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# Avifaunal inventory of the Floresta Nacional de Pau-Rosa, Maués, state of Amazonas, Brazil

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**RESUMO: Levantamento avifaunístico da Floresta Nacional de Pau-Rosa, Maués, Amazonas, Brasil.** A Floresta Nacional (Flona) de Pau-Rosa localiza-se na Área de Endemismo Rondônia, considerada uma das mais importantes para a conservação das aves da Amazônia. Várias espécies só são encontradas nessa região, e há várias outras que são novas para a ciência. No presente trabalho, são apresentados os resultados de uma expedição de levantamento da avifauna da Flona, realizada entre 06 de fevereiro e 16 de março de 2009. O levantamento foi feito através de censos por redes de neblina, censos acústicos/visuais, e observações casuais, principalmente em florestas de terra firme, mas uma área de campina foi também amostrada. Foram registradas 269 espécies de aves na região. Seis espécies são endêmicas do Brasil, e não foram registradas espécies ameaçadas de extinção. As curvas de rarefação dos censos não estabilizaram, o que indica que o número de espécies para a região deve aumentar significativamente, em excursões futuras. A grande diversidade de aves da região se deve em grande parte à diversidade de habitats, e ambientes como as campinas e igapós, pouco amostrados nesse estudo, devem ser mais explorados futuramente.

**PALAVRAS-CHAVE:** Levantamento; Avifauna; Flona de Pau-Rosa; Endemismos.

**ABSTRACT: Avifaunal inventory of the Floresta Nacional de Pau-Rosa, Maués, state of Amazonas, Brazil.** The Floresta Nacional (Flona) de Pau-Rosa is located in the Rondônia area of endemism, one of the most important regions for conservation of Amazonian birds. Several are new to science. The results of an inventory of Flona de Pau-Rosa avifauna, conducted between February 6 and March 16, 2009, are presented here. The avifaunal inventory was done by mist-net capture, acoustic/visual censuses, and by occasional observations, mainly in 'terra firme' forest, but also in one *campina* area. Two hundred and sixty nine species of birds were documented, six of which are endemic to Brazil, and no threatened species were found. Rarefaction curves did not stabilize, which means that we did not find all of the species at this site and that future work will increase the number of species known from the area. The great bird diversity in Flona is due partly to substantial habitat diversity. Habitats like 'campinas' and *igapós*, poorly explored in this study, must receive much more attention in future studies.

**KEY-WORDS:** Inventory; Avifauna; Flona de Pau-Rosa; Endemism.

The Rondônia area of endemism, comprised of the area between the Madeira and Tapajós rivers is one of the least scientifically explored areas of Brazilian Amazonia (Cohn-Haft *et al.* 2007). For this reason, it is considered a priority area for avifaunal conservation (Oren and Albuquerque 1991). Any given site in the region has been found to be highly speciose with more than 400, and most likely exceeding 500, species per site (Oren and Parker 1997; Cohn-Haft *et al.* 2007; Aleixo and Poletto 2007; Whitaker 2009). Many bird species are endemic to this area, such as *Capito brunneipectus*, *Rhegmatorhina berlepschi* and *Skutchia borbae*. Furthermore, there are some species only found in this area that have not yet been described (Cohn-Haft *et al.* 2007). Several studies indicate that the distribution of such species is not uniform within this area, with many tributaries of the Madeira River

acting as barriers, restricting gene flow and providing the formation of small areas of endemism (Cohn-Haft *et al.* 2007; Roosmalen *et al.* 1998, 2000; Whitaker 2009).

Moreover, patches of open vegetation, which are dominant in the Madeira-Tapajós interfluvium, increase the region's ecological complexity, and include areas such as 'campinas' and *cerrados*. These are dispersed in the Madeira-Tapajós interfluvium as well in *terra firme*, *igapó* and *várzea* forests. Each of these ecosystems is home to specialized species, dramatically increasing local species richness (Aleixo and Poletto 2007; Cohn-Haft *et al.* 2007). However, there are very few studies on the avifauna of these non-forest areas (Henriques and Oren 1997; Silva *et al.* 1997; Sanaiotti and Cintra 2001).

Many Conservation Units (UCs) were created in the Madeira-Tapajós interfluvium to promote the rational

use of natural resources and the conservation of biodiversity. Flona de Pau-Rosa, located in the municipalities of Maués and Nova Olinda do Norte in the state of Amazonas, is comprised of almost one million hectares of *terra firme*, *igapó* and *campina* habitats. These habitats are important for the conservation of local biodiversity, yet are nearly scientifically unknown as well. A scientific expedition was conducted between February and March 2009, to characterize the biological and socioeconomic conditions of the region. The results of the avifaunal inventory compiled are presented in this paper.

### Study Area

The 947,520 ha Floresta Nacional (Flona) do Pau-Rosa, created on August 7, 2001, is located between the Madeira and Tapajós rivers, in the Brazilian state of Amazonas. It lies mostly in the municipality of Maués, with a small part (13,400 ha) in Nova Olinda do Norte. Pau-Rosa is delimited by the Paraconi River and Nova Olinda do Norte to the northwest, by the Flota Maués and the Andirá-Marau indigenous reserve to the north, by the PARNA Amazônia and Flona Amana to the west, and by the Abacaxis River to the east and south. The main vegetation type is a subdivision of *terra firme* forest called tropical lowland rainforest, and the next most common vegetation type is alluvial forest. There are also small patches of *campina* distributed in Flona.

The avifaunal inventory was conducted from February 16<sup>th</sup> to March 6<sup>th</sup>, 2009, at six localities along the Paraconi River: Caiuá, Osório, Fortaleza, Cacoal, São Tomé and Santa Tereza (Table 1).

In Caiuá one area of *campina* was sampled. It consisted of open, shrubby or low-height tree vegetation, surrounded by *terra firme* forest and crops. Part of the *campina* was in the process of regenerating after a fire of anthropogenic origin. In the other localities, we sampled only *terra firme* forest. Sites sampled in lowland tropical rainforest had a mean height of 25-30 mts. There were two main types of forest: one with dense undergrowth, and the other with open undergrowth with many understory palms (Arecaceae). These habitat types could be found in the same areas, forming a mosaic along with partially flooded areas. Other vegetation types, such as a

type of forest that periodically floods (*igapó*), and bamboo patches, where not sampled.

## METHODS

We used the following methods to compile the inventory of Flona de Pau-Rosa avifauna:

### Mist-net censuses

Twenty 12 × 2.5 m mist-nets were opened at four points in Flona, three in *terra firme*, and one in a small *campina* patch located among the Caiuá community. Nets were opened from 6:00 to 12:00, and checked each hour. Some individual birds were weighed and released, whereas the scientifically most important individuals were collected and deposited in Museu Paraense Emílio Goeldi's ornithological collection.

### Acoustic/Visual censuses

The acoustic/visual census was done in five areas of Flona de Pau-Rosa. The 20 species method was used in the census (Mackinnon and Phillipps, 1993). It consists of walking along a trail at a non-standard speed, and recording individuals heard or seen. The censuses were conducted from 6:00 to 9:00 am, using an 8 × 40 Nikon binocular for visual identification, a Sennheiser ME66 directional microphone, and a Marantz PMD670 digital recorder for documenting bird songs.

### Qualitative observations and species list

Besides standardized censuses, we kept notes on opportunistic, qualitative observations, to increase the species list. The species list was gathered from all records and by all methods described above. The taxonomic order of the list follows the CBRO (2009). The species were classified according to habitat, feeding habits, habitat specificity, and abundance. Abundance was calculated for the registered species by standardized censuses, according to a rarity index that calculates according to the inverse of richness (Rabinowitz *et al.* 1986). Species were considered rare when their relative abundance value (number of individuals divided by total number of individuals) was smaller than that of the index. Rarefaction curves were made to evaluate the efficiency of the effort used, separately for net and acoustic/visual censuses. Curves were made using the Program PAST v. 1.79 (Hammer *et al.* 2001). To measure the diversity of the sampled areas, we used the Shannon-Wiener Diversity Index (H') calculated by PAST v. 1.79 (Hammer *et al.* 2001). To verify the similarity between bird communities in the sampled areas we used the Morisita-Horn

TABLE 1: Coordinates of localities visited.

Locality	Latitude	Longitude
Caiuá	S04°01'37.6"	W58°26'05.6"
Osório	S03°49'24.0"	W58°15'00.4"
Fortaleza	S03°56'46.0"	W58°27'22.0"
Cacoal	S03°56'04.3"	W58°26'47.9"
São Tomé	S03°54'25.2"	W58°24'06.5"
Santa Tereza	S03°54'52.0"	W58°17'41.0"

Index calculated by Program Estimate SWin800 (Colwell 2004). Data from the mist-net census from *campina* in Taracú were not used in the calculation of this index due to uneven sampling.

## RESULTS

During the expedition 269 species of birds from 51 families were documented in Flona de Pau-Rosa (Appendix). The richest family was Tyrannidae (34 species), followed by Thamnophilidae (32 species). Most species were restricted to *terra firme* forest (139 species), and were primarily insectivores (131 species), such as Thamnophilidae (antbirds) and Bucconidae (puffbirds). In general, many of the species detected were members of mixed-flocks or were ant-following species. Other documented species include raptors (Falconiformes and Strigiformes) and frugivores, such as tinamous (Tinamidae) and parrots (Psittacidae), or seed-eaters such as finches (Emberizidae). Because few riverine and periodically flooded areas were visited, the number of species restricted to those habitats documented in this study was low (20 species), which was also true for typical *campina* species (10 species). Six documented species are endemic to Brazil: *Pyrilia aurantiocephala*, *Capito brunneipectus*, *Sakesphorus luctuosus*, *Rhegmatorhina berlepschi*, *Skutchia borbae* and *Automolus paraensis*. No threatened species were documented.

Rarity Index estimation was done for 146 species, three of which (*Capito brunneipectus*, *Rhegmatorhina berlepschi* and *Skutchia borbae*) had the lowest possible index value (1), being rare in all factors of rarity. Sixty species were considered rare for at least two of the factors, and 83 were common for at least two of these factors.

In 720 mist-net hours, 132 individuals from 54 species were captured. The most abundant were: *Glyphorhynchus spirurus*, *Willisornis poecilinotus*, *Thamnomanes saturninus*, *Dendrocincla merula* and *Pipra rubrocapilla*. These species were responsible for 28% of the captures. Most captured individuals (83%) were understory insectivorous species. Of these captured species, 32 were considered rare according to the richness inverse. We collected specimens of 111 individuals of 52 species.

In 19 hours of acoustic/visual census, we observed 894 individuals of 139 species, plus 115 non-identified individuals. The most abundant species were: *Cercomacra cinerascens*, *Lipaugus vociferans*, *Brotogeris chrysopterus*, *Pyrhura perlata*, *Tyrannetes stolzmanni*, *Patagioenas plumbea*, *Ramphastos tucanus* and *Amazona farinosa*. Together these taxa were responsible for 22% of the total documented. Of the individual birds documented, 423 were insectivorous and 246 were frugivorous. Eighty-nine of the species registered were considered rare. A high

TABLE 2: Morisita-Horn Index values for the mist-net census.

Localities (communities)	Santa Tereza	São Tomé
Fortaleza	0.326	0.537
Santa Tereza		0.337

TABLE 3: Morisita-Horn Index values for the acoustic/visual census.

Localities (communities)	Fortaleza	Osório	Santa Tereza	São Tomé
Cacoal	0.778	0.804	0.691	0.802
Fortaleza		0.763	0.730	0.776
Osório			0.755	0.756
Santa Tereza	0.730	0.755		0.698

number of rare species is expected in mature tropical rain forests (Stouffer and Bierregaard Jr. 1995; Henriques 2005). One hundred and five species were registered only in the acoustic/visual censuses and 11 only in the mist-net censuses.

The rarefaction curves did not reach asymptote (Figure 1). Values of the Shannon-Wiener Index for mist-net and acoustic/visual censuses were 3.577 and 4.491, respectively. The Morisita-Horn Index values are found in Tables 2 and 3.

## Species Accounts

### *Aratinga pertinax*

This small parakeet is sparsely distributed in the Amazon basin and inhabits open vegetation formations. Principally, it is found north of the Amazon River, and a disjunct subspecies (*A. p. paraensis*) is known south of the Amazon between the Xingu and Tapajós rivers (Pacheco and Olmos 2005). Several individuals were observed west and east of the Madeira River (Cohn-Haft *et al.* 2007), but not collected. We observed this species several times in Flona in natural or anthropogenic open areas, such as 'campinas', around small villages on the river banks, in pairs or small flocks. One individual (MPEG 67008) was collected, in a *campina* at the Caiaué community.

### *Pyrilia aurantiocephala*

This Brazilian endemic species, known to occur from the lower Madeira River to the Xingu River, was recently described (Gaban-Lima *et al.* 2002) as a split from its sister species *P. vulturine*. Previously, it had been misidentified as an immature form of *P. vulturina*. It was common along the Paraconi River, where flocks of up to 12 individuals were seen or heard several times.

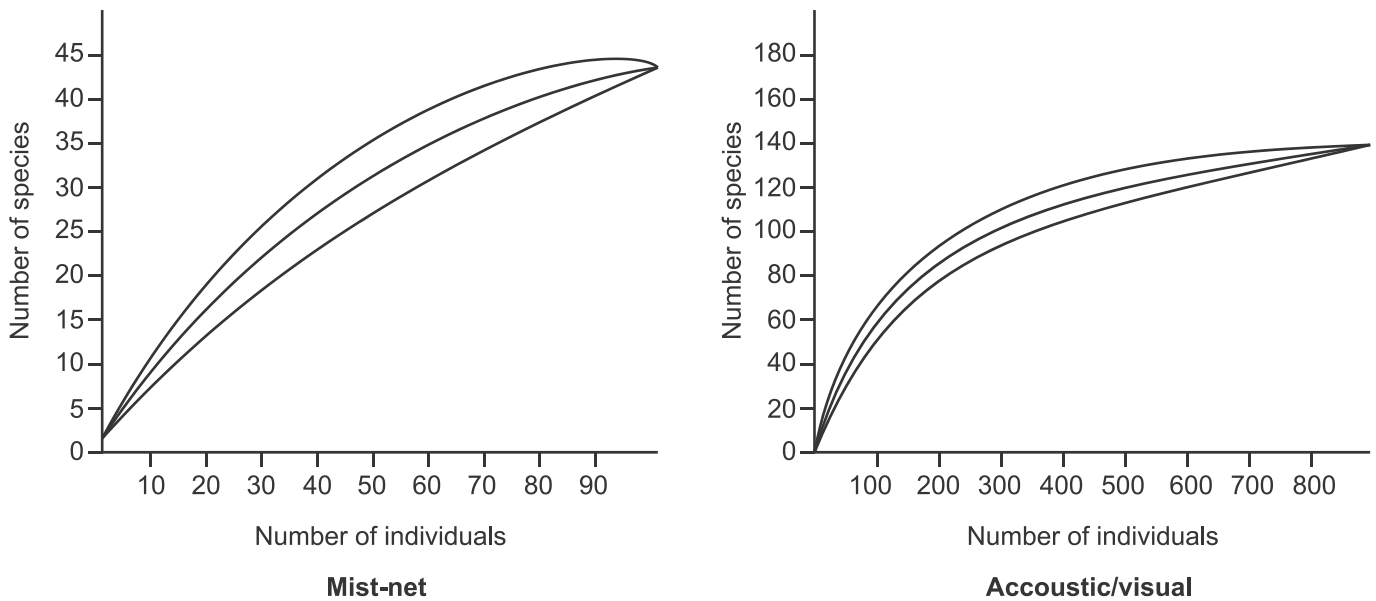


FIGURE 1: Rarefaction curves for the mist-net and acoustic/visual censuses. Curves are the mean  $\pm$  SD.

***Capito brunneipectus***

This species is endemic to a small area between the Madeira and Tapajós rivers. Although it was observed in almost all areas sampled, it was considered rare in the study. It was seen or heard mainly while following canopy or understory mixed flocks.

***Megastictus margaritatus***

A rare and local understory antbird (Ridgely and Tudor 2009), normally found in mixed-flocks in *terra firme* forest. One female mist-netted next to the Fortaleza community, was collected (MPEG 67402).

***Epinecrophylla leucophthalma***

The subspecies *E. l. phaeonota*, is endemic to the Madeira-Tapajós area, differing from all the other subspecies in having a rufous back. It is easily confused with *E. haematonota* (Stipple-throated antwren). This form probably deserves full species status. It was rare in the study area, usually seen in understory mixed-flocks, and two females were collected (MPEG 67057, 67058).

***Myrmotherula iberingi***

This species is another one that may be split in the future because there are significant morphological and vocal differences between the nominate form, endemic to the Tapajós-Madeira interfluvium (Whitaker, 2009), and the ones west of the Madeira. It is a mixed-flock species linked to vine tangles, at least east of the Madeira. It was rare and only observed twice in the study areas.

***Rhegmatorhina berlepschi***

This obligate ant-follower, which is endemic to the Tapajós-Madeira interfluvium, was sometimes observed with *Phlegopsis nigromaculata*. It was rare in the study area. Three individuals were collected (MPEG 67061, 67062, 67063).

***Phlegopsis borbae***

Also a Madeira-Tapajós endemic, it was the rarest of the ant-followers documented in the study area, with only two individuals observed at São Tome community.

***Automolus paraensis***

Recently split from *A. infuscatus* (Zimmer 2002), *A. paraensis* is endemic to southeastern Brazilian Amazonia. It is a common mixed-flock species in *terra firme* forest, being abundant in all sampled areas of Flona. One individual was collected (MPEG 67038).

***Conopias parvus***

This species was believed to be rare on the south bank of the Amazon River until some time ago, but in fact it is common in many sites (Cohn-Haft *et al.* 2007), and connected in some degree to *campina* areas (Aleixo *pers. comm.*). It was abundant in the *terra firme* forest along the Paraconi River, documented in all areas sampled alone or in canopy mixed-flocks. It normally forages with *Myiozetetes luteiventris* (Dusky-chested Flycatcher).

## DISCUSSION

The total number of species registered in Flona de Pau-Rosa was considered satisfactory, despite the small amount of time spent in the area. The area is a very important refuge for the local avifauna, and most Madeira-Tapajós endemic species expected to occur there were documented during the expedition. Additional fieldwork will certainly add species to the list.

The low similarity between forest-based sampled areas in the mist-net census may be due to little effort spent in each one, or due to the general pattern of patchiness of species in Amazonian forest. Differences in the distribution and foraging height of the species in different areas may influence results, even in similar-habitat areas (Remsen 1995).

The high percentage of rare species is normal in tropical bird communities (Stouffer and Bierregaard Jr. 1995; Henriques 2005). Acoustic censuses normally allow detection of more species than mist-net censuses, but the other methods are important to detect non-vocalizing species with secretive habits (Derlindati and Caziani 2005; Whitman *et al.* 1999). Most individuals detected both in the mist-nets and in acoustic/visual censuses were insectivorous, but frugivorous species also comprised a significant portion of the community found during the acoustic/visual census. These species are better detected by vocalization or observation because they are generally large in size or canopy-dwelling (Derlindati and Caziani 2005).

*Terra firme* forests are priority conservation areas, but other habitat types observed in Flona, like the 'campinas' and *igapó* forests and bamboo patches, should be further explored in future studies. This will give a clearer idea of the true avifaunal diversity in the region, as these distinct habitats hold a substantial number of specialist or semi-specialist species, not found in *terra firme* (Cohn-Haft *et al.* 2007; Guilherme and Santos 2009; Remsen and Parker 1983). In the only *campina* sampled, there were signs of regeneration after anthropic action. Recuperation of these Amazonian sand-based vegetations is normally slow because the sandy soil is poor in nutrients (Borges 2004). Some birds are specialists in 'campinas' and/or were only found there in the study (*Galbula leucogastra*, *Heterocercus linteatus*, *Polytmus guainumbi*). This kind of habitat should be the target of more detailed studies in the future.

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**APPENDIX:** Birds recorded in Flona de Pau-Rosa.

*Habitat:* tf = terra firme forest; ca = capoeira (second-growth vegetation); cm = campina; va = várzea, igapó; ri = riverside. In bold = specialist.

*Diet:* ar = arthropods; ca = vertebrates (carnivores); fr = fruit; cn = carrion; ne = nectar; om = omnivore; fi = fish; se = seeds.

*Abundance:* abundance was determined using an index by Rabinowitz *et al.* (1986), whose value is the inverse of the registered richness. Species were considered 'rare' when their relative abundance value was smaller than the index value; and 'common' when they were higher than that value. Abundance was determined only for those species registered in the censuses.

Scientific name	English name	Habitat	diet	Abundance in the study
<b>Order Tinamiformes</b>				
<b>Family Tinamidae</b>				
<i>Tinamus tao</i> Temminck, 1815	Gray Tinamou	<b>Tf</b>	fr	rare
<i>Tinamus major</i> (Gmelin, 1789)	Great Tinamou	Tf, va	fr	
<i>Tinamus guttatus</i> Pelzeln, 1863	White-throated Tinamou	<b>Tf</b>	fr	common
<i>Crypturellus cinereus</i> (Gmelin, 1789)	Cinereous Tinamou	Tf, va	fr	rare
<i>Crypturellus soui</i> (Hermann, 1783)	Little Tinamou	Tf, va	fr	
<i>Crypturellus strigulosus</i> (Temminck, 1815)	Brazilian Tinamou	Tf	fr	rare
<i>Crypturellus variegatus</i> (Gmelin, 1789)	Variiegated Tinamou	<b>Tf</b>	fr	common
<b>Order Anseriformes</b>				
<b>Family Anatidae</b>				
<i>Cairina moschata</i> (Linnaeus, 1758)	Muscovy Duck	<b>Ri</b>	fi	
<b>Order Galliformes</b>				
<b>Family Cracidae</b>				
<i>Pauxi tuberosa</i> (Spix, 1825)	Razor-billed Curassow	<b>Tf</b>	fr	
<b>Family Odontophoridae</b>				
<i>Odontophorus gujanensis</i> (Gmelin, 1789)	Marbled Wood-Quail	<b>Tf</b>	om	
<b>Order Suliformes</b>				
<b>Family Phalacrocoracidae</b>				
<i>Phalacrocorax brasilianus</i> (Gmelin, 1789)	Neotropic Cormorant	<b>Ri</b>	fi	
<b>Order Pelecaniformes</b>				
<b>Family Ardeidae</b>				
<i>Zebrius undulatus</i> (Gmelin, 1789)	Zigzag Heron	<b>va</b>	fi	
<i>Bubulcus ibis</i> (Linnaeus, 1758)	Cattle Egret	ca, ri	ar	
<i>Ardea alba</i> Linnaeus, 1758	Great Egret	ca, ri	fi	
<i>Pilherodius pileatus</i> (Boddaert, 1783)	Capped Heron	ca, ri	fi	
<i>Egretta thula</i> (Molina, 1782)	Snowy Egret	ca, ri	fi	
<b>Family Threskiornithidae</b>				
<i>Mesembrinibis cayennensis</i> (Gmelin, 1789)	Green Ibis	Tf, ri	fi, ar	
<b>Order Cathartiformes</b>				
<b>Family Cathartidae</b>				
<i>Cathartes aura</i> (Linnaeus, 1758)	Turkey Vulture	Tf, ca, cm	cn	
<i>Cathartes burrovianus</i> Cassin, 1845	Lesser Yellow-headed Vulture	ca	cn	
<i>Coragyps atratus</i> (Bechstein, 1793)	Black Vulture	ca	cn	
<b>Order Accipitriformes</b>				
<b>Family Accipitridae</b>				
<i>Elanoides forficatus</i> (Linnaeus, 1758)	Swallow-tailed Kite	Tf, ca	ca, ar	
<i>Harpagus bidentatus</i> (Latham, 1790)	Double-toothed Kite	<b>Tf</b>	ca, ar	rare
<i>Ictinia plumbea</i> (Gmelin, 1788)	Crumbeous Kite	<b>Tf</b>	ca, ar	
<i>Urubitinga urubitinga</i> (Gmelin, 1788)	Great Black-Hawk	Tf, ca	ca	
<i>Rupornis magnirostris</i> (Gmelin, 1788)	Roadside Hawk	ca, cm	ca	
<i>Buteo nitidus</i> (Latham, 1790)	Gray Hawk	ca	ca	
<i>Spizaetus ornatus</i> (Daudin, 1800)	Ornate Hawk-Eagle	<b>Tf</b>	ca	rare
<b>Order Falconiformes</b>				
<b>Family Falconidae</b>				
<i>Daptrius ater</i> Vieillot, 1816	Black Caracara	Tf, ca, ri	ca	rare
<i>Ibycter americanus</i> (Boddaert, 1783)	Red-throated Caracara	<b>Tf</b>	om	common
<i>Milvago chimachima</i> (Vieillot, 1816)	Yellow-headed Caracara	ca, cm	om	
<i>Herpetotheres cachinnans</i> (Linnaeus, 1758)	Laughing Falcon	ca, cm	ca	
<i>Micrastur ruficollis</i> (Vieillot, 1817)	Barred Forest-Falcon	<b>Tf</b>	ca	
<i>Micrastur mintoni</i> Whittaker, 2002	Cryptic Forest-falcon	<b>Tf</b>	ca	



Scientific name	English name	Habitat	diet	Abundance in the study
<i>Micrastur mirandollei</i> (Schlegel, 1862)	Slaty-backed Forest-Falcon	Tf	ca	
<i>Micrastur semitorquatus</i> (Vieillot, 1817)	Collared Forest-Falcon	Tf	ca	
<i>Falco ruficularis</i> Daudin, 1800	Bat Falcon	Tf	ca, ar	rare
<b>Order Eurypygiformes</b>				
<b>Family Eurypigidae</b>				
<i>Eurypyga helias</i> (Pallas, 1781)	Sunbittern	ca, ri	ar, fi	
<b>Order Gruiformes</b>				
<b>Family Psophiidae</b>				
<i>Psophia viridis</i> Spix, 1825	Dark-winged Trumpeter	Tf	om	
<b>Family Rallidae</b>				
<i>Aramides cajanea</i> (Statius Muller, 1776)	Gray-necked Wood-Rail	Tf, ca, ri	ar	rare
<b>Order Charadriiformes</b>				
<b>Family Charadriidae</b>				
<i>Vanellus cayanus</i> (Latham, 1790)	Pied Lapwing	ca, ri	ar	
<b>Family Sternidae</b>				
<i>Phaetusa simplex</i> (Gmelin, 1789)	Large-billed Tern	ca, ri	fi	
<b>Order Columbiformes</b>				
<b>Family Columbidae</b>				
<i>Columbina passerina</i> (Linnaeus, 1758)	Common Ground-Dove	ca, cm	se	
<i>Claravis pretiosa</i> (Ferrari-Perez, 1886)	Blue Ground-Dove	ca, cm	se	
<i>Patagioenas speciosa</i> (Gmelin, 1789)	Scaled Pigeon	Tf	fr	
<i>Patagioenas plumbea</i> (Vieillot, 1818)	Pale-vented Pigeon	Tf	fr	
<i>Leptotila verreauxi</i> Bonaparte, 1855	White-tipped Dove	Tf	fr	common
<i>Geotrygon montana</i> (Linnaeus, 1758)	Ruddy Quail-Dove	Tf	se	rare
<b>Order Psittaciformes</b>				
<b>Family Psittacidae</b>				
<i>Ara macao</i> (Linnaeus, 1758)	Scarlet Macaw	Tf	fr	
<i>Ara chloropterus</i> Gray, 1859	Red-and-green Macaw	Tf	fr	rare
<i>Aratinga leucophthalma</i> (Statius Muller, 1776)	White-eyed Parakeet	Tf, ca	fr	rare
<i>Aratinga pertinax</i> (Linnaeus, 1758)	Brown-throated Parakeet	cm	fr	
<i>Pyrrhura perlata</i> (Spix, 1824)	Crimson-bellied Parakeet	tf	fr	common
<i>Brotogeris chrysoptera</i> (Linnaeus, 1766)	Golden-winged Parakeet	Tf	fr	common
<i>Pytilia aurantiocephala</i> (Gaban-Lima, Raposo and Höfling, 2002)	Bald Parrot	Tf	fr	common
<i>Pionus menstruus</i> (Linnaeus, 1766)	Blue-headed Parrot	Tf	fr	common
<i>Pionus fuscus</i> (Statius Muller, 1776)	Dusky Parrot	Tf	fr	common
<i>Amazona farinosa</i> (Boddaert, 1783)	Mealy Parrot	Tf	fr	common
<i>Amazona amazonica</i> (Linnaeus, 1766)	Orange-winged Parrot	Tf	fr	
<i>Deroptryus accipitrinus</i> (Linnaeus, 1758)	Red-fan Parrot	Tf, va	fr	common
<b>Order Cuculiformes</b>				
<b>Family Cuculidae</b>				
<i>Coccyzus minuta</i> (Vieillot, 1817)	Little Cuckoo	ca, ri	ar	
<i>Piaya cayana</i> (Linnaeus, 1766)	Squirrel Cuckoo	Tf, va	ar	
<i>Piaya melanogaster</i> (Vieillot, 1817)	Black-bellied Cuckoo	Tf	ar	rare
<i>Crotophaga major</i> Gmelin, 1788	Greater Ani	Ri	ar	
<i>Crotophaga ani</i> Linnaeus, 1758	Smooth-billed Ani	ca	ar	
<b>Order Strigiformes</b>				
<b>Family Strigidae</b>				
<i>Megascops choliba</i> (Vieillot, 1817)	Tropical Screech-Owl	ca	ar, ca	
<i>Megascops usta</i> (Sclater, 1858)	Austral Screech-Owl	Tf	ar, ca	
<i>Pulsatrix perspicillata</i> (Latham, 1790)	Spectacled Owl	Tf	ca	
<i>Glaucidium hardyi</i> Vieillard, 1990	Amazonian Pygmy-Owl	Tf	ar, ca	rare
<b>Order Caprimulgiformes</b>				
<b>Family Nyctibiidae</b>				
<i>Nyctibius grandis</i> (Gmelin, 1789)	Great Potoo	Tf, va	ar	
<b>Family Caprimulgidae</b>				
<i>Lurocalis semitorquatus</i> (Gmelin, 1789)	Short-tailed Nighthawk	tf	ar	
<i>Hidropsalis leucopyga</i> (Spix, 1825)	Band-tailed Nighthawk	Ri	ar	

Scientific name	English name	Habitat	diet	Abundance in the study
<i>Hydropsalis albicollis</i> (Gmelin, 1789)	Pauraque	ca, cm	ar	
<b>Order Apodiformes</b>				
<b>Family Apodidae</b>				
<i>Chaetura spinicaudus</i> (Temminck, 1839)	Band-rumped Swift	Tf	ar	
<i>Chaetura brachyura</i> (Jardine, 1846)	Short-tailed Swift	Tf, va	ar	
<b>Family Trochilidae</b>				
<i>Phaethornis ruber</i> (Linnaeus, 1758)	Reddish Hermit	Tf, ca	ne	rare
<i>Phaethornis philippii</i> (Bourcier, 1847)	Needle-billed Hermit	Tf	ne	
<i>Campylopterus largipennis</i> (Boddaert, 1783)	Gray-breasted Sabrewing	Tf, va	ne	
<i>Thalurania furcata</i> (Gmelin, 1788)	Fork-tailed Woodnymph	Tf, va	ne	rare
<i>Polytmus guainumbi</i> (Pallas, 1764)	White-tailed Goldenthrout	cm	ne	
<i>Amazilia versicolor</i> (Vieillot, 1818)	Versicolored Emerald	ca	ne	
<i>Heliothryx auritus</i> (Gmelin, 1788)	Black-eared Fairy	Tf, va	ne	
<b>Order Trogoniformes</b>				
<b>Family Trogonidae</b>				
<i>Trogon melanurus</i> Swainson, 1838	Black-tailed Trogon	Tf, va	om	rare
<i>Trogon viridis</i> Linnaeus, 1766	White-tailed Trogon	Tf, Ca, va	om	common
<i>Trogon ramonianus</i> Deville and DesMurs, 1849	Amazonian Trogon	Tf	om	common
<i>Trogon curucui</i> Linnaeus, 1766	Blue-crowned Trogon	tf, va	om	rare
<i>Trogon rufus</i> Gmelin, 1788	Black-throated Trogon	tf	om	common
<i>Pharomachrus pavoninus</i> (Spix, 1824)	Pavonine Quetzal	tf	om	
<b>Order Coraciiformes</b>				
<b>Family Alcedinidae</b>				
<i>Megaceryle torquata</i> (Linnaeus, 1766)	Ringed Kingfisher	ca, ri	fi	
<i>Chloroceryle amazona</i> (Latham, 1790)	Amazon Kingfisher	tf, ca, ri	fi	
<i>Chloroceryle americana</i> (Gmelin, 1788)	Green Kingfisher	tf, ca, ri	fi	
<b>Order Galbuliformes</b>				
<b>Family Galbulidae</b>				
<i>Galbula cyanicollis</i> Cassin, 1851	Blue-cheeked Jacamar	tf	ar	rare
<i>Galbula leucogastra</i> Vieillot, 1817	Bronzy Jacamar	tf, ca	ar	
<i>Galbula dea</i> (Linnaeus, 1758)	Paradise Jacamar	tf, ca, va	ar	common
<i>Jacamerops aureus</i> (Statius Muller, 1776)	Great Jacamar	tf	ar	
<b>Family Bucconidae</b>				
<i>Notharchus hyperhynchus</i> (Sclater, 1856)	White-necked Puffbird	tf, ca, va	ar	rare
<i>Notharchus tectus</i> (Boddaert, 1783)	Pied Puffbird	tf, ca	ar	
<i>Malacoptila rufa</i> (Spix, 1824)	Rufous-necked Puffbird	tf	ar	rare
<i>Monasa nigrifrons</i> (Spix, 1824)	Black-fronted Nunbird	Tf, va, ca	ar	
<i>Monasa morphoeus</i> (Hahn and Küster, 1823)	White-fronted Nunbird	tf	ar	rare
<i>Chelidoptera tenebrosa</i> (Pallas, 1782)	Swallow-wing	tf, ca	ar	
<b>Order Piciformes</b>				
<b>Family Capitonidae</b>				
<i>Capito brunneipectus</i> Chapman, 1921	Brown-chested Barbet	tf	om	rare
<b>Family Ramphastidae</b>				
<i>Ramphastos tucanus</i> Linnaeus, 1758	Red-billed Toucan	tf, va	om	common
<i>Ramphastos vitellinus</i> Lichtenstein, 1823	Channel-billed Toucan	Tf, va	om	common
<i>Selenidera gouldii</i> (Natterer, 1837)	Gould's Toucanet	tf	om	rare
<i>Pteroglossus bitorquatus</i> Vigors, 1826	Red-necked Aracari	tf	om	rare
<i>Pteroglossus aracari</i> (Linnaeus, 1758)	Black-necked Aracari	tf, va	om	rare
<b>Family Picidae</b>				
<i>Picumnus aurifrons</i> Pelzeln, 1870	Bar-breasted Piculet	Tf, va, ca	ar	rare
<i>Melanerpes cruentatus</i> (Boddaert, 1783)	Yellow-tufted Woodpecker	tf, ca, va	om	rare
<i>Veniliornis affinis</i> (Swainson, 1821)	Red-stained Woodpecker	tf	ar	rare
<i>Piculus flavigula</i> (Boddaert, 1783)	Yellow-throated Woodpecker	tf	ar	rare
<i>Celeus grammicus</i> (Natterer and Malherbe, 1845)	Scaly-breasted Woodpecker	tf	om	rare
<i>Celeus elegans</i> (Statius Muller, 1776)	Chestnut Woodpecker	Tf, va, ca	om	rare
<i>Celeus flavus</i> (Statius Muller, 1776)	Cream-colored Woodpecker	tf	om	common
<i>Celeus torquatus</i> (Boddaert, 1783)	Ringed Woodpecker	tf	om	rare

Scientific name	English name	Habitat	diet	Abundance in the study
<i>Dryocopus lineatus</i> (Linnaeus, 1766)	Lineated Woodpecker	tf, ca, va	om	
<i>Campephilus rubricollis</i> (Boddaert, 1783)	Red-necked Woodpecker	tf	om	rare
<i>Campephilus melanoleucos</i> (Gmelin, 1788)	Crimson-crested Woodpecker	Tf, ca	om	
<b>Order Passeriformes</b>				
<b>Family Thamnophilidae</b>				
<i>Cymbilaimus lineatus</i> (Leach, 1814)	Fasciated Antshrike	tf	ar	rare
<i>Taraba major</i> (Vieillot, 1816)	Great Antshrike	ca	ar	
<i>Sakesphorus luctuosus</i> (Lichtenstein, 1823)	Black-crested Antshrike	va	ar	
<i>Thamnophilus schistaceus</i> d'Orbigny, 1835	Crain-winged Antshrike	tf	ar	common
<i>Thamnophilus stictocephalus</i> Pelzeln, 1868	Natterer's Slaty-Antshrike	tf, va	ar	
<i>Thamnophilus aethiops</i> Sclater, 1858	White-shouldered Antshrike	tf	ar	rare
<i>Megastictus margaritatus</i> (Sclater, 1855)	Pearly Antshrike	tf	ar	rare
<i>Thamnomanes saturninus</i> (Pelzeln, 1878)	Saturnine Antshrike	tf	ar	common
<i>Thamnomanes caesi</i> (Temminck, 1820)	Cinereous Antshrike	tf	ar	common
<i>Pygiptila stellaris</i> (Spix, 1825)	Spot-winged Antshrike	tf	ar	rare
<i>Epinecrophylla leucophthalma</i> (Pelzeln, 1868)	White-eyed Antwren	tf	ar	rare
<i>Myrmotherula brachyura</i> (Hermann, 1783)	Pygmy Antwren	tf, va	ar	common
<i>Myrmotherula sclateri</i> Sneathlage, 1912	Sclater's Antwren	tf	ar	common
<i>Myrmotherula hauxwelli</i> (Sclater, 1857)	Crain-throated Antwren	tf, va	ar	rare
<i>Myrmotherula axillaris</i> (Vieillot, 1817)	White-flanked Antwren	tf, va	ar	rare
<i>Myrmotherula longipennis</i> Pelzeln, 1868	Long-winged Antwren	tf	ar	common
<i>Myrmotherula iheringi</i> Sneathlage, 1914	Ihering's Antwren	tf	ar	rare
<i>Myrmotherula menetriesii</i> (d'Orbigny, 1837)	Gray Antwren	tf	ar	rare
<i>Dichrozona cincta</i> (Pelzeln, 1868)	Banded Antbird	tf	ar	rare
<i>Microrhopias quixensis</i> (Cornalia, 1849)	Dot-winged Antwren	tf, va	ar	common
<i>Formicivora grisea</i> (Boddaert, 1783)	White-fringed Antwren	cm	ar	
<i>Cercomacra cinerascens</i> (Sclater, 1857)	Gray Antbird	tf, va	ar	common
<i>Cercomacra nigrescens</i> (Cabanis and Heine, 1859)	Blackish Antbird	tf, va	ar	
<i>Myrmoborus myotherinus</i> (Spix, 1825)	Black-faced Antbird	tf	ar	common
<i>Hypocnemis striata</i> (Spix, 1825)	Spix's Warbling-Antbird	tf	ar	common
<i>Hypocnemoides maculicauda</i> (Pelzeln, 1868)	Band-tailed Antbird	tf	ar	
<i>Sclateria naevia</i> (Gmelin, 1788)	Silvered Antbird	tf	ar	rare
<i>Schistocichla rufifacies</i> (Hellmayr, 1929)	Spot-winged Antbird	tf	ar	rare
<i>Myrmornis torquata</i> (Boddaert, 1783)	Wing-banded Antbird	tf	ar	rare
<i>Rhegmatorhina berlepschi</i> (Sneathlage, 1907)	Harlequin Antbird	tf	ar	rare
<i>Hylophylax naevius</i> (Gmelin, 1789)	Spot-backed Antbird	tf	ar	rare
<i>Willisornis poecilinotus</i> (Cabanis, 1847)	Scale-backed Antbird	tf	ar	common
<i>Phlegopsis nigromaculata</i> (d'Orbigny and Lafresnaye, 1837)	Black-spotted Bare-eye	tf	ar	common
<i>Phlegopsis borbae</i> (Hellmayr, 1907)	Pale-faced Antbird	tf	ar	rare
<b>Family Grallaridae</b>				
<i>Grallaria varia</i> (Boddaert, 1783)	Variiegated Antpitta	tf	ar	rare
<i>Hylopezus berlepschi</i> (Hellmayr, 1903)	Amazonian Antpitta	tf, va	ar	
<i>Myrmothera campanisona</i> (Hermann, 1783)	Thrush-like Antpitta	tf	ar	rare
<b>Family Rhinocryptidae</b>				
<i>Liosceles thoracicus</i> (Sclater, 1865)	Rusty-belted Tapaculo	tf	ar	rare
<b>Family Formicariidae</b>				
<i>Formicarius colma</i> Boddaert, 1783	Rufous-capped Antthrush	tf	ar	rare
<i>Formicarius analis</i> (d'Orbigny and Lafresnaye, 1837)	Black-faced Antthrush	tf	ar	rare
<b>Family Scleruridae</b>				
<i>Sclerurus rufifigularis</i> Pelzeln, 1868	Short-billed Leaftosser	tf	ar	
<i>Sclerurus caudacutus</i> (Vieillot, 1816)	Black-tailed Leaftosser	tf	ar	rare
<b>Family Dendrocolaptidae</b>				
<i>Dendrocincla fuliginosa</i> (Vieillot, 1818)	Crain-brown Woodcreeper	tf	ar	rare
<i>Dendrocincla merula</i> (Lichtenstein, 1829)	White-chinned Woodcreeper	tf	ar	common
<i>Deconychura longicauda</i> (Pelzeln, 1868)	Long-tailed Woodcreeper	tf	ar	rare
<i>Sittasomus griseicapillus</i> (Vieillot, 1818)	Olivaceous Woodcreeper	tf	ar	rare
<i>Certhiasomus stictolaemus</i> (Pelzeln, 1868)	Spot-throated Woodcreeper	tf	ar	rare

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<i>Glyphorhynchus spirurus</i> (Vieillot, 1819)	Wedge-billed Woodcreeper	tf, va	ar	common
<i>Nasica longirostris</i> (Vieillot, 1818)	Long-billed Woodcreeper	va	ar	
<i>Hylexetastes uniformis</i> Hellmayr, 1909	Uniform Woodcreeper	tf	ar	rare
<i>Xiphocolaptes promeropirhynchus</i> (Lesson, 1840)	Strong-billed Woodcreeper	tf	ar	
<i>Dendrocolaptes certhia</i> (Boddaert, 1783)	Amazonian Barred-Woodcreeper	tf	ar	
<i>Dendrocolaptes picumnus</i> Lichtenstein, 1820	Black-banded Woodcreeper	tf	ar	rare
<i>Dendroplex picus</i> (Gmelin, 1788)	Straight-billed Woodcreeper	ca	ar	
<i>Xiphorhynchus ocellatus</i> (Spix, 1824)	Ocellated Woodcreeper	tf	ar	common
<i>Xiphorhynchus obsoletus</i> (Lichtenstein, 1820)	Striped Woodcreeper	va	ar	
<i>Xiphorhynchus guttatus</i> (Lichtenstein, 1820)	Buff-throated Woodcreeper	tf	ar	common
<i>Lepidocolaptes albolineatus</i> (Lafresnaye, 1845)	Lineated Woodcreeper	tf	ar	common
<i>Campylorhamphus procurvoldes</i> (Lafresnaye, 1850)	Curve-billed Scythebill	tf	ar	rare
<b>Family Furnariidae</b>				
<i>Philydor ruficaudatum</i> (d'Orbigny and Lafresnaye, 1838)	Rufous-Tailed Foliage-gleaner	tf	ar	common
<i>Philydor erythrocerum</i> (Pelzeln, 1859)	Rufous-rumped Foliage-gleaner	tf	ar	rare
<i>Philydor pyrrhodes</i> (Cabanis, 1848)	Cinnamon-rumped Foliage-gleaner	tf	ar	rare
<i>Automolus ochrolaemus</i> (Tschudi, 1844)	Buff-throated Foliage-gleaner	tf	ar	
<i>Automolus paraensis</i> Hartert, 1902	Pará Foliage-gleaner	tf	ar	common
<i>Xenops minutus</i> (Sparman, 1788)	Plain Xenops	tf, va	ar	common
<b>Family Rhynchocyclidae</b>				
<i>Tolmomyias flaviventris</i> (Wied, 1831)	Yellow-breasted Flycatcher	tf, ca, cm	ar	
<i>Todirostrum maculatum</i> (Desmarest, 1806)	Spotted Tody-Flycatcher	tf, ca	ar	
<i>Todirostrum chrysocrotaphum</i> Strickland, 1850	Yellow-browed Tody-Flycatcher	Tf, ca	ar	
<i>Hemitriccus minor</i> (Sneath, 1907)	Sneath's Tody-Tyrant	tf	ar	common
<i>Myiornis ecaudatus</i> (d'Orbigny and Lafresnaye, 1837)	Short-tailed Pygmy-Tyrant	tf, va	ar	rare
<i>Mionectes oleagineus</i> (Lichtenstein, 1823)	Ochre-bellied Flycatcher	tf, va	om	
<i>Corythopsis torquatus</i> (Tschudi, 1844)	Ringed Antpiper	tf	ar	rare
<b>Family Tyrannidae</b>				
<i>Tyrannulus elatus</i> (Latham, 1790)	Yellow-crowned Tyrannulet	tf, ca, va	ar	common
<i>Myiopagis gaimardii</i> (d'Orbigny, 1839)	Forest Elaenia	tf, ca, va	ar	common
<i>Myiopagis caniceps</i> (Swainson, 1835)	Gray Elaenia	tf	ar	rare
<i>Ornithion inerme</i> Hartlaub, 1853	White-lored Tyrannulet	tf, va	ar, fr	rare
<i>Camptostoma obsoletum</i> (Temminck, 1824)	Southern Beardless-Tyrannulet	tf, ca, cm	ar, fr	rare
<i>Phaeomyias murina</i> (Spix, 1825)	Mouse-colored Tyrannulet	tf, ca, cm	ar, fr	
<i>Zimmerius gracilipes</i> (Sclater and Salvin, 1868)	Slender-footed Tyrannulet	tf, va	ar, fr	common
<i>Inezia subflava</i> (Sclater and Salvin, 1873)	Amazonian Tyrannulet	va	ar	
<i>Piprites chloris</i> (Temminck, 1822)	Wing-barred Piprites	tf	ar	common
<i>Platyrinchus platyrhynchos</i> (Gmelin, 1788)	White-crested Spadebill	tf	ar	rare
<i>Lathrotriccus euleri</i> (Cabanis, 1868)	Euler's Flycatcher	tf, va	ar	rare
<i>Legatus leucophaeus</i> (Vieillot, 1818)	Piratic Flycatcher	tf, ca, va	ar, fr	
<i>Myiozetetes cayanensis</i> (Linnaeus, 1766)	Rusty-margined Flycatcher	ca	ar, fr	
<i>Myiozetetes luteiventris</i> (Sclater, 1858)	Dusky-chested Flycatcher	tf	ar, fr	rare
<i>Pitangus sulphuratus</i> (Linnaeus, 1766)	Great Kiskadee	ca	om	rare
<i>Philohydor lictor</i> (Lichtenstein, 1823)	Lesser Kiskadee	tf, ca, ri	ar	
<i>Conopias parvus</i> (Pelzeln, 1868)	Yellow-throated Flycatcher	tf, cm	ar	common
<i>Megarynchus pitangua</i> (Linnaeus, 1766)	Boat-billed Flycatcher	tf, ca, cm	ar, fr	
<i>Tyrannopsis sulphurea</i> (Spix, 1825)	Sulphury Flycatcher	tf, ca, va	ar	
<i>Empidonomus varius</i> (Vieillot, 1818)	Variiegated Flycatcher	tf, ca, cm	ar, fr	
<i>Tyrannus melancholicus</i> Vieillot, 1819	Tropical Kingbird	tf, ca, cm	ar, fr	
<i>Tyrannus savana</i> Vieillot, 1808	Fork-tailed Flycatcher	tf, ca, cm	ar, fr	
<i>Rhytipterna simplex</i> (Lichtenstein, 1823)	Grayish Mourner	tf	ar	rare
<i>Myiarchus tuberculifer</i> (d'Orbigny and Lafresnaye, 1837)	Dusky-capped Flycatcher	tf, ca, va	ar, fr	rare
<i>Myiarchus ferox</i> (Gmelin, 1789)	Short-crested Flycatcher	ca, cm	ar, fr	rare
<i>Attila bolivianus</i> Lafresnaye, 1848	Dull-capped Attila	va	ar	rare
<i>Attila spadiceus</i> (Gmelin, 1789)	Bright-rumped Attila	tf	ar	rare
<b>Family Cotingidae</b>				
<i>Lipaugus vociferans</i> (Wied, 1820)	Screaming Piha	tf	fr, ar	common

Scientific name	English name	Habitat	diet	Abundance in the study
<b>Family Pipridae</b>				
<i>Tyrannetes stolzmanni</i> (Hellmayr, 1906)	Dwarf Tyrant-Manakin	tf, va	fr	common
<i>Lepidothrix nattereri</i> (Sclater, 1865)	Snow-capped Manakin	<b>tf</b>	fr	common
<i>Heterocercus linteatus</i> (Strickland, 1850)	Flame-crested Manakin	tf, ca, va	fr	
<i>Pipra rubrocapilla</i> Temminck, 1821	Red-headed Manakin	tf, va	fr	common
<b>Family Tityridae</b>				
<i>Terenotriccus erythrurus</i> (Cabanis, 1847)	Ruddy-tailed Flycatcher	tf, va	ar	rare
<i>Schiffornis turdina</i> (Wied, 1831)	Thrush-like Schiffornis	<b>tf</b>	ar, fr	rare
<i>Pachyrhamphus rufus</i> (Boddaert, 1783)	Cinereous Becard	tf, va	ar	
<i>Pachyrhamphus marginatus</i> (Lichtenstein, 1823)	Black-capped Becard	<b>tf</b>	ar	common
<b>Family Vireonidae</b>				
<i>Cycalhis gujanensis</i> (Gmelin, 1789)	Rufous-browed Peppershrike	tf, va	ar	common
<i>Vireolanius leucotis</i> (Swainson, 1838)	Slaty-capped Shrike-Vireo	<b>tf</b>	ar	common
<i>Vireo olivaceus</i> (Linnaeus, 1766)	Red-eyed Vireo	tf, ca, va	ar	rare
<i>Hylophilus semicinerus</i> Sclater and Salvin, 1867	Gray-chested Greenlet	tf, va	ar	
<i>Hylophilus pectoralis</i> Sclater, 1866	Ashy-headed Greenlet	cm, ca	ar	
<i>Hylophilus hypoxanthus</i> Pelzelni, 1868	Dusky-capped Greenlet	<b>tf</b>	ar	common
<i>Hylophilus ochraceiceps</i> Sclater, 1860	Tawny-crowned Greenlet	<b>tf</b>	ar	
<b>Family Hirundinidae</b>				
<i>Stelgidopteryx ruficollis</i> (Vieillot, 1817)	Southern Rough-winged Swallow	tf, ca, va, ri	ar	
<i>Progne tapera</i> (Vieillot, 1817)	Brown-chested Martin	ca, ri	ar	
<i>Progne subis</i> (Linnaeus, 1758)	Purcre Martin	ca, ri	ar	
<i>Tachycineta albiventer</i> (Boddaert, 1783)	White-winged Swallow	ca, ri	ar	
<i>Hirundo rustica</i> Linnaeus, 1758	Barn Swallow	ca	ar	
<b>Family Troglodytidae</b>				
<i>Microcerculus marginatus</i> (Sclater, 1855)	Scaly-breasted Wren	tf, va	ar	Rare
<i>Troglodytes musculus</i> Naumann, 1823	Southern House-Wren	ca	ar	
<i>Cantorchilus leucotis</i> (Lafresnaye, 1845)	Buff-breasted Wren	va, ca	ar	
<b>Family Polioptilidae</b>				
<i>Ramphocaenus melanurus</i> Vieillot, 1819	Long-billed Gnatwren	tf, va	ar	Rare
<b>Family Turdidae</b>				
<i>Turdus albicollis</i> Vieillot, 1818	White-necked Thrush	<b>tf</b>	fr, ar	Common
<b>Family Thraupidae</b>				
<i>Saltator grossus</i> (Linnaeus, 1766)	Slate-colored Grosbeak	tf, va	fr, ar	Rare
<i>Saltator maximus</i> (Statius Muller, 1776)	Buff-throated Saltator	tf, va	fr, ar	
<i>Saltator coerulescens</i> Vieillot, 1817	Grayish Saltator	tf, ca, va	fr, ar	
<i>Lamprospiza melanoleuca</i> (Vieillot, 1817)	Red-billed Pied Tanager	<b>tf</b>	fr	Rare
<i>Ramphocelus carbo</i> (Pallas, 1764)	Silver-beaked Tanager	ca	fr, ar	
<i>Lanio cristatus</i> (Linnaeus, 1766)	Flame-crested Tanager	tf, va	fr, ar	Rare
<i>Tangara mexicana</i> (Linnaeus, 1766)	Turquoise Tanager	tf, ca, va	fr	
<i>Tangara chilensis</i> (Vigors, 1832)	Paradise Tanager	tf	fr	Rare
<i>Tangara episcopus</i> (Linnaeus, 1766)	Blue-gray Tanager	ca	fr, ar	
<i>Tangara palmarum</i> (Wied, 1823)	Palm Tanager	ca	fr, ar	
<i>Paroaria gularis</i> (Linnaeus, 1766)	Red-capped Cardinal	ca, ri	se, ar	
<b>Family Emberizidae</b>				
<i>Ammodramus aurifrons</i> (Spix, 1825)	Yellow-browed Sparrow	ca, cm	se, ar	
<i>Sicalis columbiana</i> Cabanis, 1851	Orange-fronted Yellow-finch	Va, ca	se	
<i>Volatinia jacarina</i> (Linnaeus, 1766)	Blue-black Grassquit	ca, cm	se	
<i>Sporophila americana</i> (Gmelin, 1789)	Wing-barred Seedeater	ca, cm	se	
<i>Arremon taciturnus</i> (Hermann, 1783)	Pectoral Sparrow	tf, va	se, ar	
<b>Family Cardinalidae</b>				
<i>Habia rubica</i> (Vieillot, 1817)	Red-crowned Ant-Tanager	<b>tf</b>	ar, fr	Common
<i>Granatellus pelzelni</i> Sclater, 1865	Rose-breasted Chat	tf, va	ar	Rare
<i>Caryothraustes canadensis</i> (Linnaeus, 1766)	Yellow-green Grosbeak	tf	fr, ar	Common
<i>Cyanoloxia cyanooides</i> (Lafresnaye, 1847)	Blue-black Grosbeak	tf, va	fr, se, ar	Rare
<b>Family Icteridae</b>				
<i>Psarocolius decumanus</i> (Pallas, 1769)	Crested Oropendola	tf, ca, cm	om	

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<i>Psarocolius bifasciatus</i> (Spix, 1824)	Olive Oropendola	tf, va	om	
<i>Cacicus cela</i> (Linnaeus, 1758)	Yellow-rumped Cacique	tf, ca, va	om	Rare
<i>Molothrus oryzivorus</i>	Giant Cowbird	ca	om	
<b>Family Fringillidae</b>				
<i>Euphonia chlorotica</i> (Linnaeus, 1766)	Purple-throated Euphonia	ca, cm	fr	
<i>Euphonia rufiventris</i> (Vieillot, 1819)	Rufous-bellied Euphonia	tf, va	fr	Rare