



# New bird records for the Serranía de Las Quinchas, Colombia: inventory update and comments on distributions in an altitudinal gradient

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## Abstract

The diversity of birds in the Las Quinchas mountain range amounted to 374 taxa in 2007, most of them distributed in the tropical region of the massif. We made five sampling trips between March and October 2019 to different locations in the Tropical and Sub-Andean regions of Las Quinchas, we added 11 species increasing in 3% the avian richness of the mountains. The 383 species are distributed in 55 families and 22 orders. One species is categorized as Critically Endangered and four are the Vulnerable. There was greater species richness in the upper part of the mountains and low turnover between altitude ranges.

## Keywords

Andean region, distribution range, species distribution, taxonomic diversity, tropical humid forests.

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## Introduction

The Serranía de Las Quinchas is an area characterized by its great diversity of species, including birds (Stiles and Bohórquez 2000). This is largely due to its geographical location on the eastern side of the Magdalena valley, which is part of the Choco-Magdalena biogeographical region (Hernández-Camacho et al. 1992). This location creates ideal characteristics for the structure and richness of its flora that supports a typical fauna of tropical humid forests (Hernández-Camacho et al. 1992; Etter 1998; Stiles 1998). Among the rich diversity of species are the birds, the group of vertebrates with the highest species richness values in Colombia (Hilty 2002; Freeman et al. 2012; Avendaño et al. 2017). Currently, the Las Quinchas

mountain range is under multiple pressures which alter its original vegetation cover and cause effect on the resident fauna (Stiles and Bohórquez 2000). Many of these pressures reached their peak in the 1970s, when much of the lower and middle Magdalena basin was deforested for agriculture, livestock, and timber extraction (Renjifo 1998). However, it is still possible to observe extensive areas of preserved forests and other areas where there is passive restoration by fast-growing plant species (Herrera 2006; Córdoba-Córdoba and Sierra 2018).

Birds have been studied in the Las Quinchas for the past two decades. The first list was published by Stiles and Bohórquez (2000), with a species richness of 308

species. Later Laverde-R. et al. (2005) listed 368 species and finally Cuervo et al. (2007) added additional species, bringing the total number of species to 374. Thus, since the first list, the known bird fauna of Las Quinchas has been increased by 18%. However, the complexity of the mountainous area and the pressures on them make frequent updates necessary to know the biotic components in detail and to give early alerts on the decline of species or their local disappearance in the Las Quinchas. Up to date lists of the bird fauna of Las Quinchas can contribute to its management and for proposals for adequate conservation strategies. Additionally, the recent accelerated boom in molecular phylogenetics has generated taxonomic changes, which directly affect ornithological lists, forcing more frequent updates to keep pace with taxonomy (Praveen et al. 2018).

The objective of our research was to provide new bird records for the Las Quinchas mountain range, to update the taxonomy of the list of avifauna available for this locality, and to note distributions of bird species in the altitudinal gradient that make up the mountain range. Our list and new data will be useful for entities responsible for ensuring the maintenance and conservation of biotic resources in this part of Colombia.

## Methods

The study area comprised three sectors in the Serranía de Las Quinchas, Boyacá, Colombia (Fig. 1). These were located along an altitudinal gradient from 100 to 1100 m a.s.l. (Fig. 1). The sectors were made up of the following:

1. La Ye Sector: Vereda La Ye, Municipality of Otanche, Boyacá (05°48'47"N, 074°15'06"W), was characterized as a mountainous site on the eastern slopes of the mountains with elevations from 600 m to 1100 m a.s.l. We carried out the sampling in the surrounding area and on the banks of the Chorro Negro and Los Mártires ravines. Sampling sites included preserved and fragmented forest cover, as well as corn, banana, and cocoa crops, some grasslands, and stubble (Balcázar-Vargas et al. 2000).
2. La Cristalina Sector: La Cristalina, Municipality of Puerto Boyacá, Boyacá (05°49'49"N, 074°18'22"W), with elevations between 260 m and 500 m a.s.l. Anthropogenic interventions in the area are intensive (Balcázar-Vargas et al. 2000), but forest fragments remain that are surrounded by pastureland used for livestock and agricultural crops around the La Cristalina ravines.
3. Puerto Pinzón Sector: Puerto Pinzón is located in the Municipality of Puerto Boyacá, Boyacá (06°03'06"N, 074°16'56"W). This sector was characterized by its historical deforestation and changes in land use for licit and illicit crops. However, it is possible to find preserved parts with forests of secondary vegetation and small native forest parks.

The taxonomy used in our list is based on work published by Stiles and Bohórquez (2000), Laverde-R. et al. (2005) and de Cuervo et al. (2007), with updates according to taxonomic proposals of the American Ornithological Society (Remsen et al. 2020).

We included the threat categories of species in our list, according to the International Union for the Conservation of Nature (IUCN 2020).

For each sector, we established three transects (routes) on the physical edge and inside the vegetative cover, which we defined as gallery forests, high open forests, and intervening areas.

We made five field trips, between March and October 2019, including during the annual rainy, dry, and transitional periods (Rangel-Ch. and Aguilar-P. 1995). We made direct observations with binoculars and a camera for each transect and between 5:30 h and 11:00 h and between 15:00 h and 18:00 h during the busiest hours for the birds (Gómez et al. 2008).

For field identification, we used the field guides by Hilty and Brown (1986), McMullan et al. (2010), and Ayerbe-Quiñones (2018).

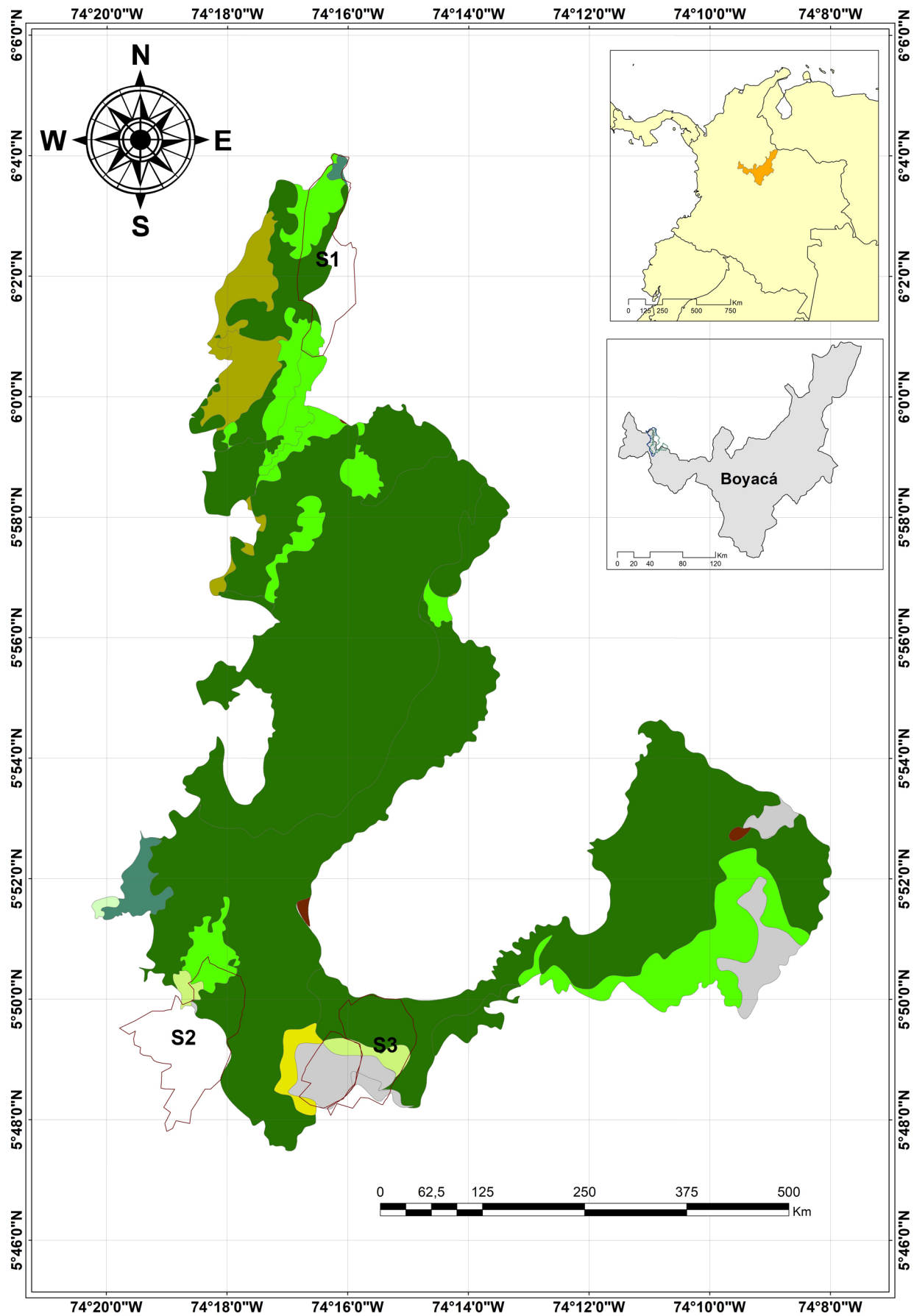
The new data in this paper are deposited at the Global Biodiversity Information Facility (GBIF) and are available at <https://doi.org/10.15468/2xntjv> (García-Monrroy et al. 2020).

## Results

We obtained records of 383 species, distributed in 55 families and 22 orders. The best represented orders were Paseriformes (239 spp.), Apodiformes (34 spp.), and Piciforms (14 spp.). Among the families with the greatest number of species are the Tyrannidae (52 species), Thraupidae (46 spp.), Trochilidae (29 spp.), Furnariidae and Tamnophilidae (19 spp. each one), and Parulidae (18 spp.). The rest of the families are represented by less than 15 species (Table 1).

By altitude range, we found the greatest richness in the Sub-Andean region, followed by the high tropical region and finally the low tropical region (Fig. 2). We identified a low turnover of species between the altitudinal ranges. We recorded *Crax alberti* Fraser, 1852, which is Critically Endangered, and *Patagioenas plumbea* (Vieillot, 1818), *Dacnis hartlaubi* (P.L. Sclater, 1855), *Capito hypoleucus* Salvin, 1897, and *Ramphastos vitellinus* M.H.C. Lichtenstein, 1823, which are Vulnerable. Similarly, we observed six Colombian endemic species in the Serranía de Las Quinchas: *Crax alberti* Fraser, 1852, *Ortalis columbiana* Hellmayr, 1906, *Habia gutturalis* (P.L. Sclater, 1854), *Dacnis hartlaubi* (P.L. Sclater, 1855), *Capito hypoleucus* Salvin, 1897, and *Melanerpes pulcher* P.L. Sclater, 1870.

We found 11 migratory Boreal species: *Cathartes aura* (Linnaeus, 1758), *Tringa solitaria* (A. Wilson, 1813), *Pheucticus ludovicianus* (Linnaeus, 1766), *Piranga olivacea* (Gmelin, 1789), *Piranga rubra* (Linnaeus, 1758), *Progne tapera* (Linnaeus, 1766), *Parkesia*



**Figure 1.** Location of the study area, Las Quinchas mountain range, Magdalena medio, Colombia. S1 = Puerto Pinzón, S2 = La Cristalina and S3 = La Ye.

**Table 1.** List of birds recorded at the Serranía de Las Quinchas. Legend: Migratory status: resident and migrant. Sites: S1 = Puerto Pinzón, S2 = La Cristalina and S3 = La Ye. Sources: this study (1), Stiles and Bohórquez 2000 (2) and Laverde-R et al. 2005 (3).

| Taxon                                                 | English name                | Voucher      | Migratory status | Sites      | Source  |
|-------------------------------------------------------|-----------------------------|--------------|------------------|------------|---------|
| Tinamiformes Huxley, 1872                             |                             |              |                  |            |         |
| Tinamidae G.R. Gray, 1840                             |                             |              |                  |            |         |
| <i>Crypturellus soui</i> (Hermann, 1783)              | Little Tinamou              | OBS283789    | Resident         | S1, S2, S3 | 2, 3    |
| <i>Tinamus major</i> (Gmelin, 1789)                   | Great Tinamou               | OBS283788    | Resident         | S2         | 2, 3    |
| Galliformes (Temminck, 1820)                          |                             |              |                  |            |         |
| Cracidae Vigors, 1825                                 |                             |              |                  |            |         |
| <i>Aburria aburri</i> (R. Lesson, 1828)               | Wattled Guan                | OBS500437554 | Resident         | S2, S3     | 3       |
| <i>Crax alberti</i> Fraser, 1852**                    | Blue-knobbed Curassow       | OBS34163     | Resident         | S1, S2     | 1, 3    |
| <i>Ortalis columbiana</i> Hellmayr, 1906              | Colombian Chachalaca        | OBS40035534  | Resident         | S1         | 1, 3    |
| Odontophoridae (Gould, 1844)                          |                             |              |                  |            |         |
| <i>Colinus cristatus</i> (Linnaeus, 1766)             | Crested Bobwhite            | OBS246791    | Resident         | S1         | 2, 3    |
| <i>Odontophorus gujanensis</i> (Gmelin, 1789)         | Marbled Wood-quail          | OBS246954    | Resident         | S3         | 2, 3    |
| Podicipediformes Fürbringer, 1888                     |                             |              |                  |            |         |
| Podicipedidae Bonaparte, 1831                         |                             |              |                  |            |         |
| <i>Tachybaptus dominicus</i> (Linnaeus, 1766)         | Least Grebe                 | OBS672726984 | Resident         | S1         | 1, 3    |
| Columbiformes (Latham, 1790)                          |                             |              |                  |            |         |
| Columbidae Illiger, 1811                              |                             |              |                  |            |         |
| <i>Claravis pretiosa</i> (Ferrari-Pérez, 1886)        | Blue Ground-dove            | OBS283865    | Resident         | S1, S2     | 2, 3    |
| <i>Columbina passerina</i> (Linnaeus, 1758)           | Common Ground-dove          | OBS283863    | Resident         | S1, S2, S3 | 2, 3    |
| <i>Columbina talpacoti</i> (Temminck, 1810)           | Ruddy Ground-dove           | OBS35477     | Resident         | S3         | 1, 2, 3 |
| <i>Geotrygon montana</i> (Linnaeus, 1758)             | Ruddy Quail-dove            | OBS33838     | Resident         | S2         | 2, 3    |
| <i>Leptotila cassinii</i> Lawrence, 1867              | Grey-chested Dove           | OBS283867    | Resident         | S1, S2     | 1, 2, 3 |
| <i>Leptotila verreauxi</i> Bonaparte, 1855            | White-tipped Dove           | OBS283866    | Resident         | S1         | 2, 3    |
| <i>Patagioenas cayennensis</i> (Bonnaterre, 1792)     | Pale-vented Pigeon          | OBS283859    | Resident         | S2, S3     | 1, 2, 3 |
| <i>Patagioenas plumbea</i> (Vieillot, 1818)           | Plumbeous Pigeon            | OBS33323     | Resident         | S3         | 1, 2, 3 |
| <i>Patagioenas speciosa</i> (Gmelin, 1789)            | Scaled Pigeon               | OBS334507593 | Resident         | S1, S2, S3 | 2, 3    |
| <i>Patagioenas subvinacea</i> (Lawrence, 1868)        | Ruddy Pigeon                | OBS283861    | Resident         | S1         | 2, 3    |
| <i>Zenaida auriculata</i> (Des Murs, 1847)            | Eared Dove                  | OBS283862    | Resident         | S1         | 1, 2, 3 |
| <i>Zentrygon linearis</i> (Prévost, 1843)             | Lined Quail-dove            | OBS283865    | Resident         | S2, S3     | 3       |
| Cuculiformes Wagler, 1830                             |                             |              |                  |            |         |
| Cuculidae Leach, 1820                                 |                             |              |                  |            |         |
| <i>Coccyua minuta</i> (Vieillot, 1817)                | Little Cuckoo               | OBS245275    | Resident         | S2         | 2, 3    |
| <i>Coccyzus americanus</i> (Linnaeus, 1758)           | Yellow-billed Cuckoo        | OBS245335    | Migrant          | S1, S2, S3 | 2, 3    |
| <i>Crotophaga ani</i> Linnaeus, 1758                  | Smooth-billed Ani           | OBS27047     | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Crotophaga major</i> Gmelin, 1788                  | Greater Ani                 | OBS245105    | Resident         | S1, S2     | 1, 2, 3 |
| <i>Piaya cayana</i> (Linnaeus, 1766)                  | Squirrel Cuckoo             | OBS33771     | Resident         | S2, S3     | 1, 2, 3 |
| <i>Tapera naevia</i> (Linnaeus, 1766)                 | Striped Cuckoo              | OBS243497    | Resident         | S1, S2, S3 | 2, 3    |
| Nyctibiiformes                                        |                             |              |                  |            |         |
| Nyctibiidae Ridgway, 1881                             |                             |              |                  |            |         |
| <i>Nyctibius griseus</i> (Gmelin, 1789)               | Common Potoo                | OBS283856    | Resident         | S1, S2     | 2, 3    |
| Caprimulgiformes Ridgway, 1881                        |                             |              |                  |            |         |
| Caprimulgidae Vigors, 1825                            |                             |              |                  |            |         |
| <i>Lurocalis semitorquatus</i> (Gmelin, 1789)         | Short-tailed Nighthawk      | OBS283857    | Resident         | S2, S3     | 2, 3    |
| <i>Nyctidromus albicollis</i> (Gmelin, 1789)          | Pauraque                    | OBS283858    | Resident         | S3         | 2, 3    |
| <i>Urospalis lyra</i> (Bonaparte, 1850)               | Lyre-tailed Nightjar        | OBS488345963 | Resident         | S1, S2, S3 | 1, 3    |
| Apodiformes Peters, 1940                              |                             |              |                  |            |         |
| Apodidae Burmeister, 1846                             |                             |              |                  |            |         |
| <i>Chaetura brachyura</i> (Jardine, 1846)             | Short-tailed Swift          | OBS283826    | Resident         | S1, S2, S3 | 3       |
| <i>Chaetura spinicauda</i> (Temminck, 1839)           | Band-rumped Swift           | OBS334340516 | Resident         | S1, S2, S3 | 3       |
| <i>Panyptila cayennensis</i> (Gmelin, 1789)           | Lesser Swallow-tailed Swift | OBS174283171 | Resident         | S2, S3     | 1, 3    |
| <i>Streptoprocne rutilla</i> (Vieillot, 1817)         | Chestnut-collared Swift     | OBS488286005 | Resident         | S2, S3     | 2, 3    |
| <i>Streptoprocne zonaris</i> (Shaw, 1796)             | White-collared Swift        | OBS283825    | Resident         | S1, S2, S3 | 2, 3    |
| Trochilidae Vigors, 1825                              |                             |              |                  |            |         |
| <i>Amazilia tzacatl</i> (de la Llave, 1833)           | Rufous-tailed Hummingbird   | Photography  | Resident         | S1         | 1, 2, 3 |
| <i>Anthracothorax nigricollis</i> (Vieillot, 1817)    | Black-throated Mango        | Photography  | Resident         | S3         | 1, 2, 3 |
| <i>Chaetocercus heliodor</i> (Bourcier, 1840)         | Gorgeted Woodstar           | Photography  | Resident         | S1, S2, S3 | 2, 3    |
| <i>Chalybura buffonii</i> (R. Lesson, 1832)           | White-vented Plumeleteer    | OBS35214     | Resident         | S1, S2, S3 | 2, 3    |
| <i>Chlorestes julie</i> (Bourcier, 1843)              | Violet-bellied Hummingbird  | OBS32745     | Resident         | S3         | 2, 3    |
| <i>Chlorostilbon gibsoni</i> (Fraser, 1840)           | Red-billed Emerald          | OBS283839    | Resident         | S3         | 2, 3    |
| <i>Chrysuronia goudoti</i> (Bourcier, 1843)           | Shining-green Hummingbird   | OBS32742     | Resident         | S3         | 2, 3    |
| <i>Colibri coruscans</i> (Gould, 1846)                | Sparkling Violet-ear        | Photography  | Resident         | S3         | 1, 3    |
| <i>Colibri cyanotus</i> (Bourcier, 1843)              | Lesser Violet-ear           | Photography  | Resident         | S1, S2     | 1, 2, 3 |
| <i>Colibri delphinae</i> (R. Lesson, 1839)            | Brown Violet-ear            | OBS283834    | Resident         | S3         | 2, 3    |
| <i>Discosura conversii</i> (Bourcier & Mulsant, 1846) | Green Thorntail             | OBS33319     | Resident         | S3         | 2, 3    |
| <i>Doryfera ludovicae</i> (Bourcier & Mulsant, 1847)  | Green-fronted Lancebill     | OBS283832    | Resident         | S3         | 2, 3    |
| <i>Eutoxeres aquila</i> (Bourcier, 1847)              | White-tipped Sicklebill     | OBS283831    | Resident         | S1, S2, S3 | 2, 3    |
| <i>Florisuga mellivora</i> (Linnaeus, 1758)           | White-necked Jacobin        | Photography  | Resident         | S1, S2, S3 | 1, 2, 3 |

| Taxon                                                       | English name              | Voucher      | Migratory status | Sites      | Source  |
|-------------------------------------------------------------|---------------------------|--------------|------------------|------------|---------|
| <i>Glaucis hirsutus</i> (Gmelin, 1788)                      | Rufous-breasted Hermit    | OBS33837     | Resident         | S3         | 2, 3    |
| <i>Heliodoxa jacula</i> Gould, 1850                         | Green-crowned Brilliant   | OBS32760     | Resident         | S2, S3     | 2, 3    |
| <i>Heliomaster longirostris</i> (Audebert & Vieillot, 1801) | Long-billed Starthroat    | OBS283850    | Resident         | S2, S3     | 2, 3    |
| <i>Heliothryx barroti</i> (Bourcier, 1843)                  | Purple-crowned Fairy      | OBS33322     | Resident         | S3         | 2, 3    |
| <i>Klais guimeti</i> (Bourcier, 1843)                       | Violet-headed Hummingbird | OBS32996     | Resident         | S1         | 2, 3    |
| <i>Lophornis delattrei</i> (R. Lesson, 1839)                | Rufous-crested Coquette   |              | Resident         | S1, S2, S3 | 3       |
| <i>Phaethornis anthophilus</i> (Bourcier, 1843)             | Pale-bellied Hermit       | Photography  | Resident         | S2, S3     | 1, 2, 3 |
| <i>Phaethornis guy</i> (R. Lesson, 1833)                    | Green Hermit              | OBS283829    | Resident         | S2, S3     | 2, 3    |
| <i>Phaethornis longirostris</i> (Delattre, 1843)            | Long-billed Hermit        | OBS32739     | Resident         | S1, S2, S3 | 2, 3    |
| <i>Phaethornis striigularis</i> Gould, 1854                 | Stripe-throated Hermit    | OBS32737     | Resident         | S1, S2, S3 | 2, 3    |
| <i>Polyerata amabilis</i> (Gould, 1853)                     | Blue-chested Hummingbird  | OBS32747     | Resident         | S3         | 2, 3    |
| <i>Saucerottia cyanifrons</i> (Bourcier, 1843)              | Indigo-capped Hummingbird | OBS283845    | Resident         | S2, S3     | 2, 3    |
| <i>Thalurania colombica</i> (Bourcier, 1843)                | Blue-crowned Woodnymph    | OBS32755     | Resident         | S2, S3     | 2, 3    |
| <i>Threnetes ruckeri</i> (Bourcier, 1847)                   | Band-tailed Barbthroat    | OBS34141     | Resident         | S3         | 2, 3    |
| <i>Uranomitra franciae</i> (Bourcier & Mulsant, 1846)       | Andean Emerald            | OBS32754     | Resident         | S2         | 2, 3    |
| Gruiformes (Bonaparte, 1854)                                |                           |              |                  |            |         |
| Aramidae Bonaparte, 1854                                    |                           |              |                  |            |         |
| <i>Aramus guarauna</i> (Linnaeus, 1766)                     | Limpkin                   | OBS247113    | Resident         | S1         | 2, 3    |
| Rallidae Vigors, 1825                                       |                           |              |                  |            |         |
| <i>Aramides cajaneus</i> (Statius Müller, 1776)             | Grey-necked Wood-Rail     | Photography  | Resident         | S2, S3     | 1, 2, 3 |
| <i>Laterallus albigularis</i> (Lawrence, 1861)              | White-throated Crake      | OBS415220908 | Resident         | S1         | 3       |
| <i>Porphyrio martinica</i> (Linnaeus, 1766)                 | Purple Gallinule          | Photography  | Resident         | S1         | 1, 3    |
| Charadriiformes Huxley, 1867                                |                           |              |                  |            |         |
| Charadriidae Vigors, 1825                                   |                           |              |                  |            |         |
| <i>Vanellus chilensis</i> (Molina, 1782)                    | Southern Lapwing          | Photography  | Resident         | S1         | 1, 2, 3 |
| Scolopacidae Rafinesque, 1815                               |                           |              |                  |            |         |
| <i>Actitis macularius</i> (Linnaeus, 1766)                  | Spotted Sandpiper         | OBS000932    | Migrant          | S1         | 2, 3    |
| <i>Tringa melanoleuca</i> (Gmelin, 1789)                    | Greater Yellowlegs        | OBS286683107 | Migrant          | S1         | 3       |
| <i>Tringa solitaria</i> A. Wilson, 1813                     | Solitary Sandpiper        | Photography  | Migrant          | S2, S3     | 1, 2, 3 |
| Jacanidae Stejneger, 1885                                   |                           |              |                  |            |         |
| <i>Jacana jacana</i> (Linnaeus, 1766)                       | Wattled Jacana            | Photography  | Resident         | S1         | 1, 3    |
| Pelecaniformes Sharpe, 1891                                 |                           |              |                  |            |         |
| Ardeidae Leach, 1820                                        |                           |              |                  |            |         |
| <i>Bubulcus ibis</i> (Linnaeus, 1758)                       | Western Cattle Egret      | OBS10891     | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Ardea cocoi</i> Linnaeus, 1766                           | Cocoi Heron               | OBS493870798 | Resident         | S1         | 1, 3    |
| <i>Ardea alba</i> Linnaeus, 1758                            | Garceta grande            | OBS538554076 | Resident         | S1, S2     | 1, 3    |
| <i>Butorides striata</i> (Linnaeus, 1758)                   | Striated Heron            | OBS176288    | Resident         | S1, S2     | 1, 2, 3 |
| <i>Egretta caerulea</i> (Linnaeus, 1758) **                 | Little Blue Heron         | OBS210007802 | Boreal Migratory | S1         | 1       |
| <i>Egretta thula</i> (Molina, 1782)                         | Snowy Egret               | OBS540694750 | Resident         | S1         | 1, 2, 3 |
| <i>Nycticorax nycticorax</i> (Linnaeus, 1758)               | Black-crowned Night-Heron | OBS428568943 | Resident         | S1         | 1, 2, 3 |
| <i>Pilherodius pileatus</i> (Boddaert, 1783)                | Capped Heron              | OBS10107     | Resident         | S1         | 1, 2, 3 |
| <i>Tigrisoma lineatum</i> (Boddaert, 1783)                  | Rufescent Tiger-Heron     | OBS105936    | Resident         | S1         | 1, 2, 3 |
| Threskiornithidae Poche, 1904                               |                           |              |                  |            |         |
| <i>Phimosus infuscatus</i> (M.H.K. Lichtenstein, 1823)      | Whispering Ibis           | OBS682142653 | Resident         | S1         | 1, 3    |
| Cathartiformes Coues, 1884                                  |                           |              |                  |            |         |
| Cathartidae Lafresnaye, 1839                                |                           |              |                  |            |         |
| <i>Sarcorampus papa</i> (Linnaeus, 1758)                    | King Vulture              | OBS81185     | Resident         | S1         | 2, 3    |
| <i>Coragyps atratus</i> (Bechstein, 1793)                   | Black Vulture             | Photography  | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Cathartes aura</i> (Linnaeus, 1758)                      | Turkey Vulture            | Photography  | Migrant          | S1, S2, S3 | 1, 2, 3 |
| Accipitriformes Vieillot, 1816                              |                           |              |                  |            |         |
| Accipitridae Vieillot, 1816                                 |                           |              |                  |            |         |
| <i>Accipiter bicolor</i> (Vieillot, 1817)                   | Bicoloured Hawk           | OBS488293987 | Resident         | S1, S2     | 3       |
| <i>Buteo nitidus</i> (Latham, 1790)                         | Grey-lined Hawk           | OBS005866    | Resident         | S3         | 2, 3    |
| <i>Buteo platypterus</i> (Vieillot, 1823)                   | Broad-winged Hawk         | OBS488345966 | Migrant          | S3         | 3       |
| <i>Buteogallus meridionalis</i> (Latham, 1790)              | Savanna Hawk              | OBS006027    | Resident         | S1         | 2, 3    |
| <i>Elanoides forficatus</i> (Linnaeus, 1758)                | Swallow-tailed Kite       | OBS 005661   | Resident         | S1         | 2, 3    |
| <i>Gampsonyx swainsonii</i> Vigors, 1825                    | Pearl Kite                | OBS004026    | Resident         | S1         | 3       |
| <i>Geranoetus albicaudatus</i> (Vieillot, 1816)             | White-tailed Hawk         | OBS423101085 | Resident         | S1         | 2, 3    |
| <i>Ictinia plumbea</i> (Gmelin, 1788)                       | Plumbeous Kite            | Photography  | Resident         | S2         | 1, 2, 3 |
| <i>Morphnarchus princeps</i> (P.L. Sclater, 1865)           | Barred Hawk               | OBS32812     | Resident         | S1, S2, S3 | 2, 3    |
| <i>Pseudastur albicollis</i> (Latham, 1790)                 | White Hawk                | OBS540280514 | Resident         | S1, S2     | 2, 3    |
| <i>Rupornis magnirostris</i> (Gmelin, 1788)                 | Roadside Hawk             | Photography  | Resident         | S1, S2     | 1, 2, 3 |
| <i>Spizaetus tyrannus</i> (Wied-Neuwied, 1820)              | Black Hawk-Eagle          | OBS003495    | Resident         | S2, S3     | 2, 3    |
| Strigiformes agler, 1830                                    |                           |              |                  |            |         |
| Strigidae Leach, 1820                                       |                           |              |                  |            |         |
| <i>Strix nigrilineata</i> (P.L. Sclater, 1859)              | Black-and-white Owl       | OBS283854    | Resident         | S1         | 2, 3    |
| <i>Strix virgata</i> (Cabanis, 1862)                        | Mottled Owl               | OBS283853    | Resident         | S2, S3     | 2, 3    |
| <i>Lophotrix cristata</i> (Daudin, 1800)                    | Crested Owl               | OBS283855    | Resident         | S3         | 2, 3    |
| <i>Megascops choliba</i> (Vieillot, 1817)                   | Tropical Screech-Owl      | OBS283852    | Resident         | S1, S3     | 2, 3    |

| Taxon                                                  | English name                   | Voucher      | Migratory status | Sites      | Source  |
|--------------------------------------------------------|--------------------------------|--------------|------------------|------------|---------|
| Trogoniformes A. O. U., 1886                           |                                |              |                  |            |         |
| Trogonidae Lesson, 1828                                |                                |              |                  |            |         |
| <i>Ramphastos ambiguus</i> Gould, 1838 **              | Gartered Trogon                | OBS585939135 | Resident         | S1         | 1       |
| <i>Trogon chionurus</i> P.L. Sclater & Salvin, 1871 ** | White-tailed Trogon            | OBS329870364 | Resident         | S1         | 1       |
| <i>Trogon violaceus</i> Gmelin, 1788                   | Guianan Trogon                 | OBS283809    | Resident         | S2, S3     | 2, 3    |
| <i>Trogon viridis</i> Linnaeus, 1766                   | Green-backed Trogon            | OBS283808    | Resident         | S2, S3     | 2, 3    |
| Coraciiformes Forbes, 1884                             |                                |              |                  |            |         |
| Momotidae Gray, 1840                                   |                                |              |                  |            |         |
| <i>Baryphthengus martii</i> (Spix, 1824)               | Rufous Motmot                  | OBS283811    | Resident         | S2, S3     | 2, 3    |
| <i>Electron platyrhynchum</i> (Leadbeater, 1829)       | Broad-billed Motmot            | OBS283810    | Resident         | S2         | 2, 3    |
| Alcedinidae Rafinesque, 1815                           |                                |              |                  |            |         |
| <i>Chloroceryle aenea</i> (Pallas, 1764)               | American Pygmy Kingfisher      | OBS387860    | Resident         | S1         | 2, 3    |
| <i>Chloroceryle amazona</i> (Latham, 1790)             | Amazon Kingfisher              | Photography  | Resident         | S1, S2, S3 | 1       |
| <i>Chloroceryle americana</i> (Gmelin, 1788)           | Green Kingfisher               | OBS247902    | Resident         | S1         | 1, 2, 3 |
| <i>Megaceryle torquata</i> (Linnaeus, 1766)            | Ringed Kingfisher              | OBS080243    | Resident         | S2, S3     | 2, 3    |
| Galbuliformes                                          |                                |              |                  |            |         |
| Galbulidae Bonaparte, 1831                             |                                |              |                  |            |         |
| <i>Galbula ruficauda</i> Cuvier, 1816                  | Rufous-tailed Jacamar          | Photography  | Resident         | S2         | 1, 2, 3 |
| Bucconidae Boie, 1826                                  |                                |              |                  |            |         |
| <i>Hypnelus ruficollis</i> (Wagler, 1829)              | Russet-throated Puffbird       | OBS27039     | Resident         | S1         | 1, 3    |
| <i>Malacoptila panamensis</i> Lafresnaye, 1847         | White-whiskered Puffbird       | OBS32818     | Resident         | S2         | 2, 3    |
| <i>Monasa morphoeus</i> (Hahn & Küster, 1823)          | White-fronted Nunbird          | OBS283807    | Resident         | S2, S3     | 1, 2, 3 |
| <i>Nystalus radiatus</i> (P.L. Sclater, 1854)          | Barred Puffbird                | Photography  | Resident         | S2         | 1, 2, 3 |
| Piciformes Meyer & Wolf, 1810                          |                                |              |                  |            |         |
| Capitonidae Bonaparte, 1838                            |                                |              |                  |            |         |
| <i>Capito hypoleucus</i> Salvin, 1897                  | White-mantled Barbet           | OBS193321030 | Resident         | S1, S2, S3 | 1, 2, 3 |
| Ramphastidae Vigors, 1825                              |                                |              |                  |            |         |
| <i>Aulacorhynchus haematopygus</i> (Gould, 1835)       | Crimson-rumped Toucanet        | OBS283801    | Resident         | S3         | 2, 3    |
| <i>Pteroglossus torquatus</i> (Gmelin, 1788)           | Collared Aracari               | OBS33845     | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Ramphastos vitellinus</i> M.H.K. Lichtenstein, 1823 | Channel-billed Toucan          | OBS400355504 | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Ramphastos ambiguus</i> Swainson, 1823 **           | Yellow-throated Toucan         | Photography  | Resident         | S1         | 1       |
| Picidae Leach, 1820                                    |                                |              |                  |            |         |
| <i>Campephilus haematogaster</i> (Tschudi, 1844)       | Crimson-bellied Woodpecker     | OBS32987     | Resident         | S3         | 1, 3    |
| <i>Campephilus melanoleucos</i> (Gmelin, 1788)         | Crimson-crested Woodpecker     | OBS283799    | Resident         | S1, S2     | 1, 2, 3 |
| <i>Celeus loricatus</i> (Reichenbach, 1854)            | Cinnamon Woodpecker            | OBS283797    | Resident         | S2, S3     | 1, 2, 3 |
| <i>Colaptes punctigula</i> (Boddaert, 1783)            | Freckle-breasted Woodpecker    | OBS283796    | Resident         | S1, S2     | 2, 3    |
| <i>Dryocopus lineatus</i> (Linnaeus, 1766)             | Lineated Woodpecker            | OBS283798    | Resident         | S1, S2     | 1       |
| <i>Melanerpes pulcher</i> P.L. Sclater, 1870           | Beautiful Woodpecker           | OBS281702452 | Resident         | S2, S3     | 1, 2, 3 |
| <i>Melanerpes rubricapillus</i> (Cabanis, 1862)        | Red-crowned Woodpecker         | OBS283794    | Resident         | S1, S2     | 1, 2, 3 |
| <i>Picumnus olivaceus</i> Lafresnaye, 1845             | Olivaceous Piculet             | OBS25118     | Resident         | S1, S2, S3 | 2, 3    |
| <i>Veniliornis kirkii</i> (Malherbe, 1845)             | Red-rumped Woodpecker          | OBS33761     | Resident         | S1, S2, S3 | 1, 2, 3 |
| Falconiformes Sharpe, 1874                             |                                |              |                  |            |         |
| Falconidae Vigors, 1824                                |                                |              |                  |            |         |
| <i>Caracara cheriway</i> (Jacquin, 1784)               | Crested Caracara               | Photography  | Resident         | S1, S2     | 1, 2, 3 |
| <i>Falco ruficularis</i> Daudin, 1800                  | Bat Falcon                     | OBS007546    | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Falco sparverius</i> Linnaeus, 1758                 | American Kestrel               | Photography  | Resident         | S1         | 1, 2, 3 |
| <i>Herpetotheres cachinnans</i> (Linnaeus, 1758)       | Laughing Falcon                | Photography  | Resident         | S1, S2     | 1       |
| <i>Micrastur ruficollis</i> (Vieillot, 1817)           | Barred Forest-Falcon           | OBS007484    | Resident         | S3         | 2, 3    |
| <i>Milvago chimachima</i> (Vieillot, 1816)             | Yellow-headed Caracara         | Photography  | Resident         | S1, S2, S3 | 1, 2, 3 |
| Psittaciformes Wagler, 1830                            |                                |              |                  |            |         |
| Psittacidae Rafinesque, 1815                           |                                |              |                  |            |         |
| <i>Brotogeris jugularis</i> (Statius Müller, 1776)     | Orange-chinned Parakeet        | OBS283822    | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Amazona autumnalis</i> (Linnaeus, 1758)             | Red-lored Parrot               | OBS176741196 | Resident         | S1         | 3       |
| <i>Amazona amazonica</i> (Linnaeus, 1766)              | Orange-winged Parrot           | OBS647086164 | Resident         | S1         | 1, 2, 3 |
| <i>Amazona ochrocephala</i> (Gmelin, 1788)             | Yellow-crowned Parrot          | OBS174286050 | Resident         | S1, S2     | 3       |
| <i>Ara ararauna</i> (Linnaeus, 1758)                   | Blue-and-yellow Macaw          | OBS334340544 | Resident         | S1         | 1, 3    |
| <i>Ara severus</i> (Linnaeus, 1758)                    | Chestnut-fronted Macaw         | OBS493870837 | Resident         | S1         | 1, 3    |
| <i>Forpus conspicillatus</i> (Lafresnaye, 1848)        | Spectacled Parrotlet           | OBS283821    | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Pionus chalcopterus</i> (Fraser, 1841)              | Bronze-winged Parrot           | OBS506438006 | Resident         | S3         | 3       |
| <i>Pionus menstruus</i> (Linnaeus, 1766)               | Blue-headed Parrot             | OBS283824    | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Pyrrhilia pyrrhilia</i> (Bonaparte, 1853)           | Saffron-headed Parrot          | OBS32995     | Resident         | S1, S2, S3 | 1, 2, 3 |
| Passeriformes Linnaeus, 1758                           |                                |              |                  |            |         |
| Thamnophilidae Swainson, 1824                          |                                |              |                  |            |         |
| <i>Cercomacroides tyrannina</i> (P.L. Sclater, 1855)   | Dusky Antbird                  | OBS33760     | Resident         | S2, S3     | 2, 3    |
| <i>Cymbilaimus lineatus</i> (Leach, 1814)              | Fasciated Antshrike            | OBS121430    | Resident         | S2, S3     | 2, 3    |
| <i>Dysithamnus mentalis</i> (Temminck, 1823)           | Plain Antvireo                 | OBS30739     | Resident         | S3         | 2, 3    |
| <i>Epinecrophylia fulviventris</i> (Lawrence, 1862)    | Checker-throated Stipplethroat | OBS281707922 | Resident         | S1, S2     | 2, 3    |
| <i>Formicivora grisea</i> (Boddaert, 1783)             | White-fringed Antwren          | OBS34149     | Resident         | S1, S2     | 1, 2, 3 |
| <i>Gymnocichla nudiceps</i> (Cassin, 1850)             | Bare-crowned Antbird           | OBS33774     | Resident         | S1, S2     | 1, 3    |

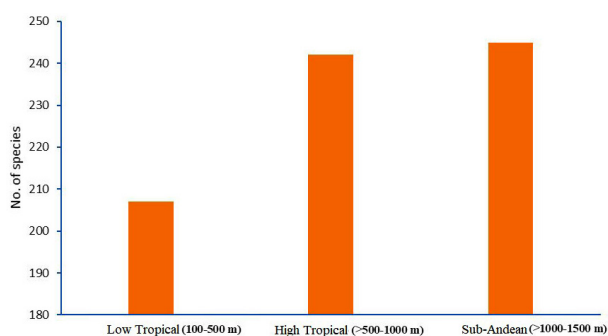
| Taxon                                                             | English name                  | Voucher      | Migratory status | Sites      | Source  |
|-------------------------------------------------------------------|-------------------------------|--------------|------------------|------------|---------|
| <i>Gymnophithys bicolor</i> (Lawrence, 1863) **                   | Bicolored Antbird             | OBS176654679 | Resident         | S1         | 1       |
| <i>Hafferia immaculata</i> (Lafresnaye, 1845)                     | Blue-lored Antbird            | OBS32830     | Resident         | S3         | 2, 3    |
| <i>Microhropias quixensis</i> (Cornalia, 1849)                    | Dot-winged Antwren            | OBS374880    | Resident         | S2, S3     | 2, 3    |
| <i>Myrmotherula axillaris</i> (Vieillot, 1817)                    | White-flanked Antwren         | OBS32980     | Resident         | S2         | 2, 3    |
| <i>Myrmotherula pacifica</i> Hellmayr, 1911 **                    | Pacific Antwren               | OBS410968988 | Resident         | S1         | 1       |
| <i>Myrmotherula schisticolor</i> (Lawrence, 1865)                 | Slaty Antwren                 | OBS32988     | Resident         | S3         | 2, 3    |
| <i>Polioecrania exsul</i> (P.L. Sclater, 1859)                    | Chestnut-backed Antbird       | OBS681585008 | Resident         | S1, S2     | 2, 3    |
| <i>Sipia palliata</i> (Todd, 1907)                                | Magdalena Antbird             | OBS32230     | Resident         | S2         | 1, 3    |
| <i>Taraba major</i> (Vieillot, 1816)                              | Great Antshrike               | OBS198062    | Resident         | S1, S2     | 2, 3    |
| <i>Thamnophilus doliatus</i> (Linnaeus, 1764)                     | Barred Antshrike              | OBS358158    | Resident         | S1, S2     | 1, 2, 3 |
| <i>Thamnophilus multistriatus</i> Lafresnaye, 1844                | Bar-crested Antshrike         | OBS415223595 | Resident         | S2, S3     | 2, 3    |
| <i>Thamnophilus nigricaps</i> P.L. Sclater, 1869                  | Black Antshrike               | OBS586016428 | Resident         | S1, S2, S3 | 2, 3    |
| <i>Thamnophilus punctatus</i> (Shaw, 1809)                        | Northern Slaty-Antshrike      | OBS30983     | Resident         | S2, S3     | 2, 3    |
| Conopophagidae Sclater & Salvin, 1873                             |                               |              |                  |            |         |
| <i>Conopophaga castaneiceps</i> P.L. Sclater, 1857                | Chestnut-crowned Gnateater    | OBS32833     | Resident         | S3         | 2, 3    |
| Rhinocryptidae Wetmore, 1930                                      |                               |              |                  |            |         |
| <i>Scytalopus femoralis</i> (Tschudi, 1844)                       | Rufous-vented Tapaculo        | OBS33108     | Resident         | S3         | 2, 3    |
| Formicariidae Gray, 1840                                          |                               |              |                  |            |         |
| <i>Formicarius analis</i> (d'Orbigny & Lafresnaye, 1837)          | Black-faced Antthrush         | OBS32823     | Resident         | S2, S3     | 2, 3    |
| Furnariidae Gray, 1840                                            |                               |              |                  |            |         |
| <i>Automolus ochrolaemus</i> (Tschudi, 1844)                      | Buff-throated Foliage-gleaner | OBS029825    | Resident         | S2, S3     | 2, 3    |
| <i>Automolus subulatus</i> (Spix, 1824)                           | Eastern Woodhaunter           | OBS33769     | Resident         | S3         | 3       |
| <i>Campylorhamphus trochilrostris</i> (M.H.K. Lichtenstein, 1820) | Red-billed Scythebill         |              | Resident         | S3         | 3       |
| <i>Certhias cinnamomeus</i> (Gmelin, 1788)                        | Yellow-chinned Spinetail      | Photography  | Resident         | S1, S2, S3 | 1, 3    |
| <i>Clibanornis rubiginosus</i> (P.L. Sclater, 1857)               | Ruddy Foliage-gleaner         | OBS32985     | Resident         | S3         | 2, 3    |
| <i>Dendrocicla fuliginosa</i> (Vieillot, 1818)                    | Plain-brown Woodcreeper       | OBS32825     | Resident         | S1, S2, S3 | 2, 3    |
| <i>Dendrocolaptes certhia</i> (Boddaert, 1783)                    | Amazonian Barred-Woodcreeper  | OBS195281    | Resident         | S2         | 2, 3    |
| <i>Dendroplex picus</i> (Gmelin, 1788)                            | Straight-billed Woodcreeper   | OBS028378    | Resident         | S1, S2     | 1, 2, 3 |
| <i>Glyphorhynchus spirurus</i> (Vieillot, 1819)                   | Wedge-billed Woodcreeper      | OBS32826     | Resident         | S1, S2, S3 | 2, 3    |
| <i>Lepidocolaptes souleyetii</i> (Lafresnaye, 1849)               | Streak-headed Woodcreeper     | OBS195987    | Resident         | S2, S3     | 1, 2, 3 |
| <i>Philydor fuscipennis</i> Salvin, 1866                          | Slaty-winged Foliage-gleaner  | OBS32827     | Resident         | S2, S3     | 2, 3    |
| <i>Premnoplex brunneus</i> (P.L. Sclater, 1856)                   | Spotted Barbtail              | OBS029690    | Resident         | S3         | 2, 3    |
| <i>Sittasomus griseicapillus</i> (Vieillot, 1818)                 | Olivaceous Woodcreeper        | OBS32756     | Resident         | S1, S3     | 2, 3    |
| <i>Synallaxis albens</i> Temminck, 1823                           | Pale-breasted Spinetail       | OBS027266    | Resident         | S1, S2, S3 | 2, 3    |
| <i>Synallaxis brachyura</i> Lafresnaye, 1843                      | Slaty Spinetail               | OBS028595    | Resident         | S1, S2     | 2, 3    |
| <i>Xenops minutus</i> (Sparman, 1788)                             | Plain Xenops                  | OBS32824     | Resident         | S2, S3     | 2, 3    |
| <i>Xiphocolaptes promeropirhynchus</i> (R. Lesson, 1840)          | Strong-billed Woodcreeper     | OBS32979     | Resident         | S2, S3     | 2, 3    |
| <i>Xiphorhynchus lachrymosus</i> (Lawrence, 1862)                 | Black-striped Woodcreeper     | OBS34221     | Resident         | S2, S3     | 2, 3    |
| Pipridae Rafinesque, 1815                                         |                               |              |                  |            |         |
| <i>Ceratopira erythrocephala</i> (Linnaeus, 1758)                 | Golden-headed Manakin         | OBS669927398 | Resident         | S2, S3     | 2, 3    |
| <i>Corapipo leucorhoa</i> (P.L. Sclater, 1863)                    | White-bibbed Manakin          | OBS242724    | Resident         | S2, S3     | 2, 3    |
| <i>Pseudopipra pipra</i> (Linnaeus, 1758)                         | White-crowned Manakin         | OBS242862    | Resident         | S3         | 3       |
| <i>Machaeropterus regulus</i> (Hahn, 1819)                        | Kinglet Manakin               | OBS283957    | Resident         | S2, S3     | 2, 3    |
| <i>Manacus manacus</i> (Linnaeus, 1766)                           | White-bearded Manakin         | OBS32828     | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Masius chrysopterus</i> (Lafresnaye, 1843)                     | Golden-winged Manakin         | OBS33004     | Resident         | S3         | 2, 3    |
| Cotingidae Bonaparte, 1849                                        |                               |              |                  |            |         |
| <i>Cotinga nattererii</i> (Boissonneau, 1840)                     | Blue Cotinga                  | OBS053272    | Resident         | S2         | 2, 3    |
| <i>Querula purpurata</i> (Statius Müller, 1776)                   | Purple-throated Fruitcrow     | Photography  | Resident         | S2, S3     | 1, 2, 3 |
| Tityridae Gray, GR, 1840                                          |                               |              |                  |            |         |
| <i>Laniocera rufescens</i> (P.L. Sclater, 1858)                   | Speckled Mourner              | OBS488338006 | Resident         | S3         | 3       |
| <i>Pachyrhamphus cinnamomeus</i> Lawrence, 1861                   | Cinnamon Becard               | OBS33006     | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Pachyrhamphus homochrous</i> P.L. Sclater, 1859 **             | One-colored Becard            | OBS682142642 | Resident         | S1         | 1       |
| <i>Pachyrhamphus polychopterus</i> (Vieillot, 1818)               | White-winged Becard           | OBS283947    | Resident         | S1, S2, S3 | 2, 3    |
| <i>Pachyrhamphus rufus</i> (Boddaert, 1783)                       | Cinereous Becard              | OBS33320     | Resident         | S1, S2, S3 | 2, 3    |
| <i>Schiffornis turdina</i> (Wied-Neuwied, 1831)                   | Brown-winged Schiffornis      | OBS32973     | Resident         | S2, S3     | 2, 3    |
| <i>Tityra inquisitor</i> (M.H.K. Lichtenstein, 1823)              | Black-crowned Tityra          | OBS408586    | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Tityra semifasciata</i> (Spix, 1825)                           | Masked Tityra                 | OBS182640    | Resident         | S2, S3     | 1, 2, 3 |
| Onychorhynchidae Tello & al., 2009                                |                               |              |                  |            |         |
| <i>Myiobius atricaudus</i> Lawrence, 1863                         | Black-tailed Flycatcher       | OBS33748     | Resident         | S2         | 2, 3    |
| <i>Onychorhynchus coronatus</i> (Statius Müller, 1776)            | Amazonian Royal-Flycatcher    | OBS497455902 | Resident         | S2         | 3       |
| <i>Terenotriccus erythrurus</i> (Cabanis, 1847)                   | Ruddy-tailed Flycatcher       | OBS488221224 | Resident         | S2         | 3       |
| Tyrannidae Vigors, 1825                                           |                               |              |                  |            |         |
| <i>Aphanotriccus audax</i> (Nelson, 1912) **                      | Black-billed Flycatcher       | Photography  | Resident         | S1         | 1       |
| <i>Arundinicola leucocephala</i> (Linnaeus, 1764)                 | White-headed Marsh-Tyrant     | OBS410968986 | Resident         | S1         | 3       |
| <i>Attila spadiceus</i> (Gmelin, 1789)                            | Bright-rumped Attila          | OBS191140    | Resident         | S2         | 2, 3    |
| <i>Camptostoma obsoletum</i> (Temminck, 1824)                     | Southern Beardless-Tyrannulet | OBS370565    | Resident         | S1         | 2, 3    |
| <i>Capsiempis flaveola</i> (M.H.K. Lichtenstein, 1823)            | Yellow Tyrannulet             | OBS34139     | Resident         | S1, S2     | 2, 3    |
| <i>Colonia colonus</i> (Vieillot, 1818)                           | Long-tailed Tyrant            | OBS371347    | Resident         | S2, S3     | 1, 2, 3 |
| <i>Contopus cinereus</i> (Spix, 1825)                             | Tropical Pewee                | OBS192640    | Resident         | S1, S2     | 2, 3    |

| Taxon                                                            | English name                  | Voucher      | Migratory status   | Sites      | Source  |
|------------------------------------------------------------------|-------------------------------|--------------|--------------------|------------|---------|
| <i>Contopus cooperi</i> (Nuttall, 1831)                          | Olive-sided Flycatcher        | OBS106682    | Boreal Migratory   | S3         | 2, 3    |
| <i>Contopus virens</i> (Linnaeus, 1766)                          | Eastern Wood-Pewee            | OBS106840    | Boreal Migratory   | S1, S2, S3 | 2, 3    |
| <i>Elaenia chiriquensis</i> Lawrence, 1865                       | Lesser Elaenia                | OBS176739854 | Resident           | S1, S2, S3 | 2, 3    |
| <i>Elaenia flavogaster</i> (Thunberg, 1822)                      | Yellow-bellied Elaenia        | OBS593477907 | Resident           | S1, S2, S3 | 1, 2, 3 |
| <i>Empidonax alnorum</i> Brewster, 1895                          | Alder Flycatcher              | OBS34225     | Boreal Migratory   | S1, S2     | 2, 3    |
| <i>Empidonax virescens</i> (Vieillot, 1818)                      | Acadian Flycatcher            | OBS106741    | Boreal Migratory   | S2, S3     | 2, 3    |
| <i>Fluvicola pica</i> (Boddaert, 1783)                           | Pied Water-Tyrant             | OBS111663    | Resident           | S1         | 1, 2, 3 |
| <i>Knipolegus poecilurus</i> (P.L. Sclater, 1862)                | Rufous-tailed Tyrant          | OBS353961    | Resident           | S1, S3     | 2, 3    |
| <i>Legatus leucophaeus</i> (Vieillot, 1818)                      | Piratic Flycatcher            | OBS408504    | Resident           | S1, S2, S3 | 2, 3    |
| <i>Leptopogon amaurocephalus</i> Cabanis, 1846                   | Sepia-capped Flycatcher       | OBS34223     | Resident           | S1, S2     | 2, 3    |
| <i>Leptopogon superciliosus</i> Tschudi, 1844                    | Slaty-capped Flycatcher       | OBS283899    | Resident           | S3         | 2, 3    |
| <i>Lophotriccus pileatus</i> (Tschudi, 1844)                     | Scale-crested Pygmy-Tyrant    | OBS371318    | Resident           | S3         | 2, 3    |
| <i>Machetornis rixosa</i> (Vieillot, 1819)                       | Cattle Tyrant                 | OBS355398    | Resident           | S1, S2     | 1, 2, 3 |
| <i>Megarynchus pitangua</i> (Linnaeus, 1766)                     | Boat-billed Flycatcher        | OBS12748     | Resident           | S1, S2     | 2, 3    |
| <i>Mionectes oleagineus</i> (M.H.K. Lichtenstein, 1823)          | Ochre-bellied Flycatcher      | OBS283897    | Resident           | S1, S2, S3 | 2, 3    |
| <i>Mionectes olivaceus</i> Lawrence, 1868                        | Olive-striped Flycatcher      | OBS283896    | Resident           | S3         | 2, 3    |
| <i>Myiarchus crinitus</i> (Linnaeus, 1758)                       | Great Crested Flycatcher      | OBS33750     | Boreal Migratory   | S1, S2, S3 | 2, 3    |
| <i>Myiarchus panamensis</i> Lawrence, 1860                       | Panama Flycatcher             | OBS113467    | Resident           | S1, S2     | 2, 3    |
| <i>Myiarchus tuberculifer</i> (d'Orbigny & Lafresnaye, 1837)     | Dusky-capped Flycatcher       | OBS355286    | Resident           | S3         | 2, 3    |
| <i>Myiodynastes luteiventris</i> P.L. Sclater, 1859              | Sulphur-bellied Flycatcher    | OBS179660    | Boreal Migratory   | S1, S2, S3 | 2, 3    |
| <i>Myiodynastes maculatus</i> (Statius Müller, 1776)             | Streaked Flycatcher           | OBS32735     | Migratorio austral | S1, S2     | 1, 2, 3 |
| <i>Myiopagis viridicata</i> (Vieillot, 1817)                     | Greenish Elaenia              | OBS117685    | Resident           | S2         | 2, 3    |
| <i>Myiophobus fasciatus</i> (Statius Müller, 1776)               | Bran-colored Flycatcher       | OBS407671    | Resident           | S3         | 2, 3    |
| <i>Myiornis atricapillus</i> (Lawrence, 1875)                    | Black-capped Pygmy-Tyrant     | OBS354103    | Resident           | S2         | 2, 3    |
| <i>Myiopicus ornatus</i> (Lafresnaye, 1853)                      | Ornate Flycatcher             | OBS24663     | Resident           | S3         | 1, 2, 3 |
| <i>Myiozetetes cayanensis</i> (Linnaeus, 1766)                   | Rusty-margined Flycatcher     | OBS180229    | Resident           | S1, S2, S3 | 1, 2, 3 |
| <i>Oncostoma olivaceum</i> (Lawrence, 1862)                      | Southern Bentbill             | OBS33749     | Resident           | S2, S3     | 1, 2, 3 |
| <i>Phyllomyias griseiceps</i> (P.L. Sclater & Salvin, 1871)      | Sooty-headed Tyrannulet       | OBS283903    | Resident           | S2, S3     | 2, 3    |
| <i>Phylloscartes superciliosus</i> (P.L. Sclater & Salvin, 1868) | Rufous-browed Tyrannulet      | OBS283899    | Resident           | S3         | 3       |
| <i>Piprites chloris</i> (Temminck, 1822)                         | Wing-barred Piprites          | OBS33002     | Resident           | S3         | 2, 3    |
| <i>Pitangus lictor</i> (M.H.C. Lichtenstein, 1823)               | Lesser Kiskadee               | OBS354566    | Resident           | S1         | 2, 3    |
| <i>Pitangus sulphuratus</i> (Linnaeus, 1766)                     | Great Kiskadee                | OBS16528     | Resident           | S1, S2, S3 | 2, 3    |
| <i>Platyrinchus mystaceus</i> Vieillot, 1818                     | White-throated Spadebill      | OBS33324     | Resident           | S3         | 2, 3    |
| <i>Poecilatriccus sylvia</i> (Desmarest, 1806)                   | Slate-headed Tody-Flycatcher  | OBS400355528 | Resident           | S1, S2, S3 | 2, 3    |
| <i>Rhynchocyclus olivaceus</i> (Temminck, 1820)                  | Olivaceous Flatbill           | OBS33011     | Resident           | S2         | 2, 3    |
| <i>Rhytipterna holerythra</i> (P.L. Sclater & Salvin, 1860)      | Rufous Mourner                | OBS112944    | Resident           | S2         | 2, 3    |
| <i>Sayornis nigricans</i> (Swainson, 1827)                       | Black Phoebe                  | OBS189960    | Resident           | S1, S2     | 1, 2, 3 |
| <i>Todirostrum cinereum</i> (Linnaeus, 1766)                     | Common Tody-Flycatcher        | OBS21042     | Resident           | S1, S2, S3 | 2, 3    |
| <i>Todirostrum nigricipes</i> P.L. Sclater, 1855                 | Black-headed Tody-Flycatcher  | OBS420326103 | Resident           | S1, S2, S3 | 2, 3    |
| <i>Tolmomyia assimilis</i> (Pelzeln, 1868)                       | Zimmer's Flycatcher           | OBS32741     | Resident           | S2         | 2, 3    |
| <i>Tyrannulus elatus</i> (Latham, 1790)                          | Yellow-crowned Tyrannulet     | OBS185309    | Resident           | S1, S2, S3 | 2, 3    |
| <i>Tyrannus melancholicus</i> Vieillot, 1819                     | Tropical Kingbird             | OBS34151     | Migratorio austral | S1, S2, S3 | 1, 2, 3 |
| <i>Tyrannus savana</i> Daudin, 1802                              | Fork-tailed Flycatcher        | OBS283936    | Migratorio austral | S1         | 1, 2, 3 |
| <i>Tyrannus tyrannus</i> (Linnaeus, 1758)                        | Black Hawk-Eagle              | OBS12981     | Boreal Migratory   | S1, S2     | 2, 3    |
| <i>Zimmerius viridiflavus</i> (Tschudi, 1844)                    | Peruvian Tyrannulet           | OBS356463    | Resident           | S2, S3     | 2, 3    |
| Vireonidae Swainson, 1837                                        |                               |              |                    |            |         |
| <i>Cyclarhis gujanensis</i> (Gmelin, 1789)                       | Rufous-browed Peppershrike    | OBS124617    | Resident           | S2         | 1, 2, 3 |
| <i>Hylophilus flavipes</i> Lafresnaye, 1845                      | Scrub Greenlet                | OBS124737    | Resident           | S1, S2     | 2, 3    |
| <i>Pachysylvia decurtata</i> (Bonaparte, 1838)                   | Lesser Greenlet               | OBS281707836 | Resident           | S2, S3     | 2, 3    |
| <i>Pachysylvia semibrunnea</i> Lafresnaye, 1845                  | Rufous-naped Greenlet         | OBS32997     | Resident           | S3         | 2, 3    |
| <i>Vireo flavifrons</i> Vieillot, 1808                           | Yellow-throated Vireo         | OBS379294    | Boreal Migratory   | S3         | 3       |
| <i>Vireo olivaceus</i> (Linnaeus, 1766)                          | Red-eyed Vireo                | OBS201021    | Boreal Migratory   | S1, S2, S3 | 2, 3    |
| <i>Vireolanus eximius</i> S.F. Baird, 1866                       | Yellow-browed Shrike-Vireo    | OBS33619     | Resident           | S2, S3     | 2, 3    |
| Corvidae Vigors, 1825                                            |                               |              |                    |            |         |
| <i>Cyanocorax affinis</i> Pelzeln, 1856                          | Black-chested Jay             | OBS034814    | Resident           | S1, S2, S3 | 1, 2, 3 |
| Hirundinidae Vigors, 1825                                        |                               |              |                    |            |         |
| <i>Atticora tibialis</i> (Cassin, 1853)                          | White-thighed Swallow         | OBS34140     | Resident           | S1, S2     | 1, 2, 3 |
| <i>Hirundo rustica</i> Linnaeus, 1758                            | Barn Swallow                  | OBS036010    | Migrant            | S1, S2     | 2, 3    |
| <i>Progne chalybea</i> (Gmelin, 1789)                            | Grey-breasted Martin          | OBS036642    | Resident           | S1, S2, S3 | 2, 3    |
| <i>Progne tapera</i> (Linnaeus, 1766) **                         | Brown-chested Martin          | Photography  | Migrant            | S1         | 1       |
| <i>Stelgidopteryx ruficollis</i> (Vieillot, 1817)                | Southern Rough-winged Swallow | OBS035433    | Resident           | S1, S2, S3 | 2, 3    |
| <i>Tachycineta albiventer</i> (Boddaert, 1783)                   | White-winged Swallow          | OBS036407    | Resident           | S1, S2, S3 | 1, 2, 3 |
| Troglodytidae Swainson, 1832                                     |                               |              |                    |            |         |
| <i>Campylorhynchus griseus</i> (Swainson, 1838)                  | Bicolored Wren                | OBS176739748 | Resident           | S3         | 1, 3    |
| <i>Campylorhynchus zonatus</i> (R. Lesson, 1832)                 | Band-backed Wren              | OBS216070    | Resident           | S1, S2, S3 | 2, 3    |
| <i>Cantorchilus leucopogon</i> (Salvadori & Festa, 1899)         | Stripe-throated Wren          | OBS32815     | Resident           | S2, S3     | 2, 3    |
| <i>Henicorhina leucophrys</i> (Tschudi, 1844)                    | Gray-breasted Wood-Wren       | OBS48144     | Resident           | S3         | 1, 2, 3 |
| <i>Henicorhina leucosticta</i> (Cabanis, 1847)                   | White-breasted Wood-Wren      | OBS33745     | Resident           | S2, S3     | 2, 3    |
| <i>Microcerculus marginatus</i> (P.L. Sclater, 1855)             | Scaly-breasted Wren           | OBS32821     | Resident           | S2, S3     | 2, 3    |

| Taxon                                                     | English name                | Voucher      | Migratory status | Sites      | Source  |
|-----------------------------------------------------------|-----------------------------|--------------|------------------|------------|---------|
| <i>Pheugopedius fasciatoventris</i> (Lafresnaye, 1845)    | Black-bellied Wren          | OBS681585000 | Resident         | S1, S2, S3 | 2, 3    |
| <i>Pheugopedius sclateri</i> (Taczanowski, 1879)          | Speckle-breasted Wren       | OBS32814     | Resident         | S3         | 3       |
| <i>Pheugopedius spadix</i> Bangs, 1910                    | Sooty-headed Wren           | OBS57887150  | Resident         | S2, S3     | 2, 3    |
| <i>Troglodytes aedon</i> Vieillot, 1809                   | House Wren                  | OBS213850    | Resident         | S1, S2, S3 | 1, 2, 3 |
| Polioptilidae Baird, 1858                                 |                             |              |                  |            |         |
| <i>Microbates cinereiventris</i> (P.L. Sclater, 1855)     | Tawny-faced Gnatwren        | OBS410969032 | Resident         | S2, S3     | 2, 3    |
| <i>Ramphocaenus melanurus</i> Vieillot, 1819              | Long-billed Gnatwren        | OBS216778    | Resident         | S3         | 2, 3    |
| Donacobiidae Swainson, 1831                               |                             |              |                  |            |         |
| <i>Donacobius atricapilla</i> (Linnaeus, 1766)            | Black-capped Donacobius     | OBS049274    | Resident         | S1         | 2, 3    |
| Turdidae Rafinesque, 1815                                 |                             |              |                  |            |         |
| <i>Catharus minimus</i> (Lafresnaye, 1848)                | Gray-cheeked Thrush         | OBS34161     | Boreal Migratory | S2, S3     | 2, 3    |
| <i>Catharus ustulatus</i> (Nuttall, 1840)                 | Swainson' s Thrush          | OBS157760    | Boreal Migratory | S1, S2, S3 | 1, 2, 3 |
| <i>Turdus ignobilis</i> P.L. Sclater, 1858                | Black-billed Thrush         | OBS158508    | Resident         | S1, S2, S3 | 2, 3    |
| <i>Turdus leucomelas</i> Vieillot, 1818                   | Pale-breasted Thrush        | OBS281707847 | Resident         | S1         | 1, 3    |
| <i>Turdus obsoletus</i> Lawrence, 1862                    | Pale-vented Thrush          | OBS32978     | Resident         | S2         | 2, 3    |
| <i>Turdus serranus</i> Tschudi, 1844                      | Glossy-black Thrush         | OBS410969240 | Resident         | S3         | 3       |
| Mimidae (Bonaparte, 1853)                                 |                             |              |                  |            |         |
| <i>Mimus gilvus</i> (Vieillot, 1808)                      | Tropical Mockingbird        | OBS049391    | Resident         | S1, S2     | 1, 2, 3 |
| Fringillidae Vigors, 1825                                 |                             |              |                  |            |         |
| <i>Chlorophonia cyanea</i> (Thunberg, 1822)               | Blue-naped Chlorophonia     | OBS415220908 | Resident         | S3         | 3       |
| <i>Euphonia cyanocephala</i> (Vieillot, 1819)             | Golden-rumped Euphonia      | OBS60974218  | Resident         | S3         | 1, 3    |
| <i>Euphonia fulvicrissa</i> P.L. Sclater, 1857            | Fulvous-vented Euphonia     | OBS33752     | Resident         | S2         | 2, 3    |
| <i>Euphonia lanirostris</i> d'Orbigny & Lafresnaye, 1837  | Thick-billed Euphonia       | OBS35479     | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Euphonia xanthogaster</i> Sundevall, 1834              | Orange-bellied Euphonia     | OBS32992     | Resident         | S3         | 2, 3    |
| <i>Spinus psaltria</i> (Say, 1822)                        | Lesser Goldfinch            | Photography  | Resident         | S3         | 1, 2, 3 |
| <i>Spinus xanthogastrus</i> (Du Bus de Gisignies, 1855)   | Yellow-bellied Siskin       | OBS688754216 | Resident         | S3         | 1, 3    |
| Passerellidae Cabanis, 1851                               |                             |              |                  |            |         |
| <i>Arremon atricapillus</i> (Lawrence, 1874)              | Black-headed Brush-Finch    | OBS488348418 | Resident         | S3         | 3       |
| <i>Arremon aurantirostris</i> Lafresnaye, 1847            | Orange-billed Sparrow       | OBS32813     | Resident         | S2         | 2, 3    |
| <i>Arremon brunneinucha</i> (Lafresnaye, 1839)            | Chestnut-capped Brush-Finch | OBS206291    | Resident         | S2         | 2, 3    |
| <i>Arremonops conirostris</i> (Bonaparte, 1850)           | Black-striped Sparrow       |              | Resident         |            | 2, 3    |
| <i>Atlapetes albinucha</i> (Lafresnaye & d'Orbigny, 1838) | White-naped Brushfinch      |              | Resident         |            | 3       |
| <i>Zonotrichia capensis</i> (Statius Müller, 1776)        | Rufous-collared Sparrow     | OBS360088    | Resident         | S1, S2, S3 | 1, 2, 3 |
| Icteridae (Vigors, 1825)                                  |                             |              |                  |            |         |
| <i>Chrysomus icterocephalus</i> (Linnaeus, 1766)          | Yellow-hooded Blackbird     | Photography  | Resident         | S1         | 1, 3    |
| <i>Icterus auricapillus</i> Cassin, 1848                  | Orange-crowned Oriole       | OBS054650    | Resident         | S1, S2     | 1, 2, 3 |
| <i>Icterus chrysater</i> (R. Lesson, 1844)                | Yellow-backed Oriole        | OBS056088    | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Icterus galbula</i> (Linnaeus, 1758)                   | Baltimore Oriole            | OBS171363759 | Migrant          | S1, S3     | 2, 3    |
| <i>Icterus mesomelas</i> (Wagler, 1829)                   | Yellow-tailed Oriole        | OBS418991895 | Resident         | S1         | 3       |
| <i>Icterus nigrogularis</i> (Hahn, 1819)                  | Yellow Oriole               | Photography  | Resident         | S1         | 1, 2, 3 |
| <i>Leistes militaris</i> (Linnaeus, 1758)                 | Red-breasted Blackbird      | OBS055639    | Resident         | S1         | 2, 3    |
| <i>Molothrus bonariensis</i> (Gmelin, 1789)               | Shiny Cowbird               | OBS053577    | Resident         | S1, S2     | 1, 2, 3 |
| <i>Molothrus oryzivorus</i> (Gmelin, 1788)                | Giant Cowbird               | OBS510107502 | Resident         | S1         | 1, 3    |
| <i>Psarocolius decumanus</i> (Pallas, 1769)               | Crested Oropendola          | Photography  | Resident         | S1         | 1       |
| <i>Psarocolius wagleri</i> (Gray, GR, 1844)               | Chestnut-headed Oropendola  | OBS488330478 | Resident         | S3         | 1, 3    |
| Parulidae Wetmore & al., 1947                             |                             |              |                  |            |         |
| <i>Basileuterus rufifrons</i> (Swainson, 1838)            | Rufous-capped Warbler       | OBS070902    | Resident         | S2, S3     | 2, 3    |
| <i>Basileuterus tristriatus</i> (Tschudi, 1844)           | Three-striped Warbler       | OBS32987     | Resident         | S3         | 2, 3    |
| <i>Cardellina canadensis</i> (Linnaeus, 1766)             | Canada Warbler              | OBS068296    | Migrant          | S2, S3     | 2, 3    |
| <i>Geothlypis philadelphia</i> (A. Wilson, 1810)          | Mourning Warbler            | OBS068601    | Migrant          | S1, S2, S3 | 2, 3    |
| <i>Leiostyris peregrina</i> (A. Wilson, 1811)             | Tennessee Warbler           | OBS155444    | Migrant          | S1, S2, S3 | 3       |
| <i>Mniotilta varia</i> (Linnaeus, 1766)                   | Black-and-white Warbler     | OBS071063    | Migrant          | S3         | 2, 3    |
| <i>Myioborus miniatus</i> (Swainson, 1827)                | Slate-throated Redstart     | OBS067727    | Resident         | S3         | 1, 2, 3 |
| <i>Myiothlypis cinereicollis</i> (P.L. Sclater, 1864)     | Grey-throated Warbler       | OBS32763     | Resident         | S3         | 2, 3    |
| <i>Myiothlypis fulvicauda</i> (Spix, 1825)                | Buff-rumped Warbler         | OBS33746     | Resident         | S1, S2, S3 | 2, 3    |
| <i>Parkesia noveboracensis</i> (Gmelin, 1789)             | Northern Waterthrush        | OBS069526    | Migrant          | S1         | 1, 2, 3 |
| <i>Setophaga castanea</i> (A. Wilson, 1810)               | Bay-breasted Warbler        | OBS072739    | Migrant          | S1, S2, S3 | 2, 3    |
| <i>Setophaga cerulea</i> (A. Wilson, 1810)                | Cerulean Warbler            | OBS072090    | Migrant          | S2, S3     | 2, 3    |
| <i>Setophaga fusca</i> (Statius Müller, 1776)             | Blackburnian Warbler        | OBS072150    | Migrant          | S3         | 1, 2, 3 |
| <i>Setophaga pensylvanica</i> (Linnaeus, 1766) **         | Chestnut-sided Warbler      |              | Migrant          | S3         | 1       |
| <i>Setophaga petechia</i> (Linnaeus, 1766)                | Mangrove Warbler            | OBS071649    | Migrant          | S1, S2     | 2, 3    |
| <i>Setophaga pitiayumi</i> (Vieillot, 1817)               | Tropical Parula             | OBS071468    | Resident         | S3         | 2, 3    |
| <i>Setophaga ruticilla</i> (Linnaeus, 1758)               | American Redstart           | OBS070018    | Migrant          | S2, S3     | 2, 3    |
| <i>Vermivora chrysoptera</i> (Linnaeus, 1766)             | Golden-winged Warbler       | OBS071405    | Migrant          | S3         | 2, 3    |
| Cardinalidae Ridgway, 1901                                |                             |              |                  |            |         |
| <i>Cyanoloxia cyanoides</i> (Lafresnaye, 1847)            | Blue-black Grosbeak         | OBS32759     | Resident         | S1, S2, S3 | 2, 3    |
| <i>Habia gutturalis</i> (P.L. Sclater, 1854)              | Sooty Ant-Tanager           | OBS32841     | Resident         | S1, S2     | 2, 3    |
| <i>Pheucticus ludovicianus</i> (Linnaeus, 1766)           | Rose-breasted Grosbeak      | Photography  | Migrant          | S2, S3     | 1, 3    |
| <i>Piranga olivacea</i> (Gmelin, 1789)                    | Scarlet Tanager             | Photography  | Migrant          | S2         | 1, 2, 3 |

| Taxon                                                      | English name                | Voucher      | Migratory status | Sites      | Source  |
|------------------------------------------------------------|-----------------------------|--------------|------------------|------------|---------|
| <i>Piranga rubra</i> (Linnaeus, 1758)                      | Summer Tanager              | Photography  | Migrant          | S1, S2, S3 | 1, 2, 3 |
| Thraupidae Bent (1965)                                     |                             |              |                  |            |         |
| <i>Asemospiza obscura</i> (d'Orbigny & Lafresnaye, 1837)   | Dull-colored Grassquit      | OB5574895632 | Resident         | S3         | 2, 3    |
| <i>Chlorophanes spiza</i> (Linnaeus, 1758)                 | Green Honeycreeper          | OB5328144    | Resident         | S2, S3     | 1, 2, 3 |
| <i>Coereba flaveola</i> (Linnaeus, 1758)                   | Bananaquit                  | OB5379909    | Resident         | S1, S2     | 1, 2, 3 |
| <i>Conirostrum albigrons</i> Lafresnaye, 1842              | Capped Conebill             | OB5488285938 | Resident         | S3         | 3       |
| <i>Conirostrum leucogenys</i> (Lafresnaye, 1852)           | White-eared Conebill        | OB5410969248 | Resident         | S1         | 3       |
| <i>Cyanerpes caeruleus</i> (Linnaeus, 1758)                | Purple Honeycreeper         | OB5379634    | Resident         | S2, S3     | 1, 2, 3 |
| <i>Dacnis cayana</i> (Linnaeus, 1766)                      | Blue Dacnis                 | OB533753     | Resident         | S2, S3     | 1, 2, 3 |
| <i>Dacnis hartlaubi</i> P.L. Sclater, 1855                 | Turquoise Dacnis            | OB533318     | Resident         | S3         | 2, 3    |
| <i>Dacnis lineata</i> (Gmelin, 1789)                       | Black-faced Dacnis          | OB533759     | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Eucometis penicillata</i> (Spix, 1825)                  | Gray-headed Tanager         | OB533754     | Resident         | S1, S2     | 2, 3    |
| <i>Haplospiza rustica</i> (Tschudi, 1844)                  | Slaty Finch                 | OB534285     | Resident         | S3         | 3       |
| <i>Hemithraupis flavicollis</i> (Vieillot, 1818)           | Yellow-backed Tanager       | OB5284043    | Resident         | S2, S3     | 1, 2, 3 |
| <i>Hemithraupis guira</i> (Linnaeus, 1766)                 | Guira Tanager               | OB5102595738 | Resident         | S2, S3     | 3       |
| <i>Heterospingus xanthopygius</i> (P.L. Sclater, 1855)     | Scarlet-browed Tanager      | OB5510107525 | Resident         | S2         | 3       |
| <i>Ixothraupis guttata</i> (Cabanis, 1851)                 | Speckled Tanager            | OB532990     | Resident         | S3         | 2, 3    |
| <i>Loriotus luctuosus</i> (d'Orbigny & Lafresnaye, 1837)   | White-shouldered Tanager    | OB533839     | Resident         | S2, S3     | 2, 3    |
| <i>Ramphocelus carbo</i> (Pallas, 1764)                    | Silver-beaked Tanager       |              | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Ramphocelus dimidiatus</i> Lafresnaye, 1837             | Crimson-backed Tanager      | OB534152     | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Ramphocelus flammigerus</i> (Jardine & Selby, 1833)     | Flame-rumped Tanager        | OB5688777138 | Resident         | S2, S3     | 2, 3    |
| <i>Saltator coerulescens</i> Vieillot, 1817                | Grayish Saltator            | OB527034     | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Saltator grossus</i> (Linnaeus, 1766)                   | Slate-colored Grosbeak      | OB5207822    | Resident         | S2, S3     | 2, 3    |
| <i>Saltator maximus</i> (Statius Müller, 1776)             | Buff-throated Saltator      | OB534153     | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Saltator striatipictus</i> Lafresnaye, 1847             | Streaked Saltator           | OB5400355500 | Resident         | S3         | 3       |
| <i>Saltator atripennis</i> P.L. Sclater, 1857              | Black-winged Saltator       | OB5133886    | Resident         | S3         | 2, 3    |
| <i>Schistochlamys melanopsis</i> (Latham, 1790)            | Black-faced Tanager         | OB5382259    | Resident         | S1         | 2, 3    |
| <i>Sicalis flaveola</i> (Linnaeus, 1766)                   | Saffron Finch               | OB5211842    | Resident         | S1, S2     | 1, 2, 3 |
| <i>Sporophila angolensis</i> (Linnaeus, 1766)              | Chestnut-bellied Seed-Finch | OB5350222090 | Resident         | S1, S2, S3 | 2, 3    |
| <i>Sporophila crassirostris</i> (Gmelin, 1789) **          | Large-billed Seed-Finch     | OB543379     | Resident         | S1         | 1       |
| <i>Sporophila funerea</i> (P.L. Sclater, 1860)             | Thick-billed Seed-Finch     | OB533012     | Resident         | S3         | 1, 2, 3 |
| <i>Sporophila intermedia</i> Cabanis, 1851                 | Gray Seedeater              | OB5410969352 | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Sporophila lineola</i> (Linnaeus, 1758)                 | Lined Seedeater             | OB5211707    | Resident         | S1         | 2, 3    |
| <i>Sporophila minuta</i> (Linnaeus, 1758)                  | Ruddy-breasted Seedeater    | OB544748     | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Sporophila nigracollis</i> (Vieillot, 1823)             | Yellow-bellied Seedeater    | OB5377296    | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Stelpnia cyanicollis</i> (d'Orbigny & Lafresnaye, 1837) | Blue-necked Tanager         | OB557887144  | Resident         | S2, S3     | 1, 2, 3 |
| <i>Stelpnia larvata</i> (Du Bus de Gisignies, 1846)        | Golden-hooded Tanager       | OB5180268043 | Resident         | S1, S2     | 1, 2, 3 |
| <i>Stelpnia vitriolina</i> (Cabanis, 1851)                 | Scrub Tanager               | OB5561129863 | Resident         | S3         | 2, 3    |
| <i>Tachyphonus rufus</i> (Boddaert, 1783)                  | White-lined Tanager         | OB5146750    | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Tangara arthus</i> R. Lesson, 1832                      | Golden Tanager              | OB532994     | Resident         | S3         | 2, 3    |
| <i>Tangara gyrola</i> (Linnaeus, 1758)                     | Bay-headed Tanager          | OB5382321    | Resident         | S2, S3     | 1, 2, 3 |
| <i>Tangara inornata</i> (Gould, 1855)                      | Plain-colored Tanager       | OB534136     | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Tersina viridis</i> (Illiger, 1811)                     | Swallow Tanager             | OB533008     | Resident         | S2         | 2, 3    |
| <i>Thraupis episcopus</i> (Linnaeus, 1766)                 | Blue-gray Tanager           | OB5233835    | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Thraupis palmarum</i> (Wied-Neuwied, 1821)              | Palm Tanager                | OB5152013    | Resident         | S1, S2, S3 | 1, 2, 3 |
| <i>Volatinia jacarina</i> (Linnaeus, 1766)                 | Blue-black Grassquit        | OB5378013    | Resident         | S1, S2, S3 | 2, 3    |

\*\* New records for the Serranía de Las Quinchas.



**Figure 2.** Number of species per altitudinal band in an altitudinal gradient of the Las Quinchas mountain range, Magdalena medio, Colombia.

*noveboracensis* (Gmelin, 1789), *Setophaga fusca* (Statius Müller, 1776), *Setophaga pensylvanica* (Linnaeus, 1766), *Catharus ustulatus* (Nuttall, 1840), and *Egretta caerulea* (Linnaeus, 1758). Two migratory Austral species were also found: *Myiodynastes maculatus* (Statius Müller, 1776) and *Tyrannus savana* (Daudin, 1802).

Below, we describe some aspects of the distribution and biological observations of some species recorded in the Serranía de Las Quinchas.

Class Aves  
Order Galliformes  
Family Cracidae

Genus *Crax* Linnaeus, 1758

***Crax alberti* (Fraser, 1852)**

Figure 3A

**Observations.** COLOMBIA • 5 ♀, 2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón; 06° 03'06"N, 074°16'56"W; 100 m a.s.l.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; forest; observed individual. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074° 18'22"W; 650 m a.s.l.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; forest; observed individual.

**Identification.** We identified this species by its blue bill for the males and pale bill for the females along with yellow legs. Additionally, all the plumage of the dorsum is

black; the ventrum of the male is white and that of the female brown.

Genus *Ortalis* Merrem, 1786

***Ortalis columbiana* Hellmayr, 1906**

Figure 3B

**Observations.** COLOMBIA • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón; 06°03'06"N, 074°16'56"W; 100 m a.s.l.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest; observed individual.

**Identification.** We identified this species by its pale-yellow bill with a dark tip, yellow legs, the plumage of the



**Figure 3.** A. *Crax alberti*; dorsal length 92.5 cm. B. *Ortalis columbiana*; dorsal length 53 cm. C. *Tachybaptus dominicus*; dorsal length 25 cm. D. *Columbina talpacoti*; dorsal length 16 cm. E. *Leptotila cassini*; dorsal length 25 cm. F. *Patagioenas cayennensis*; dorsal length 26.5 cm. G. *Patagioenas plumbea*; dorsal length 34 cm. H. *Zenaida auriculata*; dorsal length 25 cm. I. *Crotophaga ani*; dorsal length 35 cm. Photography: J.S. García.

entire body dark brown, and a small red hanging gular patch.

Order Podicipediformes

Family Podicipedidae

Genus *Tachybaptus* Reichenbach, 1853

***Tachybaptus dominicus* (Linnaeus, 1766)**

Figure 3C

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its slim black bill and orange yellow eyes, slate gray head and neck.

Order Columbiformes

Family Columbidae

Genus *Columbina* Spix, 1825

***Columbina talpacoti* (Temminck, 1810)**

Figure 3D

**Observations.** COLOMBIA • 3 ♀♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species as being cinnamon brown with a light gray crown in the sun. Additionally, some black spots are on the wing coverts.

Genus *Leptotila* Swainson, 1837

***Leptotila cassinii* (Lawrence, 1867)**

Figure 3E

**Observations.** COLOMBIA • 5 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its characteristic brown stripe between the beak and the eyes. In addition, it is grayish brown throughout the body, with a yellowish collar and a pale beak.

Genus *Patagioenas* Reichenbach, 1852

***Patagioenas cayennensis* (Bonnaterre, 1792)**

Figure 3F

**Observations.** COLOMBIA • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E.

Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its greater size in relation to other pigeons. It has a black beak, red eyes, reddish-brown body feathers, and a gray head and nape.

***Patagioenas plumbea* (Vieillot, 1818)**

Figure 3G

**Observations.** COLOMBIA • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by its yellow colored eyes and opaque, dark-brown coloration of its dorsum.

Genus *Zenaida* Bonaparte, 1838

***Zenaida auriculata* (Des Murs, 1847)**

Figure 3H

**Observations.** COLOMBIA • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by the brownish olive hue on the dorsum and conspicuous black dots on the wing coverts. Additionally, the center of the crown is gray-blue, and there are one black marks on each sides of the head.

Order Cuculiformes

Family Cuculidae

Genus *Crotophaga* Linnaeus, 1758

***Crotophaga ani* (Linnaeus, 1758)**

Figure 3I

**Observations.** COLOMBIA • 6 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by a laterally compressed, arched black bill with a prominent notch on the upper jaw. Additionally, it has opaque black plumage and a long tail.

***Crotophaga major* (Gmelin, 1788)**

Figure 4A

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species because it is the largest of the genus and has prominent green eyes, a compressed black beak with an arched part on the basal

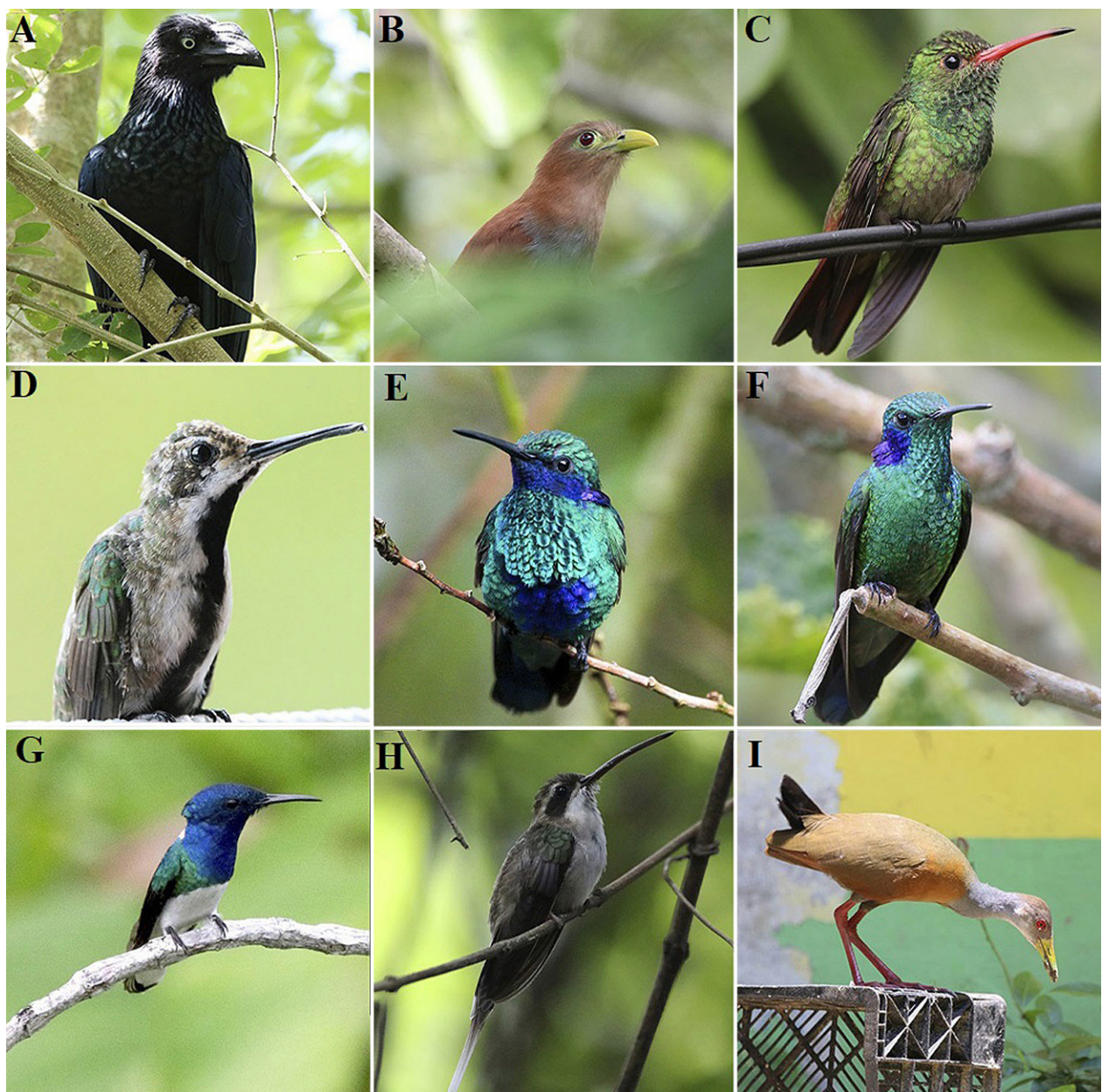
portion. Additionally, it has a glossy blue-black body and greenish wings and purple on the tail.

Genus *Piaya* Lesson, 1830

***Piaya cayana* (Linnaeus, 1766)**

Figure 4B

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr.



**Figure 4.** A. *Crotophaga major*; dorsal length 46 cm. B. *Piaya cayana*; dorsal length 46 cm. C. *Amazilia tzacatl*; dorsal length 9 cm. D. *Anthracothonax nigricollis*; dorsal length 10.2 cm. E. *Colibri coruscans*; dorsal length 13 cm. F. *Colibri cyanotus*; dorsal length 12 cm. G. *Florisuga mellivora*; dorsal length 10.5 cm. H. *Phaethornis anthophilus*; dorsal length 12.2 cm. I. *Aramides cajaneus*; dorsal length 38 cm. Photography: J.S. García.

2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by its pale greenish-yellow beak and bare orbital skin, red eyes, long, rufous-red tail, chestnut-colored back, and gray stripes on the throat and upper chest.

Order Apodiformes

Family Trochilidae

Genus *Amazilia* Lesson, 1843

***Amazilia tzacatl* (de la Llave, 1833)**

Figure 4C

**Observations.** COLOMBIA • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by its pink lower jaw, beak with a black tip, distinctive rufous-chestnut-color of its tail, and iridescent green throat and chest.

Genus *Anthracothorax* F. Boie, 1831

***Anthracothorax nigricollis* (Vieillot, 1817)**

Figure 4D

**Observations.** COLOMBIA • 2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by the conspicuous stripe of black feathers on the chest, surrounded by white feathers, the heart-shaped tail with the terminations of the feathers white, and the brown edges of the wings.

Genus *Colibri* Spix, 1824

***Colibri coruscans* (Gould, 1846)**

Figure 4E

**Observations.** COLOMBIA • 5 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its distinctive violet stripe on the abdomen, in addition to its robust, long, and almost straight bill. Also, the body is bright green with a narrow iridescent blue violet patch from below the beak to behind the cheek.

***Colibri cyanotus* (Bourcier, 1843)**

Figure 4F

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 3 (no sexual dimorphism);

Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 04 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species from others of the genus, by its green color with slightly iridescent throat and chest and an elongated violet iridescent cheek.

Genus *Florisuga* Bonaparte, 1850

***Florisuga mellivora* (Linnaeus, 1758)**

Figure 4G

**Observations.** COLOMBIA • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by the presence of a pattern of distinctive colors throughout its body, where the head, throat and chest are blue; the nape has a white crescent, the back is bright green and the abdomen and tail are white.

Genus *Phaethornis* Swainson, 1827

***Phaethornis anthophilus* (Bourcier, 1843)**

Figure 4H

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by the presence of a slightly curved beak and a yellow lower jaw. Also, it has a dark crown, the center of its throat is mottled, and the ventrum is gray with an immaculate white belly.

Order Gruiformes

Family Rallidae

Genus *Aramides* Pucheran, 1845

***Aramides cajaneus* (Statius Müller, 1776)**

Figure 4I

**Observations.** COLOMBIA • 1 (no sexual dimorphism);

Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by the bare eye ring, its red legs, gray neck, and moderately large bill, which is yellowish at the base and greenish at the tip.

Genus *Porphyrio* Brisson, 1760

*Porphyrio martinicus* (Linnaeus, 1766)

Figure 5A

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its bluish-purple head and neck, the bronze-green wings, and the white infracaudal feathers.

Order Charadriiformes

Family Charadriidae

Genus *Vanellus* Brisson, 1760

*Vanellus chilensis* (Molina, 1782)

Figure 5B

**Observations.** COLOMBIA • 2 (no sexual dimorphism);



**Figure 5.** A. *Porphyrio martinicus*; dorsal length 33 cm. B. *Vanellus chilensis*; dorsal length 35 cm. C. *Tringa solitaria*; dorsal length 20 cm. D. *Jacana jacana*; dorsal length 22 cm. E. *Bubulcus ibis*; dorsal length 54 cm. F. *Ardea cocoi*; dorsal length 130 cm. G. *Ardea alba*; dorsal length 102 cm. H. *Butorides striata*; dorsal length 42 cm. I. *Egretta caerulea*; dorsal length 55 cm. Photography: J.S. García.

Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its pink beak with a black tip. Also, it has a brownish gray color dorsum with greenish shoulders and a long and sharp crest; the chest is black with a white belly.

Family Scolopacidae

Genus *Tringa* Linnaeus, 1758

***Tringa solitaria* (A. Wilson, 1813)**

Figure 5C

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its finely striated, dark-olive dorsum with a pattern of white dots, unlike the bars present in other species of the genus.

Family Jacanidae

Genus *Jacana* Brisson, 1760

***Jacana jacana* (Linnaeus, 1766)**

Figure 5D

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species mainly by its yellow beak, a bilobed red frontal shield, in addition to having long legs and toes.

Order Pelecaniformes

Family Ardeidae

Genus *Bubulcus* Bonaparte, 1855

***Bubulcus ibis* (Linnaeus, 1758)**

Figure 5E

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by small size, white heron with a thick neck, yellow bill, and greenish legs; there are small opaque yellow patches on the chest and top of the head.

Genus *Ardea* Linnaeus, 1758

***Ardea cocoi* (Linnaeus, 1766)**

Figure 5F

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its black crown and sides of the head, the presence of nuptial, occipital, and elongated feathers with white tips, the upper part of the chest and the neck white, and the lower part of the chest and the belly black.

***Ardea alba* (Linnaeus, 1758)**

Figure 5G

**Observations.** COLOMBIA • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its characteristic slender shape, long neck, dull yellow bill, white in the head, throat and occipital area, and black crown sides.

Genus *Butorides* Blyth, 1852

***Butorides striata* (Linnaeus, 1758)**

Figure 5H

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its gray sides of the head, neck, and chest and by the white line which extends from the throat to the chest.

Genus *Egretta* T. Forster, 1817

***Egretta caerulea* (Linnaeus, 1758)**

Figure 5I

**Observations.** COLOMBIA • 1 (no sexual dimorphism);

Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

Newly recorded from Serranía de Las Quinchas.

**Identification.** We identified this species by its gray-blue bill, greenish legs, and dark, slate-blue body with an intense reddish-brown head and neck.

***Egretta thula* (Molina, 1782)**

Figure 6A

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its completely white body with black legs and beak; the toes and lores are yellow.

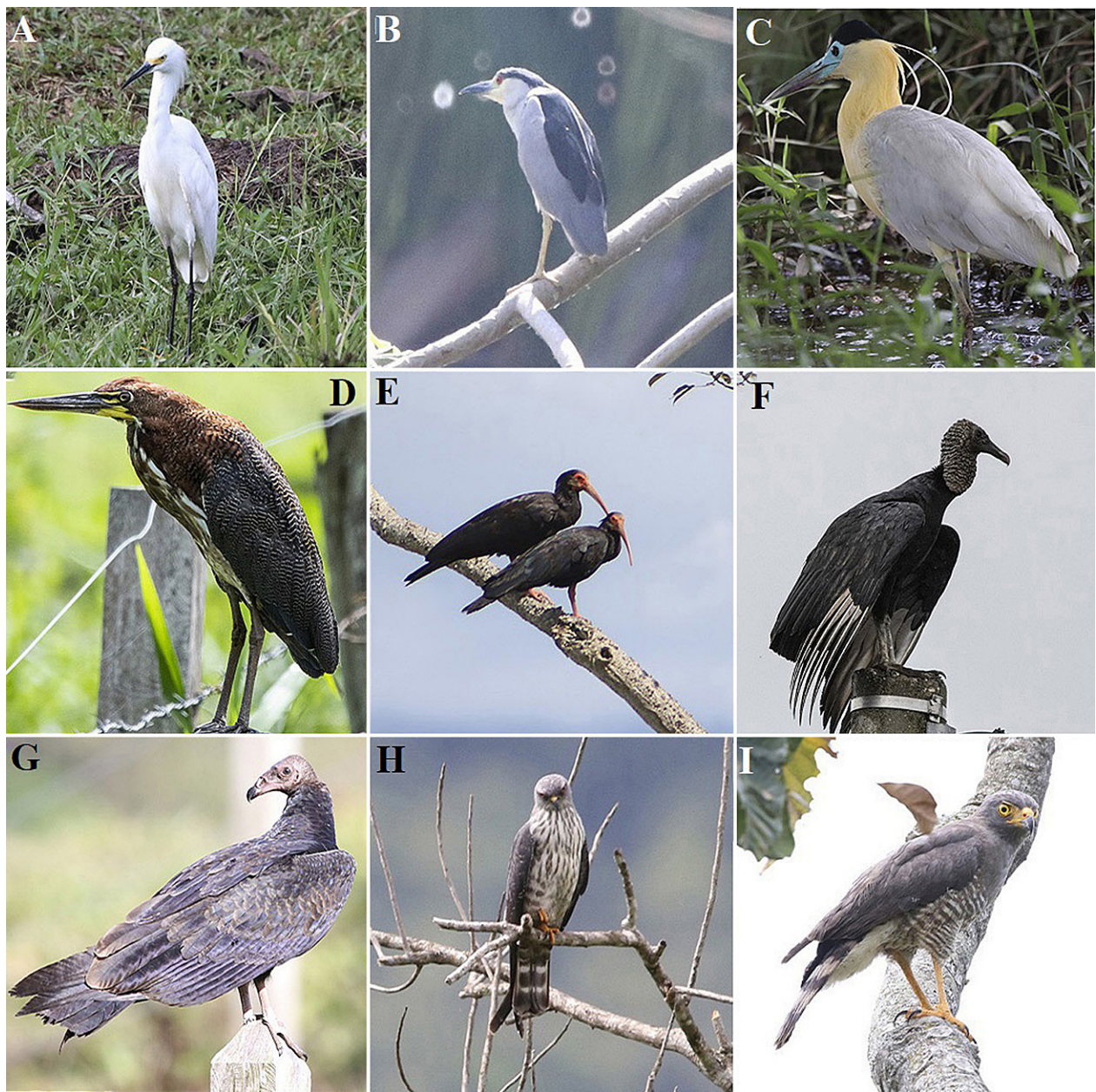
Genus *Nycticorax* T. Forster, 1817

***Nycticorax nycticorax* (Linnaeus, 1758)**

Figure 6B

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its robust body, short neck, large black bill, greenish yellow legs, shiny black crown and back and whitish underparts.



**Figure 6.** A. *Egretta thula*; dorsal length 47.5 cm. B. *Nycticorax nycticorax*; dorsal length 68 cm. C. *Ptilerodius pileatus*; dorsal length 59 cm. D. *Tigrisoma lineatum*; dorsal length 70 cm. E. *Phimosus infuscatus*; dorsal length 50 cm. F. *Coragyps atratus*; dorsal length 60 cm. G. *Cathartes aura*; dorsal length 70 cm. H. *Ictinia plumbea*; dorsal length 36 cm. I. *Rupornis magnirostris*; dorsal length 35 cm. Photography: J.S. García.

Genus *Pilherodius* Reichenbach, 1853

***Pilherodius pileatus* (Boddaert, 1783)**

Figure 6C

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified the species by its cobalt-blue bare face, gray-blue bill, gray legs, black crown, white forehead, and the remaining body completely white.

Genus *Tigrisoma* Swainson, 1827

***Tigrisoma lineatum* (Boddaert, 1783)**

Figure 6D

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its long and thick neck and stout black bill with a yellowish base; legs are dull green; head, neck, and chest are deep reddish brown; there are white stripes on neck; the rest of the lower parts are buff brown.

Family Threskiornithidae

Genus *Phimosus* Wagler, 1832

***Phimosus infuscatus* (M.H.C. Lichtenstein, 1823)**

Figure 6E

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its pinkish or reddish-brown curved beak, bare facial skin, and pinkish red legs; plumage is entirely black-greenish bronze.

Order Cathartiformes

Family Cathartidae

Genus *Coragyps* Le Maout, 1853

***Coragyps atratus* (Bechstein, 1793)**

Figure 6F

**Observations.** COLOMBIA • 6 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 5 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 3 (no sexual dimorphism);

Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We distinguished this species by its bare black-gray head.

Genus *Cathartes* Illiger, 1811

***Cathartes aura* (Linnaeus, 1758)**

Figure 6G

**Observations.** COLOMBIA • 6 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species with its rather distinctly naked red head; the rest of the body feathers are black.

Order Accipitriformes

Family Accipitridae

Genus *Ictinia* Vieillot, 1816

***Ictinia plumbea* (Gmelin, 1788)**

Figure 6H

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this eagle from the other members of the family by its sharp and remarkably long wings. Its tail is square and has two white bands below. The eyes are red and the body is slate-gray.

***Rupornis magnirostris* (Gmelin, 1788)**

Figure 6I

**Observations.** COLOMBIA • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its proportionally longer tail and shorter wings than other *Rupornis* species, yellow eyes, and mainly for details of its coloration, such as the brownish-gray upper parts, throat, and

chest, and the high density of cinnamon and white bars on the ventral parts.

Order Trogoniformes

Family Trogonidae

Genus *Trogon* Brisson, 1760

***Trogon chionurus* (Sclater & Salvin, 1871)**

Figure 7A

**Observations.** COLOMBIA • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03' 06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. Newly recorded from Serranía de Las Quinchas.

**Identification.** We identified this species by its grayish

beak, blue eye ring, blue on the upper parts and the back to the tail; the neck tends to be darker than the rest of the body; the lower chest is yellow; there is white at the base of the dorsal tail.

Order Coraciiformes

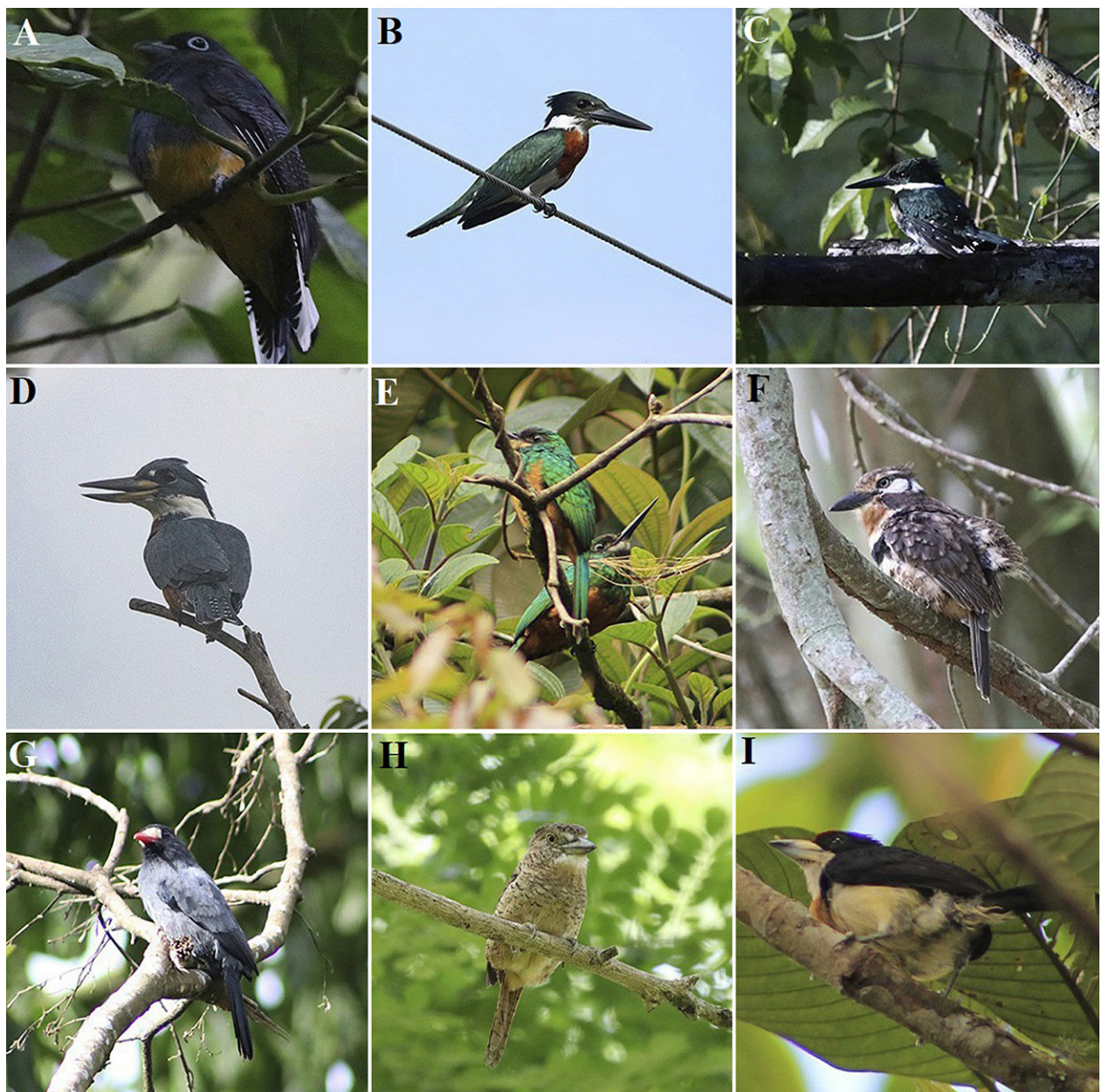
Family Alcedinidae

Genus *Chloroceryle* Kaup, 1848

***Chloroceryle amazona* (Latham, 1790)**

Figure 7B

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E.



**Figure 7.** A. *Trogon chionurus*; dorsal length 28 cm. B. *Chloroceryle amazona*; dorsal length 30 cm. C. *Chloroceryle americana*; dorsal length 20 cm. D. *Megaceryle torquata*; dorsal length 40 cm. E. *Galbula ruficauda*; dorsal length 28 cm. F. *Hypnelus ruficollis*; dorsal length 22 cm. G. *Monasa morphoeus*; dorsal length 29 cm. H. *Nystalus radiatus*; dorsal length 22 cm. I. *Capito hypoleucus*; dorsal length 19 cm. Photography: J.S. García

Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by being the largest. In addition, it has a bright dark green hue and a white neck collar.

***Chloroceryle americana* (Gmelin, 1788)**

Figure 7C

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species as having a brilliant dark-green dorsum with a narrow, incomplete white collar and several rows of white points on the wingtips.

***Megaceryle torquata* (Linnaeus, 1766)**

Figure 7D

**Observations.** COLOMBIA • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species as having a larger size than other species of the family and a brilliant green dorsum with a narrow incomplete brown collar male and white in females.

Order Galbuliformes

Family Galbulidae

Genus *Galbula* Brisson, 1760

***Galbula ruficauda* Cuvier, 1816**

Figure 7E

**Observations.** COLOMBIA • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by its very long black bill, along with a coppery metallic green dorsum, face, and wings.

Family Bucconidae

Genus *Hypnelus* Cabanis & Heine, 1863

***Hypnelus ruficollis* (Wagler, 1829)**

Figure 7F

**Observations.** COLOMBIA • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.;

05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by the dark-brown head with rufous spots on the nostrils and white and rufous in front of the eyes. Additionally, there is a whitish patch on the forehead and cheeks.

Genus *Monasa* Vieillot, 1816

***Monasa morphoeus* (Hahn & Küster, 1823)**

Figure 7G

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species as having primarily a slender, curved, orange-red bill, a greyish-black body, and blackish legs.

Genus *Nystalus* Cabanis & Heine, 1863

***Nystalus radiatus* (P.L. Sclater, 1854)**

Figure 7H

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its greenish-yellow to blackish bill, with creamy yellow irises and greenish-gray legs. Additionally, the body is rufous with black bars.

Order Piciformes

Family Capitonidae

Genus *Capito* Vieillot, 1816

***Capito hypoleucus* (Salvin, 1897)**

Figure 7I

**Observations.** COLOMBIA • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest. • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest. • 5 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by its yellowish-white bill with bluish bevels at the apex, scarlet

forehead, occiput and mantle mixed black and white but sometimes yellow, sides of head and rest of the upper parts black-blue, throat and upper chest white, with a diffuse pectoral band.

Family Ramphastidae

Genus *Pteroglossus* Illiger, 1811

***Pteroglossus torquatus* (Gmelin, 1788)**

Figure 8A

**Observations.** COLOMBIA • 6 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 3 (no sexual dimorphism);

Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by the pale-yellow upper jaw; culmen, apex and lower mandible black; base of beak outlined in white; bare, red eye area; opaque, greenish-black dorsum with red rump; and head and throat black. The body is yellow crossed with red lines.

Genus *Ramphastos* Linnaeus, 1758



**Figure 8.** A. *Pteroglossus torquatus*; dorsal length 48 cm. B. *Ramphastos vitellinus*; dorsal length 55 cm. C. *Ramphastos ambiguus*; dorsal length 55 cm. D. *Campephilus melanoleucos*; dorsal length 37 cm. E. *Celeus loricatus*; dorsal length 23 cm. F. *Dryocopus lineatus*; dorsal length 36 cm. G. *Melanerpes pulcher*; dorsal length 18 cm. H. *Melanerpes rubricapillus*; dorsal length 20.5 cm. I. *Veniliornis kirkii*; dorsal length 16 cm. Photography: J.S. García.

***Ramphastos vitellinus* (M.H.C. Lichtenstein, 1823)**

Figure 8B

**Observations.** COLOMBIA • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by its black bill with the base of the upper jaw and pale yellow peak; the base of the lower jaw is light blue; body mainly black, with orange or red rump; throat and chest white with yellow highlights; pale-blue, bare area around eye.

***Ramphastos ambiguus* (Swainson, 1823)**

Figure 8C

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

Newly recorded from Serranía de Las Quinchas.

**Identification.** We identified this species by its bicolor beak, black lower mandible and large wedge at the base of the upper mandible black and the rest of the beak is yellow; the ocular area is bare yellowish green or blue; black body with white rump and yellow throat.

Family Picidae

Genus *Campephilus* Gray, GR, 1840

***Campephilus melanoleucos* (Gmelin, 1788)**

Figure 8D

**Observations.** COLOMBIA • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its large size and black bill; the entire head is bright red, and the dorsum of the body is black with white lines on the sides and extending to the sides of the back and converging to form a V; throat black; the belly is black barred. This species is sexually dimorphic; the male has a full red face with a small white patch with a black cheek, and the female has a white line from the base of the beak that joins that of the neck.

Genus *Celeus* F. Boie, 1831

***Celeus loricatus* (Reichenbach, 1854)**

Figure 8E

**Observations.** COLOMBIA • 1 ♀2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by its short crest on the occiput, with full head and upper parts shiny rufous cinnamon with fringes and black bars. This species is sexual dimorphic, with the males having red on the upper throat.

Genus *Dryocopus* F. Boie, 1826

***Dryocopus lineatus* (Linnaeus, 1766)**

Figure 8F

**Observations.** COLOMBIA • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by its prominent crown and crest and crimson mustache, two white lines on the sides of the dorsum that do not meet; a narrow white line extends from the beak, passing under the eye, along the sides of the neck; black throat and belly finely striated black and white.

Genus *Melanerpes* Swainson, 1832

***Melanerpes pulcher* (P.L. Sclater, 1870)**

Figure 8G

**Observations.** COLOMBIA • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by the presence of a mask with a yellow forehead; red crown; golden yellow occiput; upper parts black, broad white line on the back and white rump; white dotted wings; throat and chest dark suede; under the breast and flanks barred black and white barred; center of the belly red.

***Melanerpes rubicapillus* (Cabanis, 1862)**

Figure 8H

**Observations.** COLOMBIA • 2 ♀2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06° 03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its yellowish white forehead, red crown, and occiput; rest of upper parts black and white barred, white rump; sides of head to above eyes and ventral gray striped, center of belly red.

Genus *Veniliornis* Bonaparte, 1854

***Veniliornis kirkii* (Malherbe, 1845)**

Figure 8I

**Observations.** COLOMBIA • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06° 03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♀; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05° 48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its small size, red crown mixed with black, narrow yellow neck collar; rest of upper parts brownish olive with bright red rump; sides of head grayish brown; evenly barred undersides of light yellow and brown.

Order Falconiformes

Family Falconidae

Genus *Caracara* Merrem, 1826

***Caracara cheriway* (von Jacquin, 1784)**

Figure 9A

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species as having a red orange bill and face, the tip of the bill is silver and large yellow legs. In addition, it has a black crest and hood, with a cream white collar and the rest of the body blackish-brown.

Genus *Falco* Linnaeus, 1758

***Falco rufigularis* Daudin, 1800**

Figure 9B

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its white collar and a small white band on the upper part of the orange chest and the rest of the chest bluish with fairly defined horizontal white bars.

***Falco sparverius* Linnaeus, 1758**

Figure 9C

**Observations.** COLOMBIA • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its rufous color on the back with a slate blue crown, a black neck collar and back, and rufous scapulars with black stripes.

Genus *Herpetotheres* Vieillot, 1817

***Herpetotheres cachinnans* (Linnaeus, 1758)**

Figure 9D

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species as having an arched and horizontally compressed black bill and a yellow stripe in the center of its head.

Genus *Milvago* Spix, 1824

***Milvago chimachima* (Vieillot, 1816)**

Figure 9E

**Observations.** COLOMBIA • 6 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E.



**Figure 9.** **A.** *Caracara cheriway*; dorsal length 50 cm. **B.** *Falco rufigularis*; dorsal length 26 cm. **C.** *Falco sparverius*; dorsal length 28 cm. **D.** *Herpetotheres cachinnans*; dorsal length 53 cm. **E.** *Milvago chimachima*; dorsal length 45 cm. **F.** *Brotogeris jugularis*; dorsal length 18 cm. **G.** *Amazona amazonica*; dorsal length 34 cm. **H.** *Ara severus*; dorsal length 46 cm. **I.** *Forpus conspicillatus*; dorsal length 13 cm. Photography: J.S. García.

Morales-González obs.; edge forest. • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its pale blue bill, the periocular area and the face are yellow, the legs are greenish, and the eyes are reddish brown.

Order Psittaciformes  
Family Psittacidae

Genus *Brotogeris* Vigors, 1825

***Brotogeris jugularis* (Statius Müller, 1776)**

Figure 9F

**Observations.** COLOMBIA • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 6 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019;

J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by a short and sharply pointed tail; opaque yellowish bill, body mainly green with small orange stain on chin and extensive orange patch on the shoulder.

Genus *Amazona* Lesson, 1830

***Amazona amazonica* (Linnaeus, 1766)**

Figure 9G

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its pale-yellow bill with a black tip; the body is mainly green with a yellow central crown and yellow cheeks, separated by forehead and blue lores; primary feathers with blue black apex and red orange wing speculum (visible in flight).

Genus *Ara* Lacépède, 1799

***Ara severus* (Linnaeus, 1758)**

Figure 9H

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by its average size; long and sharply pointed tail; black bill, body mainly green, blue-tinted crown and narrow and inconspicuous brown forehead, nude white face, blue primary feathers.

Genus *Forpus* F. Boie, 1858

***Forpus conspicillatus* (Lafresnaye, 1848)**

Figure 9I

**Observations.** COLOMBIA • 2 ♀2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 3 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 2 ♀5 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its short pale-yellow bill; blue region around the eyes; upper and lower wing coverts and rump violet blue; lower surface of the flight feathers bluish-green.

Genus *Pionus* Wagler, 1832

***Pionus menstruus* (Linnaeus, 1766)**

Figure 10A

**Observations.** COLOMBIA • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its pale-yellow bill with a pink base, whitish naked area around the eye; blue head, neck, and chest; red on the front of the neck; black cheeks; mainly green body; ventral of tail red.

Genus *Pyrilia* Bonaparte, 1856

***Pyrilia pyrrhula* (Bonaparte, 1853)**

Figure 10B

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by its pale-yellow bill; white naked eye ring, bordered with black; yellow head, neck and shoulders; body mainly green with olive green chest.

Order Passeriformes

Family Thamnophilidae

Genus *Formicivora* Swainson, 1824

***Formicivora grisea* (Boddaert, 1783)**

Figure 10C

**Observations.** COLOMBIA • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.



**Figure 10.** **A.** *Pionus menstruus*; dorsal length 26 cm. **B.** *Pyrilia pyrilia*; dorsal length 24 cm. **C.** *Formicivora grisea*; dorsal length 13 cm. **D.** *Gymnocichla nudiceps*; dorsal length 16 cm. **E.** *Myrmotherula pacifica*; dorsal length 10 cm. **F.** *Thamnophilus doliatus*; dorsal length 16 cm. **G.** *Certhiaxis cinnamomeus*; dorsal length 15 cm. **H.** *Dendroplex picus*; dorsal length 22 cm. **I.** *Lepidocolaptes souleyetii*; dorsal length 22 cm. Photography: J.S. García.

**Identification.** We identified this species by its distinctive coloration, brownish gray back, black wings with a white bar, and shoulders with white dots and a blackish, rounded tail with broad white tips.

Genus *Gymnocichla* P.L. Sclater, 1858

***Gymnocichla nudiceps* (Cassin, 1850)**

Figure 10D

**Observations.** COLOMBIA • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 ♀ 1 ♂; Boyacá, Otanche, Serranía

de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this bird by its black body color and the bright blue naked eye ring.

Genus *Myrmotherula* P.L. Sclater, 1858

***Myrmotherula pacifica* (Hellmayr, 1911)**

Figure 10E

**Observations.** COLOMBIA • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest.

Newly recorded from Serranía de Las Quinchas.

**Identification.** We distinguished this species by its black dorsal coloration with multiple white streaks and a white throat with black streaks.

Genus *Thamnophilus* Vieillot, 1816

***Thamnophilus doliatus* (Linnaeus, 1764)**

Figure 10F

**Observations.** COLOMBIA • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species, due to its sexual dimorphism, the male has a crest, a robust hook-shaped bill, yellow eyes, a black crown and a black body with thick white bars. The female has an orange-brown color on the body.

Family Furnariidae

Genus *Certhiaxis* Lesson, 1844

***Certhiaxis cinnamomeus* (Gmelin, 1788)**

Figure 10G

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its rufous cinnamon dorsum, grayish forehead and cheeks, white stripe over the eye, and yellow chin.

Genus *Dendroplex* Swainson, 1827

***Dendroplex picus* (Gmelin, 1788)**

Figure 10H

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this species for its straight bill, the rufous chestnut hue on the back and a blackish crown with elongated white dots, extending as stripes.

Genus *Lepidocolaptes* Reichenbach, 1853

***Lepidocolaptes souleyetii* (Des Murs, 1849)**

Figure 10I

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized it for its curved bill, the crown and nape of the neck blackish-brown, the abdomen with whitish stripes and the rump, the wings, and the tail colored rufous.

Family Pipridae

Genus *Manacus* Brisson, 1760

***Manacus manacus* (Linnaeus, 1766)**

Figure 11A

**Observations.** COLOMBIA • 1 ♀2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species from others of the genus by its orange legs, the black crown, the wide white neck collar and the black and white body.

Family Cotingidae

Genus *Querula* Vieillot, 1816

***Querula purpurata* (Statius Müller, 1776)**

Figure 11B

**Observations.** COLOMBIA • 3 ♀2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; forest. • 1 ♀; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by its purple feathers on the throat and the body is a brilliant black.



**Figure 11.** **A.** *Manacus manacus*; dorsal length 10.2 cm. **B.** *Querula purpurata*; dorsal length 30 cm. **C.** *Pachyramphus cinnamomeus*; dorsal length 14 cm. **D.** *Pachyramphus homochrous*; dorsal length 16 cm. **E.** *Tityra inquisitor*; dorsal length 18 cm. **F.** *Tityra semifasciata*; dorsal length 20 cm. **G.** *Aphanotriccus audax*; dorsal length 13.2 cm. **H.** *Colonia colonus*; dorsal length 25 cm. **I.** *Elaenia flavogaster*; dorsal length 17 cm. Photography: J.S. García.

#### Family Tityridae

Genus *Pachyramphus* Gould & G.R. Gray, 1840

#### *Pachyramphus cinnamomeus* (Lawrence, 1861)

Figure 11C

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye

sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this species by its tan-rufous color on the dorsum with different dark and whitish lobes on the feathers above the lores.

#### *Pachyramphus homochrous* (P.L. Sclater, 1859)

Figure 11D

**Observations.** COLOMBIA • 1 ♀ 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; forest. Newly recorded from Serranía de Las Quinchas.

**Identification.** We recognized this species by its tan-

rufous coloration, which is darker on the crown, wings, and tail.

Genus *Tityra* Vieillot, 1816

***Tityra inquisitor* (M.H.C. Lichtenstein, 1823)**

Figure 11E

**Observations.** COLOMBIA • 2 ♀2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this species by its blackish color of the head and white on the body with the black crown and face and white cheeks and tail white.

***Tityra semifasciata* (von Spix, 1825)**

Figure 11F

**Observations.** COLOMBIA • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified the species from distinctive features such as the broad orbital area, the red-pink bill with black tip, the black forehead and face, the dorsum pale pearl gray and the white ventrum.

Family Tyrannidae

Genus *Aphanotriccus* Ridgway, 1905

***Aphanotriccus audax* (Nelson, 1912)**

Figure 11G

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; forest.

Newly recorded from Serranía de Las Quinchas.

**Identification.** We identified this species by its short black bill, light-brown dorsum, white supraloral feathers, dark wings with two pale bars, whitish throat, and pale-yellow belly.

***Colonia colonus* (Vieillot, 1818)**

Figure 11H

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m

a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by the presence of a white crown white eyebrow, completely black body, and very long central tail feathers.

Genus *Elaenia* Sundevall, 1836

***Elaenia flavogaster* (Thunberg, 1822)**

Figure 11I

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by the presence of a thick and vertical conspicuous crest, a patch on the crown of white color; the back is brownish olive, with a slightly conspicuous whitish ring and dark wings with two whitish bars.

Genus *Fluvicola* Swainson, 1827

***Fluvicola pica* (Boddaert, 1783)**

Figure 12A

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

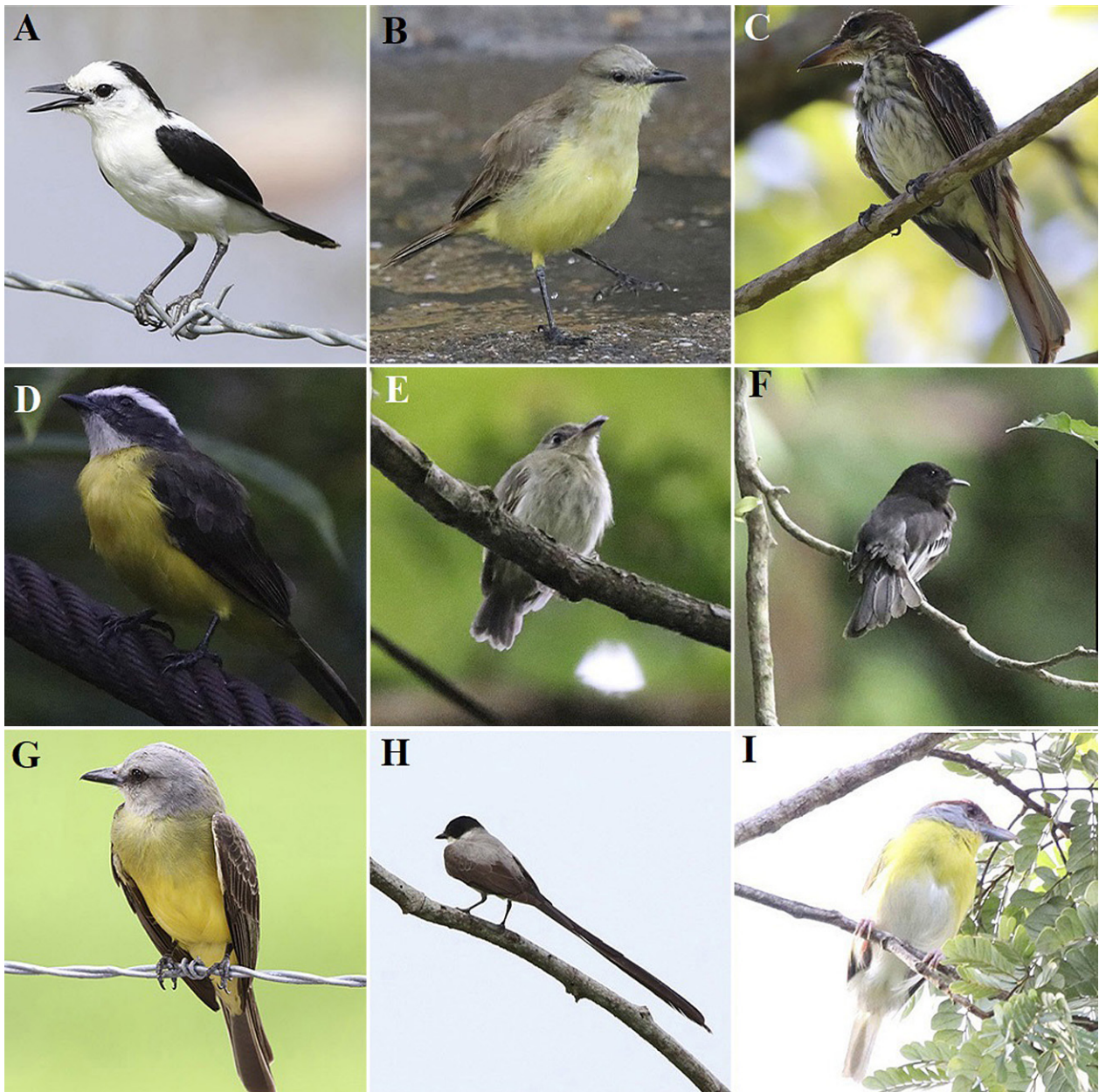
**Identification.** We identified this species by its characteristic chlorination with the white head and lower parts and shades of black on the crown, wings and tail.

Genus *Machetornis* G.R. Gray, 1841

***Machetornis rixosa* (Vieillot, 1819)**

Figure 12B

**Observations.** COLOMBIA • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.



**Figure 12.** **A.** *Fluvicola pica*; dorsal length 13 cm. **B.** *Machetornis rixosa*; dorsal length 19 cm. **C.** *Myiodynastes maculatus*; dorsal length 22 cm. **D.** *Myiozetetes cayanensis*; dorsal length 16.5 cm. **E.** *Oncostoma olivaceum*; dorsal length 9 cm. **F.** *Sayornis nigricans*; dorsal length 18 cm. **G.** *Tyrannus melancholicus*; dorsal length 22 cm. **H.** *Tyrannus savana*; dorsal length 38 cm. **I.** *Cyclarhis gujanensis*; dorsal length 15 cm. Photography: J.S. García.

**Identification.** We distinguished the species by the presence of long legs, red irises, light olive brown back and gray crown and nape with an orange crown patch and a whitish pointed tail tip.

Genus *Myiodynastes* Bonaparte, 1857

***Myiodynastes maculatus* (Statius Müller, 1776)**

Figure 12C

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas,

La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by the presence of a complex rays or spots throughout the body, most noticeable in the chest and face; the throat is white, the abdomen is pale yellow and has a black conspicuous mask.

Genus *Myiozetetes* P.L. Sclater, 1859

***Myiozetetes cayanensis* (Linnaeus, 1766)**

Figure 12D

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m

a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified it thanks to its characteristic coloration, with olive brown on the back, black crown with a yellow patch, supraciliary white line, white throat and bright yellow ventral region.

Genus *Oncostoma* P.L. Sclater, 1862

***Oncostoma olivaceum* (Lawrence, 1862)**

Figure 12E

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species by its thick beak that is directed downwards; the olive colored dorsum with whitish dots, the dark wings with two bars and yellowish edges, and the olive yellow ventral region.

Genus *Sayornis* Bonaparte, 1854

***Sayornis nigricans* (Swainson, 1827)**

Figure 12F

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this species because of its sooty black color with white on the lower-middle belly and the indistinct white bars on the wings.

Genus *Tyrannus* Lacépède, 1799

***Tyrannus melancholicus* (Vieillot, 1819)**

Figure 12G

**Observations.** COLOMBIA • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E.

Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We distinguished this species by its gray color of the head, a dark mask, an olive grayish dorsum and the short-forked tail.

***Tyrannus savana* (Daudin, 1802)**

Figure 12H

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its dark wings, its black tail with an external pair of long basal white feathers and its white belly.

Family Vireonidae

Genus *Cyclarhis* Swainson, 1824

***Cyclarhis gujanensis* (Gmelin, 1789)**

Figure 12I

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this species by its thick, pale yellow bill, olive back, gray neck and an obvious rufous superciliary band.

Family Corvidae

Genus *Cyanocorax* F. Boie, 1826

***Cyanocorax affinis* Pelzeln, 1856**

Figure 13A

**Observations.** COLOMBIA • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by the presence of its laterally compressed frontal crest, black head,



**Figure 13.** **A.** *Cyanocorax affinis*; dorsal length 36 cm. **B.** *Progne tapera*; dorsal length 17.5 cm. **C.** *Tachycineta albiventer*; dorsal length 14 cm. **D.** *Campylorhynchus griseus*; dorsal length 21.5 cm. **E.** *Henicorhina leucophrys*; dorsal length 12 cm. **F.** *Troglodytes aedon*; dorsal length 11.4 cm. **G.** *Catharus ustulatus*; dorsal length 18 cm. **H.** *Turdus leucomelas*; dorsal length 24 cm. **I.** *Mimus gilvus*; dorsal length 25 cm. Photography: J.S. García.

blue spots above and below the eye, and pale brown spotted violet back.

Family Hirundinidae

Genus *Atticora* F. Boie, 1844

***Atticora tibialis* (Cassin, 1853)**

**Observations.** COLOMBIA • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its brown color on the ventral parts and blue on the dorsum, in addition to its striking hairpin tail.

Genus *Progne* F. Boie, 1826

***Progne tapera* (Linnaeus, 1766)**

Figure 13B

**Observations.** COLOMBIA • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. New record of Serranía de Las Quinchas

**Identification.** We recognized this species by its light

brown pectoral band, its white chest and its slightly forked tail.

Genus *Tachycineta* Cabanis, 1850

***Tachycineta albiventer* (Boddaert, 1783)**

Figure 13C

**Observations.** COLOMBIA • 8 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this species by its bright bluish-green back, white rump and undersides, and upper wing coverts with white margins forming a conspicuous wing patch.

Family Troglodytidae

Genus *Campylorhynchus* Spix, 1824

***Campylorhynchus griseus* (Swainson, 1838)**

Figure 13D

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; forest.

**Identification.** We recognized this species by its rufous to greyish brown color on the dorsum with a black crown and marked white superciliary bands and white broad-tipped tail feathers (most obvious in flight).

Genus *Henicorhina* P.L. Sclater & Salvin, 1868

***Henicorhina leucophrys* (von Tschudi, 1844)**

Figure 13E

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this species by its characteristic brown color throughout the body except the throat and head, where there was a contrasting striped face, gray chest and short tail.

Genus *Troglodytes* Vieillot, 1819

***Troglodytes aedon* (Vieillot, 1809)**

Figure 13F

**Observations.** COLOMBIA • 3 (no sexual dimorphism);

Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its distinctive characteristics the color of spots of café with thin black lines throughout the body, whitish underneath and more rufescent in the rump.

Family Turdidae

Genus *Catharus* Bonaparte, 1850

***Catharus ustulatus* (Nuttall, 1840)**

Figure 13G

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by the presence of an eye ring that gives it the appearance of glasses and that is not seen in other species of the genus.

Genus *Turdus* Linnaeus, 1758

***Turdus leucomelas* (Vieillot, 1818)**

Figure 13H

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its yellowish-brown wings and their pale gray color in the ventral region.

Family Mimidae

Genus *Mimus* F. Boie, 1826

***Mimus gilvus* (Vieillot, 1808)**

Figure 13I

**Observations.** COLOMBIA • 4 (no sexual dimorphism);

Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its pale grayish brown body, the presence of a conspicuous blackish "mask", a white superciliary band, and a gray abdomen.

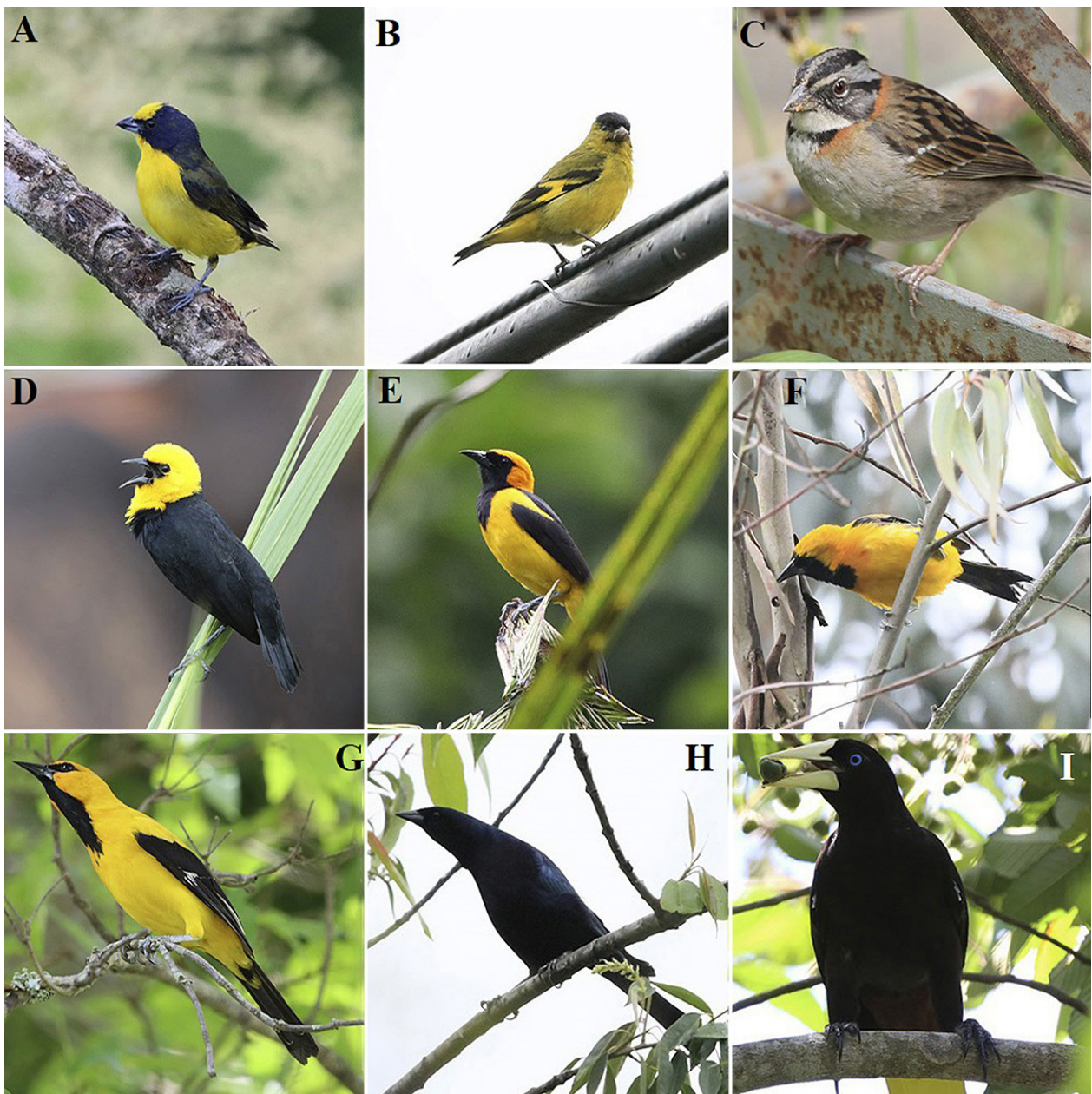
Family Fringillidae

Genus *Euphonia* Desmarest, 1806

***Euphonia lanirostris* (d'Orbigny & Lafresnaye, 1837)**

Figure 14A

**Observations.** COLOMBIA • 1 ♀ 2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 ♀ 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.



**Figure 14.** A. *Euphonia lanirostris*; dorsal length 10 cm. B. *Spinus psaltria*; dorsal length 10 cm. C. *Zonotrichia capensis*; dorsal length 13.4 cm. D. *Chrysomus icterocephalus*; dorsal length 18 cm. E. *Icterus auricapillus*; dorsal length 19 cm. F. *Icterus chrysater*; dorsal length 24 cm. G. *Icterus nigrogularis*; dorsal length 21 cm. H. *Molothrus bonariensis*; dorsal length 22 cm. I. *Psarocolius decumanus*; dorsal length 43 cm. Photography: J.S. García.

**Identification.** We identified this species by its characteristic coloration, with a bright dark blue dorsum and forehead; the lower parts, the throat and the upper chest is yellow.

Genus *Spinus* Koch, 1816

***Spinus psaltria* (Say, 1822)**

Figure 14B

**Observations.** COLOMBIA • 3 ♀2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its glossy black dorsal coloration, with white dots on the wing margins. Additionally, the ventrum and the throat have a characteristic bright yellow color.

Family Passerellidae

Genus *Zonotrichia* Swainson, 1832

***Zonotrichia capensis* (Statius Müller, 1776)**

Figure 14C

**Observations.** COLOMBIA • 5 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We distinguished this species by its characteristic gray head with two black lines on the crown, a narrow line behind the eye, a short black malar line and a rufous collar on the nape of the neck and on the sides of the neck.

Family Icteridae

Genus *Chrysomus* Swainson, 1837

***Chrysomus icterocephalus* (Linnaeus, 1766)**

Figure 14D

**Observations.** COLOMBIA • 2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species by its conical and sharp beak, its yellow hood and black color throughout the body.

Genus *Icterus* Brisson, 1760

***Icterus auricapillus* Cassin, 1848**

Figure 14E

**Observations.** COLOMBIA • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this turpial by the orange coloration on the crown and sides of the head, as well as by the narrow black stripe on the forehead and in the area of the eye.

***Icterus chrysater* (Lesson, 1844)**

Figure 14F

**Observations.** COLOMBIA • 5 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this species by the golden yellow color of the forehead and the black color of the area around the eye, bib, wings and tail.

***Icterus nigrogularis* (Hahn, 1819)**

Figure 14G

**Observations.** COLOMBIA • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its lemon yellow color around the eyes and has a black bib, wings and tail.

Genus *Molothrus* Swainson, 1832

***Molothrus bonariensis* (Gmelin, 1789)**

Figure 14H

**Observations.** COLOMBIA • 1 ♀2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W;

650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We identified this species by its short and conical bill, its dark eyes and the brilliant blackish purple color throughout the body.

Genus *Psarocolius* Wagler, 1827

***Psarocolius decumanus* (Pallas, 1769)**

Figure 14I

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its large, yellowish white beak, its bluish eyes, the glossy black color on the back; rump and infracaudals are brown, and the other parts of the body bright yellow.

Family Parulidae

Genus *Myioborus* S.F. Baird, 1865

***Myioborus miniatus* (Swainson, 1827)**

Figure 15A

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species by its slate gray color dorsum, head, throat and chest, as well as a small chestnut patch on the crown, bright yellow abdomen, white external infracaudal feathers.

Genus *Parkesia* Sangster, 2008

***Parkesia noveboracensis* (Gmelin, 1789)**

Figure 15B

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this by its dull brownish olive dorsum, its prominent yellowish cream superciliary and by its yellowish white abdomen and lower parts, strongly striated dark brown.

Genus *Setophaga* Swainson, 1827

***Setophaga fusca* (Statius Müller, 1776)**

Figure 15C

**Observations.** COLOMBIA • 2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species by its black

dorsum, the white striations on the back, the white patch on the wing coverts and the intense reddish-orange hue on the crown, throat and chest.

***Setophaga pensylvanica* (Linnaeus, 1766)**

**Observations.** COLOMBIA • 2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species by its white dorsum, the yellow striations on the back, the yellow-black patch on the wing coverts and the intense reddish-orange of the band hue on the throat and chest.

Family Cardinalidae

Genus *Pheucticus* Reichenbach, 1850

***Pheucticus ludovicianus* (Linnaeus, 1766)**

Figure 15D

**Observations.** COLOMBIA • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species from others of the genus, by the robust and white beak, the gray blue legs and a pink collar that extends to the center of the chest.

Genus *Piranga* Vieillot, 1807

***Piranga olivacea* (Gmelin, 1789)**

Figure 15E

**Observations.** COLOMBIA • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by the bright red color on the body and jet black on the wings and tail.

***Piranga rubra* (Linnaeus, 1758)**

Figure 15F

**Observations.** COLOMBIA • 1 ♀2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 05 Apr. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monrroy & Ó.E. Morales-González obs.; edge forest.



**Figure 15.** A. *Myioborus miniatus*; dorsal length 13 cm. B. *Parkesia noveboracensis*; dorsal length 13 cm. C. *Setophaga fusca*; dorsal length 13 cm. D. *Pheucticus ludovicianus*; dorsal length 20 cm. E. *Piranga olivacea*; dorsal length 17 cm. F. *Piranga rubra*; dorsal length 18 cm. G. *Chlorophanes spiza*; dorsal length 14 cm. H. *Coereba flaveola*; dorsal length 11 cm. I. *Cyanerpes caeruleus*; dorsal length 4.5 cm. Photography: J.S. García.

**Identification.** We identified this species by its homogeneous orange red color on the body, darker on the edges of the wing feathers.

Family Thraupidae

Genus *Chlorophanes* Reichenbach, 1853

#### *Chlorophanes spiza* (Linnaeus, 1758)

Figure 15G

**Observations.** COLOMBIA • 1 ♀ 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m

a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by its bright emerald green on the body, crown and sides of the black head black and red eyes.

Genus *Coereba* Vieillot, 1809

#### *Coereba flaveola* (Linnaeus, 1758)

Figure 15H

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism);

Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species by its short, thin and clearly curved bill, by its brownish gray dorsum and the black crown and sides of the head.

Genus *Cyanerpes* Oberholser, 1899

***Cyanerpes caeruleus* (Linnaeus, 1758)**

Figure 15I

**Observations.** COLOMBIA • 1 ♀ 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S.

García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

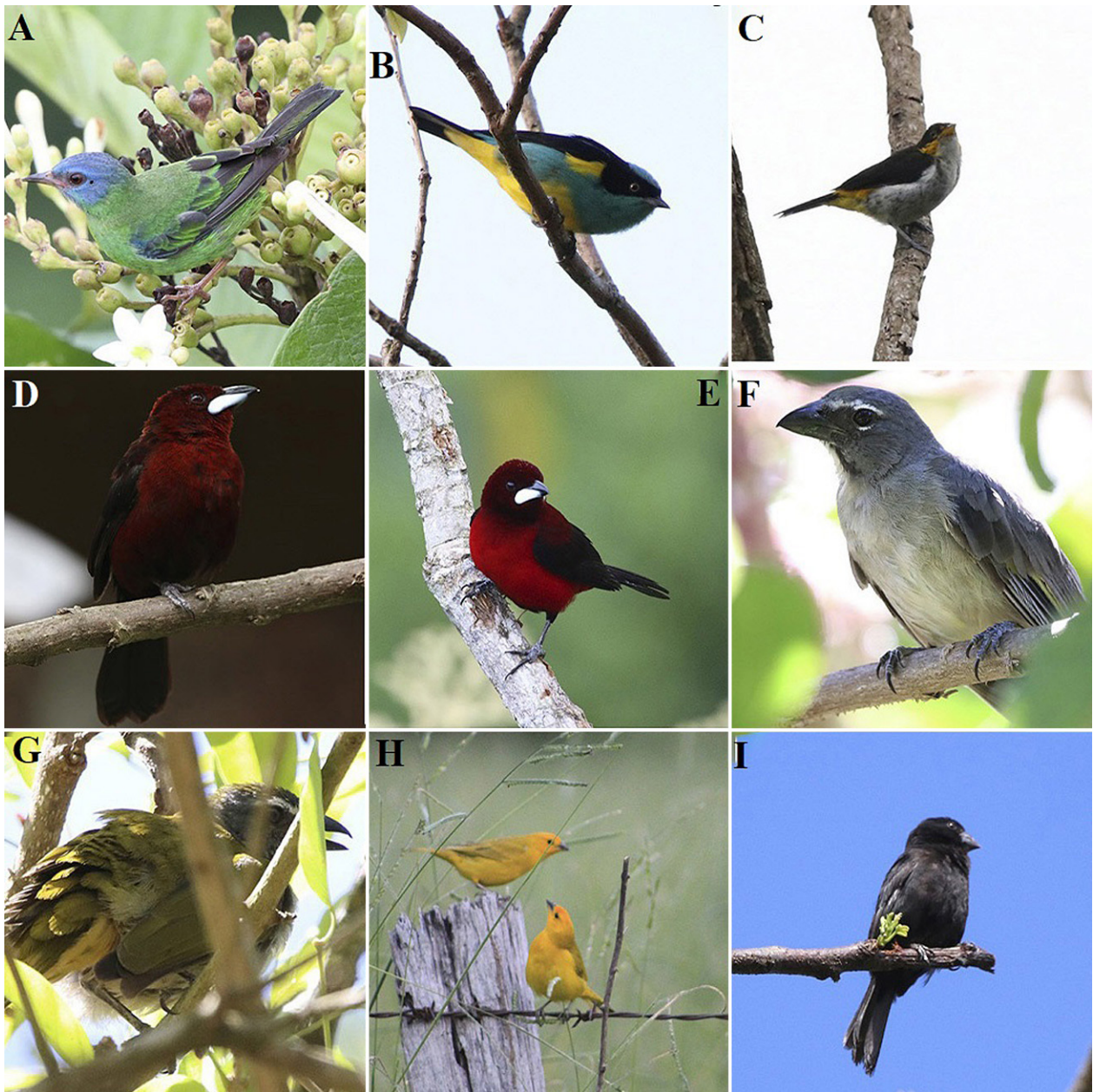
**Identification.** We distinguished this species by a distinctive long, slender, curved beak, bright lemon-yellow legs, and a distinctive purple blue back and black throat, wings, and tail.

Genus *Dacnis* Cuvier, 1816

***Dacnis cayana* (Linnaeus, 1766)**

Figure 16A

**Observations.** COLOMBIA • 1 ♂; Boyacá, Otanche,



**Figure 16.** A. *Dacnis cayana*; dorsal length 12.7 cm. B. *Dacnis lineata*; dorsal length 12 cm. C. *Hemithraupis flavicollis*; dorsal length 14 cm. D. *Ramphocelus carbo*; dorsal length 18 cm. E. *Ramphocelus dimidiatus*; dorsal length 18 cm. F. *Saltator coerulescens*; dorsal length 21 cm. G. *Saltator maximus*; dorsal length 21 cm. H. *Sicalis flaveola*; dorsal length 14.5 cm. I. *Sporophila funerea*; dorsal length 12.5 cm. Photography: J.S. García.

Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species by its characteristic blue color with a black hue of the lores, the mantle, the throat, the wings and the tail and reddish-brown eyes.

#### *Dacnis lineata* (Gmelin, 1789)

Figure 16B

**Observations.** COLOMBIA • 2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species by a bright turquoise blue color with a black mask that begins from the beak, passes over the sides of the head and reaches the top of the back. It also has black wings and tail.

Genus *Hemithraupis* Cabanis, 1850

#### *Hemithraupis flavicollis* (Vieillot, 1818)

Figure 16C

**Observations.** COLOMBIA • 2 ♀2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its black dorsum and its yellow rump, throat and chest.

Genus *Ramphocelus* Desmarest, 1805

#### *Ramphocelus carbo* (Pallas, 1764)

Figure 16D

**Observations.** COLOMBIA • 2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♀; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N,

074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its distinctive velvety black color with brown luster throat and a dark crimson upper chest down to black on the undersides.

#### *Ramphocelus dimidiatus* (Lafresnaye, 1837)

Figure 16E

**Observations.** COLOMBIA • 1 ♀, 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this species by the intense red-brown color of the head, back, throat and chest.

Genus *Saltator* Vieillot, 1816

#### *Saltator coerulescens* (Vieillot, 1817)

Figure 16F

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this species by its dull gray back, white eyebrow, and white throat in the center, bordered by a broad black malar stripe.

#### *Saltator maximus* (Statius Müller, 1776)

Figure 16G

**Observations.** COLOMBIA • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.;

edge forest.

**Identification.** We recognized this species for its bright olive-green dorsum, the gray color of the sides of the head and ventral and the white color of the chin and the eyebrow.

Genus *Sicalis* F. Boie, 1828

***Sicalis flaveola* (Linnaeus, 1766)**

Figure 16H

**Observations.** COLOMBIA • 8 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 2 (no sexual dimorphism);

Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

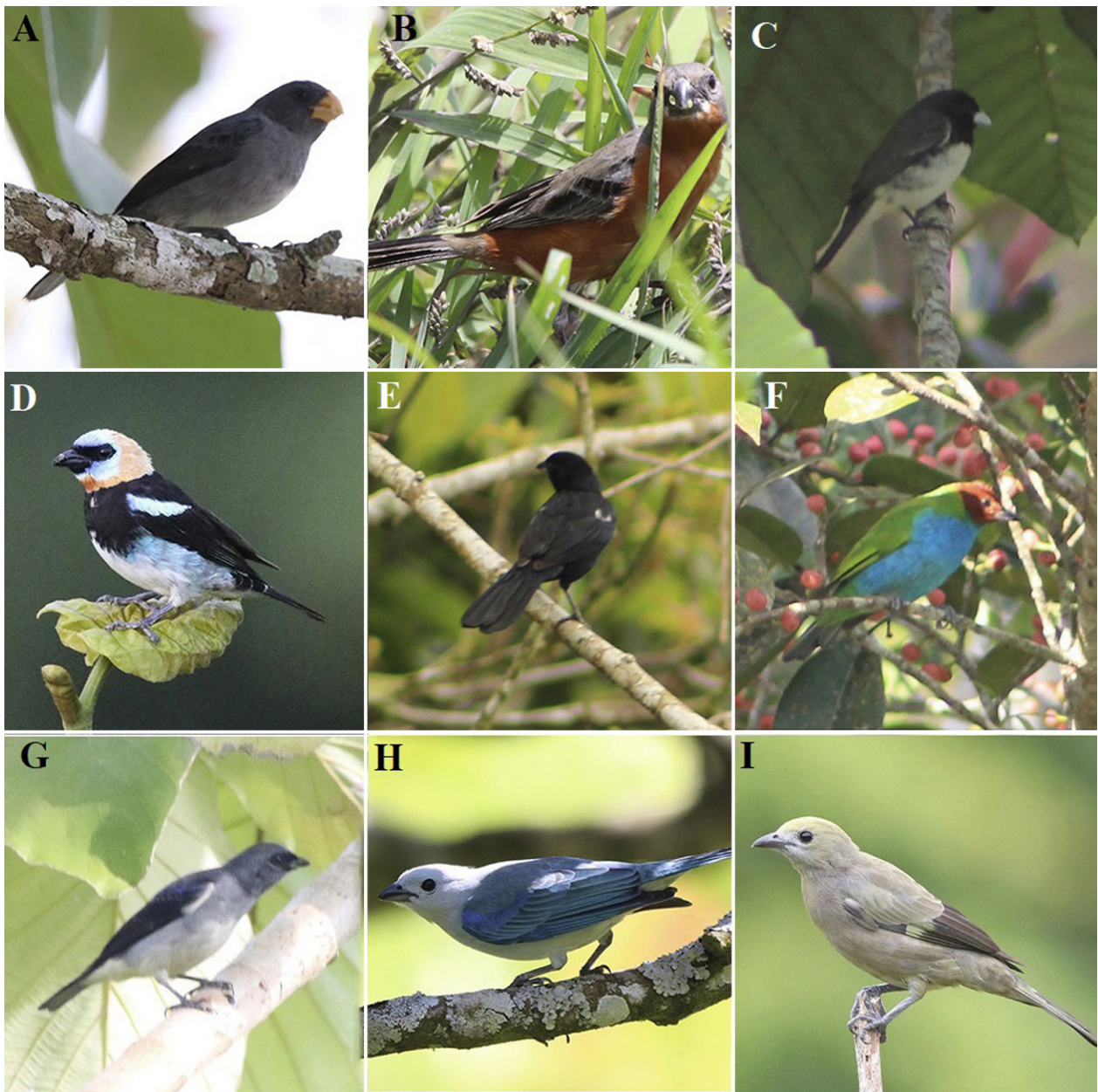
**Identification.** We recognized this species by its being yellow or olive yellow in males, with brown striations on the back and bright orange on part of the crown.

***Sporophila funerea* (P.L. Sclater, 1860)**

Figure 16I

**Observations.** COLOMBIA • 2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this *Sporophila* by its



**Figure 17.** A. *Sporophila intermedia*; dorsal length 11 cm. B. *Sporophila minuta*; dorsal length 9.6 cm. C. *Sporophila nigricollis*; dorsal length 10.3 cm. D. *Stilpnia larvata*; dorsal length 13 cm. E. *Tachyphonus rufus*; dorsal length 18.5 cm. F. *Tangara gyrola*; dorsal length 14 cm. G. *Tangara inornata*; dorsal length 13 cm. H. *Thraupis episcopus*; dorsal length 16.5 cm. I. *Thraupis palmarum*; dorsal length 16 cm. Photography: J.S. García.

robust black bill; the males are black, with a chestnut and black abdomen.

***Sporophila intermedia* (Cabanis, 1851)**

Figure 17A

**Observations.** COLOMBIA • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We distinguished this species by its robust yellow beak, the males seen had a homogeneous bluish gray hue on the body.

***Sporophila minuta* (Linnaeus, 1758)**

Figure 17B

**Observations.** COLOMBIA • 1 ♀2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 ♀1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by the gray dorsal hue and tan-rufous color in the ventral parts (in males); also the wings and tail are dark with small white patches at the base of the primaries and the rump.

***Sporophila nigricollis* (Vieillot, 1823)**

Figure 17C

**Observations.** COLOMBIA • 2 ♀2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 1 ♀3 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species by its dark blue beak (in males) and its black crown, sides of the head, throat and chest; the rest of the body is dark olive.

Genus *Stilpnia* Brisson, 1760

***Stilpnia larvata* (Du Bus, 1846)**

Figure 17D

**Observations.** COLOMBIA • 4 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We distinguished this species by its metallic golden colored head with a small black mask surrounded by blue on the front of the face.

Genus *Tachyphonus* Vieillot, 1816

***Tachyphonus rufus* (Boddaert, 1783)**

Figure 17E

**Observations.** COLOMBIA • 2 ♂; Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 ♂; Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; forest.

**Identification.** We identified this species by it had a glossy black hue with white wing coverts in males.

Genus *Tangara* Brisson, 1760

***Tangara gyrola* (Linnaeus, 1758)**

Figure 17F

**Observations.** COLOMBIA • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We identified this species by its characteristic brick red head and grass green in the dorsal region and turquoise blue in the lower parts.

***Tangara inornata* (Gould, 1855)**

Figure 17G

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E.

Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this species for the dull gray hue of the back, white on the abdomen and brownish on the lores and areas around the eye.

Genus *Thraupis* Brisson, 1760

### *Thraupis episcopus* (Linnaeus, 1766)

Figure 17H

**Observations.** COLOMBIA • 5 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 3 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture. • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; pasture.

**Identification.** We recognized this species by its light blue head, neck and lower parts, a dark blue back and blue wings and tail.

### *Thraupis palmarum* (Wied-Neuwied, 1821)

Figure 17I

**Observations.** COLOMBIA • 2 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, sector Puerto Pinzón, 06°03'06"N, 074°16'56"W; 100 m a.l.s.; 04 May 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Cristalina sector; 05°49'49"N, 074°18'22"W; 650 m a.l.s.; 07 Jul. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest. • 1 (no sexual dimorphism); Boyacá, Otanche, Serranía de Las Quinchas, La Ye sector; 05°48'47"N, 074°15'06"W; 1100 m a.l.s.; 05 Apr. 2019; J.S. García-Monroy & Ó.E. Morales-González obs.; edge forest.

**Identification.** We recognized this species by its grayish green hue, darker on the back and with a violet luster. The forehead, ventral, and coverts are yellow; a distinctive feature is the black in the distal half of the wing.

## Discussion

The species richness documented in the Serranía de Las Quinchas represents 20% of the total for all of Colombia

(Rangel 2005; McMullan et al. 2010). Of the families of birds, the best represented were Tyrannidae and Thraupidae, which is a pattern seen nationally and globally given the large number of species in these two families (Rheindt et al. 2015). Many of the species recorded in the mountains have wide tolerances for anthropogenic activities, which allows them to easily be active in intervening areas, moving between preserved, semi-preserved or transformed habitats according to their needs (Martínez-Bravo et al. 2013).

The composition of birds in the Serranía de Las Quinchas does not seem to vary considerably with altitude. However, the biogeographic characteristics of the massif (Rangel-Ch. 1991), as well as its structure in an incomplete altitudinal gradient from Tropical to Sub-Andean zones (Rangel-Ch. 1991) form an ideal scenario for evaluating spatial aspects of bird diversity and thus better understanding the dynamics, patterns, processes, and mechanisms that follow the richness documented in this research (Camacho 2007).

The species in the list of avifauna of the Las Quinchas mountain range are composed of elements of the Colombian Andes, as well as species from the Chocó, Amazon Basin and a small area of the middle Magdalena river; they are *Gymnocichla nudiceps*, *Amazona autumnalis*, and *Querula purpurata* (Rangel-Ch. et al. 2004; Laverde-R. et al. 2005). Among the Amazonian elements, *Amazonas amazonica* and *Ara severus* stand out. This heterogeneous composition of birds, show us the complexity of the biogeographic origin of this mountainous massif annexed to the Eastern Cordillera of Colombia (Rodríguez and Armenteras 2005), which requires more in-depth study of the fauna and flora to enrich and clarify knowledge of biogeographic knowledge in the Serranía de Las Quinchas.

In the first inventory of the avifauna of the Serranía de Las Quinchas by Stiles and Bohórquez (2000), 308 species were recorded for the mountainous area, which was later added to by Laverde-R. et al. (2005) and Cuervo et al. (2007) who documented 27 and seven newly recorded species, respectively. In our work, 11 newly recorded species were added (*Progne tapera*, *Setophaga pensylvanica*, *Gymnophaps bicolor*, *Myrmotherula pacifica*, *Sporophila crassirostris*, *Pachyrhamphus homochrous*, *Aphanotriccus audax*, *Egretta caerulea*, *Ramphastos ambiguous*, *Trogon caligatus*, and *Trogon chionurus*), which augment the previously known species richness and faunal composition.

Within the avifauna of the Serranía de Las Quinchas, there are both widely distributed species and those having restricted distributions (Renjifo et al. 2013, 2016). Among the latter, *Crax alberti* stands out, which is Critically Endangered in the Colombian and IUCN Red Lists (Renjifo et al. 2016; BirdLife International 2020), the causes of this category are related to the rapid rate of loss and fragmentation of the habitats that the species occupies. *Capito hypoleucus* and *Dacnis hartlaubi* are Vulnerable (BirdLife International 2020), which infer the

importance of conserving each of the the plant assemblages that make up the altitudinal strips of the Las Quinchas mountain range in the departments of Boyacá, Santander, and Cundinamarca.

Although the richness and composition of species is distributed along the altitudinal strips of the Serranía de Las Quinchas, important areas for the conservation of birdlife stand out: the sectors above 1000 m a.s.l. in the La Ye sector, where there are corridors used by endemic and highly threatened species such as *Crax alberti* and *Capito hypoleucus*. Another important area is the lower part of the Serranía, in the Puerto Pinzón sector, made up of mature, well-preserved forests where endemic species such as *Melanerpes pulcher* are found. It was in this area where we added the most species among those we newly recorded (i.e. after 2000).

Lastly, we encourage monitoring of the Serranía de Las Quinchas by those in charge, as well as evaluating ecotourism practices that are carried out without control and which could directly or indirectly affect the bird diversity in the Serranía de Las Quinchas.

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## Authors' Contributions

JSGM, OEMG and JECC conceived the idea, did the field work and wrote the text, confirmed the identification of all specimens and analyzed the data.

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