Ternstroemia	*Ternstroemia sp.*	2
THEOPHRASTACEAE	Clavija	*Clavija sp.*	3
URTICACEAE	Urera	*Urera sp.*	3
URTICACEAE	Urtica	*Urtica sp.*	3
ZINGIBERACEAE	Hedychium	*Hedychium sp.*	3

List of birds recorded in the expedition YARÉ II project.

FAMILIA / ESPECIE	NOMBRE EN INGLES	N° sp	SS3	SS2	SS1
Tinamidae					
Crypturellus soui	Little Tinamou	1	x		
Cracidae					
Penelope montagnii	Andean Guan	1			x
Ortalis columbiana	Colombian Chachalaca	1	x	x	
Cathartidae					
Cathartes aura	Turkey Vulture	1			x
Coragyps atratus	Black Vulture	1	x	x	x
Accipitridae					
Accipiter striatus	Sharp-shinned Hawk	1		1	x
Buteo magnirostris	Roadside Hawk	1	1		
Spizaetus tyrannus	Black Hawk-Eagle	1	x		
Falconidae					
Herpetotheres cachinnans	Laughing Falcon	1	x		
Columbidae					
Claravis pretiosa	Blue Ground Dove	1	x		
Patagioenas fasciata	Band-tailed Pigeon	1		x	x
Patagioenas cayennensis	Pale-vented Pigeon	1	x		

Patagioenas subvinacea	Ruddy Pigeon	1			x
Leptotila verreauxi	White-tipped Dove	1		1	
Geotrygon linearis	Lined Quail-Dove	1			x
Psittacidae					
Brotogeris jugularis	Orange-chinned Parakeet	1	x		
Pyrilia pyrilia	Saffron-headed Parrot	1	x		
Amazona mercenaria	Scaly-naped Parrot	1			x
Cuculidae					
Piaya cayana	Squirrel Cuckoo	1	x	x	
Crotophaga ani	Smooth-billed Ani	1	x	x	
Strigidae					
Megascops albogularis	White-throated Screech Owl	1			x
Lophostrix cristata	Crested Owl	1	x		
Ciccaba virgata	Mottled Owl	1	x		
Ciccaba albitarsis	Rufous-banded Owl	1			x
Caprimulgidae					
Caprimulgus longirostris	Band-winged Nightjar	1			x
Apodidae					
Aeronautes montivagus	White-tipped Swift	1			x
Trochilidae					
Florisuga mellivora	White-necked Jacobin	1	1		
Glaucis hirsutus	Rufous-breasted Hermit	1	2		
Threnetes ruckeri	Band-tailed Barbthroat	1	1		
Phaethornis striigularis	Stripe-throated Hermit	1	x		
Phaethornis guy	Green Hermit	1	1		
Phaethornis longirostris	Long-billed Hermit	1	4		

Doryfera ludovicae	Green-fronted Lancebill	1			3
Colibri thalassinus	Green Violetear	1			17
Colibri coruscans	Sparkling Violetear	1			4
Heliangelus amethysticollis	Amethyst-throated Sunangel	1			14+1
Adelomyia melanogenys	Speckled Hummingbird	1			29
Aglaiocercus kingi	Long-tailed Sylph	1			3
Metallura tyrianthina	Tyrian Metaltail	1			15
Coeligena prunellei	Black Inca	1			7
Coeligena torquata	Collared Inca	1			5+1
Boissonneaua flavescens	Buff-tailed Coronet	1			4
Ocreatus underwoodii	Booted Racket-tail	1			3
Chlorostilbon poortmani	Short-tailed Emerald	1		2	1
Chalybura buffonii	White-vented Plumeleteer	1	2		
Thalurania colombica	Violet-crowned Woodnymph	1	1		1
Amazilia franciae	Andean Emerald	1		x	
Trogonidae					
Pharomachrus auriceps	Golden-headed Quetzal	1			x
Trogon rufus	Black-throated Trogon	1	1		
Trogon personatus	Masked Trogon	1			x
Momotidae					
Baryphthengus martii	Rufous Motmot	1	x		
Galbulidae					
Galbula ruficauda	Rufous-tailed Jacamar	1	x		
Capitonidae					
Capito hypoleucus	White-mantled Barbet	1	x		

Ramphastidae					
Ramphastos ambiguus abbreviatus	Chestnut-mandibled Toucan	1	x		
Pteroglossus torquatus	Collared Aracari	1	x		
Picidae					
Picumnus olivaceus	Olivaceous Piculet	1	x		
Melanerpes formicivorus	Acorn Woodpecker	1			x
Picoides fumigatus	Smoky-brown Woodpecker	1			1
Colaptes rubiginosus	Golden-olive Woodpecker	1			x
Colaptes punctigula	Spot-breasted Woodpecker	1		x	
Campephilus pollens	Powerful Woodpecker	1			x
Furnariidae					
Sclerurus mexicanus	Tawny-throated Leaftosser	1	2		
Synallaxis azarae	Azara's Spinetail	1		x	4
Premnornis guttuligera	Rusty-winged Barbtail	1			1
Margarornis squamiger	Pearled Treerunner	1			1
Pseudocolaptes biossonneautii	Streaked Tuftedcheek	1			2
Anabacerthia striaticollis	Montane Foliage-gleaner	1			x
Xenops minutus	Plain Xenops	1	3		
Glyphorynchus spirurus	Wedge-billed Woodcreeper	1	4		
Xiphocolaptes promeropirhynchus	Strong-billed Woodcreeper	1			x
Dendrocolaptes picumnus	Black-banded Woodcreeper	1			2
Xiphorhynchus guttatus nanus	Buff-throated Woodcreeper	1	2		
Lepidocolaptes lacrymiger	Montane Woodcreeper	1			x
Thamnophilidae					

Thamnophilus atrinucha	Western Slaty Antshrike	1	3		
Epinecrophylla fulviventris	Checker-throated Antwren	1	4		
Myrmotherula axillaris	White-flanked Antwren	1	4		
Microrhopias quixensis	Dot-winged Antwren	1	1		
Cercomacra tyrannina	Dusky Antbird	1	x		
Formicariidae					
Grallaria ruficapilla	Chestnut-crowned Antpitta	1			x
Rhinocryptidae					
Scytalopus latrans	Blackish Tapaculo	1			1
Scytalopus griseicollis gilesi	Matorral Tapaculo	1			x
Tyrannidae					
Phyllomyias griseiceps	Sooty-headed Tyrannulet	1	x		
Phyllomyias cinereiceps	Ashy-headed Tyrannulet	1			x
Elaenia frantzii	Mountain Elaenia	1		4	5
Zimmerius chrysops	Golden-faced Tyrannulet	1		4	x
Mionectes striaticollis	Streak-necked Flycatcher	1			1
Mionectes olivaceus	Olive-striped Flycatcher	1	1	4	
Mionectes oleagineus	Ochre-bellied Flycatcher	1	17		
Leptopogon amaurocephalus	Sepia-capped Flycatcher	1	3		
Oncostoma olivaceum	Southern Bentbill	1	2		
Todirostrum cinereum	Common Tody-Flycatcher	1	x		
Rhynchocyclus olivaceus	Olivaceous Flatbill	1	2		
Tolmomyias sulphurescens	Yellow-olive Flycatcher	1	3	1	
Platyrinchus coronatus	Golden-crowned Spadebill	1	1		
Onychorhynchus coronatus	Royal Flycatcher	1	3		

Myiophobus flavicans	Flavescent Flycatcher	1		2	7+1
Terenotriccus erythrurus	Ruddy-tailed Flycatcher	1	1		
Pyrrhomyias cinnamomeus	Cinnamon Flycatcher	1			x
Empidonax virescens	Acadian Flycatcher	1	2		
Contopus cooperi	Olive-sided Flycatcher	1	x		
Myiotheretes striaticollis	Streak-throated Bush Tyrant	1			x
Colonia colonus	Long-tailed Tyrant	1	x		
Legatus leucophaius	Piratic Flycatcher	1	x		
Myiozetetes similis	Social Flycatcher	1	x	1	
Pitangus sulphuratus	Great Kiskadee	1	x		
Myiodynastes chrysocephalus	Golden-crowned Flycatcher	1		x	x
Tyrannus melancholicus	Tropical Kingbird	1		x	x
Rhytipterna holerythra	Rufous Mourner	1	x		
Myiarchus tuberculifer	Dusky-capped Flycatcher	1	x		x
Myiarchus cephalotes	Pale-edged Flycatcher	1			x
Attila spadiceus	Bright-rumped Attila	1	x	x	
Cotingidae					
Lipaugus fuscocinereus	Dusky Piha	1			x
Pipridae					
Corapipo leucorrhoa	White-bibbed Manakin	1	1		
Machaeropterus regulus	Striped Manakin	1	1		
Manacus manacus	White-bearded Manakin	1	10		
Pipra erythrocephala	Golden-headed Manakin	1	11		
Tityridae					
Tityra semifasciata	Masked Tityra	1	x		

Pachyramphus cinnamomeus	Cinnamon Becard	1	x		
Vireonidae					
Vireolanius eximius	Yellow-browed Shrike-Vireo	1	x		
Vireo leucophrys	Brown-capped Vireo	1		1	x
Vireo olivaceus	Red-eyed Vireo	1	x		
Hylophilus flavipes	Scrub Greenlet	1	x		
Corvidae					
Cyanocorax affinis	Black-chested Jay	1	x		
Cyanocorax yncas	Green Jay	1			2
Hirundinidae					
Pygochelidon cyanoleuca	Blue-and-white Swallow	1		x	x
Stelgidopteryx ruficollis	Southern Rough-winged Swallow	1	x		
Tachycineta albiventer	White-winged Swallow	1	x		
Troglodytidae					
Microcerculus marginatus	Scaly-breasted Wren	1	1		
Troglodytes solstitialis	Moutain Wren	1			1
Campylorhynchus griseus	Bicoloured Wren	1	x		
Pheugopedius spadix	Sooty-headed Wren	1	2		
Pheugopedius fasciatoventris	Black-bellied Wren	1	x		
Pheugopedius mystacalis	Whiskered Wren	1		1	1
Cinnycerthia olivascens	Sharpe's Wren	1			7+3
Henicorhina leucosticta	White-breasted Wood Wren	1	1		
Henicorhina leucophrys	Grey-breasted Wood Wren	1			6
Polioptolidae					

Microbates cinereiventris	Half-collared Gnatwren	1	x		
Cinclidae					
Cinclus leucocephalus	White-capped Dipper	1		x	
Turdidae					
Myadestes ralloides	Andean Solitaire	1			1
Catharus ustulatus	Swainson's Thrush	1	12	2	1
Turdus flavipes	Yellow-legged Thrush	1		2	
Turdus leucomelas	Pale-breasted Thrush	1		1	
Turdus fuscater	Great Thrush	1			x
Turdus serranus	Glossy-black Thrush	1			?
Thraupidae					
Hemispingus frontalis	Oleaginous Hemispingus	1			2+4
Eucometis penicillata	Grey-headed Tanager	1	1		
Tachyphonus luctuosus	White-shouldered Tanager	1	x		
Ramphocelus dimidiatus	Crimson-backed Tanager	1	x		
Thraupis episcopus	Blue-grey Tanager	1	x	x	
Thraupis palmarum	Palm Tanager	1	x		
Anisognathus somptuosus	Blue-winged Mountain Tanager	1			1
Tangara heinei	Black-capped Tanager	1		1	
Tangara vitriolina	Scrub Tanager	1		2	
Tangara nigroviridis	Beryl-spangled Tanager	1			x
Tangara gyrola	Bay-headed Tanager	1	1		
Dacnis lineata	Black-faced Dacnis	1	x		
Chlorophanes spiza	Green Honeycreeper	1	1		
Heterospingus xanthopygius	Scarlet-browed Tanager	1	x		

Hemithraupis flavicollis	Yellow-backed Tanager	1	x		
Conirostrum albifrons	Capped Conebill	1			x
Diglossa albilatera	White-sided Flowerpiercer	1			37+13
Diglossa caerulescens	Bluish Flowerpiercer	1			14+1
Diglossa cyanea	Masked Flowerpiercer	1			1+1
Tiaris olivaceus	Yellow-faced Grassquit	1		x	
Saltator grossus	Slate-coloured Grosbeak	1	x		
Saltator maximus	Buff-throated Saltator	1	2		
Saltator coerulescens	Greyish Saltator	1		2	
Emberizidae					
Zonotrichia capensis	Rufous-collared Sparrow	1		1	x
Oryzoborus funereus	Thick-billed Seed Finch	1	1		
Arremon aurantiirostris	Orange-billed Sparrow	1	3		
Arremon brunneinucha	Chestnut-capped Brush Finch	1			5+1
Atlapetes albofrenatus	Moustached Brush Finch	1			2
Atlapetes latinuchus yariguierum	Yellow-breasted Brush Finch	1			10+1
Chlorospingus ophthalmicus	Common Bush Tanager	1			13+4
Cardinalidae					
Piranga rubra	Summer Tanager	1	x		x
Habia gutturalis	Sooty Ant Tanager	1	4		
Cyanocompsa cyanoides	Blue-black Grosbeak	1	2		
Parulidae					
Dendroica fusca	Blackburnian Warbler	1			x
Mniotilta varia	Black-and-white Warbler	1			1

Oporornis philadelphia	Mourning Warbler	1		1	
Wilsonia canadensis	Canada Warbler	1	1		
Myioborus miniatus	Slate-throated Whitestart	1			1
Myioborus ornatus	Golden-fronted Whitestart	1			8+1
Basileuterus coronatus	Russet-crowned Warbler	1			11+3
Basileuterus culicivorus	Golden-crowned Warbler	1		3	
Phaeothlypis fulvicauda	Buff-rumped Warbler	1	x		x
Icteridae					
Psarocolius decumanus	Crested Oropendola	1	x		
Cacicus chrysonotus leucoramphus	Mountain Cacique	1			x
Icterus chrysater	Yellow-backed Oriole	1		x	
Macroagelaius subalaris	Mountain Grackle	1			x
Molothrus bonariensis	Shiny Cowbird	1	x		
Fringillidae					
Euphonia laniirostris	Thick-billed Euphonia	1	1		x
Euphonia xanthogaster	Orange-bellied Euphonia	1			x
		193	**99**	**36**	**88**

List of butterflies recorded in the expedition YARÉ II project.

Familia/Genero	Especie	SS1	SS2	SS4
LYCAENIDAE				
Arawacus leucogyna	*leucogyna*			x
Zizula			x	
Theritas	sp.	x		
Peinancisalia	*loxurina*	x		
NYMPHALIDAE				
Diaethria marchalli	*marchali*		x	
Dinamine setabis	*setabis*		x	
Catonephele	*nyctimus*			x
Fountainea	*nessus*		x	
Danaus	*plexxipus*		x	
Actinote	sp.1		x	
Actinote	sp.2		x	
Heliconius	*melpomene*		x	
Dryas	*iulia*			x
Heliconius	*sara*			x
Heliconius	*melpomene*			x
Heliconius	*charitonia*			x
Heliconius	*hecale*		x	
Eueides	*procula*	x		
Telenassa	*delphia*	x		
Greta	*andromica*		x	
Thyridia	*psidii*			x
Godyris	*zavaleta*			x
Greta	sp.	x		
Adelpha	*lala*		x	
Adelpha	*cytherea*			x
Adelpha	*corcyra*	x		
Morpho	*granadensis*			x
Morpho	*peleides*			x
Caligo	*atreus*			x
Anartia	*amathea*		x	x
Anartia	*jatrophae*		x	x
Hypanarthia	*lethe*		x	
Junonia	*evarete*		x	
Siproeta	*ephaphus*		x	

Siproeta	*stelenes*		x	
Euptoieta	*hegesia*		X	
Tegosa	sp.1		x	
Marpesia	*berania*		x	
Colobura	*annulata*			x
Eresia	*emerantia*			x
Chlosyne	*narva*		x	
Hamadryas	*arinome*			x
Hamadrias	*feronia*			x
Marpesia	*petreus*			x
Euptichoides	*saturnus*		x	
Hermeuptychia	*armonia*		x	
Oressinoma	*typhla*	x	x	
Oxeochistus	*simplex*		x	
Cithaerias	*pireta*			x
Idioneurula	*donegani*	x		
Euptichoides	*griphe*	x		
Eretris	*encycla*	x		
Steroma	bega	x		
Papilionidae				
Parides	*eurimedes*			x
Parides	*iphidamas*			x
Heraclides	*thoas*		x	
Pieridae				
Coliadinae				
Eurema	*salome*		x	
Eurema	*sp*		x	
Eurema	*albula*		x	
Eurema	*aff. agave*		x	
Phoebis	*argante*	x		
Dismorphiinae				
Dismorphia	*crissia*		x	
Melete	*lyscimia*			
Pierinae				
Catasticta	sp.			
Catasticta	sp.2			
Leodonta				
Leodonta	tellane		x	
Riodinidae				
Rhetus	*dysonii*		x	

Eurybia	*donna*		x	
Mesosemia	*metuana*	x		
Ancyluris	*inca*		x	
Siseme	*pallas*		x	

List of mammals recorded in the expedition YARÉ II project, with distribution by site collection and their respective conservation categorization.

TAXON	Nombre vernáculo	SS1	SS2	SS3	SS4	CITES	IUCN
ORDEN DIDELPHIMORPHIA							
Familia Didelphidae							
Caluromys lanatus	Chucha rata, lanuda		enc				LC
Didelphis marsupialis	Chucha común	enc	enc	1	1		LC
Marmosa sp.	Zarigüeya		1		1		
Gracilinanus sp.	Zarigüeya				1		
Metachirus nudicaudatus	Zarigüeya				1		LC
Micoureus cf. *demerarae*	Zarigüeya		1				
ORDEN CINGULATA							
Dasypodidae							
Dasypus novemcinctus	Armadillo de nueve bandas, gurre	1	1	1	1		LC
Cabassous centralis	Armadillo coletrapo	enc		enc	enc	III	DD
ORDEN PILOSA							
Bradypodidae							
Bradypus variegatus	Perezoso de tres dedos			enc		II	LC
Megalonychidae							
Choloepus hoffmanni	Perezoso de dos dedos	enc			1	III	LC
Cyclopedidae							
Cyclopes didactylus	Oso hormiguero, gran bestia				enc		LC
Myrmecophagidae							
Tamandua mexicana	Oso hormiguero		enc	1		III	LC
ORDEN CHIROPTERA							
Phyllostomidae							
Phyllostominae							
Micronycteris sp.	Murciélago				1		
Trinycteris cf. *nicefori*	Murciélago Nicéforo orejudo			1			LC
Glossophaginae							
Anoura cf. *geoffroyi*	Murciélago trompudo	1					LC
Carolliinae							
Carollia brevicauda	Murciélago frutero montano	3	2	2			LC
Carollia castanea	Murciélago frutero castaño			3			LC
Carollia perspicillata	Murciélago frutero común			5			LC
Stenodermatinae							
Dermanura glaucus	Murciélago frugívoro			1			
Platyrrhinus sp.	Murciélago dorsirayado				1		
Platyrrhinus helleri	Murciélago dorsirayado de Heller		1				LC

ORDEN PRIMATES							
Aotidae							
Aotus sp.	Marteja, maco, mono nocturno	enc	enc			II	
Aotus griseimembra	Marteja, maco, mono nocturno			2		II	VU
Atelidae							
Alouatta seniculus	Mono aullador, mono cotudo	enc		enc	1	II	LC
Cebidae							
Cebus albifrons	Cariblanco, maicero			4		II	LC
OEDEN CARNIVORA							
Canidae							
Cerdocyon thous	Zorro perruno	enc	enc	1		I	LC
Felidae							
Leopardus pardalis	Ocelote	enc		enc	1	I	LC
Leopardus wiedii	Tigrillo	enc		enc		I	NT
Puma concolor	Puma, león de montaña	1			1	II	LC
Mustelidae							
Eira barbara	Tayra			enc	1	III	LC
Lontra longicaudis	Nutria		enc	enc		I	DD
Mustela frenata	Comadreja	enc	enc	enc		II	LC
Procyonidae							
Bassaricyon gabbii	Leoncito, maco geteperro	enc		2		III	LC
Potos flavus	Perro de monte	enc	enc	enc		III	LC
Nasua nasua	Cusumbo, guache	enc		enc		III	LC
Procyon cancrivorus	Mapache			enc			LC
ORDEN ARTIODACTYLA							
Tayassuidae							
Pecari tajacu	Pecarí de collar, saíno, marrano de monte				1	II	LC
Cervidae							
Mazama americana	Venado			1			DD
ORDEN RODENTIA							
Sciuridae							
Microsciurus sp.	Ardillita pioja	enc		1	enc		
Sciurus granatensis	Ardita, ardilla colorada	1	enc	1	1		LC
Erethizontidae							
Coendou prehensilis	Erizo, puerco espín	enc	enc	enc			LC
Dasyproctidae							
Dasyprocta punctata	Guatín, ñeque	enc	enc	1	1	III	LC
Cuniculidae							
Cuniculus paca	Tinajo rallado, guagua	1	enc	enc	enc	III	LC
Cuniculus taczanowskii	Tinajo lanetas, guagua	1					NT
ORDEN LAGOMORFA							
Leporidae							
Silvilagus sp.	Conejo	enc	enc	enc			

List of reptiles recorded in the expedition YARÉ II project, with distribution by site collection and their respective conservation categorization.

ORDEN/FAMILIA	ESPECIE	SS1	SS2	SS3	SS4	CITES	IUCN
SQUAMATA (lacertilia)							
Polichrotidae	*Anolis heterodermus*	x					
	Anolis sp.		x				
	Anolis tropidogaster			x			
Teiideae	*Cnemidophorus lecniscatus*		x	x			
	Ameiva festiva			x			
	Ameiva sp.		x				
Iguanidae	*Iguana igauna*			x		II	
Gekkonidae	*Lepidoblepharis* cf. *xanthostigma*			x			
	Pseudogonatodes cf. *peruvianus*			x			
	Tecadactylus rapicauda			x			
	Hemidactylus brookii		x	x			
	Gonatodes albogularis			x	x		
Gymnophthalmidae	*Cercosauria argulus*			x			
	Bachia bicolor			x			
SAQUAMATA (serpentes)							
Elapidae	*Micrurus mipartitus*	x		x	x		
	Micrurus dumerilii			x			
Viperidae	*Bothrops asper*			x			
	Bothriechis schlegelii				x		
Colubridae	*Spilotes pullatus*			x	x		
	Mastigodryas sp.			x			

List of amphibians recorded in the expedition YARÉ II project, with distribution by site collection and their respective conservation categorization.

ORDEN/FAMILIA	ESPECIE	SS1	SS2	SS3	SS4	CITES	IUCN
ANURA							
Centrolenidae	*Rulyrana* cf. *adiazeta*		x				VU
	Espadarana andina				x		LC
Dendrobatidae	*Rheobates palmatus*		x	x	x		LC
	Dendrobates truncatus			x		II	LC
Craugastoridae	*Craugastor raniformis*			x	x		LC
Hylidae	*Smilisca phaeota*			x			LC
	larvas	x					
	Hyloscirtus sp.			x	x		
Strabomantidae	*Pristimantis* cf. *gaige*			x			LC
	Pristimantis sp.2			x			
	Pristimantis sp. 3				x		
	Pristimantis sp. 4				x		
	Pristimantis sp. 5				x		
	Pristimantis sp.6				x		
	Pristimantis sp.7				x		
	Pristimantis cf. *anthrax*				x		DD
Bufonidae	*Rhinella gr margaritifera*			x	x		
	Rhinella marina			x	x		LC
Leuperidae	*Engystomop pustulosus*		x	x	x		LC
CAUDATA							
Plethodontidae	*Bolitoglossa nicefori*		x				LC
	Bolitoglossa lozanoi			x	x		DD

14. Example tittle of children participating in environmental education activities.

Festival de Aves Migratorias y la Biodiversidad			
Fundación ProAves - Proyecto YARÉ			
Educación Ambiental			
Nombre	**Nombre de la Escuela**	**Municipio**	**Departamento**
Angelo Javier Rueda	Col. Nuestra Señora de Lourdes	Betulia	Santander
Dionisio Sanchez	Col. Nuestra Señora de Lourdes	Betulia	Santander
Juan Sebastian Ardila	Col. Nuestra Señora de Lourdes	Betulia	Santander
Nestor José Rueda	Col. Nuestra Señora de Lourdes	Betulia	Santander
Lina Marcela Arguello	Col. Nuestra Señora de Lourdes	Betulia	Santander
Anghie Paola Gomez	Col. Nuestra Señora de Lourdes	Betulia	Santander
Herctor David Criollo	Col. Nuestra Señora de Lourdes	Betulia	Santander
William Gomez	Col. Nuestra Señora de Lourdes	Betulia	Santander
Adrian Monsalve	Col. Nuestra Señora de Lourdes	Betulia	Santander
Karoll Juliana Sandoval	Col. Nuestra Señora de Lourdes	Betulia	Santander
Oscar Leonel Castro	Col. Nuestra Señora de Lourdes	Betulia	Santander
Cesar Andres Alvarez	Col. Nuestra Señora de Lourdes	Betulia	Santander
Juan camilo Becerra	Col. Nuestra Señora de Lourdes	Betulia	Santander
Javier Olinto Rueda	Col. Nuestra Señora de Lourdes	Betulia	Santander
Maira Vargas	Col. Nuestra Señora de Lourdes	Betulia	Santander
Jonathan Herrera	Col. Nuestra Señora de Lourdes	Betulia	Santander
Maria Alejandra Plata	Col. Nuestra Señora de Lourdes	Betulia	Santander
Paula Andrea Garcia	Col. Nuestra Señora de Lourdes	Betulia	Santander
Karen Julitza Calderon	Col. Nuestra Señora de Lourdes	Betulia	Santander
Jenny Juliana Diaz	Col. Nuestra Señora de Lourdes	Betulia	Santander
Rita Areceli Diaz	Col. Nuestra Señora de Lourdes	Betulia	Santander
Maria Carolina Correa	Col. Nuestra Señora de Lourdes	Betulia	Santander
Lizeth Calderón	Col. Nuestra Señora de Lourdes	Betulia	Santander
Jonathan Camilo Navarro	Col. Nuestra Señora de Lourdes	Betulia	Santander
William Enrique James	Col. Nuestra Señora de Lourdes	Betulia	Santander
Daninis José Florez	Col. Nuestra Señora de Lourdes	Betulia	Santander
Jhon Fredy Rueda	Col. Nuestra Señora de Lourdes	Betulia	Santander
Juan Daniel Martinez	Col. Nuestra Señora de Lourdes	Betulia	Santander
Nombre	**Nombre de la Escuela**	**Municipio**	**Departamento**
Diana Isolina Vasquez	Loma Redonda	Zapatoca	Santander
Laura Jimena Riaño	Loma Redonda	Zapatoca	Santander
Luz Alejandra Hernandez	Loma Redonda	Zapatoca	Santander
Melissa Uribe	Loma Redonda	Zapatoca	Santander
Jaider Lopez	Loma Redonda	Zapatoca	Santander
Andres Rueda	Loma Redonda	Zapatoca	Santander
Angela Rincón	Loma Redonda	Zapatoca	Santander
Miguel Angel Chaparro	Loma Redonda	Zapatoca	Santander
Nestor Celis	Loma Redonda	Zapatoca	Santander
Adirana Vanessa Mayorga	Loma Redonda	Zapatoca	Santander
Karen Villamizar	Loma Redonda	Zapatoca	Santander
Duvan Reyes	Loma Redonda	Zapatoca	Santander
Wilder Diaz	Loma Redonda	Zapatoca	Santander
Jeferson Fabian Gamarra	Loma Redonda	Zapatoca	Santander
Brayan stiven Duarte	Loma Redonda	Zapatoca	Santander
Brayan Arley Silva	Loma Redonda	Zapatoca	Santander
Jeferson Fiallo	Loma Redonda	Zapatoca	Santander
Andres Felipe Carreño	Loma Redonda	Zapatoca	Santander
Hernan Dario Gomez	Loma Redonda	Zapatoca	Santander
Dario Arley Gomez	Loma Redonda	Zapatoca	Santander
Luis Ferney Landines	Loma Redonda	Zapatoca	Santander
Deisy Nathalia Rodriguez	Loma Redonda	Zapatoca	Santander
Maria Andrea Murcia	Loma Redonda	Zapatoca	Santander
Sandra Milena Landinez	Loma Redonda	Zapatoca	Santander
Karen Dayanna Rojas	Loma Redonda	Zapatoca	Santander
Nombre	**Nombre de la Escuela**	**Municipio**	**Departamento**
Dayron Javier Díaz Navarro	San Javier	Zapatoca	Santander
Edwin Alonso Fernandez Serrano	San Javier	Zapatoca	Santander
Juan Jose Moros Quintero	San Javier	Zapatoca	Santander
Cindy Viviana Amaya Fajardo	San Javier	Zapatoca	Santander
Daniel Jimenez Mendez	San Javier	Zapatoca	Santander
Anggie Natalia Quintero Naranjo	San Javier	Zapatoca	Santander
Smith Loreno Naranjo Rueda	San Javier	Zapatoca	Santander
Maria Alejandra Marquez Espindo	San Javier	Zapatoca	Santander
Robinson Díaz Nuñez	San Javier	Zapatoca	Santander
Jhon Sebastian Duarte Sánchez	San Javier	Zapatoca	Santander
Juan Pablo Fernandez Rueda	San Javier	Zapatoca	Santander
Gonzalo Jimenez Mendez	San Javier	Zapatoca	Santander
Leidy Marcela Prada Marquez	San Javier	Zapatoca	Santander
Albeiro Serrano Moros	San Javier	Zapatoca	Santander
Leidi Katerine Suarez Rodriguez	San Javier	Zapatoca	Santander
Oswaldo Jesús Olarte Acevedo	San Javier	Zapatoca	Santander
Orlando Moros Quintero	San Javier	Zapatoca	Santander
Leidy Tatiana Serrano Moros	San Javier	Zapatoca	Santander
Laura Juliana Naranjo Rueda	San Javier	Zapatoca	Santander
Karen Andrea Suarez Rodriguéz	San Javier	Zapatoca	Santander
Javier Andres Fernandez Rueda	San Javier	Zapatoca	Santander
Fernando Arley Suarez Díaz	San Javier	Zapatoca	Santander
Erika Tatiana Díaz Nuñez	San Javier	Zapatoca	Santander
Adriana Lucia Amaya Fajardo	San Javier	Zapatoca	Santander
Yudi Caterine Sarmiento Plata	San Javier	Zapatoca	Santander
Ana Maria Silva Ropero	San Javier	Zapatoca	Santander
Diego Andres Silva Aparicio	San Javier	Zapatoca	Santander
Samuel Enoc Silva Aparicio	San Javier	Zapatoca	Santander
David Camilo Suarez Díaz	San Javier	Zapatoca	Santander
Silvia Fernanda Gómez Quintero	San Javier	Zapatoca	Santander
Daisi Caterine Gómez Quintero	San Javier	Zapatoca	Santander
Monica Yanetza Serrano Chaparro	San Javier	Zapatoca	Santander
Claudia Rocio Serrano Chaparro	San Javier	Zapatoca	Santander
Orlando Amaya Fajardo	San Javier	Zapatoca	Santander
Néstor Duban Amaya Jiménez	San Javier	Zapatoca	Santander
Daniel Fernandez Rueda	San Javier	Zapatoca	Santander
Alicia Vasquez Chaparro	San Javier	Zapatoca	Santander

YARÉ II PROJECT: Serranía de los Yariguíes Assessment and Research of Endangered Species, Santander, Colombia
Project Code F0611710 - Financial Report

The total spent by ProAves Foundation was 25.058 USD of which 24.920 USD come only differences in rates.

Disbursements	Date	$ Currency	Pesos	Exchange rate
Disbursement 1	16-jul-10	23,670	44,405,708	1,876
Disbursement 2	11-may-12	1,250	2,200,000	1,76
Total:		**24,920**	**46,605,708**	1,870

Itemized expenses	Total CLP requested (USD)	Total CLP used (USD)
PHASE I - PROJECT PREPARATION		
Administration		
Communications (telephone/internet/postage)	200,00	232,78
Books and printing journal articles/materials	200,00	201,46
Insurance	800,00	803,70
Visas and permits		
Team training (Please detail:)		
Reconnaissance		
Medical supplies/first aid		
Equipment		
Scientific/field equipment and supplies (Please detail:	2.470,00	2.438,49
Photographic equipment (Please detail: Batteries)	600,00	595,10
Camping equipment (Please detail main items:)	400,00	413,40
Field guides		
Maps		
Boat/engine/truck	800,00	818,77
Fuel		
Other (Please detail:)		
PHASE II - IMPLEMENTATION EXPENSES		
Administration		
Insurance		
Transportation		
Fuel		
Trip to Brasília to present Protectec Area proposal for government authorities		
Field vehicle maintenance		
Accommodation for team members and local guides	1.000,00	924,32
(Please detail: During transportation ($50 per day for 4 people * 8 days in the cities) 400.00 In the field ($210 per week for 6 people * 12 weeks) 2520.0)		
Food for team members and local guides	3.300,00	3.300,72
(Please detail: Food in field ($210 per week for 6 people * 12 weeks) 2520.00)		
Transportation	3.200,00	3.204,06
Customs and port duties		
Workshops		
Outreach/education activities and materials (brochures, posters, video, t-shirts, etc.) (Please detail: Jornales de reofrestación, etc.)	3.880,00	3.977,60
posters (150 items) 150	1.750,00	1.750,03
t-shirts (50 items) 100)	1.750,00	1.749,99
Other (Please detail: Expenses for reforestation processes (Wages, supplies, etc..) and workshops with communities).	2.200,00	2.200,62
PHASE III - POST-PROJECT EXPENSES		
Administration	2.000,00	2.000,81
Report production and results dissemination	450,00	446,27
Total	**25.000,00**	**25.058,11**

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