

**Assessment and Conservation of  
Cundinamarca Antpitta (*Grallaria  
kaestneri*) at  
Farallon de Medina, Cundinamarca**



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Alcaldía de Guayabetal

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## GENERAL PROJECT SUMMARY CUNDINAMARCA ANTPITTA

We studied relative abundance, geographical distribution, habitat use of the Cundinamarca Antpitta (*Grallaria kaestneri*), an endemic species of the Slope east from Colombia. *G. kaestneri* occupy mainly upper montane and cloud forests between 1900 to 2300 m throughout its geographical distribution. The abundance and use microhabitat and habitat of this species is greater in region of Monterredondo (Guayabetal); become abundant when humidity and epiphyte, high tree are abundant in cloud forest and second growth areas. We found ten individuals of adult birds along a 4 km transect of the Monterredondo region. Both the frequency of observation of the birds at some sites, and the repeated findings of feces suggest that the population size remained constant during the study period but we don't found populations the Cundinamarca Antpitta at regions the Miralindo (Municipio Medina), San Isidro (Municipio de Gachala) due to deforestation in the region. In this study we also registered 298 bird species in total in the three areas explorations. These included new records for endangered birds as the *Gorgeted wood quail* (*Odontophorus strophium*), Yellow winged parakeets (*Pyrrhura calliptera*), Rusty faced parrot (*Hapalopsittaca amazonina*) a colombian endemic and the globally threatened the restricted range and we found good populations the Cerulean Warbler (*Dendroica cerulea*) and 18 new bird records for the area. Our results about distribution and abundance the Cundinamarca Antpitta to confirm to upload to critically endangered this specie. We will hope to have a reserve is close to Guayabetal town, offering ecotourism opportunities, bird monitoring, environmental education with local schools for their good location to look for Cundinamarca Antpitta and other rare and threatened species of the region. This initiative is a very important one for the region

## INTRODUCTION

In May 1990, the Cundinamarca Antpitta (*Grallaria kaestneri*) was discovered and described by Stiles. (1992). in the Monterredondo, Municipal de Guayabetal, Depto. De Cundinamarca, Colombia. Where it is believed to be endemic. During the scientific expedition that led to the discovery, the Monterredondo was also found to be an area of conservation importance due to the presence of endemic species, lack of scientific research, and looming threats to wildlife and its habitats and nominate IBA Guatiquia. (Franco & Bravo 2005).

The Cundinamarca Antpitta is endangered specie, endemic to the slope Eastern Cordillera of Colombia. Although extremely poorly known, their current distributions are likely to be highly restricted and their remaining forest habitats the Farallón de Medina are under intense anthropogenic pressure. In order to develop an urgently needed and effective conservation strategy for this specie, this student initiative aims to establish their current status through: accurate determination of their distributions; identification of their principal habitat and resource requirements; clear delineation of current threats.

This study likewise intended to make an initial description of the ecology of the Cundinamarca Antpitta and behavior and call variations. Lastly, environmental awareness-raising was one of the major thrusts of this project.

The study was successful in establishing survey stations throughout Monterredondo area that were subsequently used in this project. It clarified some of the threats and added information on the biology of the species.

Due to its small population, low populations, deforestation and range size, it was given an upload IUCN Red List category of “critically endangered”.



## PROJECT OBJECTIVES

Aim To have basic knowledge of habitat and ecological requirements of the Cundinamarca Antpitta, in order to create a baseline to develop conservation plans for the species at a local scale and in a further stage a more regional plan.

- a. To establish a baseline on habitat characterization by surveying forest structure and composition.
- b. To estimate population densities of Cundinamarca Antpitta
- c. Raise local awareness for conservation through meetings and workshops, with local people and schools.
- d. To develop a communication strategy at a local, national and international scale.
- e. Explore near areas where the species may habitat has been found, which is outside the area protected by the main reserve.

## STUDY AREA

Three study sites was selected based upon a consideration of various factors: (i) encompassing as broad a range of elevation as possible; (ii) in primary or less disturbed forest; (iii) localities possible for Cundinamarca Antpitta (iv) security of fieldworkers. Study sites were located in Municipio Guayabetal, Gachala and Medina. Details of each study site are presented and described below. Photographs showing forest composition are set out in. It has been proposed that in studies such as this along elevational gradients, study sites should be reasonably evenly distributed across the gradient, and a number of study sites sufficient to include all major habitats for Cundinamarca Antpitta. We studied a total of 3 sites in Farallón de Medina, located on an elevational gradient between 1000 and 2900m above sea level. Each site was subject to 20-10 days' between june 2008 to july 2009 intensive fieldwork in birds.



Mapa. Area the study in blue records the Cundinamarca Antpitta in red not records the Cundinamarca Antpitta

- a. Vereda San Isidro (Municipio Gachala) (2000-2400m). This site was accessed and is only accessible by walk; there is no road (Fig 1). This is a pristine primary habitat of cloud forest located 12 km from Municipio Gachala, approximately. This habitat is subject of extraordinary levels of precipitation. But in the areas down to 2000m there is an intensive forest fragmentation which extends up in sheltered valleys below the paramo and ecotone.
- b. Vereda Monterredondo (Municipio Guayabetal) (1800 m 2900). The type locality is located almost exactly 50 km SE of the center of Bogota city. The forests of this zone (Fig. 2) have been from lightly to fairly heavily disturb. Evidence of that are the areas where second-growth trees (*Heliocarpus*, *Cecropia*, *Trema*, *Alnus*, *Casearia*, etc.) predominate over primary forest elements like Lauraceae, Sapotaceae, *Hyeronima*, *Sapium*, *Billia*, etc. Due to the steep slopes, frequent natural treefalls, and occasional extraction of timber trees, the canopy is very broken and irregular; larger trees reach 20 m in height, with occasional emergents (probably remnants of the original primary forest) (Stiles 1992).
- c. Vereda Miralindo Río Gazaunta, Municipio de Medina at elevations of 1700, 1800; premontane very wet forest between 1600 and 1800 m, lower montane wet forest at higher elevations to 2100 m. Forest clearance and extensive disturbance below 1500 m, forest mostly pristine above this elevation (Fig 3), but with a few small clearings as high as 1700 m. Premontane forest notable for its abundance of hemiepiphytes, especially of the genus *Coussapoa* (Moraceae); lower montane forest characterized by a canopy height of 20-25 m and high abundance of epiphytes, especially of the Clusiaceae. (Salaman *et al.* 2002).



Figure 1. Vereda San Isidro (Municipio Gachala)

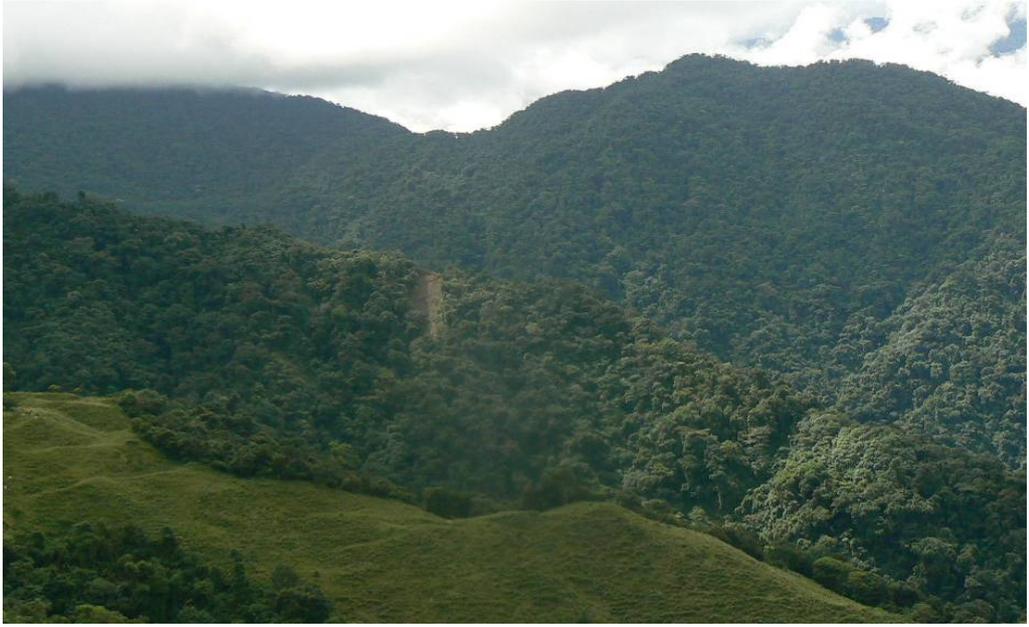


Figure 3. Vereda Miralindo Río Gazaunta, Municipio de Medina



Figure 2. Vereda Monterredondo (Municipio Guayabetal)

## METHODOLOGY

We visited 3 highland sites throughout the four main mountain ranges in Cundinamarca: Guayabetal (Vereda Monterredondo), Medina (Vereda Miralindo), and Gachala (Vereda San Isidro) between 4 to 8 times, each over a period of 8 months (June 2008–September 2009) (Fig. 1). During each visit, we only found individuals of *Cundinamarca Antpitta* at Vereda Miralindo and in the small town Guayabetal. Also we estimated habitat use and relative abundance in highland cloud forests above 2000 m. In Vereda Monterredondo, we covered areas within cloud forest (or elfin forests).

Evaluation of microhabitat use. We examined structural and topographic aspects of microhabitat use with a series of variables based on Mueller-Dombois & Elleberg (1974) and Block & Brennan (1993) that were measured on 0.02-ha (15 m diameter) circular plots. We examined floristic aspects of microhabitat use with values of relative cover percentage of species of woody plants, because that were known to provide ecological requirements along the cloud forests of the Monterredondo basin for *Cundinamarca Antpitta* (Fig. 4). (Based on habits data of ten individuals of *Cundinamarca Antpitta* watched throughout Monterredondo).



Figure 4. Features of the sites where we saw *Cundinamarca Antpitta*.

The center of each habitat plot corresponded either to locations used by *Cundinamarca Antpitta* or randomly located points. We used organism-centered habitat samples to estimate the microhabitat structure used by *Cundinamarca Antpitta*. The location of the first *Antpitta* (whether in a covey, in a pair, or a single bird) detected was used as the center of a habitat plot. We sampled available habitat structure with a systematic random design where the number of plots at each area was stratified by the proportions

of cover types present. Within each cover type, we located a random starting point. From each starting point, the location of the first habitat plot was obtained by selecting a random compass bearing, and then randomly choosing a distance between 0 and 100 m along this bearing. Consecutive plots were spaced at 50- or 100-m intervals (depending on the patch size of the cover type) along the random bearing. A total of 18 randomly located plots were contrasted with an equal number of organism-centered plots for our within-site analyses. In our pooled analyses we contrasted 12 organism-centered plots with 6 randomly-located ones. We contrasted microhabitat use and availability in both univariate and multivariate space.

Univariate tests for differences between and among individual variables were based on a Brown-Forsythe one-way analysis of variance (ANOVA) without the assumption of equal within-group variation (Zar, 1974). We felt justified in pooling data from across four distinct areas because we wanted to obtain a general estimate of habitat use by *Cundinamarca Antpitta*. Floristic aspects of use and availability were examined using Spearman's rank-correlation analysis (Zar 1974). Our multivariate contrast of use and availability was based on a logistic regression analysis (Zar 1974) of the structural and topographic variables that had statistical differences between the used and available groups (see Results). In general, logistic regression is used to derive a classification function from a series of "predictor" (in this case habitat) variables and then assess how well this function can predict which group the samples came from, much like discriminant analysis. A fundamental difference between logistic regression and discriminant analysis is that in logistic regression the analysis must be constrained to a two-group contrast. During the exploratory phase of our analysis, we observed that logistic regression was superior to discriminant analysis for evaluating our use and availability data in multivariate space.

Density estimation. We estimated *Cundinamarca Antpitta* density at the study area (Guayabetal, Vereda Monterredondo) we carried out a field experiment based on playbacks using *Cundinamarca Antpitta* songs recordings. To estimate density of antpitta and identify occupied habitat, we conducted distance sampling using the two line-transect survey approach. The tape recordings were reproduced every 60 meters along 960 meters transects within the study area and individual responses were recorded. Every track was reproduced during two days covering each day only half of the transect points. At the end of the experiment moving playbacks were reproduced to observe individual behaviors and to detect the possible territories boundaries as well as the densities.

Detection locations were also marked with flagging in the field to serve as the center point for habitat sampling plots. Line transects survey data was analyzed using program DISTANCE (Thomas et al. 2003). Survey data was pooled for all transects to determine a detection function and estimate density. For each *Antpitta* detection, the radial distance and bearing was converted to a perpendicular distance prior to data analysis using trigonometry. To take into account potential outliers, the data were right truncated

to remove 5% of the detections with the greatest distances. Model fit was evaluated using the Kolmogorov-Smirnov Goodness of Fit test in program DISTANCE. For this test, higher p-values indicate that the data fit the model well.

Sampling effort. We spent 3 person-days in the field locating and/or censusing *Cundinamarca Antpitta*.

## RESULTS MICROHABITAT USE

The average microhabitat structure used by *Cundinamarca Antpitta* varied greatly among the four studied transects; 8 of the 10 variables showed statistically significant differences ( $P < 0.01$ ) across the two transects (Table 1). When we contrasted microhabitat use with availability, we detected significant differences ( $P < 0.01$ ) in 4 of 14 variables (Table 1). A mathematical combination of these four variables (distance to water, distance to cover, maximum shrub height, and % humidity) using logistic regression showed a substantial improvement over classification of the organism-centered and randomly located plots based solely on prior probabilities of group membership. Histograms of the predicted probabilities of group membership illustrate the classification results of all habitat samples pooled across the four areas (Fig. 5). The distribution of the organism-centered samples was skewed toward the high end of the probability scale. Conversely, probability scores for the habitat samples from the randomly-located group were distributed more-or-less evenly across the entire probability scale (Fig. 5). The samples in the randomly-located group contained a wider variety of habitat components (including the proportion of microhabitat structure used by *Cundinamarca Antpitta*) than the organism-centered plots. The observed  $r$ , (0.6) did not exceed the critical  $r$ , (0.9;  $df = 10$ ;  $P > 0.05$ ) between correlation the values variables habitat versus abundance the *Cundinamarca Antpitta* appeared to be statistically dependent to ( $R=0.85$ ) analysis based solely on abundance and variables ecological that use *Cundinamarca Antpitta* distance to water, distance to cover, high canopy, maximum shrub height, and % humidity was significantly greater than expected, while use of Percentage herb cover Percentage shrub canopy was significantly less than expected based on availability the habitat for *Cundinamarca Antpitta*.

Table 1. Average values of the microhabitat structure used by and available to *Cundinamarca Antpitta*. Values given were obtained by pooling habitat samples from two regions or transects at Monterredondo (Guayabetal).

Variable*	Organism centered (n = 12) transect 1 and 2			Randomly located (n = 18) transect 1 and 2			F-ratio
	X	SE	Range	X	SE	Range	
Basal area (m <sup>2</sup> /ha)	<b>0.12</b>	0.18	0-3.7	0.24	0.04	0-2.6	n

<b>High canopy (m)</b>	22.5	18.0	35.2-8.161	15.494	9.0	50.23-8.25	1.2
<b>Humidity</b>	85.05	25.04	100-70 %	50	21.5	60-50	15.6
Distance to cover (m)	0.83	0.20	0-13.0	3.9	0.66	0-45.0	15.2
<b>Distance to edge (m)</b>	2.49	0.362	0-27.0	3.9	0.66	0-45.0	15.2
Percentage of leaf litter %	74.0	25.6	0-100	65.0	34.0	0-100	23.9
shrub height Minimum shrub height (m)	2.4	0.12	0-6.5	1.9	0.12	0-5.0	8.2
<b>Percentage epiphite %</b>	75.0	42.0	0-100	82.0	52.0	0-100	15.2
Percentage herb cover	35.8	15.2	0-100	42.0	15.0	0-100	Ns
Percentage shrub canopy	18.4	2.2	0-100	25.5	3.17	0-100	ns

D All F-ratios significant at  $P < 0.01$ , unless noted as not significant (ns); one-way analysis of variance.

## **ABUNDANCE IN RELATION TO MICROHABITAT USE AND AVAILABILITY**

Based on the response to the playback experiments abundance, one individual responded to the play back experiments in points between 30 m and 80 m on transect while the other individual responded between 100 m and 130 m. We observed 10 *Cundinamarca Antpitta* during two line transect sampling; Antpitta were detected on 2 of the transects surveyed (Fig. 6). Three *Antpitta* detections were too far for observers to get an accurate distance; therefore, these birds were not included in the DISTANCE analysis to avoid biasing the data. Based on the criteria described in the Methodology Section, the best model estimating detection probability and density of *Cundinamarca Antpitta* was the Uniform key function with two cosine series adjustments. The estimate of *Cundinamarca Antpitta* density based on this model was  $0.056 \pm 0.023$  (SE) birds/ha.

We did not take the time to follow birds and explore their territories to determine if they were male or female. The Kolmogorov-Smirnov goodness of fit test for the uniform key function model indicated that the data are a good fit to the model ( $D_n = 0.141$ ,  $P = 0.821$ ).

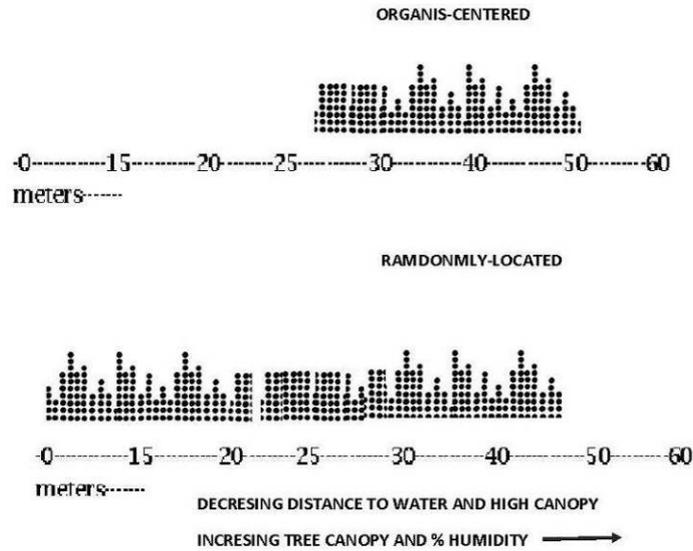
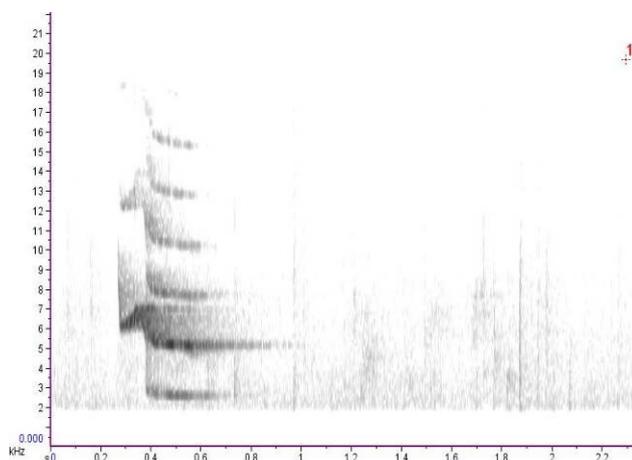


Figure 5. Predicted probabilities of membership in the used habitat group based on a logistic regression analysis of four variables measured on 12 (10 organism- centered; 100 randomly-located) habitat plots pooled across the four areas. Each point represents One habitat plot. Pictorial interpretation shows variation in vegetative structure.



Figure 6. Transect one for census the *Cundinamarca Antpitta*

## SONGS CUNDINAMARCA ANTPITTA

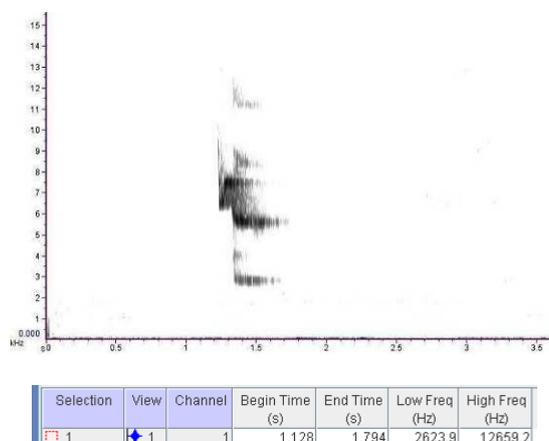


Selection Table

Selection	View	Channel	Begin Time (s)	End Time (s)	Low Freq (Hz)	High Freq (Hz)
1	1	1	0.256	0.704	2299.7	19006.3

**Figure 7.** Aggressive Chatter call of Cundinamarca Antpitta recorded at Guayabetal, Prov. Cundinamarca, Colombia.

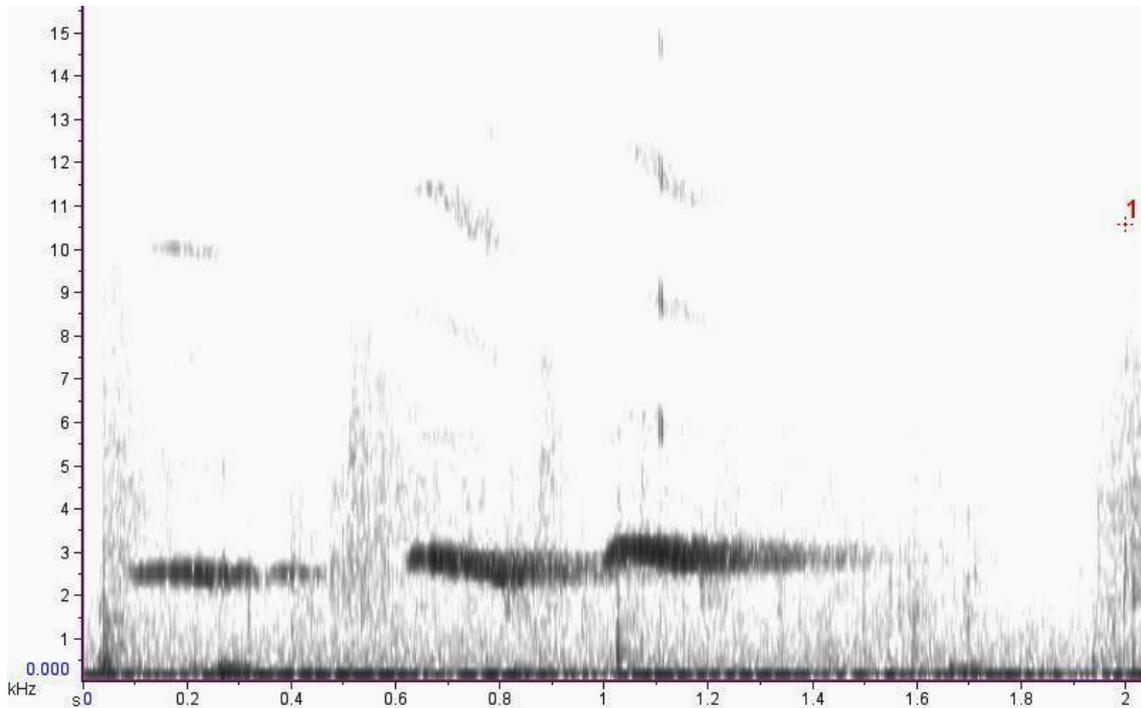
As other Antpitta, the aggressive chatter (Fig. 7 and 8 (answers Playback)) is a rapid series of grating notes “quit, quit, quit” given in high-intensity aggressive interactions. It consists of note undifferentiated with a wide frequency range, from about 2.299 kHz down to 1.9006 kHz. It has a frequency peak of 2.621 kHz, and last 0.06 seconds. Number of notes is between 5 and 8 and aggressive chatter duration is 0.7 seconds. The aggressive chatter is directed towards other *G. kaestneri* or any times to *Grallaria ruficapilla* (chestnut crowned Antpitta). A Cundinamarca Antpitta aggressive chatters either as it attacks or chases another Antpitta, or as a warning that the vocalizer is about to leave its perch and attack. Chatters are given by territorial males.

Playback *Grallaria kaestneri*

Selection	View	Channel	Begin Time (s)	End Time (s)	Low Freq (Hz)	High Freq (Hz)
1	1	1	1.128	1.794	2623.9	12659.2

**Figure 8.** Answers to playback Cundinamarca Antpitta

Songs may be female (Fig. 9) has more down frequency than the other songs the Cundinamarca Antpitta.



Selection	View	Channel	Begin Time (s)	End Time (s)	Low Freq (Hz)	High Freq (Hz)
1	1	1	17.790	17.790	10904.4	10904.4

Figure 9. Possible Female *Grallaria kaestneri*

Song consists of three and two different notes "pi, pii, piu" given when Cundinamarca Antpitta is in its territory may be male (Fig. 10). Song can be to attract females or a territorial song to other males. The "pi" note or introductory note can be repeated after "pii" (Fig. 11). Introductory note "pi" consists of wide frequency range, from about 2.313 kHz down to 3.243 kHz. It has a frequency peak of 3.310 kHz, and last 0.423 seconds. The frequency range of the second note "pii" is similar, 2.208 kHz to 3.406 kHz. It has a frequency peak of 3.406 kHz, and last 0.299 seconds. Final note "piu" has a low frequency, from about 2.448 kHz down to 3.646 kHz. It has a frequency peak of 6.646 kHz, and last 0.340 seconds. Several songs are separated by brief pauses of 15 a 20 seconds or less

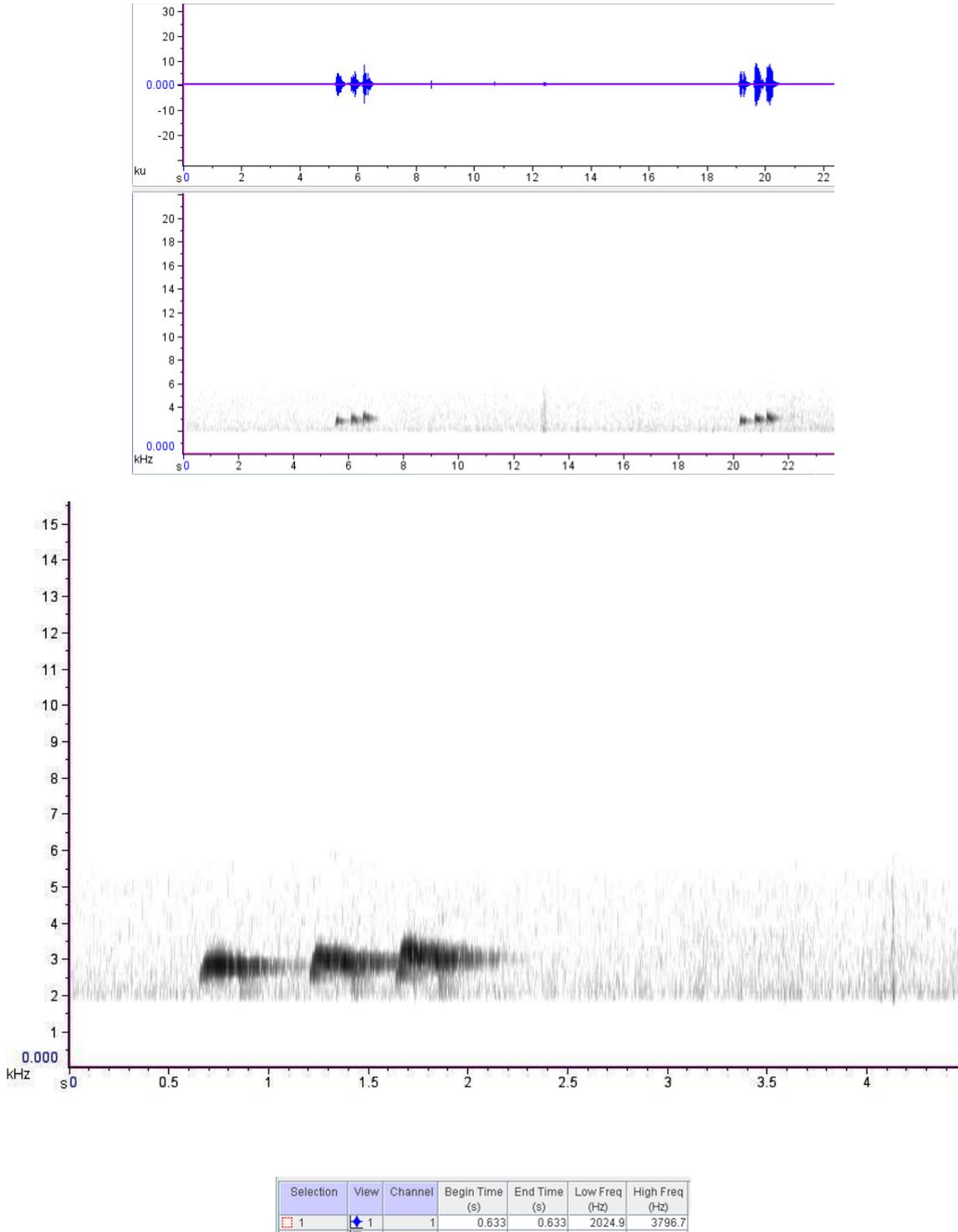
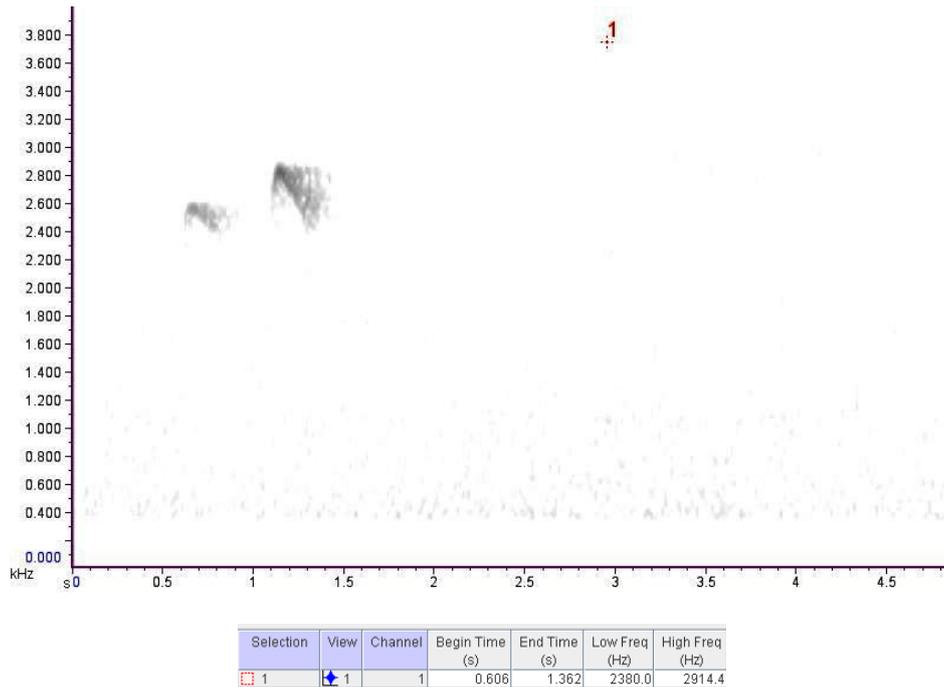


Figure 10. Short song 2 notes *Grallaria kaestneri* and Oscilogram male *Grallaria kaestneri*



**Figure 11.** Song of Cundinamarca Antpitta recorded at Monterredondo, Guayabetal (Cundinamarca, Colombia).

## DISCUSSION

Density.—Our density estimate for *Cundinamarca antpitta* (0.056 birds/ha) not similar to that from other recent and historical studies in antpittas. Most recently, Kattan and Beltran (2002) reported *Grallaria milleri*  $1.3 \pm 0.2$  individuals/ha, *Grallaria ruficapilla*  $0.4 \pm 0.1$  individuals/ha, *Grallaria nuchalis*  $0.5 \pm 0.2$  individuals/ha density from sites in Central Andes and open Paramo habitat. Where birds are more visible, Creswell et al (1999) obtained a density of *Grallaria quitensis* of 0.3 individuals/ ha. It necessary the combination the different techniques census and mist-netting over extend time period for a clear results about the density the antpittas (Robinson et al, 2000; Kattan and Beltran, 2002).

Our preliminary data suggests that *Cundinamarca Antpitta* distribution and abundance is very small across the species' range and that the high level of fragmentation and deforestation development activities have had affect on the density or abundance of *Cundinamarca Antpitta* on lands in Vereda San Isidro and many areas the Vereda Miralindo. However, because we have no density data from Vereda San Isidro and many areas the Vereda Miralindo prior to the deforestation and illegal cultivos our exploration, we cannot make conclusions on the impact the It on biodiversity area in specially on *Cundinamarca antpitta* abundance or density. That is, it is possible that *Cundinamarca Antpitta* were more abundant prior to deforestation the cloud forest development in Vereda Miralindo, Vereda Monterredondo and Vereda San Isidro Basin than they are presently.

Results of the habitat analyses were variable. The best logistic regression model indicated that Cundinamarca Antpitta may prefer habitat that is slightly closer to primary cloud forest with good mature trees, High canopy (m), Humidity, Distance to edge (m) and Percent epiphyte %

**Cundinamarca Antpitta (*Grallaria kaestneri*): does this species warrant uplisting to Critically Endangered?**

Cundinamarca Antpitta *Grallaria kaestneri* is currently considered vulnerable under criteria D2 owing to its very small and declining population. The species has extremely specialised habitat requirements, preferring high tree, primary cloud forest and high humidity %, often at cloud forest only Monterredondo and slope east Farallon de Medina between 1,800 and 2,300 m altitude. Given, the species's very small known range within which, the occupied area must also be extremely small owing to its specialised habitat requirements, and the apparent rapid degradation of remaining habitat, it may be best to precautionarily assume that the true population size lies at the lower end of the estimate. In this case, the species could be considered Critically Endangered under criterion C2a(ii) if more than 60% of individuals are thought to occur in a single sub-population Monterredondo and River Gazaunta, or alternatively if each sub-population is considered isolated but all sub-populations support fewer than 100 individuals then the species qualifies under criterion C2a(i). Further information on the likely population size, rates of decline and area of suitable habitat

## THREATENED FOR CUNDINAMARCA ANTPITTA

### HABITAT FRAGMENTATION

The main threats affecting this species include habitat loss and degradation, largely as a result of human settlement and the clearance of the forest for wood and for agricultural land, including coffee and sugarcane plantations. Much of the remaining habitat is greatly fragmented and isolated

The IBA GUATIQUIA and Vereda Miralindo (Medina) support large human populations and have long been areas of high agricultural production (Fig 13). Natural habitat has been severely fragmented, and generally replaced by coffee plantations, light woodland and, to a lesser extent, pastures and plantain and sugarcane plantations. The Farallon de Medina had held the largest tract of intact forest but deforestation began in 1990, and most of the eastern slopes have since been settled, logged and converted for agricultural and coca production (Fig 13). We saw subsistence hunting for food. Some forest clearance continues and mature secondary forest patches are now scattered. Natural vegetation cover is judged to have been reduced to c.30% between 1,400 and 2,900 m, with most remnants occurring above 1,300 m.

Habitat fragmentation threatens species plants the cloud forest obligate species that evolved in a vast, continuous landscape of grassland habitat.

-obligate birds (*Pyrrhura calliptera*, *Grallaria kaestneri*, *Dendroica cerulea* y *Odontophorus strophium*) are also sensitive to fragmentation. These species prefer larger stands with high tree the cloud forest cover and decline with increasing disturbance.



Figure 13. The human populations and have long been areas of high agricultural production at Farallones de Medina nothing forest 500 to 1800 m.



Figure 14. Coca plantations threatened for forest and cloud forest at Farallones de Medina

## NEW AND NOTEWORTHY RECORDS OF BIRDS FROM THE FARALLON DE MEDINA REGION, SLOPE EAST COLOMBIA

The Farallon de Medina is an isolated Eastern Cordillera of Colombia massif on the south-east Colombia close to the border with department Meta and Cundinamarca. The Farallon Medina has altitudinal variation as well as its location, the region contains a mosaic of globally significant biomes (nearly all those to be found in tropical America) from Cloud forest, premontane forests and tropical wet forests, montane forests and páramos; the region is unique for its small size (c.5,000 km<sup>2</sup>) combined with its large variety of habitats. Recent studies during July and June 1997 on the avifauna within the Farallon de Medina and the adjacent lowlands, including the Ubala A and Ubala B, has yielded noteworthy distributional records of 12 bird species and one new species birds woodcreeper, new registrations for the Eastern Cordillera of Colombia region, and noteworthy altitude extensions for bird species. Following the latter study no other intensive investigations took place, and information on the avifauna of the Farallon de Medina was principally collected along the Municipally Medina, Gachala, and Guayabetal . Much of the information included in this paper results from avifaunal surveys within the study areas of the Vereda San Isidro (Gachala), Vereda Miralindo (Medina) and Vereda Monterredondo (Guayabetal), concentrated at elevations 500 to 3100 m. , in the lower lands the Farallon de Medina Below 1500 m very little forest persists, as the land is intensively farmed and used for cattle grazing and ilegal cultivs. At 500–1,800 m, the valley represents a mosaic of humid premontane forest fragments, shade-coffee plantations and pasture. Above 1,800 m still-larger forest fragments exist up to the Miralindo, near the river Gazaunta and vereda Monterredondo river Guatiquia.

Data were collected during fieldwork within the project ‘Assessment and Conservation of Cundinamarca Antpitta at Farallon de Medina, Cundinamarca, conducted in 2008–2009. Study areas were visited during excursions of 5–10 days. Bird populations were monitored using standardised methodologies for assessing bird population abundance, systematic field observations and tape-recordings. using a Sony TCM 5000 EV and Sennheiser ME66 microphone, were made on most days; copies of recordings have been deposited at Banco de Sonidos Animales (BSA), Alexander von Humboldt Institute, Bogotá and we upload songs in the website xeno canto [www.xeno-canto.org](http://www.xeno-canto.org).

The majority of records included herein were obtained at ten localities (Fig. 1):

- (1) Vereda San Isidro, Municipally Gachala located on the northern slope of the Farallon de Medina, department of Cundinamarca (11°05’N, 73°35’W; 8,400 ha), including San isidro nature reserve (700 ha), which protects cloud forest at 1600–2,300 m.
- (2) Miralindo, near Gazaunta river (11°07’N, 74°06’), elevation 500 to 1700 m, lower montane wet forest clearance and disturbance extensive below 1000 m

(4) Vereda Monterredondo, municipally Guayabetal (11°45'N, 78°58'W) includes wet premontane and montane forest at 1,800 to 3,100 m; primary forest still exists on the slopes of the ridge, whilst secondary forest and pine plantations dominate in the vicinity of the National Park Chingaza, Unit station and the military base. Monterredondo is the best area where we saw *Cundinamarca antpitta*.

### Species accounts

**BLACK AND CHESTNUT EAGLE** *Oroaetus isidori* Three individuals in flight at Vereda San Isidro on 6 October 2009, one either side of the main ridge, represented the new record the population at Farallon de Medina. One pair was displaying and vocalising, suggesting that the species breeds in the vicinity.

**FLAME WINGED PARAKEETS:** *Pyrrhura calliptera* (fig. 14) several Flocks were observed flying over forest canopy and along ravines at Vereda San Isidro and Vereda Monterredondo. Previously unrecorded in the farallon de medina, these records represent a northerly range extension in this East Slope.



Figure 14. Yellow winged parakeets (*Pyrrhura calliptera*)

**WEDGE-BILLED HUMMINGBIRD** *Schistes geoffroy* (Fig. 15): Several individual records at Vereda Monterredondo and Vereda Miralindo at 1,800 and 2,200 m were found in primary montane forest.

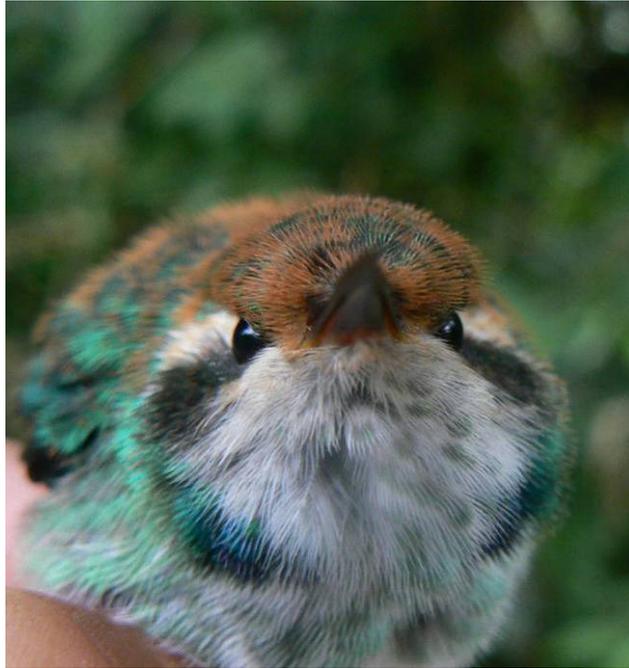


Figure 15. wedge-billed hummingbird (*Schistes geoffroy*)

MATORRAL TAPACULO (*Scytalopus griseicollis*) Fig. 16: Common in dense undergrowth of tall humid forest at and above vereda monterredondo to 2800 m- This observations are the first of the species at farallon de Medina.



Figure 16. matorral tapaculo (*Scytalopus griseicollis*):

MAY BE NEW TAPACULO: A *Scytalopus sp* tapaculo (Fig. 17) was tape-recorded and collected by Oswaldo Cortes at Vereda Miralindo; its song consisted of an extremely long-drawn-out series of trills that most closely approached that of vicinior. More recordings and specimens are necessary to assess the taxonomic status of this tapaculo, which was fairly common on slopes.



Figure 17. may be new tapaculo: A *Scytalopus* sp

UNICOLORED TAPACULO *Scytalopus latrans* (Fig. 18) several seen, and one photographed, along transect through Monterredondo Vereda and Vereda San Isidro, in October, noviembre, diciembre 2008. Most sightings were made at c.1800 m. Although superficially similar to other Tapaculo, It was separable by their longer and more conspicuous songs. These records, the first for slope eat andes.



Figure 18. unicolored tapaculo *Scytalopus latrans*

WHITE THROATED SPADEBILLS *Platyrinchus mystaceus* One bird was captured at vereda Miralindo with other captures at vereda San isidro. This montane flycatcher was previously known only the W of andes 900 to 2000 m. This first record at East Slope Andes.



Figure 19. white throated spadebills *Platyrinchus mystaceus*, Photo Giovanni Chaves

SEDGE WREN *Cistothorus platensis* (Fig. 20) One family was caught at vereda San isidro is at the species' upper elevation limit recorded to 1700 in San Isidro. This first record at East Slope Andes



Figure 20. sedge wren (*Cistothorus platensis*) @ Photo Juan Pablo Lopez

BLUE NAPED CHLOROPHONIA *Chlorophonia cyanea*. One female was captured at Vereda Miralindo on 12 and August 2009, respectively. This bird was trapped in mist-nets placed in old secondary forest near a river in Guatiquia. This poorly known restricted-range chlorophonia has a patchy distribution in the C and W Andes of Colombia.



Figure 21. blue naped chlorophonia *Chlorophonia cyanea*.

GOLDEN CROWNED TANAGER *Iridosornis rufivertex* (Fig. 22) A group was tape-recorded while calling from the canopy of forest edge at Vereda San Isidro on 25 and 27 January 2009. These are the first records in the East Slope of this local and erratic species with poorly known distribution.



Figure 22. GOLDEN CROWNED TANAGER *Iridosornis rufivertex*

BLACK CAPPED TANAGER *Tangara heinei* (Fig. 23 and 24): Observed in mixed species with *T. cayana*, *T. nigroviridis* and *T. cyanicollis* at Vereda Miralindo this first records at Andean east slope at Cundinamarca region.



Figure 23. black capped tanager *Tangara heinei*



Figure 24. Female to the left and male to the right Black Capped Tanager

SAFFRON-CROWNED TANAGER *Tangara xanthocephala*: (Fig. 25) Records in mixed species flocks at Vereda Miralindo 1650. Previously unrecorded on the Andean East Slope, although known from Vereda Monterredondo and Serranía de la Macarena.



Figure 25. saffron-crowned tanager *Tangara xanthocephala*

CERULEAN WARBLER *Dendroica cerulean* Fig 26: Common at vereda Miralindo and Vereda Monterredondo where at least seven birds were seen and two netted and photographed. This migratory species not had been recorded at Farallon de Medina only at region Meta.



Figure 26. Cerulean Warbler, *Dendroica cerulea* photo Proaves.

GORGETED WOOD QUAIL *Odontophorus strophium* (Fig. 27) Status: endangered , its presence was confirmed at Vereda Miralindo (heard), (daily heard and tape-recorded). Probably two family groups were present along the river Guatiquia. These records represent a small range extension, but the first records for the Andean East slope.



Figure 27. Gorgeted wood quail *Odontophorus strophium*. Photo Shirley Villamarin

**ALTITUDINAL RANGE EXTENSIONS.- Numerous species (Fig. 28) were recorded at higher elevations than previously reported in Colombia.**

Solitary black cacique *Cacicus solitarius*: to 1700 m. at Vereda Miralindo

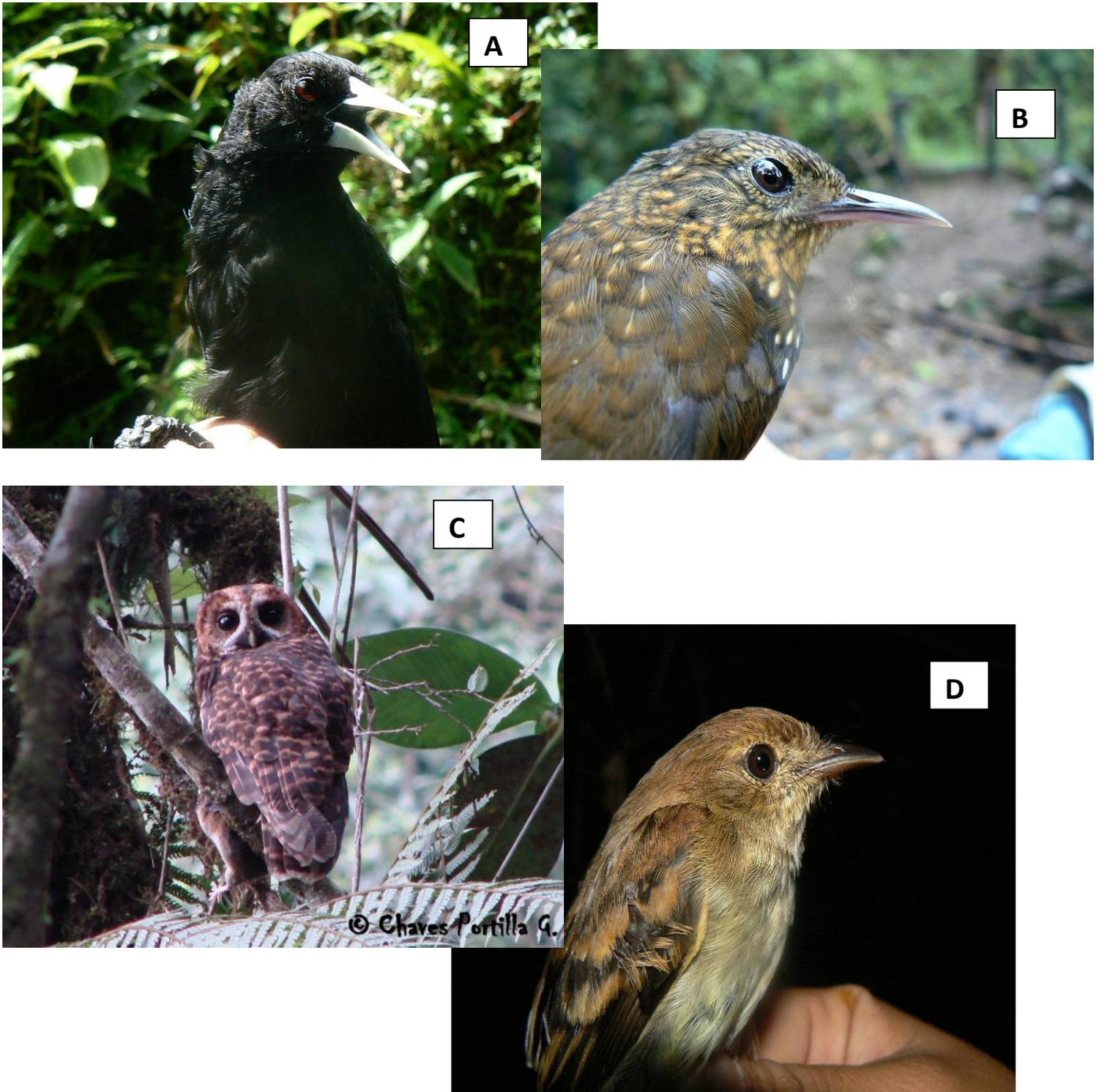
Lined quail dove *Geotrygon linearis*: to 2500 m at Vereda Monterredondo

Black streaked puffbird *Malacoptila fulvogularis*: to 200 m, at vereda Monterredondo

Spotted Barbtail *Premnoplex brunnescens*: to 2300 m, Vereda San isidro

Flavescent flycatcher *Myiophobus flavicans*: to 1800 m, Vereda Monterredondo and Vereda Miralindo

Mottled Owl *Ciccaba virgata*. One individual records the east andes Cordillera Oriental at Vereda San Isidro and Vereda Monterredondo to 2400 m.



**Figure 28.** A. *Cacicus solitaries*; B. *Premnoplex brunneicens*; C *Ciccaba virgata* (Photo Giovanni Chaves), D *Myiophobus flavicans*

## Other birds in specially IBA GUATIQUIA

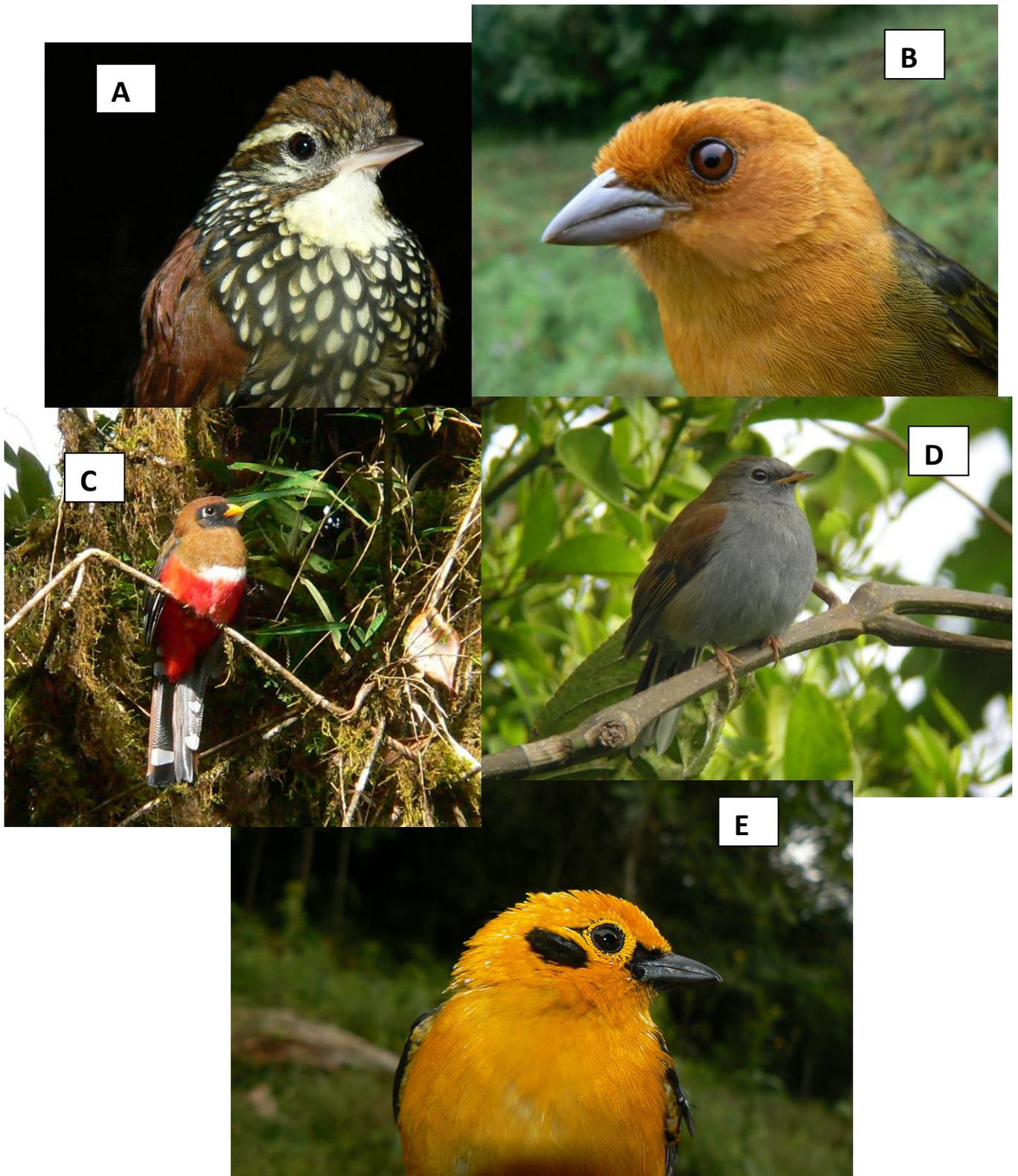


Figure 29. A. *Margarornis squamiger*; B. *Atlapetes semirufus*; C. *Trogon personatus*; D. *Myiadestes ralloides*; E. *Tangara arthus*.



Photos: A. (*Vireo leucophrys*) Brown-capped Vireo, B. (*Tangara guttata*) Speckled Tanager, C. Blue-and-black Tanager (*Tangara vassorii*)

**Table 2. Avian species and their distribution along the Farallón de Medina.**

			VEREDA MONTEREDONDO	VEREDA MIRALINDO	VEREDA SAN ISIDRO
Genus	Species	English Name			
<i>Crypturellus</i>	<i>soui</i>	Little Tinamou	X	X	
<i>Dendrocygna</i>	<i>bicolor</i>	Fulvous Whistling-Duck		X	
<i>Dendrocygna</i>	<i>viduata</i>	White-faced Whistling-Duck		X	
<i>Chamaepetes</i>	<i>goudotii</i>	Sickle-winged Guan	X		
<i>Penelope</i>	<i>montagnii</i>	Andean Guan	X	X	X
<i>Aburria</i>	<i>aburri</i>	Wattled Guan	X		
<i>Ortalis</i>	<i>ruficauda</i>	Rufous-vented Chachalaca		X	
<i>Odontophorus</i>	<i>strophium</i>	Gorgeted Wood-Quail		x	
<i>Bubulcus</i>	<i>ibis</i>	Cattle Egret	X	X	X
<i>Cathartes</i>	<i>aura</i>	Turkey Vulture	X	X	
<i>Coragyps</i>	<i>atratus</i>	Black Vulture	X	X	X
<i>Vultur</i>	<i>gryphus</i>	Andean Condor	X		
<i>Pandion</i>	<i>haliaetus</i>	Osprey	X	X	X
<i>Elanus</i>	<i>leucurus</i>	White-tailed Kite	X		
<i>Elanoides</i>	<i>forficatus</i>	Swallow-tailed Kite		X	
<i>Ictinia</i>	<i>plumbea</i>	Plumbeous Kite	X		
<i>Accipiter</i>	<i>bicolor</i>	Bicolored Hawk		X	
<i>Buteogallus</i>	<i>meridionalis</i>	Savanna Hawk		X	X
<i>Geranoaetus</i>	<i>melanoleucus</i>	Black-chested Buzzard-Eagle	X		
<i>Buteo</i>	<i>magnirostris</i>	Roadside Hawk	X	X	X
<i>Buteo</i>	<i>platypterus</i>	Broad-winged Hawk		X	X
<i>Caracara</i>	<i>plancus</i>	Southern Caracara		X	
<i>Daptrius</i>	<i>ater</i>	Black Caracara		X	
<i>Milvago</i>	<i>chimachima</i>	Yellow-headed Caracara		X	
<i>Falco</i>	<i>sparverius</i>	American Kestrel	X	X	X
<i>Columbina</i>	<i>passerina</i>	Common Ground-Dove		X	
<i>Columbina</i>	<i>minuta</i>	Plain-breasted Ground-Dove		X	X
<i>Columbina</i>	<i>talpacoti</i>	Ruddy Ground-Dove	X		X
<i>Patagioenas</i>	<i>fasciata</i>	Band-tailed Pigeon	X	X	X
<i>Patagioenas</i>	<i>subvinacea</i>	Ruddy Pigeon		X	
<i>Zenaida</i>	<i>auriculata</i>	Eared Dove	X		
<i>Leptotila</i>	<i>verreauxi</i>	White-tipped Dove	X		
<i>Geotrygon</i>	<i>linearis</i>	Lined Quail-Dove	X		
<i>Aratinga</i>	<i>acuticaudata</i>	Blue-crowned Parakeet		X	
<i>Pyrrhura</i>	<i>calliptera</i>	Brown-breasted Parakeet	X		X
<i>Forpus</i>	<i>conspicillatus</i>	Spectacled Parrotlet		X	
<i>Hapalopsittaca</i>	<i>amazonina</i>	Rusty-faced Parrot	X		
<i>Pionus</i>	<i>menstruus</i>	Blue-headed Parrot		X	
<i>Pionus</i>	<i>chalcopterus</i>		x		
<i>Pionus</i>	<i>tumultuosus</i>	Speckle-faced Parrot	X		
<i>Amazona</i>	<i>farinosa</i>	Mealy Parrot			X
<i>Piaya</i>	<i>cayana</i>	Squirrel Cuckoo	X	X	X
<i>Coccyzus</i>	<i>americanus</i>	Yellow-billed Cuckoo	X		
<i>Crotophaga</i>	<i>ani</i>	Smooth-billed Ani	X	X	X
<i>Tapera</i>	<i>naevia</i>	Striped Cuckoo		X	
<i>Megascops</i>	<i>choliba</i>	Tropical Screech-Owl	X	X	X
<i>Megascops</i>	<i>albobularis</i>	White-throated Screech-Owl		X	X
<i>Bubo</i>	<i>virginianus</i>	Great Horned Owl		X	
<i>Ciccaba</i>	<i>virgata</i>	Mottled Owl			

<i>Glaucidium</i>	<i>jardinii</i>	Andean Pygmy-Owl	X	X	
<i>Nyctibius</i>	<i>griseus</i>	Common Potoo		X	
<i>Caprimulgus</i>	<i>longirostris</i>	Band-winged Nightjar	X	X	
<i>Uropsalis</i>	<i>lyra</i>	Lyre-tailed Nightjar		X	X
<i>Streptoprocne</i>	<i>rutila</i>	Chestnut-collared Swift		X	X
<i>Streptoprocne</i>	<i>zonaris</i>	White-collared Swift	X	X	X
<i>Tachornis</i>	<i>squamata</i>	Fork-tailed Palm-Swift		X	X
<i>Eutoxeres</i>	<i>aquila</i>	White-tipped Sicklebill		X	
<i>Phaethornis</i>	<i>longuemareus</i>	Little Hermit		X	
<i>Phaethornis</i>	<i>guy</i>	Green Hermit		X	
<i>Phaethornis</i>	<i>syrmatophorus</i>	Tawny-bellied Hermit	X		
<i>Doryfera</i>	<i>johannae</i>	Blue-fronted Lancebill	X		
<i>Schistes</i>	<i>geoffroyi</i>	Wedge-billed Hummingbird		X	
<i>Colibri</i>	<i>thalassinus</i>	Green Violetear	X	X	X
<i>Colibri</i>	<i>coruscans</i>	Sparkling Violetear	X		
<i>Anthracothorax</i>	<i>nigricollis</i>	Black-throated Mango		X	
<i>Heliangelus</i>	<i>amethysticollis</i>	Amethyst-throated Sunangel			X
<i>Adelomyia</i>	<i>melanogenys</i>	Speckled Hummingbird	X	X	X
<i>Agelaiocercus</i>	<i>kingi</i>	Long-tailed Sylph	X		X
<i>Lesbia</i>	<i>nuna</i>	Green-tailed Trainbearer	X	X	
<i>Ramphomicron</i>	<i>microrhynchum</i>	Purple-backed Thornbill	X		
<i>Metalhura</i>	<i>tyrianthina</i>	Tyrian Metaltail	X		X
<i>Haplophaedia</i>	<i>aureliae</i>	Greenish Puffleg		X	
<i>Eriocnemis</i>	<i>vestita</i>	Glowing Puffleg	X		X
<i>Eriocnemis</i>	<i>cupreovertris</i>	Coppery-bellied Puffleg	X		
<i>Coeligena</i>	<i>coeligena</i>	Bronzy Inca	X		X
<i>Coeligena</i>	<i>torquata</i>	Collared Inca	X		X
<i>Coeligena</i>	<i>bonapartei</i>	Golden-bellied Starfrontlet	X		
<i>Lafresnaya</i>	<i>lafresnayi</i>	Mountain Velvetbreast	X		
<i>Ensifera</i>	<i>ensifera</i>	Sword-billed Hummingbird	X		
<i>Ocreatus</i>	<i>underwoodii</i>	Booted Racket-tail	X	X	X
<i>Heliodoxa</i>	<i>jacula</i>	Green-crowned Brilliant	X		
<i>Chaetocercus</i>	<i>mulsant</i>	White-bellied Woodstar		X	
<i>Chlorostilbon</i>	<i>mellisugus</i>	Blue-tailed Emerald	X	X	
<i>Campylopterus</i>	<i>falcatus</i>	Lazuline Sabrewing			X
<i>Chalybura</i>	<i>buffonii</i>	White-vented Plumeteer			X
<i>Amazilia</i>	<i>tzacatl</i>	Rufous-tailed Hummingbird	X	X	X
<i>Amazilia</i>	<i>francae</i>	Andean Emerald	X	X	
<i>Amazilia</i>	<i>saucerrottei</i>	Steely-vented Hummingbird	X		
<i>Amazilia</i>	<i>versicolor</i>	Indigo-capped Hummingbird	x		
<i>Amazilia</i>	<i>viridigaster</i>	Green-bellied Hummingbird		X	
<i>Trogon</i>	<i>personatus</i>	Masked Trogon	X		
<i>Brachygalba</i>	<i>lugubris</i>	Brown Jacamar		X	
<i>Malacoptila</i>	<i>fulvogularis</i>	Black-streaked Puffbird	X		
<i>Eubucco</i>	<i>bourcierii</i>	Red-headed Barbet		X	
<i>Ramphastos</i>	<i>tucanus</i>	White-throated Toucan		X	
<i>Aulacorhynchus</i>	<i>prasimus</i>	Emerald Toucanet	X		X
<i>Aulacorhynchus</i>	<i>haematopygus</i>	Crimson-rumped Toucanet		X	
<i>Andigena</i>	<i>nigrirostris</i>	Black-billed Mountain-Toucan	X		
<i>Pteroglossus</i>	<i>phuricinctus</i>	Many-banded Aracari		X	
<i>Picumnus</i>	<i>lafresnayi</i>	Lafresnaye's Piculet		X	
<i>Picumnus</i>	<i>olivaceus</i>	Olivaceous Piculet	X		
<i>Melanerpes</i>	<i>rubricapillus</i>	Red-crowned Woodpecker	X		X
<i>Picoides</i>	<i>fumigatus</i>	Smoky-brown Woodpecker	X	X	X

<i>Colaptes</i>	<i>rivoli</i>	Crimson-mantled Woodpecker	X		X
<i>Colaptes</i>	<i>punctigula</i>	Spot-breasted Woodpecker		X	X
<i>Campephilus</i>	<i>pollens</i>	Powerful Woodpecker	X		
<i>Campephilus</i>	<i>haematogaster</i>	Crimson-bellied Woodpecker		X	
<i>Leptasthemura</i>	<i>andicola</i>	Andean Tit-Spinetail	X		
<i>Schizoeaca</i>	<i>fuliginosa</i>	White-chinned Thistletail	X		
<i>Synallaxis</i>	<i>subpudica</i>	Silvery-throated Spinetail	X		
<i>Synallaxis</i>	<i>azarae</i>	Azara's Spinetail	X	X	
<i>Synallaxis</i>	<i>albescens</i>	Pale-breasted Spinetail			X
<i>Premnoplex</i>	<i>brunnescens</i>	Spotted Barbtail	X	X	
<i>Margarornis</i>	<i>squamiger</i>	Pearled Treerunner	X	X	X
<i>Pseudocolaptes</i>	<i>boissonneautii</i>	Streaked Tuftedcheek	X		
<i>Thripadectes</i>	<i>melanorhynchus</i>	Black-billed Treehunter		X	
<i>Xenops</i>	<i>rutilans</i>	Streaked Xenops	X		
<i>Dendrocicla</i>	<i>tyrannina</i>	Tyrannine Woodcreeper	X		
<i>Lepidocolaptes</i>	<i>souleyetii</i>	Streak-headed Woodcreeper	X	X	X
<i>Taraba</i>	<i>major</i>	Great Antshrike		X	
<i>Thamnophilus</i>	<i>multistriatus</i>	Bar-crested Antshrike	X		
<i>Thamnophilus</i>	<i>tenuepunctatus</i>	Lined Antshrike		X	
<i>Thamnophilus</i>	<i>aethiops</i>	White-shouldered Antshrike		X	
<i>Myrmotherula</i>	<i>axillaris</i>	White-flanked Antwren		X	
<i>Myrmoborus</i>	<i>leucophrys</i>	White-browed Antbird		X	
<i>Myrmeciza</i>	<i>atrothorax</i>	Black-throated Antbird		X	
<i>Chamaeza</i>	<i>turdina</i>	Schwartz's Antthrush	X	X	
<i>Grallaria</i>	<i>squamigera</i>	Undulated Antpitta	X		
<i>Grallaria</i>	<i>guatemalensis</i>	Scaled Antpitta	X		X
<i>Grallaria</i>	<i>ruficapilla</i>	Chestnut-crowned Antpitta	X	X	X
<i>Grallaria</i>	<i>kaestneri</i>	Cundinamarca Antpitta	X		
<i>Grallaria</i>	<i>rufula</i>	Rufous Antpitta	X		
<i>Grallaria</i>	<i>quitensis</i>	Tawny Antpitta	X		
<i>Grallaricula</i>	<i>nana</i>	Slate-crowned Antpitta	X		
<i>Scytalopus</i>	<i>latrans</i>	Blackish Tapaculo	X		X
<i>Scytalopus</i>	<i>sp</i>			X	
<i>Scytalopus</i>	<i>micropterus</i>	Long-tailed Tapaculo		X	
<i>Scytalopus</i>	<i>griseicollis</i>	Matorral Tapaculo	X		
<i>Phyllomyias</i>	<i>nigrocapillus</i>	Black-capped Tyrannulet	X		X
<i>Elaenia</i>	<i>flavogaster</i>	Yellow-bellied Elaenia		X	X
<i>Elaenia</i>	<i>frantzii</i>	Mountain Elaenia	X		X
<i>Mecocerculus</i>	<i>leucophrys</i>	White-throated Tyrannulet	X	X	X
<i>Anairetes</i>	<i>agilis</i>	Agile Tit-Tyrant	X		
<i>Serpophaga</i>	<i>cinerea</i>	Torrent Tyrannulet	X	X	X
<i>Pseudotriccus</i>	<i>ruficeps</i>	Rufous-headed Pygmy-Tyrant	X		
<i>Zimmerius</i>	<i>chrysops</i>	Golden-faced Tyrannulet	X	X	
<i>Phylloscartes</i>	<i>ophthalmicus</i>	Marble-faced Bristle-Tyrant	X		
<i>Mionectes</i>	<i>striaticollis</i>	Streak-necked Flycatcher	X	X	X
<i>Leptopogon</i>	<i>superciliaris</i>	Slaty-capped Flycatcher		X	X
<i>Lophotriccus</i>	<i>pileatus</i>	Scale-crested Pygmy-Tyrant	X		
<i>Poecilatriccus</i>	<i>ruficeps</i>	Rufous-crowned Tody-Flycatcher	X		
<i>Todirostrum</i>	<i>cinereum</i>	Common Tody-Flycatcher	X	X	X
<i>Tolmomyias</i>	<i>sulphurescens</i>	Yellow-olive Flycatcher	X		
<i>Platyrrinchus</i>	<i>mystaceus</i>	White-throated Spadebill		X	
<i>Myiophobus</i>	<i>pulcher</i>	Handsome flycatcher	x	x	
<i>Myiophobus</i>	<i>flavicans</i>	Flavescent Flycatcher	X	X	
<i>Pyrrhomyias</i>	<i>cinnamomeus</i>	Cinnamon Flycatcher	X		X

<i>Hirundinea</i>	<i>ferruginea</i>	Cliff Flycatcher	X		
<i>Empidonax</i>	<i>traillii</i>	Willow Flycatcher		X	
<i>Contopus</i>	<i>cooperi</i>	Olive-sided Flycatcher	X	X	
<i>Pyrocephalus</i>	<i>rubinus</i>	Vermilion Flycatcher	X		
<i>Myiotheretes</i>	<i>striaticollis</i>	Streak-throated Bush-Tyrant	X		
<i>Ochthoeca</i>	<i>cinnamomeiventris</i>	Slaty-backed Chat-Tyrant	X		
<i>Ochthoeca</i>	<i>fumicolor</i>	Brown-backed Chat-Tyrant	X		
<i>Colonia</i>	<i>colonus</i>	Long-tailed Tyrant		X	
<i>Myiozetetes</i>	<i>cayanensis</i>	Rusty-margined Flycatcher	X	X	X
<i>Pitangus</i>	<i>sulphuratus</i>	Great Kiskadee	X	X	X
<i>Myiodynastes</i>	<i>chrysocephalus</i>	Golden-crowned Flycatcher		X	
<i>Megarynchus</i>	<i>pitangua</i>	Boat-billed Flycatcher	X	X	X
<i>Tyrannus</i>	<i>melancholicus</i>	Tropical Kingbird	X	X	X
<i>Myiarchus</i>	<i>tyrannulus</i>	Brown-crested Flycatcher	X		X
<i>Pipreola</i>	<i>riefferii</i>	Green-and-black Fruiteater	x		x
<i>Ampelion</i>	<i>rubrocristatus</i>	Red-crested Cotinga	X		X
<i>Rupicola</i>	<i>peruvianus</i>	Andean Cock-of-the-rock		X	
<i>Masius</i>	<i>chrysopterus</i>	Golden-winged Manakin	X	X	
<i>Manacus</i>	<i>manacus</i>	White-bearded Manakin	X	X	
<i>Pachyramphus</i>	<i>versicolor</i>	Barred Becard	X		
<i>Disiphia</i>	<i>pipra</i>	White-crowned Manakin		X	X
<i>Pachyramphus</i>	<i>cinnamomeus</i>	Cinnamon Becard		X	
<i>Pachyramphus</i>	<i>rufus</i>	Cinereous Becard		X	X
<i>Cyclarhis</i>	<i>gujanensis</i>	Rufous-browed Peppershrike	X	X	X
<i>Vireo</i>	<i>leucophrys</i>	Brown-capped Vireo	X	X	X
<i>Vireo</i>	<i>olivaceus</i>	Red-eyed Vireo		X	X
<i>Hylophilus</i>	<i>semibrunneus</i>	Rufous-naped Greenlet	X	X	
<i>Cyanolyca</i>	<i>armillata</i>	Black-collared Jay	X		
<i>Cyanocorax</i>	<i>affinis</i>	Black-chested Jay		X	
<i>Cyanocorax</i>	<i>yncas</i>	Green Jay	X	X	X
<i>Pygochelidon</i>	<i>cyanoleuca</i>	Blue-and-white Swallow	X	X	X
<i>Orochelidon</i>	<i>murina</i>	Brown-bellied Swallow	X	X	X
<i>Stelgidopteryx</i>	<i>ruficollis</i>	Southern Rough-winged Swallow	X		
<i>Riparia</i>	<i>riparia</i>	Bank Swallow	X	X	
<i>Hirundo</i>	<i>rustica</i>	Barn Swallow	X	X	X
<i>Troglodytes</i>	<i>aedon</i>	House Wren	X	X	X
<i>Troglodytes</i>	<i>solstitialis</i>	Mountain Wren	X		
<i>Cistothorus</i>	<i>platensis</i>	Sedge Wren			X
<i>Thryothorus</i>	<i>genibarbis</i>	Moustached Wren	X	X	X
<i>Thryothorus</i>	<i>rutilus</i>	Rufous-breasted Wren		X	
<i>Thryothorus</i>	<i>rufalbus</i>	Rufous-and-white Wren	X		
<i>Cinnycerthia</i>	<i>unirufa</i>	Rufous Wren	X		
<i>Henicorhina</i>	<i>leucophrys</i>	Gray-breasted Wood-Wren	X	X	X
<i>Cinclus</i>	<i>leucocephalus</i>	White-capped Dipper		X	
<i>Myadestes</i>	<i>ralloides</i>	Andean Solitaire	X	X	X
<i>Catharus</i>	<i>dryas</i>	Spotted Nightingale-Thrush		X	
<i>Catharus</i>	<i>ustulatus</i>	Swainson's Thrush	X		
<i>Turdus</i>	<i>leucomelas</i>	Pale-breasted Thrush	X	X	
<i>Turdus</i>	<i>nudigenis</i>	Spectacled Thrush		X	
<i>Turdus</i>	<i>ignobilis</i>	Black-billed Thrush	X	X	X
<i>Mimus</i>	<i>gilvus</i>	Tropical Mockingbird	X	X	
<i>Cissopis</i>	<i>leverianus</i>	Magpie Tanager	X	X	X
<i>Creurgops</i>	<i>verticalis</i>	Rufous-crested Tanager		X	
<i>Hemispingus</i>	<i>superciliaris</i>	Superciliaried Hemispingus	X		

<i>Hemispingus</i>	<i>frontalis</i>	Oleaginous Hemispingus	X		
<i>Tachyphonus</i>	<i>rufus</i>	White-lined Tanager			X
<i>Ramphocelus</i>	<i>carbo</i>	Silver-beaked Tanager	X	X	
<i>Thraupis</i>	<i>episcopus</i>	Blue-gray Tanager	X	X	X
<i>Thraupis</i>	<i>palmarum</i>	Palm Tanager	X	X	X
<i>Thraupis</i>	<i>cyanocephala</i>	Blue-capped Tanager	X	X	X
<i>Buthraupis</i>	<i>montana</i>	Hooded Mountain-Tanager	X		
<i>Anisognathus</i>	<i>igniventris</i>	Scarlet-bellied Mountain-Tanager	X	X	X
<i>Anisognathus</i>	<i>notabilis</i>	Black-chinned Mountain-Tanager	X	X	
<i>Dubusia</i>	<i>taeniata</i>	Buff-breasted Mountain-Tanager	X		
<i>Iridosornis</i>	<i>rufivertex</i>	Golden-crowned Tanager	X	X	
<i>Pipraeidea</i>	<i>melanonota</i>	Fawn-breasted Tanager	X		
<i>Chlorochrysa</i>	<i>calliparaea</i>	Orange-eared Tanager		X	
<i>Tangara</i>	<i>heinei</i>	Black-capped Tanager	X	X	
<i>Tangara</i>	<i>cayana</i>	Burnished-buff Tanager		X	
<i>Tangara</i>	<i>vitriolina</i>	Scrub Tanager	X	X	X
<i>Tangara</i>	<i>ruficervix</i>	Golden Naped Tanager	x		
<i>Tangara</i>	<i>cyanicollis</i>	Blue-necked Tanager	X	X	
<i>Tangara</i>	<i>guttata</i>	Speckled Tanager	X	X	
<i>Tangara</i>	<i>vassorii</i>	Blue-and-black Tanager	X	X	
<i>Tangara</i>	<i>nigroviridis</i>	Beryl-spangled Tanager	X	X	X
<i>Tangara</i>	<i>labradorides</i>	Metallic-green Tanager	X		
<i>Tangara</i>	<i>gyrola</i>	Bay-headed Tanager	X	X	
<i>Tangara</i>	<i>xanthocephala</i>	Saffron-crowned Tanager	X	X	
<i>Tangara</i>	<i>parzudakii</i>	Flame-faced Tanager	X	X	
<i>Tangara</i>	<i>arthus</i>	Golden Tanager	X	X	X
<i>Tersina</i>	<i>viridis</i>	Swallow Tanager		X	
<i>Dacnis</i>	<i>lineata</i>	Black-faced Dacnis		X	
<i>Conirostrum</i>	<i>speciosum</i>	Chestnut-vented Conebill	X	X	
<i>Conirostrum</i>	<i>albifrons</i>	Capped Conebill	X		
<i>Conirostrum</i>	<i>rufum</i>	Rufous-browed Conebill	X		
<i>Diglossa</i>	<i>sittoides</i>	Rusty Flowerpiercer	X		
<i>Diglossa</i>	<i>lafresnayii</i>	Glossy Flowerpiercer	X		
<i>Diglossa</i>	<i>humeralis</i>	Black Flowerpiercer	X		
<i>Diglossa</i>	<i>albilatera</i>	White-sided Flowerpiercer		X	X
<i>Diglossa</i>	<i>caerulescens</i>	Bluish Flowerpiercer	X	X	X
<i>Diglossa</i>	<i>cyanea</i>	Masked Flowerpiercer	X	X	X
<i>Chlorospingus</i>	<i>ophthalmicus</i>	Common Bush-Tanager	X	X	
<i>Coereba</i>	<i>flaveola</i>	Bananaquit	X	X	X
<i>Tiaris</i>	<i>olivaceus</i>	Yellow-faced Grassquit			X
<i>Saltator</i>	<i>maximus</i>	Buff-throated Saltator		X	
<i>Saltator</i>	<i>striatipectus</i>	Streaked Saltator	X	X	X
<i>Zonotrichia</i>	<i>capensis</i>	Rufous-collared Sparrow	X	X	X
<i>Sicalis</i>	<i>citrina</i>	Stripe-tailed Yellow-Finch		X	
<i>Sicalis</i>	<i>flaveola</i>	Saffron Finch	X		X
<i>Volatinia</i>	<i>jacarina</i>	Blue-black Grassquit	X	X	X
<i>Sporophila</i>	<i>schistacea</i>	Slate-colored Seedeater		X	
<i>Sporophila</i>	<i>nigricollis</i>	Yellow-bellied Seedeater	X	X	X
<i>Sporophila</i>	<i>minuta</i>	Ruddy-breasted Seedeater		X	
<i>Oryzoborus</i>	<i>angolensis</i>	Chestnut-bellied Seed-Finch		X	
<i>Arremon</i>	<i>aurantiirrostris</i>	Orange-billed Sparrow		X	
<i>Arremon</i>	<i>brunneinucha</i>	Chestnut-capped Brush-Finch	X		
<i>Arremon</i>	<i>torquatus</i>	Stripe-headed Brush-Finch	X		
<i>Atlapetes</i>	<i>semirufus</i>	Ochre-breasted Brush-Finch	X	X	

<i>Atlapetes</i>	<i>pallidimucha</i>	Pale-naped Brush-Finch			X
<i>Atlapetes</i>	<i>schistaceus</i>	Slaty Brush-Finch	X		X
<i>Piranga</i>	<i>rubra</i>	Summer Tanager	X	X	X
<i>Pheucticus</i>	<i>aureoventris</i>	Black-backed Grosbeak	X	X	
<i>Vermivora</i>	<i>peregrina</i>	Tennessee Warbler	X	X	
<i>Parula</i>	<i>pitiayumi</i>	Tropical Parula	X		
<i>Dendroica</i>	<i>striata</i>	Blackpoll Warbler	X		
<i>Dendroica</i>	<i>fusca</i>	Blackburnian Warbler	X	X	
<i>Dendroica</i>	<i>cerulea</i>	Cerulean Warbler	X	X	
<i>Setophaga</i>	<i>ruticilla</i>	American Redstart	X	X	
<i>Mniotilta</i>	<i>varia</i>	Black-and-white Warbler	X	X	
<i>Oporornis</i>	<i>philadelphia</i>	Mourning Warbler	X	X	X
<i>Myioborus</i>	<i>miniatus</i>	Slate-throated Redstart	X	X	X
<i>Basileuterus</i>	<i>nigrocristatus</i>	Black-crested Warbler	X		X
<i>Basileuterus</i>	<i>coronatus</i>	Russet-crowned Warbler	X		X
<i>Basileuterus</i>	<i>tristriatus</i>	Three-striped Warbler	X	X	X
<i>Psarocolius</i>	<i>angustifrons</i>	Russet-backed Oropendola	X	X	
<i>Psarocolius</i>	<i>atrovirens</i>	Dusky-green Oropendola			
<i>Cacicus</i>	<i>solitarius</i>	Solitary Black Cacique		X	
<i>Cacicus</i>	<i>leucoramphus</i>	Mountain cacique	X		X
<i>Cacicus</i>	<i>cela</i>	Yellow-rumped Cacique		X	
<i>Icterus</i>	<i>chrysater</i>	Yellow-backed Oriole			
<i>Molothrus</i>	<i>bonariensis</i>	Shiny Cowbird	X	X	X
<i>Quiscalus</i>	<i>mexicanus</i>	Great-tailed Grackle		X	
<i>Sturnella</i>	<i>militaris</i>	Red-breasted Blackbird		X	
<i>Sturnella</i>	<i>magna</i>	Eastern Meadowlark	X		X
<i>Carduelis</i>	<i>spinescens</i>	Andean Siskin	X	X	X
<i>Carduelis</i>	<i>psaltria</i>	Lesser Goldfinch	X	X	X
<i>Euphonia</i>	<i>xanthogaster</i>	Orange-bellied Euphonia	X	X	
<i>Euphonia</i>	<i>musica</i>	Blue hooded Euphonia	X	X	
<i>Chlorophonia</i>	<i>cyanea</i>	Blue-naped Chlorophonia	X	X	
		Total species area	203	123	107
		Total species	298		

## NEW RECORDS THE FROGS AT FARALLONES DE MEDINA



Figure 30. Frogs: A. *Pristimantis medemi* (Photo Giovanni Chaves); B. *Centrolene cf buckleyi*; C. *Pristimantis bogotensis*; D. *Hyloxalus subpunctatus*

**NEW RECORDS THE THREATENED MAMMALS AT FARALLON DE  
MEDINA**



*Myotis oxyotus* (Vespertilionidae)



*Carollia brevicauda*  
(Carollinae, Phyllostomidae)



*Odocoileus virginianus* (cervidae)



*Urocyon cinereoargenteus* (Canidae)



*Caenolestes fuliginosus* (Caenolestidae)

**COMMUNITY PARTICIPATION IN THE**

## CONSERVATION OF THE CUNDINAMARCA ANTPITTA (*Grallaria kaestneri*) COLOMBIA.

Our strategic perspective in this environmental education initiative is focused on three fundamental axes, namely, **communication** understood as all activities related to dissemination and creation of informational materials about the initiative to conserve the Cundinamarca Antpitta (*Grallaria kaestneri*), **social articulation** enabling it to connect to as many potential players, and **training** as a series of activities aimed and designed to generate awareness within the community.



### PRINCIPAL AIM

Design an environmental education programme to inform and engage the community of Guayabetal municipality in the conservation of Cundinamarca Antpitta.

### SPECIFIC AIMS

- Establish the perception of Guayabetal community, about the environmental problems in their municipality.
- Determine appropriate mechanisms to facilitate the formulation of an environmental programme that include the Guayabetal community in Antpitta Cundinamarca Conservation.

## METHODS AND RESULTS.

We understand the environmental education like a process that only occur appropriately, when we carefully selected tools to use, according to social group which is working, in that way is very valuable to have tools that in addition to effectively communicate initiatives conservation, giving access to information from the community. That was the reason to we selected some special methods, including:

### ➤ **Social Mapping.**

Social mapping is defined as a methodology for group work that allows immediate and meaningful plot (ordinate), in addition to establish correlations and comparisons between the different phenomena that occur in space-time in the territory, from the records of exploratory conversations in which the territory is actively involved through the use of the senses, reason and institutions as a result of recognition. UNIVERSIDAD NACIONAL DE COLOMBIA (2004).

In this project, establish the perception of local communities about bird population and environmental problematic in the municipality, through the making of social mapping, was a special and really important method, because allowed know some natural places that the Guayabetal Community are interesting in protect, and human activities that are affecting landscapes and natural resources.



**Image 1.** Picture made by Maria (11 years old), she represented some problems like deforestation and river contamination. **Image 2.** Picture made by Diana (12 years old), she represented river contamination and landslides



**Image 3.** In this photography is possible see river contamination. **Image 4.** This photography represents unsustainable use of forest resources.

➤ **Information Days.**

Project Cundinamarca Antpitta Colombia is aware that conservation Biodiversity projects must have incorporated a component of social research dimension; the community participation is the best guarantee of success. The community, the beneficiaries have to involve like principal players since the begin. They should be linked in planification project, define their own goals, they must define their needs, this is the only way to ensure that projects are not organizations or governments, because projects must be of the community and for the community. The way of participation is sometimes slower and more patient, but is the only right way for the community and the conscious choice of their own destiny.

We made information days with authorities, officials of different entities, teachers, social and environmental leaders of Guayabetal, with the aim to talk about environmental problematic and introduce this initiative to the Cundinamarca Antpitta conservation.



**Image 5.** Photographs in different meetings with social actors.

➤ **Workshops.**

The workshop is an important strategy for the methodological implementations and the projection of the conceptual proposal of this project, since it is considered that this can contribute to system building methodology, flexible and persistent in environmental and educational contexts, where developing the different environmental education activities. The workshop should be considered as a strategic tool for making training or educational-environmental situations. We designed and performed workshops with the community to inform about the ecological importance of Cundinamarca Antpitta, in

addition, the workshops allowed establish positive conditions to continue the work for the Cundinamarca Antpitta conservation. The workshops held were:

- ✓ What does we know about our environment?
- ✓ Recognizing our richness!
- ✓ What is the birds function?
- ✓ We can't clip wings of future!
- ✓ Cundinamarca Antpitta, our hidden treasure!

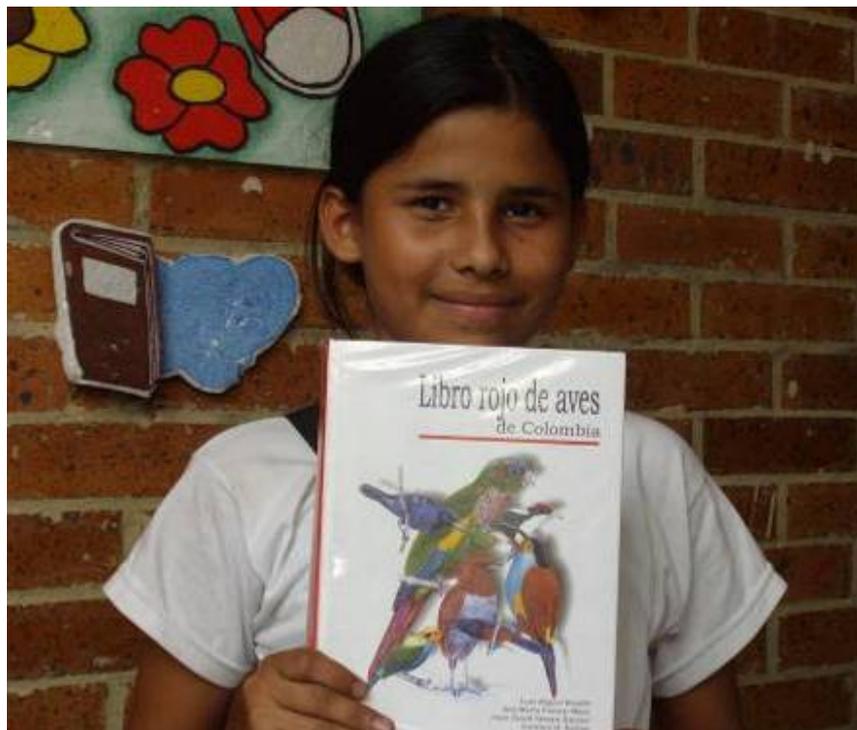
In these activities had the opportunity of participated 257 students and teachers of educational institutions.



**Image 6.** Photographs making workshops, between local community and Project Cundinamarca Antpitta Colombia Researchers.

➤ **Strengthened environmental groups**

With the support of teachers in Guayabetal municipality, it was possible to establish the conditions for the creation of a birdwatching group called “**TOROTOI GROUP**”. This group is comprised by students from different academic levels and natural sciences teachers in Monseñor Alberto Reyes Fonseca School. Project Cundinamarca Antpitta Colombia, are making possible the strengthened of “Torotoi Group” through the donation of library materials relating with conservation and sustainable use of natural resources in addition to training in field of new birders.





**LYNN DUDA AT VEREDA MONTERREDONDO**

## Summary of priority actions for strategy-protected area management IBA GUATIQUIA

### A. CONSERVATION ACTIONS, EDUCATION AND INVOLVEMENT OF STAKEHOLDERS

1. Create a wildlife refuge zone in the IBA Guatiquia (most cloud forest habitat for Cundinamarca Antpitta)

Discuss with the CORPORINOQUIA, ALCALDIA DE GUAYABETAL Y ALCALDIA EL CALVARIO managers and stakeholders the creation of an integrate wildlife refuge zone for Cundinamarca Antpitta, yellow winged parakeets, Gorgeted wood quail and cerulean warbler, as part the zoning and management plan. Including the cloud forest the river Guatiquia.

2. Mapping and conservation of legally established preservation area

Discuss with CORPORINOQUIA, ALCALDIA DE GUAYABETAL Y ALCALDIA EL CALVARIO managers and stakeholders the existing legal instruments related to preservation cloud forest and water resource protection at river Guatiquia, establishing the minimum distance from streams to compose the preservation area specified in local laws, regulating water uses and concessions. Mapping the water source and including in the zoning and management plans of both protected areas.

Long time: Provide subsidies for the management area.

3. Create private protected area.

Stimulate landowners to create and register private area at oficina de parques Nacionales, RED DE RESERVAS DE LA SOCIEDAD CIVIL and provide subsidies for their management.

4. Regulate main economic activities in IBA or Reserva Guatiquia.

Discuss with CORPORINOQUIA, ALCALDIA DE GUAYABETAL Y ALCALDIA EL CALVARIO managers and stakeholders the regulation for agricultura, agroforestry in IBA.

5. Seminar with local authorities and Universities the region.

Conduct meetings with environmental authorities (Corporinoquia, Corpoguavio, Alcaldia de Guayabetal, Alcaldia El Calvario), police to discuss ways to increase enforcement of laws for the conservation IBA GUATIQUIA, for conservation the populations the Cundinamarca Antpitta.

6. Produce a series of printed, Publishing the birds IBA GUATIQUIA, protection for Cundinamarca Antpitta habitats diversity and conservation and agriculture in the IBA: Agroforestry sustainable practices and regulation.
7. Exhibitions at culture activities about the conservation IBA GUATIQUIA. Produce at schools and municipality the Guayabetal cultural fair for expanding for all people, promoting the Cundinamarca Antpitta as a symbol for the conservation of the region especially, linking it to the cloud forest issue. Develop an interactive customs, movies and pictures from IBA GUATIQUIA diversity.

#### B. IBA GUATIQUIA: CUNDINAMARCA ANTPITTA, MONITORING AND HABITAT RECOVERY.

1. Monitoring, survey census, breeding and natural history: Conduct research and monitoring the Cundinamarca Antpitta, Yellow winged parakeets, Gorgeted wood quail and cerulean warbler in specially during reproductive season for endemics birds. This develop with a permanent program the local people, local ornithology's and Universities groups.
2. Conduct systematic research and monitoring Cundinamarca populations range, genetic viability and breeding together with local people, ornithology's and children are the rural schools.
3. Research to identify the areas originally covered the cloud forest, select pilot areas for habitat recovery and develop techniques to restore moist the cloud forest habitat for Cundinamarca Antpitta.
4. Inventoring the all diversity at IBA GUATIQUIA (Mammals, amphibians, birds, plants and insects)
5. To start clubs for education, research, monitoring for support to habitat restoration programs. (Escuela Guayabetal)

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