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# Birds of the Totare River Basin, Colombia

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**Abstract:** The Totare River Basin is one of the largest and most important river basins in the Department of Tolima, Colombia. Despite its rich and diverse fauna, little is known about the bird species that inhabit this region. This study presents a list of birds compiled from field surveys along the river basin (from 270 to 3642 m a.s.l.) conducted between February and March 2007, plus a review of literature published so far, and complemented by opportunistic records during eight consecutive years. The checklist is comprised of 410 species, of which 11 are Colombian endemic, seven semi-endemic, 36 migratory, and 12 endangered species. Fourteen species are new records for the municipality of Ibagué, and 10 are new and noteworthy records from the east slope of the Cordillera Central. This checklist identifies as sites of conservation priority to Clarita Botero and Ambala.

## Introduction

Colombia is considered to be the country with the world's largest avifauna, harboring about 1,822 species (Stiles 2011). However, little is known about the extent of bird diversity in many regions of the country (Cuervo *et al.* 2008a, b; Arbeláez-Cortés *et al*. 2011). For instance, about 700 bird species have been recorded in the Department of Tolima, but most information on them is preliminary and basic, occasioning lack of knowledge for many areas (Reinoso-Florez *et al*. 2009).

In the Department of Tolima, the government environmental authorities, such as CORTOLIMA, are using the river basins as territorial units to delineate land use plans (Reinoso-Florez *et al.* 2009). To do this, the authorities assessed different social and ecological aspects, including the conduction of rapid evaluations of flora and fauna. From these assessments they devise lists of species that, together with forest cover, are utilized to identify priority areas for conservation (Reinoso-Florez *et al.* 2009).

The Totare River Basin is one of the largest basins in the department of Tolima, spreading through many municipalities and including a great variety of life zones and habitats (CORTOLIMA 2002). However, very few studies concerning avifauna in this region have been published. Except for the municipality of Ibagué, which has been widely studied (Parra-Hernandez *et al*. 2007), the other municipalities have not been studied recently and few publications exist (Chapman 1917; Reinoso-Florez *et al.* 2009; Bejarano-Bonilla and Jiménez-Bonilla 2009; Losada-Prado and Molina-Martínez 2011). The aim of this study was to produce an update checklist of birds of the Totare river basin, based on my field observations and on public information. Some results were discussed to guide some conservation actions.

## Materials and Methods

*Study site*

The Totare River Basin is located in the north of the Tolima department on the eastern slope of the Cordillera Central of Colombia, between 74°49′ W and 75°24′ W, and between 4°26′ N and 4°48′ N (Figure 1). The basin has an area of 143,205 h and includes the municipalities of Alvarado, Anzoátegui, Ibagué, Piedras, Santa Isabel, and Venadillo. The Totare River originates in the El Encanto

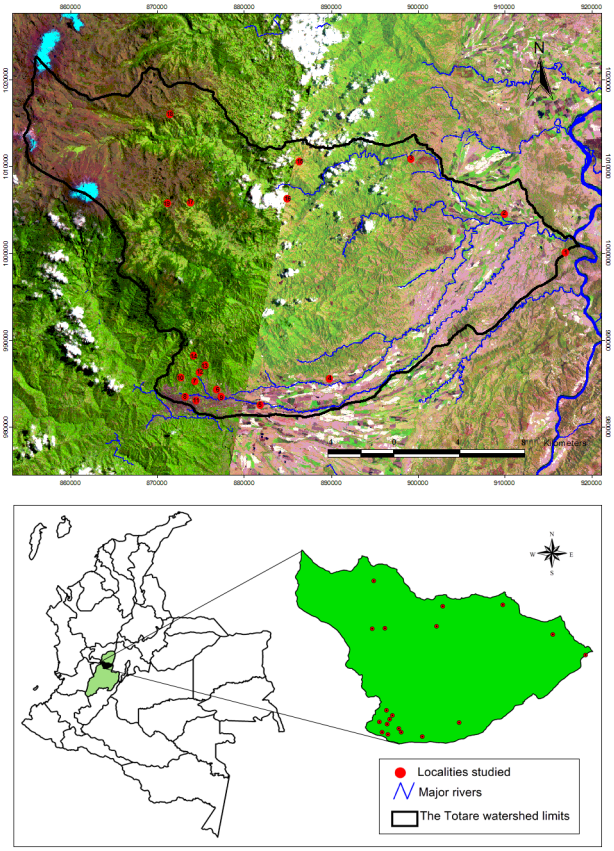


**Figure 1.** Map of Totare River Basin, Tolima department, Colombia. Inset shows the location of the basin in Colombia and the Tolima department. The numbers indicate localities were fieldwork has been conducted. These numbers correspond to the numbering scheme outlined in Table 1. The color in the map correspond to the satelital imagem where in geral, green is natural vegetation, brown is exposed soil and purple is human constructions.

Lake in Anzoátegui at 3963 m a.s.l., and runs 85 km until its mouth at 216 m a.s.l. between the municipalities of Piedras and Venadillo in the Magdalena River (CORTOLIMA 2002). Mean precipitation is around 1,899 mm/year, and mean temperature ranges between -5°C at 3963 m a.s.l. and 31°C in the lower zone to 216 m a.s.l. (CORTOLIMA 1998).

This basin includes several life zones, according to Holdridges' classification, such as tropical dry forest, premontane wet forest, low montane wet forest, montane pluvial forest, and *páramo* vegetation (Pomar and Vargas unpublished data). The basin forests are highly fragmented, which represented 17 % of the area total, with 7% being mature forest and 10% secondary forest (CORTOLIMA 1998). The majority of the forest patches are relicts that remain along streams, rivers, and in ravines or irregular terrain that is unsuitable for any land use; however, there are some continuous forest patches in the highlands. These forest patches are surrounded by grasslands, farms, and some human populated areas (CORTOLIMA unpublished data).

*Data collection*

Fieldwork of this study occurred as part of the project "Biodiversidad faunistica y floristica de la cuenca del Río Totare fase III," a collaboration between Universidad del Tolima and Corporación Autonoma Regional del Tolima. Observations were conducted in February and May 2007 in 10 localities within the Totare River Basin. Their elevations ranged between 270 and 3640 m. Each location was visited in one day of each month, and observations were done in the morning (06:00 - 12:00) and in the afternoon (14:00- 18:00). Birds were studied using standardized methodologies for assessing bird populations, including mist-netting (six nets of 12 m), fixed-radius point counts, non-systematic field observations and tape-recordings. These were made using a recorder Olympus V-N480 PC, and audio recordings were deposited in the database of Xeno-canto America.

Additionally, in order to provide a complete list of bird species occurring in the Totare River Basin, I compiled information from the following sources: 1) field observations carried out between 2003 and 2010 in different localities within the basin, using transects (including visual and vocal records) and supplementary observations without method restrictions; these records were obtained by the author in the municipality of Ibagué, 2) a critical review of the published literature (Parra-Hernandez *et al.* 2007), which presented different methodologies and time periods; and 3) inspection of the bird collection at the Universidad del Tolima (CZUT-Or). I detail information for 19 localities studied in the Totare River Basin (Figure 1, Table 1).

Taxonomy and nomenclature followed the classification used by the South American Classification Committee

**Table 1.** Localities in the Totare River Basin where bird species have been inventoried, with information on site locations and habitat use by species. The number before the name of each locality corresponds to the numbering in Figure 1. Abbreviations correspond to the name of each locality.

| # | LOCALITY, MUNICIPALITY | ABBREVIATION | GEOGRAPHIC COORDINATES | | ELEVATION (m a.s.l) | GENERAL HABITAT TYPES |
|---|---|---|---|---|---|---|
| 1 | La Manga de los Rodríguez, Piedras | Ma | 4°35′58.7″ N | 74°49′44.0″ W | 270 | Grassland, Riparian forest, small lake. |
| 2 | La Argelia, Venadillo | Ar | 4°38′22.6″ N | 74°53′32.7″ W | 310 | Grassland, Riparian forest |
| 3 | Potrerito,Venadillo | Pot | 4°41′49.1″ N | 74°59′22.3″ W | 700 | Grassland, Tropical dry forest |
| 4 | Chucuní, Ibagué | Chu | 4°28′5.0″ N | 75°4′25.8″ W | 750 | Cultivated land, grassland, shrub, Riparian forest, Tropical dry forest, |
| 5 | Salado, Ibagué | Sal | 4°26′26.1" N | 75°8′41.8" W | 900 | Small lake, grassland, cultiveted land |
| 6 | Minas del Vergel, Ibagué | MV | 4°27′21.9" N | 75°11′25.1" W | 1100 - 1160 | Cultiveted land, grassland, shrub, tropical humid forest, riparian forest. |
| 7 | Calambeo, Ibagué | Cal | 4°27′52.9" N | 75°12′47" W | 1200 - 1370 | Cultiveted land, grassland, shrub, tropical humid forest, riparian forest. |
| 8 | Jardín Botánico San Jorge, Ibagué | SJ | 4°26′56.5" N | 75°13′22.8" W | 1200 - 1360 | Tropical humid forest, riparian forest, grassland |
| 9 | Bosque del Colegio HG SOS, Ibagué | Sos | 4°26′56.7" N | 75°11′8.9" W | 1100 | Relictual tropical humid forest |
| 10 | Clarita Botero, Ibagué | Clar | 4°28′8.2" N | 75°13′41" W | 1400 - 2000 | Cultiveted land, grassland, shrub, tropical humid forest, riparian forest. |
| 11 | Zona Urbana, Ibagué | Urb | 4°26′41" N | 75°12′42" W | 800 - 1285 | Parks, green areas, cultivated land, relictual forest. |
| 12 | Ambala zona baja, Ibagué | Amb A | 4°28′27.3" N | 75°12′29.4" W | 1500 | Cultivated land, grassland, tropical dry forest |
| 13 | Ambala zona media, Ibagué | Amb B | 4°28′54,6″ N | 75°12′9,9″ W | 1800 | Tropical humid forest, cultivated land |
| 14 | Ambala zona Alta, Ibagué | Amb C | 4°29′30.2" N | 75°12′51.6" W | 2100 | Tropical humid forest, cultivated land |
| 15 | Guaimaral, Santa Isabel | Gua | 4°41′38,1″ N | 75°6′20,1″ W | 2100 | Tropical humid forest, grassland, cultivated land |
| 16 | La Flor, Anzoátegui | Fl | 4°39′18.5″ N | 75°7′3.3″ W | 2100 | Tropical humid forest, grassland, cultivated land |
| 17 | Palomar, Anzoategui | Pal | 4°39′4″ N | 75°13′4″ W | 2800 | Tropical humid forest, grassland, cultivated land |
| 18 | La Estrella, Santa Isabel | Est | 4°44′36″ N | 75°14′22″ W | 3580 | Grassland, cultivated areas, open páramo grasslands, espeletia paramo, relictual mountain forests. |
| 19 | La Cascada, Anzoategui | Cas | 4°39′00″ N | 75°14′32″ W | 3642 | Grassland, cultivated areas, open páramo grasslands, espeletia paramo, relictual mountain forests. |

(Remsen *et al*. 2014). Endemicity from Colombia was assigned following Stiles (1998) and Hilty and Brown (1986). For the conservation status, I followed Renjifo *et al*. (2002) and The IUCN Red List of Threatened Species (2012). The new distribution reports of the Ibagué municipality were assigned employing Parra-Hernandez *et al*. (2007) and for the new distribution records, I followed mainly Hilty and Brown (1986).

*Data Analysis*

In order to explore the data and to account for errors that arise from studying sample efforts with different methods, I calculated the Sorensen similarity index to determine the variation in species composition between localities. Dimensionalities were reduced by Non-Metric Multidimensional Scaling (NMDS) based on a matrix of presence-absence species. Contrasts in species composition were displayed in two-dimensional graphics (Legendre and Legendre 1998), with points designating the localities where each species was found. I used the Sorensen index and NMDS to reduce the problems generated by differences in sample efforts between localities (Ludwing and Reinolds 1988; Krebs 1989). The non-parametric species richness estimator Chao 2 and ICE were calculated using EstimateS 7,5 (Colwell 2005) to determine data representativeness from richness.

## Results and Discussion

The checklist of the Totare River Basin produced in this study includes a total of 410 bird species belonging to 53 families and 178 genera (Table 2). This species richness represents 22% of all bird species reported in Colombia.

Around 79% of the species were represented by two or more records, and about 73% of the species were found in two or more localities. Around 53% of the species have additional support in audio recording, photos, or museum specimens.

Eleven Colombian endemics were recorded, such as: *Atlapetes flaviceps* (Chapman, 1912), *Habia cristata* (Lawrence, 1875), and *Leptotila conoveri* (Bond & Meyer de Schauensee, 1943). Seven other species are semi-endemics, including: *Tangara vitriolina* (Cabanis, 1850), *Thamnophilus multistriatus* (Lafresnaye, 1844), and *Xenopipo flavicapilla* (Sclater, 1852) (Figure 2).

Twelve species that occurr at the Totare River Basin are cited in IUCN categories of threat (IUCN 2012). Of these, three are endangered: *A. flaviceps*, *Grallaria milleri* (Chapman, 1912), and *L. conoveri*. Five are vulnerable: *Anthocephala floriceps* (Golud, 1853), *Bolborhynchus ferrugineifrons* (Lawrence, 1880), *Contopus cooperi* (Nuttall, 1831), *Setophaga cerulea* (Wilson, 1810) and *Hapalopsittaca amazonina* (Des Murs 1845). Additionally, four species are near-threatened: *Andigena hypoglauca* (Gould, 1833), *Eriocnemis derbyi* (De Lattre & Bourcier, 1846), *Odontophorus hyperythrus* (Gould, 1858), and *Xenopipo flavicapilla* (Sclater, 1852).

The records of 14 species are additions to the known species composition in the Ibagué municipality (Table 3). Of these 10 are noteworthy records, which are new records for de Cordillera Central or new records of poorly known birds from Colombia or Tolima. Particularly noteworthy records are presented below:

Barred Forest Falcon (*Micrastur ruficollis* Vieillot, 1817) (Figure 3A). An adult was collected (CZUT-OR - 600) on February 2007 in the mature forest on the Ambala. Other individual was heard on May 2007 in an oak forest on the Palomar. These records represent the second record from the east slope of the Central Andes and the first confirmed record of this species in municipality of Ibagué (Hilty and Brown 1986, Freeman *et al.* 2012).

Golden-winged Manakin (*Masius chrysopterus* Lafresnaye, 1843) (Figure 3B). An adult was mist-netted and photographed on February 2007 in mature forest at 1800 m on the Amabala zona media. This record fills a gap between upper Magdalena Valley and northern end of the Cordillera Central (Hilty and Brown 1986). One specimen from municipality of Dolores but not previously reported in the literature was found in museum (CZUT-OR -0416).

Spotted Rail (*Pardirallus maculatus* Boddaert, 1783) (Figure 3C). This species was known in the Tolima from records at middle Magdalena Valley (Hilty and Brown 1986) and the record from Ibagué city in this study represents a minor range extension of 100 km.

Green-tailed Trainbearer (*Lesbia nuna* Lesson, 1832). This hummingbird was previously known from Cordillera Oriental and C. Central on the western slope in Cauca (Hilty and Brown 1986). Multiple observations in Ambala zona Alta and Clarita Botero represent the first records of the Green-tailed Trainbearer for the eastern slope of the Cordillera Central.

Streak-capped Treehunter (*Thripadectes virgaticeps* Lawrence, 1874). An adult was mist-netted and photographed on February 2007 in mature forest at 1800 m, on the Reserva Forestal Bella Vista (Amabala) and multiple observations from Clarita Botero. These records fill a gap between upper Magdalena Valley in the southern of the Cordillera Central (Huila department) and northern of the Cordillera Central (Antioquia department) (Hilty and Brown 1986; Cuervo *et al.* 2008 b).

Slaty-backed Nightingale-Thrush (*Catharus fuscater* Lafresnaye, 1845). This species was previously recorded in the Cordillera Central on the western slope in the departments of Caldas and Risaralda and on the northern end of the Cordillera Central in Antioquia (Beltrán and Kattan 2001; Cuervo *et al.,* 2008b). This forest thrush was mist-netted on May 2007 in disturbed forest at 2100 m on the Clarita Botero parte Alta. There is another recent record not published in the Combeima River Basin (CZUT-OR - 0043). These records are the first for the eastern slope of the Cordillera Central and fill a gap between upper Magdalena Valley and northern end of the Cordillera Central (Hilty and Brown 1986; Cuervo *et al.* 2008 b).

Pale-eyed Thrush *Turdus leucops* (Taczanowski, 1877). One specimen was collected (CZUT-OR 0523) on February 2007 in the Reserva Forestal Bella Vista. This specimen extends the known range of Pale-eyed Thrush from the northern end of the C.Central in Antioquia to upper Magdalena Valley in Tolima, being the first record from the east slope of the C. Central.

White-eared Conebill (*Conirostrum leucogenys* Lafresnaye, 1852). This species was recorded in the upper Magdalena valley in Villa-vieja to Garzón (Hilty and Brown

1986). My observations in the municipality of Piedras extend its distribution in the C. Central by 150 km (Hilty and Brown 1986).

I also documented 37 migratory species, of which eighty-three percent are Neotropical-Nearctic migrants, mainly Passeriformes. In general these birds were recorded in localities below 2100 m and median altitude of 1500 m in localities as Clarita Botero, Zona Urbana and Jardín Botánico San Jorge where there are shade coffee plantations. This explains the richness of migratory birds observed at these localities (Tejada-Cruz and Sutherland 2004; Bakermans et al. 2009).

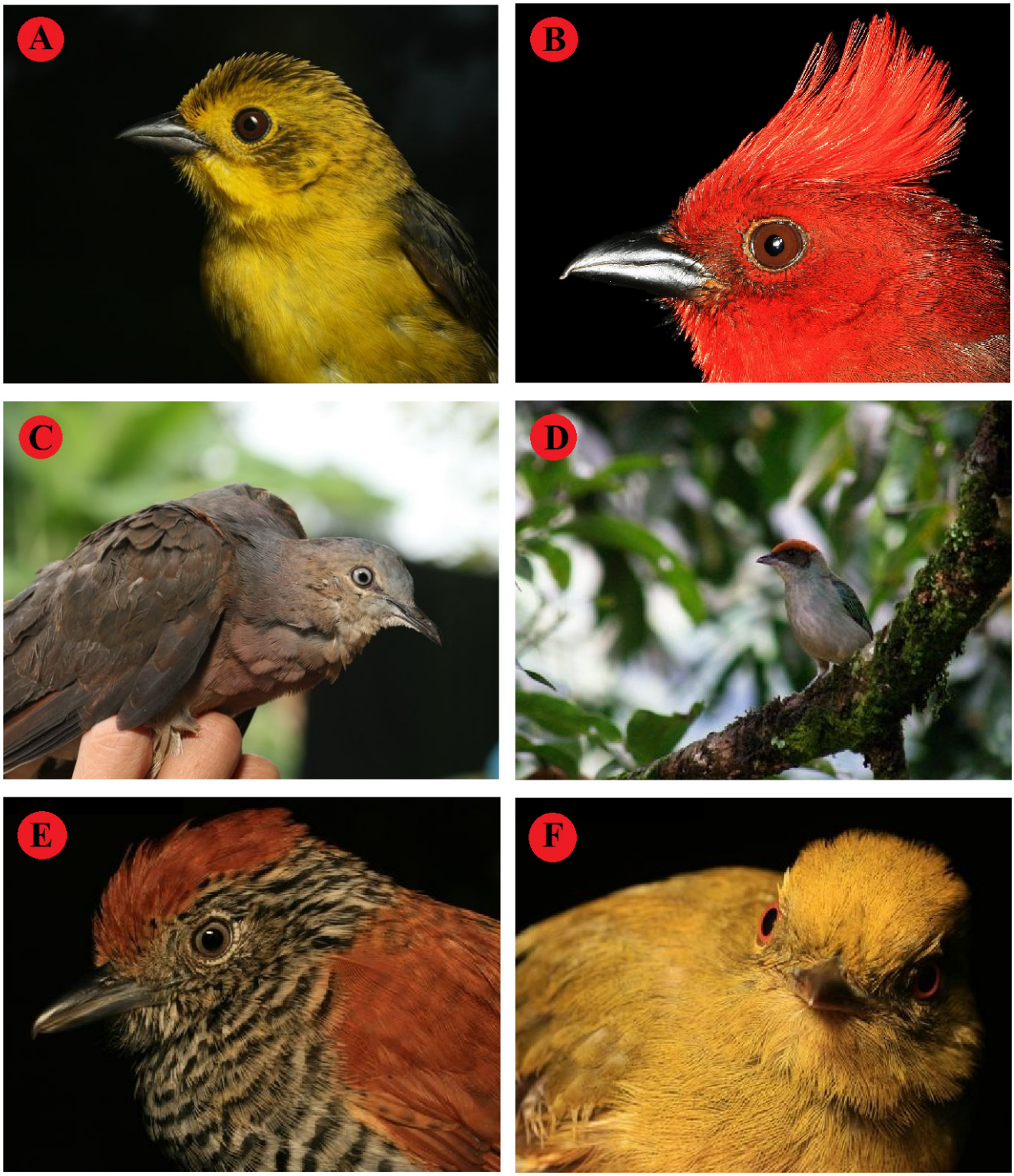


**Figure 2.** Noteworthy bird species recorded in Totare River Basin, Tolima department, Colombia. A, *Atlapetes flaviceps*, an endangered and Colombian Central Andes endemic species; B, *Habia cristata*, Colombian Central and West Andes endemic species; C, *Leptotila conoveri*, an endangered and Colombian Central Andes endemic species; D, *Tangara vitriolina*; E, *Thamnophilus multistriatus*, and F, *Xenopipo flavicapilla* are Colombian semi-endemic species. Photos by Jorge Garcia-Melo.

Migratory species included some noteworthy records as Cerulean Warbler (*S. cerulean*) and Olive-sided Flycatcher (*C. cooperi*) are Neotropical migrant songbirds have undergone a moderately rapid decline, owing to continuing habitat loss and therefore qualifies as Vulnerable and Near Threatened respectively (IUCN 2012). Both species were recorded in shade coffee plantations in Ambala Zona Media and the city of Ibagué. The Sulphur-bellied Flycatcher (*Myiodynastes luteiventris* P. L. Sclater, 1859) is a short distance migrant that was observed in La Flor at 2100 m. This is one of the few records in the east slope of the Cordillera Central (Hilty and Brown 1986; Eusse-González 2012).

The bird species richness recorded in this study represents 81% (508) of the total number of species expected to be observed according to the Chao 2 species richness estimator and 79% (520) for the ICE species richness estimator. This difference is significant, indicating that the survey was insufficient and that the sampling effort was not enough for the recording of all species occurring in the area. The duplicates had a similar curve to the uniques, showed that have not monitored a sufficient number of individuals or repetitions. The accumulation curve of observed species (Sobs) showed a tendency to asymptote (Figure 4).

The richness varied between the localities and exhibited a mid-elevation peak, a pattern identified in tropical Andean species (Terborg 1977; McCain 2009) and particularly in the internal Andean slopes as the Magdalena valley (Kattan and Franco 2004). In the basin, the higher values of richness were between 1000 and 2000 m (Figure 5A), being Clarita Botero the locality with the most speices richness (191 species). This may be because Clarita Botero has major sampling effort, as was monitored for Parra-Hernandez *et al.*(2007) for two years (2004–2006). The poorest species locality was Estrella (19), owing probably to the low sampling effort, by *Paramo* habitat disturbance and the severe climatic conditions that restricted of the species distribution.

The NMDS analysis showed that the composition of species was clustered by altitude range in four groups (Figure 6). The first group was comprised of 10 localities located below 1500 m, which are highly impacted from human activities. The second group is formed by two mid-elevation localities having forest cover or which are connected to great forest patches. The three localities situated to 2100 m that have great forest patches and are connected to riparian forests make up the third grouping of localities. Finally, the last group includes localities in the Páramo ecosystem up to 3600 m. Palomar at 2800 m, was not grouped with others localities, because was the only locality situated between 2100 and 3600 m.

These localities associated by species composition are showing ecology affinities related with altitude, physical and ecological factors have played a prominent role in determining species diversity and its distribution


**Figure 3.** New and noteworthy bird species records from the Ibagué municipality, Tolima department, Colombia. A, *Micrastur ruficollis*; B, *Masius chrysopterus*; C, *Pardirallus maculatus*. Photos by Jorge Garcia-Melo.

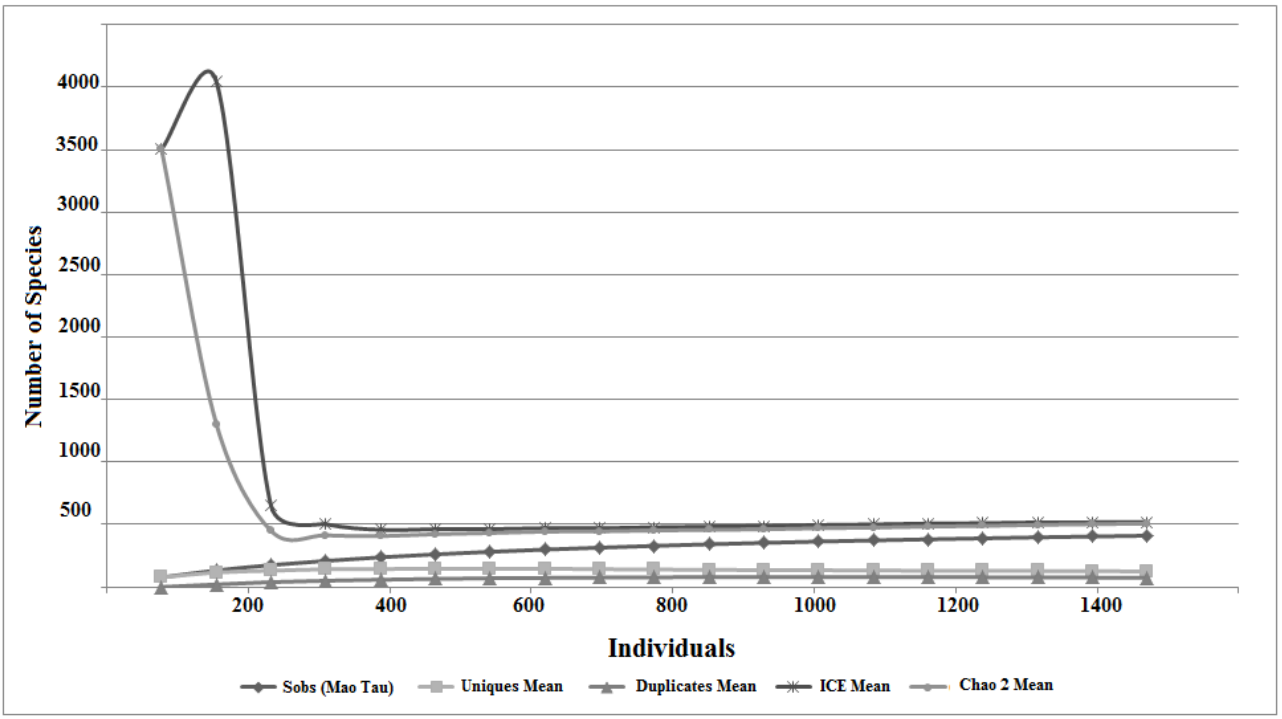


**Figure 4.** Non-parametric species richness estimators Chao 2 and ICE. Curves were based on bird species recorded at Totare River Basin, Tolima department, Colombia.

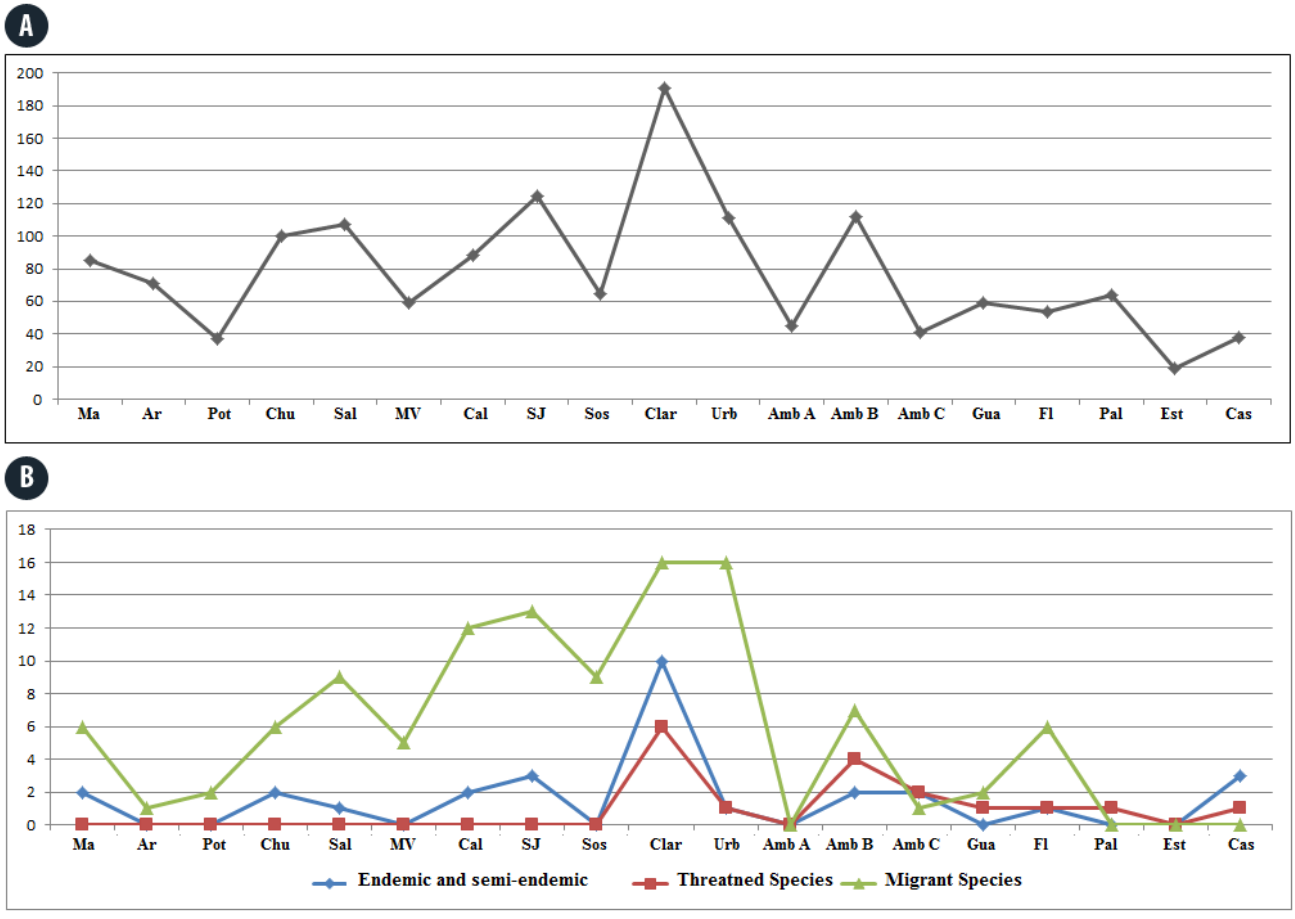


**Figure 5.** A, Species richness of birds from each locality in the Totare River Basin; B, endemic and semi-endemic especies, threatened species and migrant species of birds from each locality in the Totare River Basin. For the nomenclature see Table 1.

(Terborgh, 1977; Lomolino, 2001). I used the scores produced by the first NMDS axis to corroborate the relationship between the elevation and composition of birds, and I found a strong relationship (linear regression: $P<.0001$, $R^2 = 0.901$, df = 17).

These results show a high beta-diversity in the Totare River basin, due in part to the altitude variation, which together with human activities gives shape to landscape, a situation that has been found in other regions (Rahbek 1995, 1997; MacCain 2009; MacCain and Grytnes 2010; Marini *et al.* 2011).

Based only on the checklist, the priority localities for conservation would be Clarita Botero and Ambala, which present a higher number of endemic and threatened bird species (Figure 5B). Furthermore, Ambala has natural forests areas that are connected to larger forest fragments, and Clarita Botero is a locality that, despite having a severe human disturbance, has some forest fragments that are connected to forests at the Combeima River Basin. Both localities form an interconnection zone that is very important for maintenance of the connectivity process between bird populations of different basins; such characteristics allow the nomination of these two localities as potential areas to be declared IBAs (Important Bird Areas). Additionally, both localities have *restricted-range bird* species **(<=50.000KM²)** and the Northern Andes species, that comparated with other IBAs of the Tolima Departament, would represent areas with highest values of the endemic species, threatened species and restricted-range bird species (Franco *et al.* 2009). Besides the Palomar locality could be also important for conservation, because it harbors bird species of conservation concern in large areas of oak forests with zones that have not yet been explored. These zones are principally in highland areas where there is a constant threat due to the expansion of the agricultural frontier.

These results show the high diversity of the Totare River Basin, making it worthy of attention for conservation purposes and further studies; in addition, this basin presented larger numbers of species and more endemic species than other larger watersheds that had been studied with greater sampling efforts. For example, Losada *et al*. 2005 reported for the Coello watershed 389 species, and López-Lanus *et al.* 2000 reported for the Toche watershed 249 species. Other studies conducted in the region reported high richness with new and noteworthy records, for example Parra-Hernández *et al.*(2007) for the municipality of the Ibague, Losada and Molina-Martínez (2011) for The tropical dry forest life zone in the Tolima, besides the sporadic record (Freeman *et al.* 2011), which demonstrate that this region need more inventories and monitoring birds. Undoubtedly, additional inventories will add even more species to the list of those in the Totare River Basin. For example, very little is known about the central west area, especially the area between Palomar and Ambala Zona Alta.

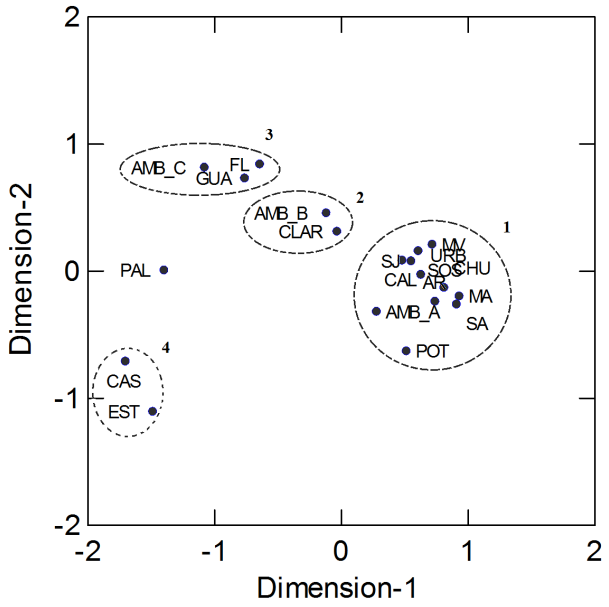


**Figure 6.** The NMDS analysis joining the localities in base of composition of bird species in the Totare River Basin, Tolima department, Colombia.

**Table 2.** Bird species recorded within the Totare River Basin, Tolima department, Colombia. Locality: (Ma) La Manga de los Rodríguez, (Ar) La Argelia, (Pot) Potrerito, (Chu) Chucuní, (Sa) Salado, (MV) Minas del Vergel, (Cal) Calambeo, (SJ) Jardín Botánico San Jorge,(Sos) Bosque del Colegio HG SOS, (Clar) Clarita Botero, (Urb) Zona Urbana, (Amb A) Ambala zona baja, (Amb B) Ambala zona media, (Amb C) Ambala zona Alta , (Gua) Guaimaral, (Fl) La Flor, (Pal) Palomar, (Cas) La Cascada, (Est) La Estrella. Habitat where the specie was detected: (ac) aquatic habitat, (bm) primary forest, (bb) forest edge, (bg) gallery forest, (bs) secondary forest, (ea) aerial, (mt) shrub, (p) grasslands, (vp) páramo vegetation, (ca) coffee-agricultural area, (zcu) area of cultivation and (zu) urban area. The column "source" lists the information gathered for each species as indicated: A = Field observations by the author. B = Species registered by Parra-Hernandez et al. 2007 within basin. The column "observation" lists information about the register type (e.g. photos, audio recordings, vouchers in the ornithological collection of the Tolima University), endemicity, conservation status and new reports for each species as indicated: Type of record = (Ra) Audio recordings, (V) Visual register, (Fo) Photographic register, (Ca) Register from captured. Additional evidence refer to particular information for each species such as: a) Number of the voucher in the Colección Zoológica Universidad del Tolima - Ornitologia = (CZUT - Or), b) Number of the audio recording deposited by the author in the collection of bird song Xeno-canto (http://www.xeno-canto.org) = (XC), c) Distribution information: (E) endemic, (S - end) semiendemic, (M) migrant, (RE) range extention, and (NR) New records for the Ibagué municipality, d) Conservation status: (CR)= Critically Endangered, (EN)=Endangered, (VU)=Vulnerable, and (NT)=Near Threatened.

| TAXON | LOCALITY | ELEVATION (M A.S.L) | HABITAT | SOURCE | OBSERVATION |
|---|---|---|---|---|---|
| **Tinamidae** | | | | | |
| *Nothocercus julius* (Bonaparte 1984) | Clar | 2000 | Bm | B | (Ra, V) |
| *Crypturellus soui* (Hermann 1783) | Chu, Cal | 750 - 1200 | bs, bb | A | (Ra, V) |
| **Anatidae** | | | | | |
| *Anas andium* (Sclater & Salvin 1873) | Cas | 3600 | Ac | A | (V, Fo |
| *Oxyura jamaicensis* (Lehmann 1946) | Cas | 3600 | Ac | A | (V, Fo) |
| **Cracidae** | | | | | |
| *Ortalis columbiana* (Hellmayr 1906) | Sa, Chu, SJ, Clar | 900 - 1800 | bs, bg, bb | A,B | (V) E |
| *Aburria aburri* (Lesson 1828) | Amb B | 1800 | Bm | A | (V) NR, NT |

**Table 2.** ***Continued.***

| TAXON | LOCALITY | ELEVATION (M A.S.L) | HABITAT | SOURCE | OBSERVATION |
|---|---|---|---|---|---|
| *Chamaepetes goudotii* (Lesson 1828) | Gua, Fl, Pal | 2100 - 2800 | bm, bs | A | (V) |
| **Odonthophoridae** | | | | | |
| *Colinus cristatus* (Linnaeus 1766) | Sa, Ar, Cal, SJ | 270 - 1200 | mt, p | A,B | (V, Ra) |
| *Odontophorus hyperythrus* (Gould 1858) | Clar, Amb C | 1800 - 2100 | Bm | A,B | (V, Ra XC96070), E, NT |
| **Podicipedidae** | | | | | |
| *Podylimbus podiceps* (Linnaeus 1766) | Sa | 900 | Ac | B | ( V ) |
| **Ardeidae** | | | | | |
| *Nycticorax nycticorax* (Gmelin 1789) | Sa | 900 | Ac | B | (V) |
| *Butorides striata* (Linnaeus 1758) | Sa, Ma, Ar, SJ, Urb | 270 - 1200 | Ac | A,B | (V Fo) |
| *Bubulcus ibis* (Linnaeus 1758) | Ma, Ar, Chu, Cal, Urb | 270 - 1200 | p, zcu, zu | A,B | (V Fo) |
| *Ardea alba* (Linnnaeus 1758) | Sa, Ma | 270 - 900 | Ac | A,B | (V Fo) |
| *Syrigma sibilatrix* (Temminck 1824) | Sa | 900 | Ac | B | (V) |
| *Pilherodius pileatus* (Linnaeus 1758) | Sa, SJ, Ma | 270 - 1200 | Ac | A,B | (V Fo) |
| *Egretta thula* (Molina 1782) | Sa | 900 | Ac | A,B | (V Fo) |
| **Threskiornithidae** | | | | | |
| *Phimosus infuscatus*(Lond 1877) | Sa, Ma, Ar, Chu, MV, Cal, SJ, Clar, Urb | 270 - 1200 | Ac | A,B | (V Fo) |
| **Cathartidae** | | | | | |
| *Coragyps atratus* (Bechstein 1793) | Ma, Ar, Chu, Cal, Sos, Urb, Amb A - B - C, Gua, Fl | 270 - 2100 | Ea | A,B | (V Fo) |
| *Cathartes aura* (Linnaeus 1758) | Sa, Ma, Ar, Clar, MV, SJ, Sos, Clar, Urb, Amb B | 270 - 1800 | Ea | A,B | (V Fo) |
| **Pandionidae** | | | | | |
| *Pandion haliaetus* (Linnaeus 1758) | Sa, Urb | 900 - 1000 | ea, ac | A,B | (V Fo) M |
| **Accipitridae** | | | | | |
| *Elanus leucurus* (Vieillot 1818) | Sa, Ma, Ar, Chu, SJ, Urb, Gua | 270 - 2100 | pp, mt, zcu, zu | A,B | (V Fo) |
| *Gampsonyx swainsonii* (Vigor 1825) | Ar, SJ, Sos | 310 - 1200 | bb, p, zcu | A,B | (V Fo) |
| *Harpagus bidentatus* (Latham 1790) | Gua | 2100 | Bb | A | (V) |
| *Buteogallus meridionalis*(Latham 1790) | Ma | 270 | p, mt, zcu | A | (V) |
| *Rupornis magnirostris* (Gmelin 1788) | Sa, Ma, Ar, Pot, Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb A - B, Gua, Pal | 270 - 2800 | bs, bb, p, mt, zcu, zu | A,B | (V Fo Ra) |
| *Buteo platypterus* (Vieillot 1823) | Sa, Cal, SJ, Clar, Urb | 900 - 2000 | bm, bs, bb, ea | A,B | (V) M |
| *Buteo brachyurus*(Viellot 1816) | Sa | 900 | b bs za | B | (V) |
| *Buteo swainsoni* (Bonaparte 1838) | SJ, Clar, Urb | 1200 - 2000 | bm, bs, bb, ea | A,B | (V) M |
| **Rallidae** | | | | | |
| *Anurolimnas viridis* (Statius Muller 1776) | Urb | 1200 | Ac | B | (CZUT - Or 198, V) |
| *Aramides cajaneus* (Müller 1776) | Sa, Ma, Pot, MV, Cal, SJ, Urb, Amb A | 270 - 1500 | Ac | A,B | (V, Ra) |
| *Pardirallus maculatus* (Boddaert 1783) | Urb | 1200 | Ac | A | (V, Fo) RE NR |
| *Porphyrio martinicus* (Linnaeus 1766) | Sa, Urb | 900 - 1200 | Ac | A,B | (V, Fo) |
| *Gallinula galeata* (Linnaeus 1758) | Sa | 900 | Ac | B | (V) M |
| *Fulica ardesiaca* (Tschudi 1843) | Cas | 900 | Ac | A | (V, Fo) |
| **Charadriidae** | | | | | |
| *Vanellus chilensis* (Molina 1782) | Sa, Ma, Ar, Pot, Chu, MV, Cal, SJ, Clar, Urb, Pal | 270 - 2100 | ac, p, zu | A,B | (V, Fo, Ra) |
| *Vanellus resplendens* (Tschudi 1843) | Pal | 2800 | ac, p | A | (V) |
| *Charadrius collaris* (Vieillot 1818) | Sa | 900 | Ac | B | (V) |
| **Scolopacidae** | | | | | |
| *Gallinago nobilis* (Sclater 1856) | Cas | 3600 | Ac | A | (V) |
| *Actitis macularius* (Linnaeus 1766) | Sa | 900 | ac | B | (V) M |
| *Tringa solitaria* (Wilson 1813) | Sa | 900 | Ac | B | (V) M |
| **Jacanidae** | | | | | |
| *Jacana jacana* (Linnaeus 1766) | Sa, Ma, Cal, SJ | 270 - 1200 | Ac | A,B | (V Fo) |
| **Columbidae** | | | | | |
| *Columbina passerina* (Bonaparte 1855) | Sa, Chu | 750 - 900 | p, mt, bb | B | (V) |
| *Columbina talpacoti* (Temminck 1810) | Sa, Am, Ar, pot, Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb A - B, Fl | 270 - 2100 | p, mt, bb, ca | A,B | (CZUT - Or 518) |
| *Columba livia* (Gmelin 1789) | Cal, Clar, Urb, Amb A - B - C | 1200 - 2100 | Zu | A,B | (V Fo) |
| *Claravis pretiosa* (Ferrari-Perez 1886) | Ma | 270 | bs, bg, bb | A | (V Fo) |
| *Patagioenas fasciata* (Say 1823) | Amb B - C, Gua, Fl, Pal, Cas | 1800 - 3600 | bm, bs, bb | A | (V) |
| *Patagioenas cayennensis* (Bonnaterre 1792) | Sa | 900 | bs, bg, mt | B | (V) |
| *Patagioenas subvinacea* (Lawrence 1865) | Amb B | 1800 | bm, bs,bb | A | (V) |
| *Zenaida auriculata* (Bonaparte 1855) | Sa, Ma, Ar, Chu, Cal, SJ, Sos, Clar, Urb | 270 - 1200 | bs,bb, p, mt, zcu, zu, ca | A,B | (V, Fo) |

**Table 2.** ***Continued.***

| TAXON | LOCALITY | ELEVATION (M A.S.L) | HABITAT | SOURCE | OBSERVATION |
|---|---|---|---|---|---|
| *Leptotila verreauxi* (Bonaparte 1855) | Sa, Ma, Ar, Chu, MV, SJ | 270 - 1200 | bs, bb, ca | A,B | (V, Fo) |
| *Leptotila conoveri* (Bond & Meyer de Schauensee 1943) | Clar, Amb B | 1400 - 1800 | bm, bs, bb, ca | A,B | (CZUT - Or 524) E EN |
| **Cuculidae** | | | | | |
| *Coccycua minuta* (Vieillot 1817) | Chu | 750 | bs, bg | A | (V, Fo) |
| *Coccycua pumila* (Strickland 1852) | Sa, Urb | 900 - 1200 | bs, mt, zu | A,B | (V) |
| *Piaya cayana* (Bonaparte 1850) | Sa, Ar, Cal, SJ, Clar, Amb B, Gua | 310 - 2100 | bs, bg, bb | A,B | (V, Fo) |
| *Coccyzus americanus* (Linnaeus 1758) | Cal, SJ, Urb | 1200 | bs, zu | A,B | (V) M |
| *Crotophaga major* (Gmelin 1788) | Sa, Ma, Ar, Pot, Chu, Urb | 270 - 1200 | bs, bb, mt | A,B | (V, Fo) |
| *Crotophaga ani* (Linnaeus 1758) | Sa, Ma, Ar, Pot, Chu, MV, Cal, SJ, Sos, Clar, Urb, Gua, Fl | 270 - 2100 | p, mt, zcu, zu | A,B | (V, Fo) |
| *Crotophaga sulcirostris* (Swainson 1827) | Sa, Ma, Ar, Chu, Urb, Gua, Fl | 270 - 2100 | p, mt, zcu, zu | A,B | (V, Fo) |
| *Tapera naevia* (Linnaeus 1766) | Sa, Cal, SJ, Amb A | 900 - 1500 | p, mt | A,B | (V, Fo) |
| **Tytonidae** | | | | | |
| *Tyto alba* (Scopoli 1769) | Sos, Urb | 1200 | bs, zu | A,B | (V, Ra) |
| **Strigidae** | | | | | |
| *Megascops choliba* (Vieillot 1817) | Ma, Chu, Urb, Fl | 270 - 2100 | bs, bg, zu, zcu | A,B | (V, Ra, Fo) |
| *Pseudoscops clamator* (Schlegel 1862) | Amb A | 1500 | bs, bb | A | (Ra) |
| *Asio stygius* (Wagler 1832) | Sos, Clar, Urb | 1200 | bs, bb, zu | A,B | (V, Ra) |
| *Asio flameus* (Pontoppidan 1763) | SJ, Urb | 1200 | bs, bb, zu | A,B | (V, Ra) |
| **Nyctibiidae** | | | | | |
| *Nyctibius griseus* (Gmelin 1789) | Ar, Chu, MV, Urb | 310 - 1200 | bs, bg, bb | A,B | (V, Ra, Fo) |
| **Caprimulgidae** | | | | | |
| *Chordeiles minor* (Forster 1771) | Ma, Ar, MV | 270 - 1200 | bs, bb, p, mt, zu | A,B | (V, Ra) M |
| *Nyctidromus albicollis* (Gmelin 1789) | Sa, Chu, MV, Clar, Urb | 750 - 1200 | bb, mt, p, zu | A,B | (V, Ra XC96383; CZUT-Or 22) |
| *Systellura longirostris* (Bonaparte 1825) | Amb C | 2100 | bs, p, vp | A | (Ra) |
| **Apodidae** | | | | | |
| *Cypseloides cherriei* (Ridgway, 1893) | Urb | 1200 | Zu | A | (V, CZUT - Or 0436) |
| *Streptoprocne rutila* (Vieillot 1817) | SJ, Fl | 1200 - 2100 | p, ea | A,B | (V) |
| *Streptoprocne zonaris* (Shaw 1796) | Sa, MV, SJ, Clar, Urb, Amb B, Gua | 900 - 2100 | bm, bs, ea | A,B | (V) |
| **Trochilidae** | | | | | |
| *Eutoxeres aquila* (Bourcier 1847) | Clar, Amb B, Gua, Fl | 2000 - 2100 | bm, bs, bb, ca | A,B | (V, CZUT - Or 484) |
| *Glaucis hirsutus* (Gmelin 1788) | SJ | 1200 | bs, bg, mt | B | (V, Fo) |
| *Phaethornis anthophilus* (Bourcier 1843) | Ma, Chu | 270 - 750 | bs, bg, mt | A | (V, Fo, CZUT - Or 493) |
| *Phaethornis guy* (Lesson 1833) | Ar, Cal, SJ, Clar, Amb A - B | 310 - 1800 | bs, bg, bb | A,B | (V, CZUT - Or 0531) |
| *Phaethornis syrmatophorus* (Gould 1851) | Chu, SJ, Clar, Amb B, Pal | 750 - 2800 | bm, bs, bb | A,B | (V, Ra, CZUT - Or 0532) |
| *Doryfera ludovicae* (Bourcier & Mulsant 1847) | Amb B | 1800 | bm, bs, bb | A | (Ca, V) |
| *Florisuga mellivora* (Linnaeus 1758) | Sa, SJ, Clar | 900 - 1800 | bs, bg, bb | A,B | (V) |
| *Colibri thalassinus* (Swainson 1827) | Clar, Amb C, Gua | 1800 - 2100 | bs, bb, p, zcu | A,B | (V, Ra) |
| *Colibri coruscans* (Gould 1846) | Clar, Fl, Pal | 2100 - 2800 | bs, bb, p, zcu | A,B | (V, Ra XC96287) |
| *Anthracothorax nigricollis* (Vieillot 1817) | Sa, MV, Cal, SJ, Sos, Clar, Urb | 900 - 1200 | bs, bb, mt, zu, zcu | A,B | (V) |
| *Chlorostilbon gibsoni* (Fraser1840) | SJ, Clar | 1200 | bs, bg, zcu | B | (V, Ca, Fo) C - end |
| *Chlorostilbon mellisugus* (Linnaeus 1758) | Sa, SJ, Clar, Amb B | 900 - 1800 | bs, bb, mt | A,B | (V) |
| *Thalurania colombica* (Bourcier 1843) | Chu, Sos, Clar, Amb, Pot B | 750 - 1800 | bm, bs, bb | A,B | (V,CZUT - Or 530) |
| *Damophila julie* (Bourcier 1842) | Chu, MV, SJ, Clar | 750 - 2000 | bm, bs, bg, bb | A | (V, Ca) |
| *Amazilia franciae* (Bourcier & Mulsant 1846) | Clar | 2000 | bb, bs | A | (V, Ca) |
| *Amazilia tzacatl* (de la Llave 1833) | Sa, Pot, MV, Cal, SJ, Sos, Clar, Urb | 700 - 1800 | bs, bg, bb, zu, zcu, ca | A,B | (V, Ca) |
| *Amazilia amabilis* (Gould 1853) | Clar | 1800 | Bs | B | (V, Ca, Fo) |
| *Amazilia cyanifrons* (Bourcier 1843) | SJ, Clar | 1200 - 1800 | bs, bb, mt | A,B | (V, Ca) E |
| *Anthocephala floriceps* (Golud 1853) | Clar | 1800 | bs, bb, zcu | A,B | (V, Ca) E VU |
| *Chalybura buffonii* (Lesson 1832) | Pot, MV, Cal, SJ, Sos, Clar, Urb, Amb B | 700 - 1800 | bs, bg, bb, zcu, zu | A,B | (V, Ca) |
| *Adelomyia melanogenys* (Fraser 1840) | Clar, Amb B - C, Gua, Fl, Pal | 1800 - 2800 | bm, bb | A,B | (V, Ca) |
| *Heliodoxa rubinoides* (Bourcier & Mulsant 1846) | Amb B | 1800 | bm, bb | A | (V, Ca) |
| *Boissonneaua flavescens* (Loddiges 1832) | Clar, Amb C | 2100 | bm, bb | A,B | (V, CZUT - Or 488) |
| *Aglaeactis cupripennis* (Bourcier 1843) | Est | 3600 | Vp | A | (V) |
| *Lafresnaya lafresnayi* (Boussonneau 1840) | Clar | 1800 - 2000 | bs, bb | A,B | (V, Ca, Fo) |

**Table 2.** C*ontinued.*

| TAXON | LOCALITY | ELEVATION (M A.S.L) | HABITAT | SOURCE | OBSERVATION |
|---|---|---|---|---|---|
| *Coeligena coeligena* (Lesson 1833) | Clar, Amb B, Gua, Pal | 1800 - 2800 | bm, bb | A,B | (V, CZUT - Or 492) |
| *Coeligena torquata* (Boissonneau 1840) | Clar, Amb B, Gua, Pal | 1800 - 2800 | bm, bg, bs, bb | A,B | (V, CZUT - Or 470) |
| *Coeligena lutetiae* (De lattre & Bourcier 1846) | Pal | 2800 | Bm | A | (CZUT - Or 542) |
| *Ensifera ensifera* (Boissonneau 1840) | Pal, Cas | 2100 - 2800 | bs, bb, bg, zcu | A | (V) |
| *Heliangelus exortis* (Fraser 1840) | Clar, Pal | 1800 - 2800 | bs, bb | A,B | (Ca,V) |
| *Eriocnemis derbyi* (De lattre & Bourcier 1846) | Cas | 3600 | bm, vp | A | (V) S - end NT |
| *Eriocnemis mosquera* (De lattre & Bourcier 1846) | Cas | 3600 | bm, vp | A | (V) C - end |
| *Chrysolampis mosquitus* (Linnaeus 1758) | Chu | 700 | bs, bb, bg, zcu | B | (V, ca, Fo) |
| *Haplophaedia aureliae* (Bourcier & Mulsant 1846) | Clar, Amb B, Gua | 1800 - 2100 | bm, bb | A,B | (Ca,V) |
| *Ocreatus underwoodii* (Lesson 1842) | Clar, Amb B, Fl | 1800 - 2100 | bm, bs, bb | A,B | (Ca, V) |
| *Lesbia nuna (*Lesson 1832) | Amb C | 2100 | bs, bb | A | (V) RE NR |
| *Ramphomicron microrhynchum* (Boissonneau 1840) | Pal | 2800 | bm, vp | A | (V) |
| *Metallura tyrianthina* (Loddiges 1832) | Pal, Est | 2800 - 3600 | bm, bb, vp, mt | A | (V, Ca) |
| *Schistes geoffroyi* (Bourcier 1843) | Clar | 1800 | bs, bb, zcu | A | (V) |
| *Chaetocercus mulsant* (Bourcier 1842) | Clar, Amb A | 1400 - 1600 | bb, zcu | A,B | (V) |
| **Trogonidae** | | | | | |
| *Trogon personatus* (Gould 1842) | Clar, Amb B, Pal | 1800 - 2800 | bm, bs, bb | A,B | (V, Ra, Fo XC96493) |
| **Alcedinidae** | | | | | |
| *Megaceryle torquata* (Linnaeus 1766) | Sa, Ma | 270 - 900 | Ac | A,B | (V, Ra, Fo) |
| *Chloroceryle amazona* (Latha 1790) | Sa, Ma | 270 - 900 | Ac | A,B | (V, Ra, Fo) |
| *Chloroceryle americana* (Gmelin 1788) | Sa, Ma, SJ | 270 - 1200 | Ac | A,B | (V, Ra, Fo) |
| **Momotidae** | | | | | |
| *Momotus aequatorialis* (Gould, 1858) | MV, Cal, SJ, Sos, Clar, Amb B, Gua, Fl | 1200 - 2100 | bm, bs, bb, bg | A,B | (V, Ra XC96317, CZUT - Or 474) |
| *Momotus subrufescens* (P. L. Sclater, 1853) | Sa, Ar, Chu | 270 - 900 | bm, bs, bb, bg | A,B | (V, Ra, Ca) |
| **Galbulidae** | | | | | |
| *Galbula ruficauda* (Cuvier 1817) | Sa, Ma, Ar, Chu, MV | 270 - 1200 | bs, bg, bb, mt, p | A,B | (V, Fo, XC96491) |
| **Bucconidae** | | | | | |
| *Malacoptila mystacalis* (Lafresnayi 1850) | MV, Clar, Amb B | 1200 - 1800 | bm, bb | A,B | (V, Fo, Ca) |
| **Ramphastidae** | | | | | |
| *Aulacorhynchus prasinus* (Gold 1834) | Clar, Amb B, Gua, Fl, Pal | 1800 - 2800 | bm, bs, bg, bb | A,B | (V, Ra XC95833) |
| *Aulacorhynchus haematopygus* (Gould 1835) | Clar, Amb B | 1800 | bm, bs, bb | A,B | (V, Ra) |
| *Andigena hypoglauca* (Gould 1833) | Cas | 3600 | bm, bb | A | (V, Fo) NT |
| **Picidae** | | | | | |
| *Picumnus olivaceus* (Lafresnaye 1845) | Sa, Ma, Ar, Chu, MV, Cal, SJ, Sos, Clar, Urb - Urb | 270 - 1200 | bs, bb, mt, p | A,B | (V) |
| *Melanerpes formicivorus* (Swainson 1827) | Clar, Pal | 1800 - 2800 | bs, bb, pp | A,B | (V, Ra XC96320) |
| *Melanerpes rubricapillus* (Cabanis 1862) | Sa, Mam Ar, Pot, Chu, MV, Cal, SJ, Sos, Clar, Amb A - B | 270 - 1800 | bs, bb, bg,zcu, zu | A,B | (V, Ra, Ca, Fo) |
| *Veniliornis kirkii* (Malherbe 1845) | Ar, Chu, Cal, Clar | 310 - 1800 | bs, bb, mt | A,B | (V, Ca) |
| *Colaptes rubiginosus* (Swainson 1820) | Amb B | 1800 | bm, bs | A | (V) |
| *Colaptes rivolii* (Boissonneau 1840) | Clar, Amb B - C, Gua, Cas, Est | 1800 - 3600 | bm, bs, bb | A,B | (V, Ra XC96279) |
| *Colaptes punctigula* (Short 1972) | Sa, Chu, Cal, SJ, Sos, Clar, Urb | 750 - 1200 | bs, bg, bb, mt | A,B | (V, CZUT - Or 490) |
| *Dryocopus lineatus* (Linnaeus 1766) | Ma | 270 | bs, bg, bb, mt, p | A | (V) |
| *Campephilus melanoleucos* (Gmelin 1788) | Sa, Fl | 2100 | bm,bs, bb | A | (V) |
| **Falconidae** | | | | | |
| *Caracara cheriway* (Cassin 1865) | Sa, Ma, Clar, Fl | 270 - 2100 | p, mt,zcu, zu | A,B | (V Fo) |
| *Milvago chimachima* (Viellot 1816) | Sa, Ma, Ar Chu, MV, Cal, SJ, Sos, Urb | 270 - 1200 | p, mt,zcu, zu | A,B | (V Fo Ra) |
| *Micrastur ruficollis* (Vieillot 1817) | Amb B, Pal | 1800 - 2800 | Bm | A | (CZUT - Or 600, Fo, Ra) RE NR |
| *Falco sparverius* (Linnaeus 1758) | Sa, Ma, Ar, Pot, SJ, Clar, Urb, Gua, Fl, Pal | 270 - 2800 | p, mt, zcu | A,B | (V, Fo Ra) |
| *Falco femoralis* (Temminck, 1822) | Sa, SJ, Urb | 900 - 1200 | p, mt, zu | A,B | (V) |
| *Falco peregrinus* (Tunstall 1771) | MV, Urb | 1200 | p, mt, zu | B | (V) M |
| **Psittacidae** | | | | | |
| *Psittacara wagleri* (Gray 1845) | Sa, Chu, Urb | 750 - 1200 | bs, ea, zu | B | (V) |
| *Eupsittula pertinax* (Linnaeus 1758) | Sa, MV, SJ, Urb | 900 - 1200 | bs, ea, zu | A, B | (V) |
| *Bolborhynchus ferrugineifrons* (Lawrence 1880) | Cas | 3600 | Vp | A | (V, Fo) E VU |
| *Forpus conspicillatus* (Lafresnaye 1848) | Sa, Ma, Ar, Potm Chu, MV, Cal, SJ, Clar, Urb, Amb A - B | 270 - 1800 | p, mt, bs, zu, zcu, ca | A,B | (V, Fo) |

**Table 2.** C*ontinued.*

| TAXON | LOCALITY | ELEVATION (M A.S.L) | HABITAT | SOURCE | OBSERVATION |
|---|---|---|---|---|---|
| *Brotogeris jugularis* (Müller 1776) | Sa, Ar, Pot, Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb A | 310 – 1500 | p, mt, bs, zu, zcu, ca | A,B | (V, Fo) |
| *Hapalopsittaca amazonina* (Des Murs 1845) | Pal | 2800 | Bm | A | (V) VU |
| *Amazona ochrocephala* (Cabanis 1874) | Sa, Ma, Ar, Chu | 270 – 900 | bs, bb, p | A,B | (V, Fo) |
| *Amazona mercenarius* (Tschudi 1844) | Pal | 270 – 900 | bm, bs, bb | A | (V) |
| **Furnariidae** | | | | | |
| *Cinclodes excelsior* (Sclater 1860) | Est | 3600 | vp, p | A | (V, Fo) |
| *Synallaxis azarae* (Chapman 1914) | Clar, Amb B - C, Gua, Fl | 1600 - 2100 | mt, bb | A,B | (V, Ra, Ca) |
| *Synallaxis albescens* (Temminck 1823) | Sa, Ma, Cal, Urb | 270 - 1200 | mt, bb | A,B | (V, Ra, Ca) |
| *Synallaxis unirufa* (Lafresnaye 1843) | Cas | 3600 | bm, bb | A | (V) |
| *Synallaxis brachyura* (Lafresnaye 1843) | Ar, Cal, Clar, Amb A - B | 310 - 1800 | bb, mt, ca | A,B | (V, Ra) |
| *Certhiaxis cinnamomeus* (Gmelin 1788) | Ma | 270 | Ac | A | (V) |
| *Asthenes flammulata* (Jardine 1850) | Gua | 2100 | bm, bb | A | (Ca,V) |
| *Premnornis guttuliger* (Sclater 1864) | Amb B | 1800 | bm, bs, bb | A | (V) |
| *Premnoplex brunnescens* (Sclater 1856) | Clar, Amb B, Gua | 1800 - 2100 | bm, bg, bb | A,B | (V, CZUT - Or 469 |
| *Margarornis squamiger* (d´Orbigny & Lafrenayi 1838) | Clar, Amb B, Pal, Cas | 1800 - 3600 | bm, bb | A,B | (V, CZUT - Or 506) |
| *Pseudocolaptes boissonneautii* (Lafresnaye 1840) | Clar, Amb B, Pal, Cas | 1800 - 3600 | bm, bb | A,B | (V, Ca) |
| *Anabacerthia striaticollis* (Lafresnaye 1842) | Clar, Amb B, Gua, Fl | 1800 - 2100 | bm, bb | A,B | (V, Ca) |
| *Thripadectes holostictus* (Sclater & Salvin 1875) | Amb B | 1800 | Bm | A | (V, Ca) |
| *Thripadectes virgaticeps* (Lawrence, 1874) | Clar, Amb B | 1800 | Bm | A | (V, Ca, Fo) RE NR |
| *Lochmias nematura* (Lichtenstein 1823) | Amb B | 1800 | bm, bs, bg | A | (Fo, Ca, CZUT - Or 516) |
| *Xenops rutilans* (Teminck 1821) | Amb B, Gua, Fl | 1800 - 2100 | bs, bb | A | (V) |
| *Dendrocincla tyrannina* (Lafrenaye 1845) | Pal | 2800 | bm, bb | A | (CZUT - Or 527) |
| *Dendrocincla fuliginosa* (Vieillot 1818) | SJ | 1200 | bs, mt | B | (V) |
| *Xiphocolaptes promeropirhynchus* (Lesson 1840) | Pal | 2800 | bm, bb | A | (V) |
| *Dendrocolaptes picumnus multistrigatus* (Linchtenstein 1820) | Pal | 2800 | bm, bb | A | (V, CZUT - Or 521) |
| *Dendroplex picus* (Fylon 1851) | Ma, Ar, MV, Cal, SJ, Clar, Urb | 270 - 1200 | bs, bb, zu | A,B | (V, Ca, Ra, Fo) |
| *Xiphorhynchus triangularis* | Chu | 750 | bs, bg | A | (Ca, Fo) NR |
| *Lepidocolaptes lacrymiger* (Des Murs 1849) | Clar, Gua, Fl, Pal | 1400 - 2800 | bs, bb | A,B | (V) |
| *Campylorhamphus trochilirostris* (Chapman 1889) | Chu, Urb, Amb A | 750 - 1500 | bs, bb, bg, zu | A,B | (V, Ra) |
| **Thamnophilidae** | | | | | |
| *Thamnophilus doliatus* (Lawrence 1865) | Sa, Ma, Ar, Chu, Cal, SJ, Sos, Clar, Urb, Amb A | 270 - 1500 | bs, bb, mt, p, zu, zcu | A,B | (V, Ra) |
| *Thamnophilus multistriatus* (Lafresnaye 1844) | Cal, Clar, Amb B, Fl | 1200 - 2100 | bs, bb, ca | A,B | (V, Ra) S - end |
| *Thamnophilus atrinucha atrinucha* (Salvin & Godman 1892) | Chu, SJ, Sos | 750 - 1200 | bs, bb | A,B | (V, Ra) |
| *Dysithamnus mentalis* (Temminck 1823) | SJ, Clar, Amb B, Fl | 1200 - 2100 | bm, bb | A,B | (V, Ca, Ra) |
| *Dysithamnus leucostictus* (Sclater, 1858) | Amb B | 1800 | Bm | A | (Ca) RE NR |
| *Epinecrophylla fulviventris* (Lawrence 1862) | Cal, SJ, Clar | 1200 | mt, bb | A,B | (V, Ra) |
| *Formicivora grisea* (Canabis 1847) | Ma, Ar, Chu | 270 - 900 | bb, mt, p | A,B | (V, Ca, Ra XC96278) |
| *Cercomacra tyrannina* (Sclater 1855) | Pot, Chu | 700 - 750 | bs, bb , bg | A | (V, Ra, Fo; CZUT - Or 500) |
| *Myrmeciza longipes boucardi* (Swainson 1825) | Sa, Ma, Ar, Chu, MV, SJ, Urb | 270 - 1200 | bs, bb | A,B | (V, Ca, Ra, CZUT - Or 520) |
| *Myrmeciza immaculata* (Lafresnaye 1843) | SJ, Amb B | 1200 - 1800 | Bm | A,B | (V, Ra, Ca) |
| **Grallariidae** | | | | | |
| *Grallaria squamigera* (Prevost & Des Murs 1846) | Gua, Pal | 2100 - 2800 | Bm | A | (Ra) |
| *Grallaria ruficapilla* (Lafresnaye 1842) | Clar, Amb B - C, Gua, Fl | 1600 - 2100 | bm, bs, bb | A | (V, Ca, Fo,Ra XC96276) |
| *Grallaria nuchalis* (Sclater 1859) | Pal | 2800 | Bm | A | (Ra XC96504) |
| *Grallaria quitensis* (Lesson 1844) | Fl, Cas, Est | 2100 - 3600 | mt, vp | A | (V, Ra XC96374) |
| *Grallaria milleri* (Chapman 1912) | Clar, Amb C | 1800 - 2100 | bm, bb | A,B | (Ra) E EN |
| *Grallaricula nana* (Lafrenaye 1842) | Pal | 2800 | bm, bb | A | (Ra) |
| **Rhinocryptidae** | | | | | |
| *Myornis senilis* (Lafresnaye 1940) | Pal | 2800 | bm, bb | A | (RaXC96508) |
| *Scytalopus atratus confusus* (Hellmayr 1922) | Clar, Amb B | 1800 | bm, bb | A,B | (Ra XC96349) |
| *Scytalopus spillmanni* (Bangs, 1899) | Clar, Amb C, Pal | 2100 - 2800 | bm, bb | A | (Ra XC96475) |
| *Acropternis orthonyx* (Lafresnaye 1843) | Pal, Est | 2800 - 3600 | Vp | A | (Ra XC96366) |
| **Tyrannidae** | | | | | |
| *Phyllomyias griseiceps*(P. L. Sclater & Salvin, 1871) | Clar | 1600 | bb, mat | A | (V, Ra) NR |

**Table 2.** C*ontinued.*

| TAXON | LOCALITY | ELEVATION (M A.S.L) | HABITAT | SOURCE | OBSERVATION |
|---|---|---|---|---|---|
| *Tyrannulus elatus* (Latham 1790) | Chu, MV | 1200 | Bb | A,B | (V, Ra, Fo) |
| *Myiopagis viridicata* (Vieillot 1817) | Ma, SJ | 270 - 1200 | bs, bb, mt | A,B | (V, Ca, Fo) |
| *Elaenia flavogaster* (Thunberg 1822) | Sa, Ma, Ar, Chu, Cal, Sos, Clar, Urb | 270 - 1200 | mt, p, zu, zcu | A,B | (V, Ca, Fo, Ra) |
| *Elaenia parvirostris* (Pelzeln 1868) | Pot, Sos | 700 - 1200 | bs, mt, zu | A | (V, Ca, Fo) M |
| *Elaenia Chiriquensis* (Lawrence 1865) | Cal, SJ | 1200 | bs, mt, p | A,B | (V, Ca, Fo) |
| *Elaenia frantzii* (Lawrence 1865) | Clar, b, Gua, Fl | 1800 - 2100 | bs, bb, zcu | A,B | (V, Ra, Ca) |
| *Camptostoma obsoletum* (Temminck 1824) | Pot, SJ | 700 - 1200 | bs, bb | A,B | (V, Ra) |
| *Mecocerculus leucophrys* (Orbigny & Lafresnaye 1837) | Clar, Pal, Cas, Est | 1800 - 3600 | bm, bb, bs, vp | A,B | (V Ra XC96385) |
| *Mecocerculus minor* (Taczanowsky 1879) | Pal | 2800 | bm, bb | A | (V) |
| *Phaeomyias murina* (Spix 1825) | Sa, Ar, Chu, SJ | 310 - 1200 | Bg | A,B | (V, Ca, Fo) |
| *Pseudocolapteryx acutipenis* (Sclater & Salvin 1873 | SJ | 1200 | Bs | B | (V) |
| *Euscarthmus meloryphus* (Wied-Neuwied 1831) | Chu | 540 - 640 | bs, mt | B | (V, Ca, Fo) |
| *Zimmerius chrysops* (Harter & GoodSaladon 1917) | MV, Clar, AmbA - B | 1200 - 1800 | bs, bb, mt | A,B | (V, Ra) |
| *Phylloscartes ophthalmicus* (Taczanowsky 1874) | SJ | 1200 | bm, bs | B | (V) |
| *Phylloscartes poecilotis* (Sclater 1862) | Amb B | 1800 | Bm | A | (V) |
| *Mionectes striaticollis* (Orbingy y Lafresnaye 1837 | SJ, Clar, Gua, Fl, Pal | 1200 - 2800 | bm, bb | A,B | (V, Ca, CZUT - Or 471, 472) |
| *Mionectes oleagineus* (Lichtenstein 1823) | Pot, Chu, MV, SJ, Sos | 700 - 1200 | bs | A,B | (V, Ca, CZUT - Or 475, 486) |
| *Leptopogon amaurocephalus*(Tschudi 1846) | Chu | 750 | Bg | A | (Ca, Fo, CZUT - Or 491) |
| *Leptopogon superciliaris* (Tschudi 1844) | SJ | 1200 | Bs | B | (V, Ra) |
| *Lophotriccus pileatus* (Tschudi 1844) | SJ, Clar, Amb B, Fl | 1200 - 2100 | bm, bs | A,B | (V, Ra, Ca, Fo) |
| *Hemitriccus margaritaceiventer* (d' Orbigny & Lafresnaye 1837) | Ma, Ar, Chu | 270 - 750 | bs, bb, mt | A | (V, Ra, Ca) |
| *Poecilotriccus ruficeps* (Kaup 1852) | Amb C | 2100 | Bm | A | (V, Ra) |
| *Todirostrum cinereum* (Linnaeus 1766) | Sa, Ma, Ar, Pot, Chu, MV, Cal, SJ, Clar, Urb, Amb A | 270 - 1500 | bs, bg, bb, zu, zcu, ca | A,B | (V, Ra, Ca) |
| *Tolmomyias sulphurescens* (Spix 1825) | Ma, Chu, SJ | 270 - 1200 | Bs | A,B | (V, Ra, Ca) |
| *Myiophobus flavicans* (Sclater 1860) | Amb C | 2100 | Bm | A | (V, Ca) |
| *Myiophobus fasciatus* (Muller 1776) | Chu, Cal | 1200 | bb, mt, p | A,B | (V, Ca, Fo) |
| *Pyrrhomyias cinnamomea* (d´ Orbigny & Lafresnaye 1837) | Cal, Amb C, Gua, Fl, Pal | 2100 - 2800 | bm, bb | A | (V, Ra XC96388) |
| *Cnemotriccus fuscatus* (Leotaud 1866) | Ma, Ar | 27o - 310 | bs, bb | A | (V, Ca, Fo, CZUT - Or 483, 510, 513) |
| *Empidonax virescens* (Vieillot 1818) | Ma, Chu, Clar, Urb | 270 - 1200 | bs, bb, zu | A,B | (Ra, V) M |
| *Empidonax traillii* (Audubon 1828) | Clar, Urb | 1200 | bb, zu | A,B | (Ra, V) M |
| *Contopus cooperi* (Nuttall, 1831) | Amb B - C | 1800 - 2100 | Bb | A | (V) NR NT M |
| *Contopus fumigatus* (Orbigny & Lafresnaye 1837) | Amb C, Gua, Gua, Fl, Pal | 2100 - 2800 | Bb | A | (V, Ra XC96386) |
| *Contopus virens* (Linnaeus 1766) | Chu, SJ, Urb | 750 - 1200 | bs, bb, zu | A,B | (Ra, V) M |
| *Sayornis nigricans* (Swainson 1827) | Pot, Cal, SJ, Urb | 750 - 1200 | Ac | A,B | (V) |
| *Pyrocephalus rubinus* (Boddaert 1783) | Ma, Chu, SJ, Sos, Clar, Urb | 270 - 1200 | mt, p, zu, zcu | A,B | (V) |
| *Knipolegus poecilurus* (Sclater 1862) | Clar | 2000 | bb, mt | B | (V, Ca, Fo) |
| *Myiotheretes striaticollis* (Sclater 1853) | Cas, Est | 3600 | bs, p | A | (V) |
| *Fluvicola pica* (Boddaert 1783) | Sa, Ma, Ar, Chu | 270 - 900 | ac | A,B | (V, Ca, Fo, CZUT - Or 476) |
| *Ochthoeca rufipectoralis* (d´Orbigny & Lafresnaye 1837) | Pal | 2800 | bb, mt | A | (V) |
| *Ochthoeca cinnamomeiventris* (Lafresnaye 1843) | Clar, Amb B, Gua, Pal, Est | 1800 -. 3600 | bg, bb | A | (V, Ra, Ca, CZUT - Or 525) |
| *Ochthoeca fumicolor* (Sclater 1856) | Cas | 3600 | bb, mt, vp | A | (V) |
| *Machetornis rixosa* (Vieillot 1819) | Sa, MV, Cal, SJ, Urb | 900 - 1200 | p, zu | A,B | (V, Fo) |
| *Legatus leucophaius* (Viellot 1818) | SJ | 1200 | bs, zcu | B | (V) |
| *Myiozetetes cayanensis* (Linnaeus 1766) | Sa, Ar, Chu, Cal, Urb, Amb B | 310 - 1200 | bg, bb, mt, p, zu, zcu | A,B | (V, Ra) |
| *Myiozetetes similis* (Spix 1825) | Sa, Ma, Ar, Chu, SJ, Clar, Urb, Amb B | 270 - 1800 | bg, bb, mt, p, zu, zcu | A,B | (V, Ra) |
| *Pitangus sulphuratus* (Linnaeus 1766) | Sa, Ma, Ar, Pot, Chu, Cal, SJ, Sos, Clar, Urb -b | 270 - 1200 | bb, p, mt, zu, zcu | A,B | (V, Ra) |
| *Conopias cinchoneti* (Tschudi, 1844) | Amb B | 1800 | bm | A | (V) NR |
| *Myiodynastes chrysocephalus* (Tschudi 1844) | Clar, Amb B, Gua | 1800 - 2100 | bm, bb | A,B | (V) |
| *Myiodynastes luteiventris*(P. L. Sclater, 1859) | Fl | 2100 | Bs | A | (V) RE M |

**Table 2.** C*ontinued.*

| TAXON | LOCALITY | ELEVATION (M A.S.L) | HABITAT | SOURCE | OBSERVATION |
|---|---|---|---|---|---|
| *Myiodynastes maculatus* (Muller 1766) | Cal, SJ, Urb | 1200 | bs, bb, mt, p, zu | A,B | (V, Ca, Fo) M |
| *Megarynchus pitangua* (Linnaeus 1766) | Sa, Chu, SJ, Urb | 750 - 1200 | bs, bb, mt, p, zu | A | (V, Ra) |
| *Tyrannus melancholicus* (Vieillot 1819) | Sa, Ma, Chu, Cal, Clar, Urb | 270 - 2100 | bb, mt, p, zu, zcu, ca | A,B | (V, Ra) |
| *Tyrannus savana* (Vieillot 1819) | Sa, Ma, Chu, Cal, Clar, Urb | 270 - 1200 | p, zu, zcu | A,B | (V, Ra) M |
| *Tyrannus tyrannus* (Linnaeus 1758) | Clar, Urb | 1200 - 1800 | Zu | A,B | (V) M |
| *Sirystes sibilator* (Vieillot 1818) | SJ | 1200 | bs, p | B | (V) |
| *Myiarchus apicalis* (Sclater & Salvin 1881) | Ma, Cal, Clar | 270 - 1400 | bs, bb, mt, p | A,B | (V, Ra) E |
| *Myiarchus cephalotes* (Taczanowski 1879) | Clar, Amb B | 1800 | bs, bb | A,B | (V, Ra) |
| *Myiarchus tyrannulus* (Muller 1776) | SJ | 1200 | bs, p | B | (V) |
| **Cotingidae** | | | | | |
| *Ampelion rubrocristatus* (d´Orbigny & Lafresnaye 1837) | Cas | 3600 | vp, bb | A | (V) |
| *Pipreola riefferii* | Amb C, Gua | 2100 | bm, bb | A | (V, CZUT - Or 467) |
| **Pipridae** | | | | | |
| *Masius chrysopterus* (Lafresnaye, 1843) | Amb B | 1800 | Bm | A | (V, Ca, Fo) RE MI |
| *Manacus manacus* (Cassin 1851) | Pot, Chu, Cal, Sos | 700 - 1200 | bs, bb | A | (V, Ca, Fo) |
| *Chiroxiphia lanceolata* (Wagler 1830) | Sa, Ma, Ar | 270 - 900 | bs, bg | A,B | (V, Ca, Fo, Ra XC96372) |
| *Xenopipo flavicapilla* (Sclater 1852) | Clar | 1800 | Bm | B | (V, Ca, Fo) S - end NT |
| **Tityridae** | | | | | |
| *Pachyramphus versicolor* (Hartlauv 1843) | Clar | 1800 | bs, bb | B | (V) |
| **Vireonidae** | | | | | |
| *Cyclarhis gujanensis* (Gmelin 1789) | Sa, Ar, MV, SJ, Clar | 310 - 1800 | bs, bb, mt, p | A,B | (V, Ra XC96345, Ca, Fo) |
| *Vireo leucophrys* (Lafresnaye 1844) | Cal, Clar, Amb B | 1200 - 1800 | bs, bb | A,B | (V, Ca, Fo) |
| *Vireo olivaceus* (Linnaeus 1766) | Ma, SJ | 270 - 1200 | Bs | A,B | (V, Ca, Fo) M |
| *Hylophilus semibrunneus* (Lafresnaye 1845) | Clar | 1800 | bs, bb | A,B | (V, Ra, Ca, Fo) |
| *Hylophilus flavipes* (Lafresnaye 1845) | Sa, Ma, Ar, Pot, Chu, SJ, Sos, Clar, Urb | 270 - 1200 | bs, bb, mt, p, zu, zcu | A,B | (V, Ra, Ca, Fo) |
| **Corvidae** | | | | | |
| *Cyanolyca armillata* (Gray 1845) | Pal | 2800 | bm, bb | A | (V, Ra) |
| *Cyanocorax affinis* (Pelzeln 1856) | Sa, Ma, Ar, Chu | 270 - 900 | bs, bb, bg, ac, mt, p | A,B | (V, Ra, Ca) |
| *Cyanocorax yncas* (Boddaert 1783) | Clar, Amb B, Gua, Fl | 1800 - 2100 | bm, bs, bb | A,B | (V, Ra) |
| **Hirundinidae** | | | | | |
| *Tachycineta albiventer* (Boddaert 1783) | Sa | 900 | bs, bg | B | (V, Fo) |
| *Progne chalybea* (Gmelin 1789) | Urb | 1200 | p, zu | A,B | (V) M |
| *Pygochelidon cyanoleuca* (Vieillot 1817) | MV, Cal, SJ, Sos, Clar, Urb, Amb B - C, Gua, Fl | 1200 - 2100 | bb, mt, p, zu, zcu | A,B | (V, Fo) |
| *Orochelidon murina* (Cassin 1853) | Clar, Pal, Cas, Est | 1200 - 3600 | bb, mt, p, zu, zcu | A,B | (V, Fo, Ra XC96387) |
| *Orochelidon flavipes* (Chapman 1822) | Clar, Amb A - B | 1500 - 1800 | ca | A | (V) |
| *Stelgidopteryx ruficollis* (Bang 1901) | Ma, Ar, MV, SJ, Clar, Urb | 270 - 1200 | mt, p, zcu | A,B | (V, Fo, CZUT - Or 478, 522) |
| *Riparia riparia* (Linnaeus 1758) | Sa | 900 | P | B | (V, Fo) M |
| *Hirundo rustica* (Linnaeus 1758) | Sa, Ma, Chu | 900 | P | A,B | (V, Fo) M |
| **Troglodytidae** | | | | | |
| *Troglodytes aedon* (Vieillot 1809) | Ma, Ar, Chu, Cal, SJ, Sos, Clar, Urb, Amb A - B | 270 - 1800 | mt, p, zcu, zu | A,B | (V, Ra, Fo, Ca) |
| *Troglodytes solstitialis* (Sclater 1859) | Amb B, Pal, Cas | 1800 - 3600 | Bm | A | (V, Ra) |
| *Cistothorus platensis* (Latham 1790) | Cas | 3600 | Vp | A | (V, Ra XC96375, XC96379) |
| *Campylorhynchus griseus* (Pelseln 1875) | Sa, Cal, SJ, Urb, Amb A | 900 - 1600 | p, mt, zcu | A,B | (V) |
| *Pheugopedius fasciatoventris* (Lafresnaye 1845) | Ar, Pot, Chu, Cal, SJ, Sos, Clar, Urb, Amb A - B | 310 - 1800 | bs, bb | A,B | (V, Ra, Ca, Fo) |
| *Pheugopedius mystacalis* (Sclater 1860) | Clar, Amb B, Amb C, Gua, Fl | 1800 - 2100 | bm, bs, bb | A,B | (Ra XC96413; CZUT - Or 511) |
| *Pheugopedius sclateri* (Taczanowski 1879) | Clar | 1800 | Bs | B | (V) |
| *Cantorchilus leucotis* (Lafresnaye 1845) | Ar | 310 | bs, bb | A | (V, Ra) |
| *Henicorhina leucosticta* (Cabanis 1847) | Sa, Clar | 780 - 1400 | Bs | A,B | (V, Ra, Ca) |
| *Henicorhina leucophrys* (Tschudi 1844) | Clar, Amb B - C, Fl, Pal | 1800 - 2800 | bm, bs, bg | A,B | (V, Ra, Ca) |

**Table 2.** C*ontinued.*

| TAXON | LOCALITY | ELEVATION (M A.S.L) | HABITAT | SOURCE | OBSERVATION |
|---|---|---|---|---|---|
| **Polioptilidae** | | | | | |
| *Polioptila plumbea* (Gmelin 1788) | Sa, Ma, Ar, Chua a - b | 270 - 900 | mt, bb, p, zcu | A,B | (V, Ra XC96416) |
| **Cinclidae** | | | | | |
| *Cinclus leucocephalus* (Tschudi 1844) | Pal | 2800 | bg, ac | A | (V) |
| **Turdidae** | | | | | |
| *Myadestes ralloides* (Orbigny 1840) | Clar, Amb B - C, Gua, Fl | 1800 - 2100 | bm, bg, bb | A,B | (V, Ra; CZUT - Or 479) |
| *Catharus fuscater* (Lafresnaye, 1845) | Clar, Gua | 1800 - 2100 | bm, bg | A | (Ca, Fo, CZUT - Or 468)RE MI |
| *Catharus minimus* (Lafresnaye 1848) | Clar, b | 1400 - 1600 | bs, bb | A,B | (V) M |
| *Catharus ustulatus* (Nuttall 1840) | Chu, Cal, SJ, Sos, Clar, Urb, Amb B, Fl | 1200 - 2100 | bg, bs | A,B | (V, CZUT - Or 480) M |
| *Turdus leucops* (Taczanowski, 1877) | Amb B | 1800 | bm, bg | A | (V, CZUT - Or 523) RE MI |
| *Turdus fuscater* (Lafresnaye & Orbigny 1837) | Clar, Amb C, Gua, Fl, Pal, Cas, Est | 1800 - 3600 | bs, bb, mt, p, zcu, vp | A,B | (V, Ra, CZUT - Or 477, 489) |
| *Turdus serranus* (Tschudi 1844) | Clar, Amb C | 1800 - 2100 | Bm | A,B | (V, Fo) |
| *Turdus leucomelas* (Spix 1824) | Ar, SJ, Sos, Clar, Urb | 310 - 1200 | bs, bg, bb | A,B | (V, Ca, Fo) |
| *Turdus ignobilis* (Sclater 1857) | Ar, Pot, Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb B | 310 - 1800 | bs, bg, bb, mt, p, zu, zcu, ca | A,B | (V, Ca, Fo) |
| **Mimidae** | | | | | |
| *Mimus gilvus* (Viellot 1808) | SJ, Urb, Amb B | 1200 - 1800 | bb, mt, p, zu, zcu | A,B | (V, Ra) |
| **Thraupidae** | | | | | |
| *Sericossypha albocristata* (Lafresnaye 1843) | Pal | 2800 | bm | A | (V, Ra) |
| *Creurgops verticalis* (Sclater 1858) | Clar, Amb B | 1800 | Bm | A,B | (V, Ca, Fo) |
| *Hemispingus superciliaris* (Lafresnaye 1840) | Pal, Cas | 2800 - 3600 | bm, bb | A | (V) |
| *Hemispingus frontalis* (Tschudi 1844) | Clar, Amb C | 1800 - 2100 | bm, bb | A | (V, Ca, Fo, CZUT - Or 487) |
| *Hemispingus verticalis* (Lafresnaye 1840) | Pal, Cas | 2800 - 3600 | bm, vp | A | (V, Fo, CZUT - Or 498, 507) |
| *Cnemoscopus rubrirostris* (Lafresnaye 1840) | Pal | 2800 | Bm | A | (V) |
| *Eucometis penicillata* (Dubus 1855) | Sa, Pot, Chu, MV, Cal, SJ, Sos, Clar | 700 - 1800 | bs, bg, bb | A,B | (V, Fo, CZUT - Or 501) |
| *Tachyphonus luctuosus* (Orbigny y Lafresnaye 1837) | Chu, MV, Cal, SJ, Sos, Urb | 750 - 1200 | bs, bb | A,B | (V, Ca, Fo) |
| *Tachyphonus rufus* (Boddaert 1783) | Amb A | 1500 | bs, bb, mt, zcu | A | (V) |
| *Ramphocelus dimidiatus* (Lafresnaye 1837) | Ma, Ar, Pot, Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb A - B | 270 - 1800 | bs, bg, bb, mt, p, zu, zcu | A,B | (V, Ra, Ca, Fo, CZUT - Or 481) |
| *Ramphocelus flammigerus icteronotus* (Jardine & Selby 1833) | Amb A | 1500 | bs, bb, zcu | A | (V) S - end |
| *Thraupis episcopus* (Linnaeus 1766) | Sa, Ma, Ar, Pot, Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb B - C, Gua, Fl | 270 - 2100 | bs, bb, mt, p, zu, zcu | A,B | (V, Ca, Fo) |
| *Thraupis palmarum* (Wied-Neunied 1821) | Ma, Pot, Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb A - B, Gua | 270 - 2100 | bs, bb, mt, p, zu, zcu | A,B | (V, Ca, Fo) |
| *Thraupis cyanocephala* (d´ Orbigny & Lafresnaye 1837) | Clar, Amb A, Amb C, Gua | 1200 - 2100 | bm, bs, bb | A,B | (V, Ca) |
| *Buthraupis montana* (Orbigny & Lafresnaye 1837) | Cas | 3600 | Bm, bb, vp | A | (V) |
| *Anisognathus lacrymosus* (Du Bus de Gisignies 1847) | Clar, Pal, Cas | 3600 | bm, bb, vp | A,B | (V, CZUT - Or 497, 505) |
| *Anisognathus igniventris* (Orbigny & Lafresnaye 1837) | Pal, Cas, Est | 2100 - 3600 | bm, vp | A | (V, Ra XC96370) |
| *Anisognathus somptuosus* (Lesson 1831) | Clar, Amb B - C, Gua, Fl | 1800- 2100 | bm, bb | A | (V, Ca) |
| *Chlorornis riefferii* (Boissonneau 1840) | Pal, Cas | 3600 | Bm | A | (V) |
| *Pipraeidea melanonota* (Vieillot 1819) | Clar | 1800 | bb, p | A,B | (V, Ca, Fo) |
| *Tangara arthus* (Lesson 1832) | Clar, Amb B, Fl | 1800 - 2100 | bm, bs, bb, ca | A,B | (V, Ca) |
| *Tangara xanthocephala* (Tschudi 1844) | Clar, Amb B, Gua | 1800 - 2100 | bm, bb | A,B | (V, Ca) |
| *Tangara parzudakii* (Lafresnaye 1843) | Clar, Amb B | 1800 - 2100 | Bm | A,B | (V, Fo) |
| *Tangara gyrola* (Linnaeus 1758) | Cal, SJ, Sos, Clar, Urb, Amb A - B | 1200 - 1800 | bs, bb, mt, p, zu, zcu, ca | A,B | (V, Ca, Fo) |
| *Tangara vitriolina* (Cabanis 1850) | Ar, Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb A - B, Fl | 310 - 2100 | bs, bb, mt, p, zu, zcu, ca | A,B | (V, Ca, Fo) C - end |
| *Tangara ruficervix* (Prevost & Des Murs 1846) | Clar, Amb B | 1800 | bm, bb | A,B | (V) |
| *Tangara labradorides* (Boissonneau 1840) | Clar, Amb C | 1800 - 2100 | bm, bb | A,B | (V) |
| *Tangara cyanicollis* (Orbigny & Lafresnaye 1837) | Sa, MV, Cal, SJ, Sos, Clar, Urb, Amb A - B | 900 - 1800 | bs, bb, mt, p, zu, zcu, ca | A,B | (V, Ca, Fo) |
| *Tangara nigroviridis* (Lafresnaye 1843) | Clar, Amb C | 1800 - 2100 | bm, bb | A,B | (V, Ca, Fo) |

**Table 2.** C*ontinued.*

| TAXON | LOCALITY | ELEVATION (M A.S.L) | HABITAT | SOURCE | OBSERVATION |
|---|---|---|---|---|---|
| *Tangara vassorii* (Boissonneau 1840) | Clara b, Gua, Pal | 1800 - 2800 | bm, bb | A,B | (V, Ca, Fo) |
| *Tangara heinei* (Cabanis 1850) | Clar, Amb C, Gua | 1800 - 2100 | bm, bb | A,B | (V, Ca, Fo) |
| *Tersina viridis* (Sclater 1858) | SJ, Amb B | 1200 - 1800 | Bm | A,B | (V) |
| *Dacnis lineata egregia* (Gmelin 1789) | Cal, SJ, Clar, Urb, Amb A | 1200 - 1500 | bs, bb | A,B | (V, Fo) |
| *Dacnis cayana* (Linnaeus 1766) | Chu | 750 | Bs | A | (V) |
| *Hemithraupis guira* (Linnaeus 1766) | Clar | 1400 | bs, bb | B | (V) |
| *Conirostrum leucogenys* (Lafresnaye 1852) | Ma | 270 | Bs | A | (V) RE |
| *Conirostrum sitticolor* (Lafresnaye 1840) | Cas, Est | 3600 | Vp | A | (V, Fo, CZUT - Or 508) |
| *Conirostrum albifrons* (Lafresnaye 1842) | Clar, Pal | 1800 - 2800 | bm, bb | A,B | (V) |
| *Diglossa sittoides* (Orbigny & Lafresnaye 1838) | Clar | 1800 | mt, p, zcu | A,B | (V, Ca, Fo) |
| *Diglossa lafresnayii* (Boissonneau 1840) | Cas, Est | 3600 | Vp | A | (V, Fo, CZUT - Or 502) |
| *Diglossa albilatera* (Lafresnaye 1843) | Clar, Amb C, Gua | 1800 - 2100 | bm, bs, bb | A,B | (V, Ca) |
| *Diglossa caerulescens* (Sclater 1856) | Clar, Amb C | 1800 | bm, bs | A,B | (V, Ca, Fo) |
| *Diglossa cyanea* (Lafresnaye 1840) | Clar, Amb C, Gua, Pal, Cas | 1800 - 3600 | bm, bs, bb, zcu | A,B | (V, CZUT - Or 495) |
| *Urothraupis stolzmanni* (Taczanowski & Berlepsh 1885) | Cas | 3600 | bm, vp | A | (V) S - end |
| *Phrygilus unicolor* (Bonaparte 1853) | Cas, Est | 3600 | vp, p | A | (V, Fo) |
| *Sicalis flaveola* (Linnaeus 1766) | Sa, Ma, Pot, Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb A - B | 270 - 1800 | mt, p, zu, zcu | A,B | (V, Ca, Fo) |
| *Volatinia jacarina* (Linnaeus 1766) | Sa, Ma, Ar, Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb B | 270 - 1800 | mt, p, zu, zcu | A,B | (V, Ca, Fo) |
| *Sporophila schistacea* (Bourcier 1843) | Sa, Chu, MV, MV, SJ, Sos, Clar, Amb A | 750 - 1500 | mt, p, zcu | A,B | (V, Ca, Fo) |
| *Sporophila intermedia* (Cabanis 1851) | Pot | 700 | mt, p | A | (V) |
| *Sporophila nigricollis* (Vieillot 1823) | Sa, Ma, Chu, SJ, Sos, Clar, Urb, Amb A | 270 -1500 | bb, p, mt, zu, zcu | A,B | (V, Ca, Fo) |
| *Sporophila minuta* (Linnaeus 1758) | Sa, Ma, MV, Cal, SJ, Urb | 270 - 1200 | p, mt, zcu, zu | A,B | (V, Ca, Fo) |
| *Oryzoborus angolensis* (Linnaeus 1766) | Sa | 900 | bs, mt, p | B | (V, Ca, Fo) |
| *Oryzoborus crassirostris (Gmelin 1837)* | Sa | 900 | bs, bb, p | B | (V) |
| *Catamenia inornata* (Lafresnaye 1847) | Est | 3600 | Vp | A | (V, Ra XC96315) |
| *Catamenia homochroa* (Sclater 1858) | Cas | 3600 | Vp | A | (V, Ra) |
| *Coereba flaveola* (Linnaeus 1758) | Ma, Ar, Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb A - B | 270 - 1800 | bs, bb, mt, p, zu, zcu, ca | A,B | (V, Ca, Fo) |
| *Tiaris olivaceus* (Linnaeus 1766) | Clar, Amb B, Fl | 1800 - 2100 | bb, mt, p, ca | A,B | (V, Ca, Fo) |
| *Tiaris bicolor* (Jardini 1847) | Sa, Ma, Ar, Cal, SJ, Sos, Urb | 270 - 1200 | mt, p, zu | A,B | (V, Ca, Fo) |
| *Tiaris obscurus* (Lafresnaye y d´Orbigny 1837) | Sa, Cal, Urb | 900 - 1200 | mt, p, zu, zcu | A,B | (V, Ca, Fo) |
| **Emberizidae** | | | | | |
| *Zonotrichia capensis* (Müller 1776) | Cal, SJ, Clar, Urb, Amb A - B - C, Gua, Fl, Pal, Cas, Est | 1200 - 3600 | bb, p, mt, zu, zcu | A,B | (V, Fo, Ra XC96389, XC96390) |
| *Ammodramus humeralis* (Bosc 1792) | Sa, Chu | 750 -900 | mt, p | B | (V, Ca, Fo) |
| *Arremonops conirostris* (Bonaparte 1850) | Pot, Sos | 700 - 1200 | bb, mt, p | A | (V, Ca, Fo) |
| *Arremon aurantiirostris* (Sclater 1855) | Sa, Ar, Pot, Chu, SJ, Sos, Amb A | 310 - 1500 | bs, bg, bb | A,B | (V, Ra, Fo, CZUT - Or 499, 512) |
| *Arremon brunneinucha* (Lafresnaye 1839) | Gua, Fl, Pal | 1800 - 2800 | bm, bb | A,B | (V, Ra, CZUT - Or 466, 473, 503, 509, 528) |
| *Arremon torquatus assimilis* (Lafresnaye & Orbigny 1837) | Pal | 2800 | Bm | A | (V, Fo, CZUT - Or 529) |
| *Atlapetes albinucha* (Lafresnaye & D'Orbigny 1838) | Clar, Amb B, Fl | 1800 - 2100 | bb, mt | A,B | (V, Ca, Fo) |
| *Atlapetes pallidinucha* (Boissonneau 1840) | Clar, Cas, Est | 1800 - 3600 | Vp | A,B | (V) |
| *Atlapetes flaviceps* (Chapman 1912) | Clar, Amb B - C, Gua, Fl | 1600 - 2100 | bm, bs, bb, mt | A,B | (V, Fo, CZUT - Or 485) E EN |
| *Atlapetes schistaceus* (Boissonneau 1840) | Clar, Pal, Cas | 1800 - 3600 | Bm | A,B | (V, Fo, CZUT - Or 494,496, 526, 549) |
| *Coryphospingus pileatus*(Linnaeus 1758) | Sa, Ar, Chu | 310 - 900 | bb, mt, p | A,B | (V, Ra, Fo, CZUT - Or 514) |
| *Chlorospingus ophthalmicus* (Du Bus de Gisignies 1847) | Clar, Amb C, Gua | 1800 - 2100 | bm, bg | A,B | (V, Ca, Fo) |
| *Chlorospingus canigularis* (Lafresnaye 1848) | Clar | 1800 | bb, bs | B | (V) |
| **Cardinalidae** | | | | | |
| *Pheucticus ludovicianus* (Linnaeus 1766) | Cal, Clar | 1200 - 1800 | bb, mt | A,B | (V, Ca, Fo) M |
| *Piranga rubra* (Linnaeus 1758) | Sa, Chu, MV, SJ, Sos, Clar, Urb, Amb B, Fl | 750 - 2100 | bm, bs, bb, mt, zcu, zu | A,B | (V, Ca, Fo) M |
| *Habia cristata* (Lawrence 1875) | Clar, Amb B | 1800 | bm, bg, bs, bb | A,B | (V, Ca, Fo, Ra XC96476) E |

**Table 2.** C*ontinued.*

| TAXON | LOCALITY | ELEVATION (M A.S.L) | HABITAT | SOURCE | OBSERVATION |
|---|---|---|---|---|---|
| **Parulidae** | | | | | |
| *Leiothlypis peregrina* (Wilson 1811) | Cal, SJ, Sos, Amb B, Fl | 1200 - 2100 | bs, bb, mt | A,B | (V, Fo) M |
| *Parula pitiayumi* (Vieillot 1817) | SJ, Clar, Amb B, Fl | 1200 - 2100 | bs, bb, zcu, ca | A,B | (V, Ra) |
| *Setophaga petechia* (Gmelin 1789) | Ma, MV, Cal, SJ, Sos, Urb | 270 - 1200 | bs, bb, bg | A,B | (V, Ca, Fo) |
| *Setophaga striata* (Forster 1772) | Ma | 270 | Bs | A | (V) M |
| *Setophaga castanea* (Wilson 1810) | Cal, SJ | 1200 | bs, bb | A,B | (V, Fo) M |
| *Setophaga fusca* (Müller 1776) | SJ, Clar- b, Amb B, Fl | 1200 - 2100 | bm, bs, bb | A,B | (V, Ca, Fo) M |
| *Setophaga cerulea* (Wilson 1810) | Clar, Urb | 1200 - 1800 | bs, bb | A,B | (V, Ca, Fo) VU M |
| *Setophaga ruticilla* (Linnaeus 1758) | Cal, Sos, Clar | 1200 - 1800 | bs, bg | A,B | (V, Ca, Fo) M |
| *Mniotilta varia* (Linnaeus 1766) | MV, Cal, SJ, Sos, Clar, Amb B, Gua, Fl | 1200 - 2100 | bs, bb, bg | A,B | (V, Ca, Fo) M |
| *Parkesia noveboracensis* (Vieillot 1808) | Sos | 1200 | bs, bb, bg | A | (V) M |
| *Geothlypis philadelphia* (Wilson 1810) | Cal, Sos, Clar | 1200 - 1800 | Bg | A,B | (V) M |
| *Cardellina canadensis* (Linnaeus 1766) | Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb B, Gua | 750 - 2100 | bs, bb, bg | A,B | (V, Ca, Fo) M |
| *Myioborus miniatus*(Swainson 1827) | Clar, Amb B - C, Gua, Fl | 1800 - 2100 | bm, bs, bb | A,B | (V, Ca, Fo) |
| *Myioborus ornatus* (Boissonneau 1840) | Clar, Pal, Cas | 1800 - 3600 | bm, bs, bb | A,B | (V, Fo, CZUT - Or 504) |
| *Basileuterus nigrocristatus* (Lafresnaye 1840) | Clar. Amb C | 1800 - 2100 | Bm | A,B | (V, Ra) |
| *Basileuterus coronatus*(Tschudi 1844) | Clar, Amb B - C, Gua, Fl, Pal | 1800 - 2800 | bm, bg | A,B | (V, Ca, Fo, Ra XC96367; CZUT - Or 517, 519) |
| *Basileuterus rufifrons*(Spix 1825) | Ma, Ar, Pot, Chua, Mv, Cal, SJ, Sos, Clar, Urb, Amb A | 270 - 1500 | bs, bb,bg | A,B | (V, fo, CZUT - Or 482, 515) |
| *Basileuterus tristriatus*(Tschudi 1844) | Clar, Amb B - C, Gua | 1800 - 2100 | Bm | A,B | (V, ca, Fo) |
| *Phaeothlypis fulvicauda*(Spix 1825) | Ma, Ar, Pot, Chu, Mv, Cal, Sj, Sos, Clar, Urb, Amb B | 270 - 1800 | bs, bg | A,B | (V, ca, Fo) |
| **Icteridae** | | | | | |
| *Cacicus cela* (Linnaeus 1758) | Urb | 1200 | bs, zu | A,B | (V, Fo) |
| *Icterus chrysater* (Lesson 1844) | SJ, Cal, Clar, Urb, Fl | 1200 - 2100 | bs, mt, zu, ca | A,B | (V, Ra) |
| *Icterus nigrogularis* (Hahn 1819) | Ma, Chu, Cal, SJ, Urb | 270 - 1200 | bs, mt, zu | A,B | (V, Ra, Ca, Fo) |
| *Chrysomus icterocephalus*(Linnaeus 1766) | Sa, Ma, Ar, Chu, SJ, Urb | 270 - 1200 | mt, zcu, zu | A,B | (V, ca, Fo) |
| *Molothrus oryzivorus* (Gmelin 1788) | Ma | 270 | mt, bb, p, zcu | A | (V) |
| *Molothrus bonariensis*(Gmelin 1789) | Sa, Ma, Ar, SJ, Sos, Clar, Urb | 270 - 1200 | bs, bb, mt, p, zu, zcu | A,B | (V, Fo) |
| *Sturnella militaris* (Linnaeus 1758) | Sa, Ma, Urb | 270 - 1200 | Zu | A,B | (V, Ra, Fo) |
| *Sturnella magna* (Linnaeus, 1758) | Fl,Pal | 2100 - 2800 | p, zcu | A | (V, Ra) |
| **Fringillidae** | | | | | |
| *Sporagra magellanica* (Cabanis 1866) | Est | 3600 | Vp | A | (V, Ra) |
| *Astragalinus psaltria* (Say 1823) | Sa, MV, Cal, Clar, Urb, Amb A - B | 900 - 1800 | mt, p, zu, zcu | A,B | (V, Ra, Ca, Fo) |
| *Sporagra xanthogastra* (Du Bus de Gisignies 1855) | Gua | 2100 | Bb | A | (V, Ra) |
| *Euphonia concinna* (Sclater 1855) | Ma, Chu, Urb | 270 - 1200 | bb, mt, p, zu, zcu | A | (V, ca, Fo) E |
| *Euphonia laniirostris* (Orbigny y Lafresnaye 1837) | Sa, Ma, Ar, Pot, Chu, Cal, SJ, Sos, Clar, Urb, Amb A - B | 270 - 1800 | bs, bb, mt, zu, zcu | A,B | (V, ca, Fo) |
| *Euphonia cyanocephala* (Vieillot 1819) | Clar | 1800 | bb, zcu | A,B | (V) |
| *Euphonia xanthogaster* (Sundevall 1834) | Clar, Amb B | 1800 | bm, bb | A,B | (V, Ra, Ca) |
| *Chlorophonia pyrrhophrys* (Scalter 1851) | Clar | 1800 | bm, bb | A,B | (V) |
| **Estrilididae** | | | | | |
| *Lonchura malacca* (Lafresnaye 1843) | Sa | 900 | mt, p, zuc | B | (V, Ra, Ca) INT |
| **Incertae Sedis** | | | | | |
| *Saltator grossus* (Linnaeus, 1766) | Chu | 750 | Mt | A | (V) RE MI |
| *Saltator maximus* (Müller 1776) | Chu, MV, Cal, SJ, Sos, Clar, Urb | 750 - 1200 | bs, bb, mt | A,B | (V, Ca, Fo) |
| *Saltator atripennis* (Sclater 1857) | Clar, Amb A | 1500 - 1800 | bs, bb | A,B | (V, Ca, Fo) |
| *Saltator coerulescens* (Bangn & Penard 1918) | Sa, Ar, Chu, Cal, Clar, Urb | 310 - 1200 | bb, mt, p | A,B | (V, Ca, Fo) |
| *Saltator striatipectus* (Vieillot 1817) | Sa, Ma, Ar, Chu, MV, Cal, SJ, Sos, Clar, Urb, Amb A - B | 270 - 1800 | bs, bb, mt, p, zu, zcu | A,B | (V, Ca, Ra XC96477) |

**Table 3.** New records of bird species in the Ibagué municipality, Tolima, Colombia.

| SPECIES | LOCALITY | DATA OF RECORD | ADDITIONAL INFORMATION |
|---|---|---|---|
| *Aburria aburri* (Lesson 1828) | Ambala, Reserva Forestal Bella Vista. | May 2007 | This visual record refers to an individual vocalizing. |
| *Micrastur ruficollis* (Vieillot 1817) | Ambala, Reserva Forestal Bella Vista and Palomar. | Feb. 2007 | Two individuals captured in Ambala. |
| *Pardirallus maculatus* (Boddaert 1783) | The city of Ibagué, Calarca residential neighborhood, in marshlands. | 2000 - 2007 | Recorded several times, but at present the locality does not have marshlands. |
| *Lesbia nuna (*Lesson 1832) | Ambala, Finca parte Alta. | Jun. 2007 | |
| *Thripadectes virgaticeps* | Clarita Botero parte alta and Ambala, Reserva Forestal Bella Vista. | Feb. 2007 | |
| *Xiphorhynchus triangularis* | Vereda Chucuni. | Feb. 2007 | One individual captured. |
| *Dysithamnus leucostictus* (Sclater, 1858) | Ambala, Reserva Forestal Bella Vista. | Feb. 2007 | One individual captured in Ambala. |
| *Phyllomyias griseiceps* (P. L. Sclater & Salvin, 1871) | Clarita Botero parte alta and Ambala, Reserva Forestal Bella Vista . | Feb. 2007 | Also recorded in the Botanical gardens of the Tolima University. |
| *Contopus cooperi* (Nuttall, 1831) | Ambala, Reserva Forestal Bella Vista and Ambala, Finca parte Alta. | Feb. 2007 | |
| *Conopias cinchoneti* (Tschudi, 1844) | Ambala, Reserva Forestal Bella Vista. | Feb. 2007 and May 2007 | Six individuals registered. |
| *Masius chrysopterus* (Lafresnaye, 1843) | Ambala, Reserva Forestal Bella Vista. | Feb. 2007 | Three individuals registered, one in mixed-species flocks. |
| *Catharus fuscater* (Lafresnaye, 1845) | Clarita Botero parte alta | Mar. 2007 and May 2007 | One individual captured in Clarita Botero. |
| *Turdus leucops* (Taczanowski, 1877) | Ambala, Reserva Forestal Bella Vista. | Feb. 2007 and May 2007 | Three individuals registered, one individual captured in Ambala. |
| *Saltator grossus* (Linnaeus, 1766) | Vereda Chucuni. | Feb. 2007 | |

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