# Foothill avifauna of the upper Urubamba Valley, dpto. Cusco, Peru

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Se registró un total de 311 especies en dos sitios bajos en las montañas del alto Valle de Urubamba, dpto. Cuzco, Perú. Se documentan primeros registros para la región, nuevas ocurrencias altitudinales y la abundancia relativa y estatus reproductivo de esta avifauna.

The upper Urubamba River is an inter-Andean valley in south-east Peru that originates in the altiplano of dpto. Cusco. From Quillabamba, at c.1,000 m and above, the vegetation is arid and shorter in stature as a result of a rain shadow that arises from moisture catchment by high cordilleras to the east. The effects of the rain shadow are much reduced just north of Quillabamba where the vegetation is much taller and lush. The avifauna of the upper Urubamba remains poorly known despite explorations commencing as early as 1868 in the region<sup>14,15</sup>. Berlepsch & Stolzmann<sup>1</sup> reported on M. J. Kalinowski's 1896 collections from the upper Urubamba. Chapman's summary of the Yale University-National Geographic Society's expedition (1915), his and George Cherrie's work (1916) and that of H. Watkins (1917) provided a solid foundation of our knowledge of this area. Louisiana State University Museum of Natural Science<sup>10</sup> further explored the area with five expeditions in 1974-79, and the birds of Machu Picchu were treated by Walker & Fjeldså<sup>17</sup>.

Most of the above field work was concentrated at higher elevations of the upper Urubamba Valley. However, recently, as part of a multiinstitutional rapid biological inventory, D. Lane and T. Pequeño provided data for the foothill avifauna in the Zona Reservada Megantoni, in the central Urubamba Valley, dpto. Cusco<sup>16</sup>. Herein, we present results from surveys in March-April 2009 of two foothill sites in the upper Urubamba Valley, dpto. Cusco (Fig. 1), by DG & BW, and by teams

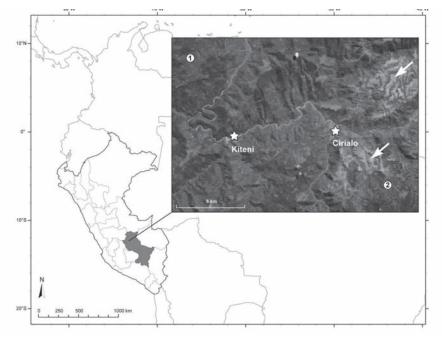


Figure I. Google Earth image of study area. Dpto. Cusco is highlighted in grey. Two principal camp sites are denoted: I. Alto Manguriari; 2. Alto Materiato. White arrows indicate presumed human-generated grassland. The río Urubamba is the principal river in this image.





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### Study sites and Methods

The KUNHM / CORBIDI team established two camps near the upper Urubamba River, Distrito Echarate, prov. La Convención. The first was located on the Comunidad Campesina Alto Manguriari, on 3-11 April 2009 (12°33.93'S 73°05.27'W; 1,325 m; elevations covered were c.1,100-1,400 m; Fig. 1). Personnel were MBR, TJD, MC, MDE and KPK. This camp was located beside a narrow, winding dirt road that was sparsely populated. All forest along the road was secondary, but above and below the road there was contiguous, relatively untouched forest. In disturbed areas, along the road and at the edge of clearings in the forest, there were bamboo patches (Guadua spp.). Surveys were concentrated in the forest around camp and along the road for several km in each direction, including the forest block at the road's terminus (6–7 road km beyond camp). Mist-nets (12 m in length, positioned at ground level; max. 25 / day during the last few days; opened from first light until late evening, except during heavy rain) were restricted to forest immediately above and below the campsite. Rainfall, ranging in periods of a few minutes to three continuous hours, was recorded every day but two.

The second KUNHM / CORBIDI camp (12°42.01'S 72°52.56'W, 1,700 m; c.30 km south-east of the first camp; Fig. 1) was located on the Comunidad Campesina Alto Materiato, near the terminus of a dirt road and was worked on 12–23 April 2009. Personnel were MBR, TJD, MC, MDE and KPK. On 12 March 2009, DG walked the road from Cirialo up to Tucantinas (above San Antonio and just east of the KUNHM / CORBIDI camp), and because of heavy rains he returned to Cirialo on 13 March. DG & BW revisited the area on 30 March–2 April 2009 and camped at two sites (12°42.75'S 72°55.17'W, 1,700 m; 12°40.07'S 72° 54.22'W, 1,325 m). Only birds that they encountered above c.1,000 m are included in the Appendix.

Except for a few tongues of primary forest on steep slopes, the forest near the KUNHM / CORBIDI Alto Materiato camp was secondary and much of the area from c.1,250 m up to the camp and Tucantinas had been completely cleared and comprised pasture with lush grasses (presumably introduced) up to 1 m tall. Extensively cleared areas, especially above the village of San Antonio, were covered with a dense fern and thorn-dominated herbaceous growth c.1 m in height. Cattle were present in small numbers, with none seen in large tracts of grassland. We presume cattle may be moved to these areas during the dry season. The ridge above camp (c.1,900 m) was contiguous

with largely undisturbed forest in all directions to the south. In addition to working the scrub and forest at our campsite, we drove down the road to c.1,000 m (12°39.06'S 72°55.36'W) above the small town of Cirialo. At 1,000-1,250 m our surveys were restricted to the road because of the extremely steep slopes. Use of mist-nets (eventually 25 / day) was restricted to the scrub and forest near camp. Although rain was recorded on all but the final three days, precipitation was far more extensive on higher ridges to the east and in the Cordillera Vilcabamba to the west. Thus, the area we worked appeared to be in a rain shadow, which may have been accentuated by forest clearance. Large tracts of pasture were also observed on slopes on the other side of the Urubamba River, north-east of our Alto Materiato camp (Fig. 1).

Specimens are deposited at KUNHM and CORBIDI. MBR's sound-recordings (*n*=184) are deposited at the Macaulay Library of Natural Sounds (MLNS), Cornell Lab of Ornithology, Ithaca, NY, and DG's are deposited at www.xeno-canto.org/america. Taxonomy and nomenclature follow the South American Checklist Committee<sup>11</sup> as of 1 September 2010.

#### **Results**

A total of 311 species was recorded at these two foothill sites (Appendix), with several new records for the upper Urubamba Valley and dpto. Cusco (see Species accounts). Relative abundance designations in the Appendix are positively correlated with the degree of singing for the majority of species, especially passerines.

For Peru, we obtained new upper-elevation records for the following taxa<sup>13,18</sup>: Ocellated Poorwill Nyctiphrynus ocellatus, 1,700 m; Striolated Puffbird Nystalus striolatus, 1,350 m; Bar-breasted Piculet Picumnus aurifrons, 1,325 m; White-throated Woodpecker Piculus leucolaemus, 1,325 m; Cinnamonthroated Woodcreeper Dendrexetastes rufigula, 1,325 m; Cabanis's Spinetail Synallaxis cabanisi, 1,700 m; Peruvian Recurvebill Simoxenops ucayalae, 1,325 m; Barred Antshrike *Thamnophilus doliatus*, 1,700 m; Bluish-slate Antshrike Thamnomanes schistogynus, 1,800 m; White-lored Tyrannulet Ornithion inerme, 1,250 m; Yellow-browed Tody-Flycatcher Todirostrum chrysocrotophum, 1,250 m; Olivaceous Flatbill Rhynchocyclus olivaceus, 1,350 m; Largeheaded Flatbill Ramphotrigon megacephalum, 1,400 m; Green-backed Becard Pachyramphus viridis, 1,700 m; Thrush-like Schiffornis Schiffornis turdina, 1,800 m; and Guira Tanager Hemithraupis guira, 1,650 m.

Both boreal and austral migrants were present for the duration of our field work (Appendix). Even on our last field day, 23 April, five Western Wood Pewee *Contopus sordidulus* and one Alder Flycatcher *Empidonax alnornum* were still present.

### **Species accounts**

#### White-tailed Hawk Buteo albicaudatus

In the extensive pasture area at c.1,250-1,700 m in the Materiato area, individuals were observed dropping to the ground for presumed prey and soaring over grass-covered ridges. The maximum number of individuals observed included two pale-morph adults and an apparent subadult, in presumed Basic I plumage20. Adults were distinguished from the similarly plumaged Variable Hawk B. polyosoma by having rufous on the dorsal surface confined to the wing-coverts and no rufous on the back. The dark-plumaged subadult in close proximity to the two adults was identified by shape and size, and the presence of a white patch on the centre of the upper chest. Previously, the species was known only from the Pampas del Heath in extreme south-east Peru<sup>13</sup>. The conversion of forest to pasture undoubtedly has lead to its expansion in Peru, and observers may have been overlooking the species given its similar appearance to B. polyosoma. Recently, B. albicaudatus has been documented as far north as Satipo, dpto. Junín, where a pale-morph adult was photographed on 29-31 August 2008 (G. Seeholzer & M. Harvey pers. comm.), and there have been subsequent sight records in the Jaen area (BW pers. obs.).

### Ocellated Crake Micropygia schomburgkii

Heard at all periods of the day in the grass-dominated landscape at c.1,250–1,500 m in March–April. Prior to these records, this often easily overlooked rail was known from singles trapped and photographed at Winay-Wayna ruins (13°11.09'S 72°32.30'W), dpto. Cusco, Pantiacolla Lodge (12°39.35'S 71°13.87'W), dpto. Madre de Dios<sup>17</sup>, and the Pampas del Heath, in the extreme south-east of the country<sup>13</sup>. Given the few records, it is unclear if this rail is a permanent resident and / or an austral migrant.

# Andean Nyctibius maculosus and Long-tailed Potoos N. aethereus

Surprisingly, we recorded both species calling on the same date at our Manguriari camp (MLNS 147392, 147383). Andean was heard on several evenings, whereas Long-tailed was recorded only once pre-dawn; neither species was seen. These are the lowest and highest elevations, respectively, recorded for these two species and may represent the first time they have been recorded syntopically<sup>13</sup>.

### Blue-fronted Lancebill Doryfera johannae

One mist-netted at Manguriari (CORB-AV-2010-1144) provides the southernmost record in Peru. Although indicated to occur south only to dpto. Junín<sup>13</sup>, there now exist several unpublished sight

records by experienced observers in recent years at Hacienda Amazonia Lodge, nearby Pantiacolla Lodge, Manu National Park, and along the lower Manu Road at Quita Calzones, dpto. Madre de Dios (H. Lloyd pers. comm.).

### Brown Violetear Colibri delphinae, Peruvian Piedtail Phlogophilus harterti and Black-

throated Brilliant Heliodoxa schreibersii

Our Manguriari records fill in distribution gaps for these hummingbirds<sup>13</sup>. The only records of the *Colibri* and *Heliodoxa* were of single, mist-netted birds, whereas two *Phlogophilus* were mist-netted and another was observed. Peruvian Piedtail is considered Near Threatened as a result of its limited distribution<sup>3</sup>.

#### Versicoloured Barbet Eubucco versicolor

This species was not vocalising at either locality. Of the four adult males collected at Materiato, all exhibited the narrow blue breast-band more typical of the southern nominate form. However, one (KUNHM 113512) has an admixture of yellow / blue on the malar stripe that is intermediate between central Peruvian *E. v. glaucogularis* and the nominate subspecies. Males with mixed characters have been noted at Santa Ana (a few km south-west of Quillabamba), just east of Materiato¹ and the Ayacucho / Cusco border¹³.

#### Ashy Antwren Myrmotherula grisea

An adult male in non-breeding condition (testes  $1\times 1$  mm) mist-netted at Manguriari on 6 April 2009 (CORB-AV-2010-1145) represents the first specimen for dpto. Cusco, Peru<sup>13</sup>. The first record for the department was a male mist-netted and photographed on the east slope near La Convención in the Cordillera Vilcabamba, at 1,630 m, on 18 November 2007 (J. Ugarte Núñez pers. comm.). These two records extend the species' range c.500 km north-west of the northernmost locality on the Peru / Bolivian border<sup>6</sup>. Although listed as Vulnerable by the IUCN based solely on criterion C2a², Herzog *et al.*<sup>6</sup> demonstrated that it does not meet that requirement, and our range extension further supports their conclusion.

Sooty-headed Tyrannulet Phyllomyias griseiceps Two of this poorly known foothill species were recorded, one of them collected (CORB-AV-2010-1142), at Manguriari (MBR recordings; MLNS 147418, 147501). Additionally, a sound-recording (XC31082) was made by DG of an unseen individual at 1,100 m above Cirialo on 3 March 2009. Vocal material is very similar to the recently described Yungus Tyrannulet P. weedeni<sup>5</sup>. Surprisingly, no comparative material of P. griseiceps was included in the analysis and formal description of P. weedeni<sup>5</sup>. Such comparison would provide important evidence





about the status of *P. weedeni* and its relationship to the *P. griseiceps* complex.

# Yellow-olive Flycatcher Tolmomyias

sulphurescens

A single immature mist-netted at Materiato represents the first specimen for dpto. Cusco (KUNHM 113557); it appears to represent the central Peruvian subspecies *T. s. peruvianus*. Recent sight records and sound-recordings are available from Aguas Calientes (upstream on the río Urubamba; various observers) and, in 2009, D. Lane obtained photographs and sound-recordings from San Pedro (on the Manu Road) that have extended this taxon's distribution well south of where it was mapped in Schulenberg *et al.* <sup>13</sup>.

Bran-coloured Flycatcher Myiophobus fasciatus At least a dozen were heard and sound-recorded at dawn in bushes in the fern-dominated herbaceous growth along c.2 road km at our Materiato camp (MLNS 147426, 147479, 147500; XC32112). Although testes were moderately enlarged in two April males ( $4 \times 2$  mm, KUMNH 113561;  $6.0 \times 3.5$  mm, CORB-AV-2010-102), we presume this was a reflection that it was the end of the breeding season. Apparently, this represents the first breeding evidence of the eastern Peruvian form, M. f: saturatus, in the country as Schulenberg et al. al state that it 'may breed locally, especially near Andes.'

### Rufous-tailed Tyrant Knipolegus poecilurus

MBR observed and sound-recorded vocalisations of displaying males at dawn in the fern-/thorn-dominated herbaceous growth at Materiato. Single males leapt vertically (c.<1 m) from a small, leafless bush as they gave a difficult to detect, thin, insect-like note along with a mechanical sound (MLNS 148314). We presume the latter is generated by the emarginated outer primaries. Although this display has been noted in Peru<sup>13</sup>, apparently it has not been described for other populations of K. poecilurus across its broad range<sup>12</sup>.

### Shrike-like Cotinga Laniisoma elegans

Two adult males in non-breeding condition (KUNHM 113625, CORB-AV-2010-1138) were mist-netted in primary forest at Manguriari at c.1,400 m. Apparently, these represent the first records between the Apurímac<sup>19</sup> and the Cosñipata Valley, dpto. Cusco<sup>18</sup>.

Green-backed Becard *Pachyramphus viridis*Several pairs were observed attending completed, bulky, globular nests on isolated trees in clearings at both sites (specimens and sound-recordings). The nearest known location is Hacienda Amazonia Lodge, dpto. Madre de Dios (12°52'S 71°23'W), where

a pair was photographed and sound-recorded<sup>8</sup>. Our records fill a gap in the species' known distribution from dpto. Junín to eastern dpto. Cusco<sup>13</sup>.

#### Purplish Jay Cyanocorax cyanomelas

DG observed and sound-recorded this species up to 1,000 m above Cirialo (XC31234). These are the first records outside the Madre de Dios drainage in Peru, where it is mostly restricted to the floodplain up to 1,000 m<sup>13</sup>.

#### **Slaty Thrush** *Turdus nigriceps*

The two mist-netted individuals, 17 and 20 April (male, KUNHM 113574; female, CORB-AV-2010-1139), represent some of the earliest records of this austral and trans-Andean migrant along the east Andean slope of Peru<sup>13</sup>. The only earlier record is of a bird taken on 13 February 1975, at Conchapen Mountain, Yurinaqui Alto, dpto. Junín, by P. Hocking & G. Lopez (Field Museum of Natural History 299306). Indicative of migrants, both individuals we collected had moderate to heavy fat and small gonads.

#### Vermilion Tanager Calochaetes coccineus

A non-breeding male and female collected (KUNHM 113603, CORB-AV-2010-1140) in primary forest at Materiato represent the first specimens for dpto. Cusco, although D. Lane & T. Pequeño observed the species in the middle Urubamba at Zona Reservada Megantoni<sup>16</sup>. This apparently represents the southernmost record for the species<sup>13</sup>.

# **Blue-winged Mountain Tanager** *Anisognathus* somptuosus

Fairly common in scrubby, secondary forest at Materiato. Birds were not vocalising and were seen in monospecific groups of 2–4 individuals. All specimens were in non-breeding condition and had the olive-green rumps of the nominate subspecies. This extends the range of this subspecies further up the Urubamba, as it was recorded in the middle Urubamba at Zona Reservada Megantoni<sup>16</sup>.

# Scarlet-rumped Cacique Cacicus uropygialis

Two non-breeding females (KUNHM 113609, CORB-AV-2010-1141) taken in primary forest at Materiato represent the southernmost records; the species is known just to the north from the east side of the Apurímac Valley in the Cordillera Vilcabamba<sup>13,19</sup>.

#### **Discussion**

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Our surveys help elucidate the status and distribution of the poorly known foothill avifauna of this region. We underscore that our inventories were conducted at the end of the rainy season, when most species were finishing their breeding seasons (fledged young were observed of a number

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of species; see gonad data in species accounts) and vocalisations had ceased or were very infrequent for most species. There were of course exceptions; e.g., several antibird species at Manguriari and Tropical Parula *Parula pitiayumi* at both camps persistently vocalised during the April surveys. Nonetheless, our inventories for both localities should be considered preliminary and undoubtedly many more species would be recorded if longer surveys were conducted during the height of the vocal period, presumably September–November (pers. obs.).

We recorded six species that are included in BirdLife International's Peruvian East Andean foothills Endemic Bird Area (0533), with one, Black Tinamou Tinamus osgoodi, ranked as Vulnerable, and another, Phlogophilus harterti, considered Near Threatened. Both species appear to require relatively intact forest. The remaining four species are ranked as Least Concern. Cerulean-capped Manakin Lepidothrix coeruleocapilla, Yungas Manakin Chiroxiphia boliviana and Bolivian Tyrannulet Zimmerius bolivianus were common to fairly common in disturbed forest, whereas Creamybellied Antwren Herpsilochmus motacilloides was seen in the canopy and subcanopy of forest edge and ridge-top forest. Another species that is not restricted to this EBA but is considered Vulnerable, is Blue-headed Macaw Primolius couloni; a few pairs were recorded at both our sites.

Patches of Guadua bamboo were fairly common along the road and forest edge at Manguriari, which is near the upper elevation of this habitat<sup>16</sup>. Although the specialised bamboo avifauna<sup>7,9</sup> at Manguriari is clearly a subset of species that occupies this habitat at lower elevations, because of the low level of vocalisations during our inventory coupled with our effort being concentrated above 1,100 m, we hesitate to speculate on whether our list is complete for Manguiari: Yellow-billed Nunbird Monasa flavirostris, Cabanis's Spinetail Synallaxis cabanisi, Pervuian Recurvebill Simoxenops ucayalae, Crested Foliage-gleaner Anabazenops dorsalis, Ornate Antwren Epinecrophylla ornata, Dot-winged Antwren Microrhopias quixensis, Peruvian Warbling Antbird Hypocnemis subflava Large-headed Flatbill Ramphotrigon megacephalum. We failed to record the following bamboo specialists that Lane & Pequeño<sup>16</sup> found in the middle Urubamba River at Kapiromashi (c.760-1,000 m): Rufous-breasted Piculet Picumnus rufiventris, Bamboo Antshrike Cymbilaimus sanctaemariae, Striated Antbird Drymophila devillei, Manu Antbird Cercomacra manu, White-lined Antbird Percnostola lophotes, Yellow Tyrannulet Capsiempis flaveola, White-faced Tody-Tyrant Poecilotriccus albifacies, Flammulated Tody-Tyrant Hemitriccus flammulatus and Duskytailed Flatbill Ramphotrigon fuscicauda.

Anthropogenic impact was significant at both localities, albeit with much less at Manguriari. We suspect that the extensive conversion of forest to pasture in the San Antonio region, from above Cirialo to Alto Materiato, has had dramatic effects on species composition and the relative abundance of many species. Aside from the loss of many forest species over a sizeable area (Fig. 1), several species that were presumably either non-existent (e.g. White-tailed Hawk Buteo albicaudatus and Ocellated Crake Micropygia schomburgkii) or very locally distributed (e.g. Cinereous-breasted Spinetail Synallaxis hypospodia and Rusty-backed Antwren Formicivora rufa) prior to habitat conversion were regularly encountered during our surveys. The short-stature xeric vegetation influenced by the rain shadow above Quillabamba may have been the source for several of these species that are now found in the Cirialo / Alto Materiato area. In grassland with scattered bushes, non-vocalising Black-faced Tanager Schistochlamys melanopis (adults and immatures seen together) and displaying Blue-black Grassquit Volatinia jacarina were the most abundant species. In the fern-/ thorn-dominated herbaceous cover with scattered bushes, Azara's Spinetail Synallaxis azarae, Bran-coloured Flycatcher Myiophobus fasciatus, Rufous-tailed Tyrant Knipolegus poecilurus and Dull-colored Seedeater Tiaris obscurus were the most abundant species.

The presence of cracids, *Primolius couloni*, Red-throated Caracara *Ibycter americanus*, Red Howler Monkey *Alouatta seniculus*, agoutis *Dasyprocta* spp., squirrels *Sciurus* spp., and Giant Armadillo *Priodontes maximus* was indicative of the quality of the forest and the low hunting pressure at Manguriari. In contrast, mammals appeared scarcer at Alto Materiato, probably due to a combination of factors: more impacted forest, higher hunting pressure (we were informed of a number of terrestrial mammal traps near our campsite) and the higher elevation. Nonetheless, the abundance of tinamous and cracids appeared to indicate only moderate hunting pressure on the avifauna at Materiato.

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Appendix. List of bird species recorded at two study sites in the foothills of the upper Urubamba Valley, dpto. Cusco, Peru, in March–April 2009. Relative abundance criteria: C = common (>20 individuals / day); F = fairly common (5–20 individuals / day); U = uncommon, present in small numbers (<5 individuals / day); R = rare; only occasionally encountered and in small numbers; X = single record. Documentation evidence: # = specimen; v = voice recorded; no symbol = sight and / or heard only, i.e., no concrete evidence.

		Species	Manguriari	Materiato
TINAMIDAE	Grey Tinamou	Tinamus tao	X, D34#	
	Black Tinamou	Tinamus osgoodi		X, v
	Little Tinamou	Crypturellus soui	U	X, v
	Brown Tinamou	Crypturellus obsoletus		U, #
	Small-billed Tinamou	Crypturellus parvirostris		U
CRACIDAE	Wattled Guan	Aburria aburri	R, v	R
	Speckled Chachalaca	Ortalis guttata	U, v	C, #
ODONTOPHORIDAE	Rufous-breasted Wood Quail	Odontophorus speciosus		F, #
	wood quail sp.	Odontophorus sp.	X	
CATHARTIDAE	Turkey Vulture	Cathartes aura		U
	Greater Yellow-headed Vulture	Cathartes melambrotus	X	
	Black Vulture	Coragyps atratus	X	Χ
	King Vulture	Sarcoramphus papa	X	
ACCIPITRIDAE	Swallow-tailed Kite	Elanoides forficatus	R	
	Sharp-shinned Hawk	Accipiter striatus		R
	Cinereous Harrier	Circus cinereus		X
	Roadside Hawk	Buteo magnirostris	U, v	F, #
	White-tailed Hawk	Buteo albicaudatus		R
	Barred Forest Falcon	Micrastur ruficollis	U, #	
	Red-throated Caracara	lbycter americanus	R, v	
	Bat Falcon	Falco rufigularis		Χ
RALLIDAE	Ocellated Crake	Micropygia schomburgkii		F, v
	Rufous-necked Wood Rail	Aramides cajanea	X	
	Russet-crowned Crake	Anurolimnas viridis		F, v
	Rufous-sided Crake	Laterallus melanophaius		U
	Grey-breasted Crake	Laterallus exilis		X, v
COLUMBIDAE	Plain-breasted Ground Dove	Columbina minuta		F, v
	Ruddy Ground Dove	Columbina talpacoti		X
	Blue Ground Dove	Claravis pretiosa	X	
	Band-tailed Pigeon	Patagioenas fasciata		R
	Plumbeous Pigeon	Patagioenas plumbea	U	U, v
	White-tipped Dove	Leptotila verreauxi	C, v	С
	Grey-fronted Dove	Leptotila rufaxilla	X, #	
	White-throated Quail-Dove	Geotrygon frenata	X	
PSITTACIDAE	Blue-headed Macaw	Primolius couloni	R, v	C, v
	White-eyed Parakeet	Aratinga leucophthalma	X	
	Rose-fronted Parakeet	Pyrrhura roseifrons	U	
	Blue-headed Parrot	Pionus menstruus	U, #	U
	Scaly-naped Parrot	Amazona mercenaria		R, v
	Mealy Parrot	Amazona farinosa	X, v	
CUCULIDAE	Squirrel Cuckoo	Piaya cayana	U, #	U, #
	Yellow-billed Cuckoo	Coccyzus americanus	R	
	Black-billed Cuckoo	Coccyzus erythropthalmus	R, #	
	Smooth-billed Ani	Crotophaga ani		U
STRIGIDAE	Tropical Screech Owl	Megascops choliba		U, #
	Rufescent Screech Owl	Megascops ingens		X, v
	Band-bellied Owl	Pulsastrix melanota	U, #	X







	Black-banded Owl	Ciccaba huhula	Χ	
NYCTIBIIDAE	Long-tailed Potoo	Nyctibius aethereus	X, v	
	Andean Potoo	Nyctibius maculosus	X, v	
CAPRIMULGIDAE	Ocellated Poorwill	Nyctiphrynus ocellatus	X, #	F, v
	Scissor-tailed Nightjar	Hydropsalis torquata		F, #
APODIDAE	Chestnut-collared Swift	Streptoprocne rutila	U, v	Χ
	White-collared Swift	Streptoprocne zonaris	X	Χ
TROCHILIDAE	Buff-tailed Sicklebill	Eutoxeres condamini	U, #	U, #
	White-browed Hermit	Phaethornis stuarti	Χ	
	Green Hermit	Phaethornis guy	U, #	U, #
	Blue-fronted Lancebill	Doryfera johannae	X, #	
	Wedge-billed Hummingbird	Schistes geoffroyi		X, #
	Brown Violetear	Colibri delphinae		X, #
	Green Violetear	Colibri thalassinus		X
	Black-eared Fairy	Heliothrix auritus	R	
	Peruvian Piedtail	Phlogophilus harterti	R, #	Χ
	Speckled Hummingbird	Adelomyia melanogenys		F, #
	Bronzy Inca	Coeligena coeligena		F, #
	Chestnut-breasted Coronet	Boissonneaua matthewsii		Χ
	Booted Racket-tail	Ocreatus underwoodii		U, #
	Black-throated Brilliant	Heliodoxa schreibersii	X, #	
	Violet-fronted Brilliant	Heliodoxa leadbeateri	X, #	R, #
	White-bellied Woodstar	Chaetocercus mulsant		X
	Blue-tailed Emerald	Chlorostilbon mellisugus		C, #
	Violet-headed Hummingbird	Klais guimeti	X	
	Swallow-tailed Hummingbird	Eupetomena macroura		F, #
	Fork-tailed Woodnymph	Thalurania furcata	U, #	R, #
	Green-and-white Hummingbird	Amazilia viridicauda		R, #
	Golden-tailed Sapphire	Chrysuronia oenone	Χ	X, #
TROGONIDAE	Blue-crowned Trogon	Trogon curucui	U, v	Χ
	Collared Trogon	Trogon collaris	U, v	
	Masked Trogon	Trogon personatus		R, #
MOMOTIDAE	Andean Motmot	Momotus aequatorialis		R, #
GALBULIDAE	Bluish-fronted Jacamar	Galbula cyanescens	U, #	
BUCCONIDAE	Striolated Puffbird	Nystalus striolatus	U, #	
	White-eared Puffbird	Nystalus chacuru		Χ
	Black-streaked Puffbird	Malacoptila fulvogularis		F, #
	Yellow-billed Nunbird	Monasa flavirostris	X, #	
CAPITONIDAE	Gilded Barbet	Capito auratus	U, #	U, #
	Versicoloured Barbet	Eubucco versicolor		U, #
RAMPHASTIDAE	White-throated Toucan	Ramphastos tucanus	R	R
	Emerald Toucanet	Aulcorhynchus prasinus	U	
	Chestnut-tipped Toucanet	Aulacorhynchus derbianus	U, #	R, #
	aracari sp.	Pteroglossus sp.	X	
PICIDAE	Bar-breasted Piculet	Picumnus aurifrons	U, #	Χ
	Ocellated Piculet	Picumnus dorbignyanus		U, #
	Yellow-tufted Woodpecker	Melanerpes cruentatus	U	F, #
	Yellow-vented Woodpecker	Veniliornis dignus		X, #
	Red-stained Woodpecker	Veniliornis affinis	U, #	X
	White-throated Woodpecker	Piculus leucolaemus	U, #	
	Golden-olive Woodpecker	Colaptes rubiginosus	U	U, #
	Lineated Woodpecker	Dryocopus lineatus	U, v	U, v
	Crimson-bellied Woodpecker	Campephilus haematogaster	X, #	Х







	Crimson-crested Woodpecker	Campephilus melanoleucos	U, #	
FURNARIIDAE	Tawny-throated Leaftosser	Sclerurus mexicanus	X, #	
	Grey-throated Leaftosser	Sclerurus abigularis	U, #	
	Azara's Spinetail	Synallaxis azarae		F, #
	Dark-breasted Spinetail	Synallaxis albigularis		X, v
	Cinereous-breasted Spinetail	Synallaxis hypospodia		U, #
	Cabanis's Spinetail	Synallaxis cabanisi	U, #	U, #
	Plain-crowned Spinetail	Synallaxis gujanensis	R, v	_
	Ash-browed Spinetail	Cranioleuca curtata	U, v	R, v
	Spotted Barbtail	Premnoplex brunnescens		R, #
	Montane Foliage-gleaner	Anabacerthia striaticollis		R, #
	Lineated Foliage-gleaner	Syndactyla subalaris		X, #
	Buff-browed Foliage-gleaner	Syndactyla rufosuperciliata		F, #
	Peruvian Recurvebill	Simoxenops ucayalae	U, #	
	Chestnut-winged Foliage-gleaner	Philydor erythrocercum	U, #	
	Dusky-cheeked Foliage-gleaner	Anabazenops dorsalis	R, #	
	Buff-throated Foliage-gleaner	Automolus ochrolaemus	U, #	R, v
	Plain Xenops	Xenops minutus	U, #	
	Streaked Xenops	Xenops rutilans	R	C, #
	Plain-brown Woodcreeper	Dendrocincla fuliginosa	X, #	
	Olivaceous Woodcreeper	Sittasomus griseicaþillus	U, #	U, #
	Wedge-billed Woodcreeper	Glyphorhynchus spirurus	U	
	Cinnamon-throated Woodcreeper	Dendrexetastes rufigula	R, #	
	Strong-billed Woodcreeper	Xiphocolaptes promeropirhynchus	R, v	
	Ocellated Woodcreeper	Xiphorhynchus ocellatus	U, #	
	Olive-backed Woodcreeper	Xiphorhynchus triangularis		U, #
	Montane Woodcreeper	Lepidocolaptes lacrymiger		Χ
	Red-billed Scythebill	Campylorhamphus trochilirostris	U, #	
THAMNOPHILIDAE	Barred Antshrike	Thamnophilus doliatus	U, v	F, #
	Chestnut-backed Antshrike	Thamnophilus palliatus	X	
	Plain-winged Antshrike	Thamnophilus schistaceus	U, v	
	Variable Antshrike	Thamnophilus caerulescens		Χ
	Plain Antvireo	Dysithamnus mentalis	U, #	U, #
	Bluish-slate Antshrike	Thamnomanes schistogynus	U, #	Χ
	Foothill Antwren	Epinecrophylla spodionata	R, #	
	Ornate Antwren	Epinecrophylla ornata	R, #	
	White-flanked Antwren	Myrmotherula axillaris		F, v
	Ashy Antwren	Myrmotherula grisea	X, #	
	Creamy-bellied Antwren	Herpsilochmus motacilloides		R, #
	Yellow-breasted Antwren	Herpsilochmus axillaris	U, #	
	Dot-winged Antwren	Microrhopias quixensis	U	
	Rusty-backed Antwren	Formicivora rufa		U, #
	Peruvian Warbling Antbird	Hypocnemis subflava	C, #	U, v
	Blackish Antbird	Cercomacra nigrescens notata		C, #
	White-backed Fire-eye	Pyriglena leuconota	R, #	R, #
	White-browed Antbird	Myrmoborus leucophrys	C, #	
	Chestnut-tailed Antbird	Myrmeciza hemimelaena	C, #	U, v
	Hairy-crested Antbird	Rhegmatorhina melanosticta	X, #	
FORMICARIIDAE	Black-faced Antthrush	Formicarius analis	F, #	U, v
	Short-tailed Antthrush	Chamaeza campanisona	R, #	U, v
GRALLARIIDAE	Scaled Antpitta	Grallaria quatimalensis sororia	U, v	X, v
CONOPOPHAGIDAE	Chestnut-crowned Gnateater	Conopophaga castaneiceps	X, #	U, #
RHINOCRYPTIDAE	White-crowned Tapaculo	Scytalopus atratus		R, #







TYRANNIDAE	Sooty-headed Tyrannulet	Phyllomyias griseiceps	U, #	X, v
	Forest Elaenia	Myiopagis gaimardii	F, v	U, #
	Yellow-bellied Elaenia	Elaenia flavogaster		F, #
	White-crested Elaenia	Elaenia albiceps		U, #
	Small-billed Elaenia	Elaenia þarvirostris		X, #
	elaenia sp.	Elaenia cristata / chiriquensis		U
	White-lored Tyrannulet	Ornithion inerme	R, v	F, v
	Torrent Tyrannulet	Serpophaga cinerea	,	R
	Ringed Antpipit	Corythopis torquata	R, #	
	Bolivian Tyrannulet	Zimmerius bolivianus	X, #	F, #
	Marble-faced Bristle Tyrant	Phylloscartes ophthalmicus	7,11	R
	Spectacled Bristle Tyrant	Phylloscartes orbitalis	X, photo	
	Mottle-cheeked Tyrannulet	Phylloscartes ventralis	. ,	F, #
	Cinnamon-faced Tyrannulet	Phylloscartes parkeri	F, #	., ,,
	Streak-necked Flycatcher	Mionectes striaticollis	U, #	F, #
	Olive-striped Flycatcher	Mionectes olivaceus	U, #	., ,,
	Sepia-capped Flycatcher	Leptopogon amaurocephalus	U, #	U
	Slaty-capped Flycatcher	Leptopogon superciliaris	U, #	U, #
	Ornate Flycatcher	Myiotriccus ornatus	U, #	Ο, π
	Short-tailed Pygmy Tyrant	Myiornis ecaudatus	U, #	Χ
	Scale-crested Pygmy Tyrant	Lophotriccus pileatus	F, #	F, #
	Stripe-necked Tody-Tyrant	Hemitriccus striaticollis	1,#	r, # F, #
	Common Tody-Flycatcher	Todirostrum cinereum	U	F, v
	Yellow-browed Tody-Flycatcher	Todirostrum chrysocrotaphum	R, v	R
	Olivaceous Flatbill	Rhynchocyclus olivaceus	R, #	K
	Fulvous-breasted Flatbill	Rhynchocyclus fulvipectus	Ν, #	X, #
	Yellow-olive Flycatcher	Tolmomyias sulphurescens	F, #	Λ, # U
	,	Tolmomyias flaviventris	r, # F, v	C, v
	Yellow-breasted Flycatcher	, ,	г, v F, #	C, v X, #
	White-throated Spadebill Unadorned Flycatcher	Platyrinchus mystaceus	Γ, # X	X, #
	•	Myiophobus inornatus	^	7 F, #
	Bran-coloured Flycatcher	Myiophobus fasciatus Myiobius villosus		г, # X, #
	Tawny-breasted Flycatcher Cinnamon Flycatcher	,	U	Λ, # U, #
	,	Pyrrhomyias cinnamomeus Hirundinea ferruginea	O	U, #
	Cliff Flycatcher Euler's Flycatcher	Lathrotriccus euleri	F, #	
	Alder Flycatcher	Empidonax alnorum	r, # R, v	R, # R, v
	Olive-sided Flycatcher	•	R, v	X
	Western Wood Pewee	Contopus cooperi Contopus sordidulus	U	F
	Olive Flycatcher	Mitrephanes olivaceus	O	X
	Rufous-tailed Tyrant	Knipolegus poecilurus		
	Social Flycatcher	Myiozetetes similis	C, v	U, # F
	Lemon-browed Flycatcher	Conopias cinchoneti	С, v Х, v	R, #
	Golden-crowned Flycatcher	Myiodynastes chrysocephalus	A, V R, #	Χ
	Streaked Flycatcher	Myiodynastes maculatus		V, #
	,	Tyrannus melancholicus	F, v R	0, # F, #
	Tropical Kingbird Rufous Casiornis	,	K	г, # Х
		Casiornis rufus		
	Dusky-capped Flycatcher Short-crested Flycatcher	Myiarchus tuberculifer	R	R, #
	,	Myiarchus ferox Myiarchus cephalotes	r\	E 44
	Pale-edged Flycatcher	, ,	рщ	F, #
	Large-headed Flatbill	Ramphotrigon megacephalum	R, #	D
COTINGIDAE	Bright-rumped Attila Masked Fruiteater	Attila spadiceus		R, v
COTINGIDAE		Pipreola pulchra	p	R, v
	Andean Cock-of-the-Rock	Rupicola peruvianus	R	R







	Amazonian Umbrellabird	Cephalopterus ornatus	U	R
PIPRIDAE	Cerulean-capped Manakin	Lepidothrix coeruleocapilla	C, #	X, #
	Fiery-capped Manakin	Machaeropterus pyrocephalus		С
	Yungas Manakin	Chiroxiphia boliviana	C, #	
	Jet Manakin	Xenopipo unicolor		R, #
	White-crowned Manakin	Pipra pipra		R, #
	Round-tailed Manakin	Pipra chloromeros	R, #	
TITYRIDAE	Masked Tityra	Tityra semifasciata	R, v	
	Thrush-like Schiffornis	Schiffornis turdina	U, #	R, #
	Shrike-like Cotinga	Laniisoma elegans	R, #	
	Green-backed Becard	Pachyramphus viridis	U, v	U, #
	Barred Becard	Pachyramphus versicolor		Χ
	White-winged Becard	Pachyramphus polychopterus	F, v	F, #
INCERTAE SEDIS	Wing-barred Piprites	Piprites chloris	F, v	
VIREONIDAE	Rufous-browed Peppershrike	Cycharhis gujanensis	C, #	F, v
	Brown-capped Vireo	Vireo leucophrys		U, #
	Red-eyed Vireo	Vireo olivaceus olivaceus and V. o. chivi	С	R, #
	Dusky-capped Greenlet	Hylophilis hypoxanthus	U, v	
	Olivaceous Greenlet	Hylophilus ochraceiceps	U, #	
CORVIDAE	Violaceous Jay	Cyanocorax violaceus	U, v	U, v
	Purplish Jay	Cyanocorax cyanomelas		U, v
	Green Jay	Cyanocorax yncas		U, #
HIRUNDIDIDAE	Blue-and-white Swallow	Pygochelidon cyanoleuca cyanoleuca		C, #
	White-thighed Swallow	Atticora tibialis		С
	Southern Rough-winged Swallow	Stelgidopteryx ruficollis		C, #
TROGLODYTIDAE	Scaly-breasted Wren	Microcerculus marginatus	F, #	U
	House Wren	Troglodytes aedon	C, v	C, #
	Thrush-like Wren	Campylorhynchus turdinus	R	Χ
	Moustached Wren	Pheugopedius genibaris	C, v	C, #
	Grey-breasted Wood Wren	Henicorhina leucophrys	R	F
	Chestnut-breasted Wren	Cyphorhinus thoracicus	U, #	U, #
TURDIDAE	Andean Solitaire	Myadestes ralloides	X, #	U
	Spotted Nightingale-Thrush	Catharus dryas	U, #	
	Swainson's Thrush	Catharus ustulatus		Χ
	White-eared Solitaire	Entomodestes leucotis		X, #
	Slaty Thrush	Turdus nigriceps		R, #
	Glossy-black Thrush	Turdus serranus		Χ
THRAUPIDAE	Black-faced Tanager	Schistochlamys melanopis		C, #
	Magpie Tanager	Cissopis leveriana	U	R, #
	Oleaginous Hemispingus	Hemispingus frontalis		Χ
	Black-goggled Tanager	Trichothraupis melanops	U, #	R
	Yellow-crested Tanager	Tachyphonus rufiventer		R
	White-lined Tanager	Tachyphonus rufus	Χ	F, #
	Silver-beaked Tanager	Ramphoceleus carbo	С	C, #
	Blue-grey Tanager	Thraupis episcopus	R	C, #
	Palm Tanager	Thraupis palmarum	R	R
	Vermilion Tanager	Calochaetes coccineus		R, #
	Blue-winged Mountain Tanager	Anisognathus somptuosus somptuosus		F, #
	Yellow-throated Tanager	Iridosornis analis		U, #
	Fawn-breasted Tanager	Pipraeidea melanonota		Χ
	Golden-naped Tanager	Tangara ruficervix		Χ
	Silver-backed Tanager	Tangara viridicollis		Χ
	Blue-necked Tanager	Tangara cyanicollis	F, #	U, #





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	Yellow-bellied Tanager	Tangara xanthogastra		X
	Spotted Tanager	Tangara punctata	F, #	U
	Beryl-spangled Tanager	Tangara nigroviridis		R, #
	Blue-browed Tanager	Tangara cyanotis	X	
	Paradise Tanager	Tangara chilensis	C, #	F, #
	Bay-headed Tanager	Tangara gyrola		R, #
	Saffron-crowned Tanager	Tangara xanthocephala		X
	Flame-faced Tanager	Tangara parzudakii	X	
	Green-and-gold Tanager	Tangara schrankii	C, #	
	Golden Tanager	Tangara arthus	X	X
	Swallow Tanager	Tersina viridis	R	U, #
	Black-faced Dacnis	Dacnis lineata	U, #	
	Blue Dacnis	Dacnis cayana	F	C, #
	Purple Honeycreeper	Cyanerpes caeruleus	X	R
	Green Honeycreeper	Chlorophanes spiza	F	R
	Golden-collared Honeycreeper	Iridophanes pulcherrimus		Χ
	Guira Tanager	Hemithraupis guira	U	X, v
	Capped Conebill	Conirostrum albifrons		Χ
	Deep-blue Flowerpiercer	Diglossa glauca		R, #
	Masked Flowerpiercer	Diglossa cyanea		X, #
NCERTAE SEDIS	Bananaquit	Coereba flaveola	C, v	U
	Dull-coloured Grassquit	Tiaris obscurus		C, v
	Slate-coloured Grosbeak	Saltator grossus	U, #	
	Buff-throated Saltator	Saltator maximus	U	C, v
MBERIZIDAE	Yellow-browed Sparrow	Ammodramus aurifrons	U	F, #
	Blue-black Grassquit	Volatinia jacarina		C, #
	Black-and-white Seedeater	Sporophila luctuosa		Χ
	Yellow-bellied Seedeater	Sporophila nigricollis		U, v
	Chestnut-bellied Seed Finch	Oryzoborus angolensis		U, v
	Chestnut-capped Brush Finch	Arremon brunneinucha		U, #
	Red-crested Finch	Coryphospingus cucullatus		C, #
	Common Bush Tanager	Chlorospingus ophthalmicus		X
	Yellow-throated Bush Tanager	Chlorospingus flavigularis	X, #	
CARDINALIDAE	Hepatic Tanager	Piranga flava	R, v	U
	Blue-black Grosbeak	Cyanocompsa cyanoides	R, #	
ARULIDAE	Tropical Parula	Parula pitiayuma	C, v	C,#
	Cerulean Warbler	Dendroica cerulea	_, .	X
	Masked Yellowthroat	Geothlypis aequinoctialis		R, #
	Canada Warbler	Wilsonia canadensis	U, #	
	Slate-throated Redstart	Myioborus miniatus	F, v	U, #
	Golden-bellied Warbler	Basileuterus chrysogaster	C, #	Χ
	Russet-crowned Warbler	Basileuterus coronatus	-, ,,	U, #
	Three-banded Warbler	Basileuterus tristriatus	U	U, #
	Buff-rumped Warbler	Phaeothlypis fulvicauda	C, #	0, 11
CTERIDAE	Russet-backed Oropendula	Psarocolius angustifrons	C, #	C, #
	Crested Oropendula	Psarocolius decumanus	U	5, 11
	Scarlet-rumped Cacique	Cacicus uropygialis		U, #
	Epaulet Oriole	Icterus cayanensis	U, #	Ο, π
RINGILLIDAF	Hooded Siskin	Carduelis magellanica	Σ, π	U
FRINGILLIDAE	Thick-billed Euphonia	Euphonia laniirostris		X
		Eupitotiiu tutiii osuts		^
	Orange-bellied Euphonia	Euphonia xanthogaster	F, #	F, #