

Birds, Lower Sangay National Park, Morona-Santiago, Ecuador

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ABSTRACT: Sangay National Park is located at the mid-eastern Andean foothills of the Cordillera Oriental of Ecuador. We present a preliminary avifauna inventory corresponding to the lower zone of the Sangay National Park (SNP). One-hundred and twenty-seven bird species belonging to 39 families were recorded, including noteworthy records that represent range extensions for four species, *Phaetornis hispidus* (Gould 1846) (White-bearded Hermit), *Ramphastos ambiguus* Swainson 1823 (Black-mandibled Toucan), *Phylloscartes orbitalis* (Cabanis 1873) (Spectacled Bristle Tyrant), and *Microcerculus bambla* (Boddaert 1783) (Wing-banded Wren). We also obtained information on threatened species such as *Aburria aburri* (Lesson 1828) (Wattled Guan), *Phlogophilus hemileucurus* Gould 1860 (Ecuadorian Piedtail), and *Dendroica cerulea* (Wilson 1810) (Cerulean Warbler) and reproductive data on one species, *Patagioenas speciosa* (Gmelin 1789) (Scaled Pigeon). To our knowledge this is a first ornithological survey carried out at this specific site of the SNP.

INTRODUCTION

The Ecuadorian eastern Andean foothills were identified as an Endemic Bird Area (Stattersfield *et al.* 1998) and hold a large number of restricted-range bird species (at least 30 species, Ridgely and Grenfield 2006) and various globally threatened species (at least eight species, Freile and Santander 2005). Four governmental protected areas are within this life zone, one of them being the Sangay National Park (SNP hereafter) which was declared a Natural World Heritage Area due to its important biodiversity (UNESCO 2005). This protected area encompasses in its lower zones large areas covered by mature subtropical foothill forests. In Ecuador this forest has undergone serious fragmentation over the last decades due to human activities (Dinerstein *et al.* 1995; Sierra 1999), however there are few ornithological studies carried out within SNP (Castro and Jácome unpublished data; Freile *et al.* 2005). In this paper, we present the results of an ornithological expedition conducted at the lower zone of the SNP, including some noteworthy records and comments. To the best of our knowledge, this is the first ornithological survey performed at this site.

MATERIALS AND METHODS

We conducted this survey in SNP which is located in mid-eastern Ecuador. The Park covers an area of ca. 517,725 ha, and elevation ranges from 1,000 to 5,400 m (Freile and Santander 2005). It is named Sangay due to its location on the slopes of the active Sangay volcano and encompasses a great variety of habitats including herbaceous paramo, eastern Andes montane cloud forest, evergreen high montane forest, evergreen low montane forest and Amazonian evergreen foothill forest (Sierra 1999). According to Valencia *et al.* (2000) SNP holds 586 Ecuador endemic plant species, approximately 20 % of the

Ecuadorian flora, 45 % of them being orchids.

We performed avifaunal surveys along the Río Llushin drainage, located in the northeastern portion of SNP (Figure 1). The Río Llushin Basin holds a great extension of Amazonian mature foothill forest (Sierra 1999). The study site holds roughly 700 ha and an elevation between 1,000 and 1,380 meters above sea level (m.a.s.l.). Due to its complex topography, the study area presents a variety of habitats, including slopes with well-drained soils, ridge tops with open understory and dense canopy coverage, and gullies with dense understory dominated by *Heliconia* species.

We settled nine sampling plots that were named according to its position in a two systematically arrayed grid (Figure 1), for example RPS and NRPS means Random Plot South and New Random Plot South, respectively. Plots were separated by at least 1 km from each other except for plots RPS and RPE which have a separation of only 310 m, due to topography conditions. Three 100-m transects were set up within each plot. When possible, transects were placed a minimum 250 m apart from each other, trying that they were located in a distinct kind of habitat and elevation. Geographic coordinates and elevation of each plot are detailed in Table 1.

Surveys were carried out during February 2008 and March 2009. Bird species were identified both visually and vocally while observers were slowly walking along each transect. One person performed visual identifications of bird species in each transect, according to Ridgely and Greenfield (2006). Audio bird recordings were performed in order to detect elusive species; recordings were further identified following Lysinger *et al.* (2005). Surveys started at 6:00 h and extended to 11:00 h, with a total effort of 82 hours. Pre-dawn sampling was carried out almost daily. Additional bird records were obtained during non-

standardized observations. During March 2009, nine mist-nets were settled for five days, achieving trapping effort of 190.9 m² h. Taxonomy follows Remsen *et al.* (2010), and threat categories follow Granizo *et al.* (2002) for national status and BirdLife International (2008) for global status. Survey permit was obtained from Ministerio del Ambiente del Ecuador, permit number DPMAE-No.-004-08-OTM.

RESULTS AND DISCUSION

We report in the present study 127 bird species, belonging to 39 families (Table 2). Globally threatened species recorded included: *Aburria aburri* (Lesson 1828) (Wattled Guan, Near Threatened), *Phlogophilus*

hemileucurus Gould 1860 (Ecuadorian Piedtail, Near Threatened), *Campylopterus villaviscencio* (Bourcier 1851) (Napo Sabrewing, Near Threatened), *Contopus cooperi* (Nuttall 1831) (Olive-sided Flycatcher, Near Threatened), *Pipreola chlorolepidota* Swainson 1838 (Fiery-Throated Fruiteater, Near Threatened), *Galbula pastazae* Taczanowski and Berlepsch 1885 (Coopery-chested Jacamar, Vulnerable), and *Dendroica cerulea* (Wilson 1810) (Cerulean Warbler, Vulnerable) (BirdLife International 2008). *Phlogophilus hemileucurus*, *Campylopterus villaviscencio* and *Galbula pastazae* has distributions restricted to the Eastern Andes of Ecuador and Peru (Stattersfield *et al.* 1998).

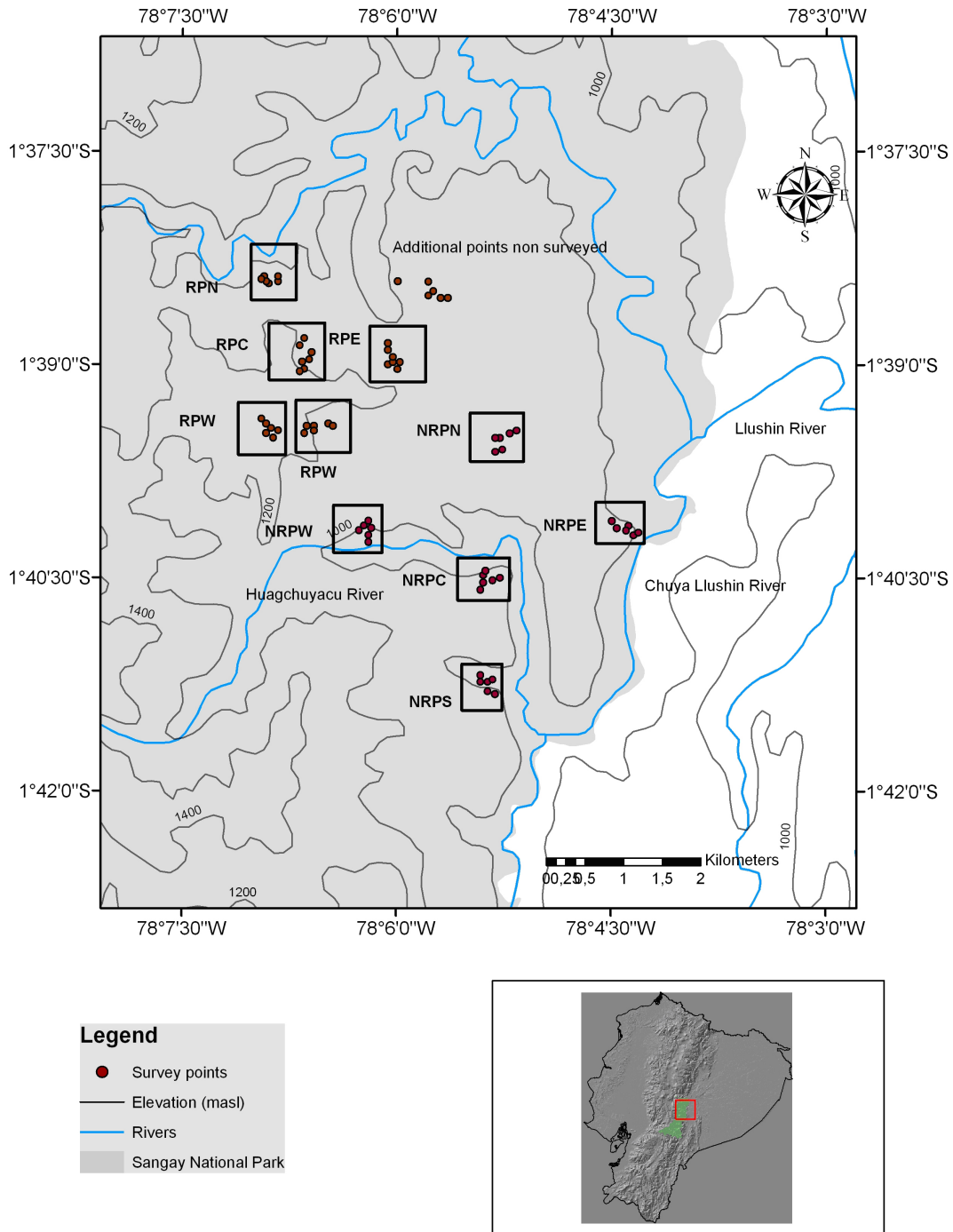


FIGURE 1. Survey area located at northeastern portion of the Sangay National Park, Ecuador. Plots and transects were named according to its place in a systematically arrayed grid. Except by plots RPS and RPE all are separated at least one km in straight line. NRPW points were not surveyed during this study; masl - meters above sea level.

Additionally, it is worth to mention the records of *Grallaria guatemalensis* Prevost and Des Murs 1846 (Scaled Antpitta), *Aulacorhynchus derbianus* Gould 1835 (Chesnut-tipped Toucanet), and *Chamaeza campanisona* (Lichtenstein 1823) (Short-tailed Antthrush), which have scattered sightings or are considered rare along their distribution.

The families Thraupidae (tanagers) and Trochilidae (hummingbirds) were families with highest richness with 13 species each, followed by Tyrannidae (flycatchers, 11 species). Six migratory passerines were detected, including three species of Parulidae (New World warblers): *Wilsonia canadensis* (Linnaeus 1766) (Canada Warbler), *Dendroica cerulea* (Cerulean Warbler) and *Dendroica fusca* (Statius Muller 1776) (Blackburnian Warbler), all except *Contopus cooperi* (Nuttall 1831), were spotted participating in mixed-species flocks composed primarily by Thraupidae, Furnariidae and Tyrannidae species. The following species accounts provide details on records of some threatened species as well as some range extensions and reproductive notes for one species.

TABLE 1. Geographic coordinates (WGS84 datum) and elevation of the nine plots settled in the study area; m.a.s.l. – meters above sea level.

PLOT	LATITUDE	LONGITUDE	ELEVATION (m.a.s.l.)
RPC	01°38'57.8" S	78°06'37.0" W	1,079
RPN	01°38'25.6" S	78°06'54.5" W	1,016
RPS	01°39'25.5" S	78°06'35.2" W	1,223
RPW	01°39'27.3" S	78°06'52.9" W	1,376
RPE	01°39'00.4" S	78°06'04.4" W	1,029
NRPC	01°40'29.0" S	78°05'24.3" W	1,001
NRPE	01°40'08.7" S	78°04'27.8" W	1,000
NRPN	01°39'28.8" S	78°05'12.9" W	1,247
NRPS	01°41'17.7" S	78°05'21.6" W	1,052

Aburria aburri (Wattled Guan). At least two family groups of 2-4 individuals were encountered in two of the five plots. Individuals were vocalizing conspicuously during pre-dawn. According to voice description provided by Ridgely and Greenfield (2006) they might be breeding individuals. Even though our surveys were performed at the eastern lower altitudinal limit for the species (Ridgely and Greenfield 2006), it was more common than we expected. In fact the species is locally known as "Borrego Pava" and a local stream is known as "Borrego Yaku" (*Yaku* = water in *Kichua* language) due to the abundance of individuals of this species (C. Rivadeneira personal communication). Our observations also suggest a possible breeding period in February and March in accordance to that described by Ríos et al. (2005).

Patagioenas speciosa (Gmelin 1789) (Scaled Pigeon). We recorded two juvenile individuals resting at their nest. The nest consisted of leaves and thin branches arranged in a dish-like structure. The nest was placed 1.5 m above the ground in a very tangled habitat consisting mostly of shrubby species and it was placed over a *Coussarea* sp. (Rubiaceae) shrub. No adult attending the nest was detected during our observations.

Phaethornis hispidus (Gould 1846) (White-bearded Hermit). Two birds were mist-netted in March 2009 near

NRPE plot, at 1,000 m elevation, within second-growth and riparian vegetation. We suspect it was in post-breeding stage because the brood patch examination revealed fine wrinkles and dry skin in the abdominal zone. These records extend the known altitudinal range of the species in about 400 m, according to Ridgely and Greenfield (2006).

Phlogophilus hemileucurus (Ecuadorian Piedtail). This globally Near Threatened species (BirdLife International 2008) occupies a very narrow altitudinal range along the eastern Andean foothills in Ecuador. We recorded individuals in plots RPC, RPN, and RPS, always in understory and uttering high-pitched foraging calls. Individuals were seen foraging between 0.5-1 m above the ground. According to our mist-net data, the Ecuadorian Piedtail is among the less numerous hummingbird species in the study area ($d = 0.06$ d = Ecuadorian Piedtail individuals/total hummingbirds mist-netted).

Ramphastos ambiguus Swainson 1823 (Black-mandibled Toucan). It is ranked as Near Threatened in Ecuador (Guerrero 2002). Ridgely and Greenfield (2006) presents a gap in the distribution map of this species between the northeast Sucumbíos and Napo Provinces and Southeast Cordillera del Condor in Zamora-Chinchipec Province, with no records in the intervening area. We recorded individuals in three plots (Table 2) both visually and vocally. To our knowledge, these records are the first reported for Morona-Santiago Province and for SNP. These records suggest that the species could have a more continuous distribution than previously suspected.

Phylloscartes orbitalis (Cabanis 1873) (Spectacled Bristle-Tyrant). This nationally Near Threatened species is rare and local along the north eastern Andean foothills and the Cordillera del Cóndor area (Jácome 2002), with few records in the intervening zone (Ridgely and Greenfield 2006). One individual was mist-netted on 14 March 2009, presumably a juvenile. These records suggest a more continuous distribution along the eastern foothills than previously documented by Ridgely and Greenfield (2006).

Microcerculus bambla (Boddaert 1783) (Wing-banded Wren). This species was previously reported only for the Napo River Basin (Ridgely and Greenfield 2006) and the Canelos area in Pastaza Province (Fjeldså and Krabbe 1998), with a single record from Nueva Alianza, Morona-Santiago, on the lower slopes of SNP (Freile and Restall unpublished data). We detected a group consisting of 2-4 individuals in the RPN survey plot and recorded its vocalizations. Our records represent a small southward range extension for the species and are among the first records in Morona-Santiago Province along with the published tape-recordings from the Macas and General Proaño areas (Krabbe and Nilsson 2003). All these records suggest that the actual distribution of the species is greater than documented previously.

Dendroica cerulea (Cerulean Warbler). During wintering 2007-2008 and 2008-2009 Cerulean Warbler was present at the SNP lower zone. Individuals were detected in three of the nine plots settled. Birds were spotted in open canopy habitats including three fall gaps or near riparian vegetation where light conditions favour observation and identification of small canopy birds. These records are among a handful of recent sightings that corresponds

to a large area of continue forest. All Cerulean Warblers detected were taking part of mixed-species flocks. This suggests that mixed flocks are an important element of its non-breeding ecology (Hamel *et al.* 2004; Colorado *et al.* 2008). Although we spent 82 h of observations only three individuals were recorded in approximately 9 km². Steep population declines (Link and Sauer 2002) and continuous wintering habitat loss (Hamel *et al.* 2004) account for the special global conservation concern for this species.

Our results had to be regarded as preliminary because we continued adding new species to the list, even in the last sampling day. Our results show a typical subtropical eastern foothill avifauna with some records of more tropical species such as *Ramphastos vitellinus* Lichtenstein 1823 (Channel-billed Toucan). Our findings also suggest that some species considered rare and scarce might be more common when in appropriate habitat; this could be the case of *Aburria aburri* and *Ramphastos ambiguus* which were recorded almost daily in a mature forest habitat, and were present in two of the nine plots

surveyed. Additionally, mist-netted *Phaetornis hispidus* with evidences of being breeding recently suggest that this species could be breeding at the Río Llushin Basin and therefore our records may not represent merely vagrant individuals or dispersed juveniles that occasionally occupy the area.

During the execution of our research, habitat was not seriously disturbed by human activities at the study sites, except by the occasional presence of illegal hunters. Although deforestation and other human activities, like cattle rising or agriculture, are not a threat for the conservation of the Llushin Basin in the short term, we consider that the ongoing construction of roads that connect local communities to the nearest town Palora would trigger these activities in the vicinity and within the SNP. Control and regulation of extractive activities within this region requires more government involvement. As in other protected areas, park guards are insufficient for the extent of territory they need to cover and they do not possess proper equipment and infrastructure.

TABLE 2. Bird species recorded at surveys plots. Record type: v = visually detected, a = auditive detection, r = vocalization recorded. Number of species in each family are in brackets. Threat category and endemic status: ID = insufficient data, NE = not evaluated, NT = Near Threatened, VU = Vulnerable, EPEA = Endemic of the Eastern Peru-Ecuador Andes. 1 = records during non-standardized samplings.

FAMILY/SCIENTIFIC NAME	LOCAL	GLOBAL	EBA	RPC	RPN	RPS	RPE	RPW	NRPC	NRPN	NRPS	NRPE
TINAMIDAE (1)												
<i>Tinamus tao</i> Temminck 1815				1r						1a		
CRACIDAE (1)												
<i>Aburria aburri</i> (Lesson 1828)	VU	NT				1v,r		1v,r			1a	
ODONTOPHORIDAE (1)												
<i>Odontophorus speciosus</i> Tschudi 1843								1r	1a			1a
ANHINGIDAE (1)												
<i>Anhinga anhinga</i> ^{1v} (Linnaeus 1766)												
CATHARTIDAE (1)												
<i>Cathartes melambrotus</i> ^{1v} Wetmore 1964												
ACCIPITRIDAE (3)												
<i>Elanoides forficatus</i> (Linnaeus 1758)										1v		
<i>Harpagus bidentatus</i> (Latham 1790)											1v	
<i>Buteo magnirostris</i> (Gmelin 1788)					1r							1a,v
COLUMBIDAE (5)												
<i>Patagioenas speciosa</i> (Gmelin 1789)					1v					1a,v		
<i>Patagioenas plumbea</i> (Vieillot 1818)				1a						1a	1a	1a
<i>Patagioenas subvinacea</i> (Lawrence 1868)										1a	1a	
<i>Geotrygon saphirina</i> Bonaparte 1855												1v
<i>Geotrygon montana</i> (Linnaeus 1758)				1a								
PSITTACIDAE (2)												
<i>Pyrrhura melanura</i> (Spix 1824)				1a	1r				1a,v	1a,v	1a,v	
<i>Amazona farinosa</i> (Boddaert 1783)					1r				1a,v		1a,v	
CUCULIDAE (1)												
<i>Piaya cayana</i> (Linnaeus 1766)								1v				
STRIGIDAE (2)												
<i>Pulsatrix perspicillata</i> (Latham 1790)								1r				
<i>Pulsatrix melanota</i> ^{1v} (Tschudi 1844)												
CAPRIMULGIDAE (2)												
<i>Nyctidromus albicollis</i> (Gmelin 1789)												1a
TROCHILIDAE (13)												
<i>Eutoxeres aquila</i> (Bourcier 1847)								1v				
<i>Eutoxeres condamini</i> (Bourcier 1851)												1v

TABLE 2. CONTINUED.

FAMILY/SCIENTIFIC NAME	LOCAL	GLOBAL	EBA	RPC	RPN	RPS	RPE	RPW	NRPC	NRPN	NRPS	NRPE
<i>Threnetes niger</i> (Linnaeus 1758)											1v	
<i>Phaethornis griseogularis</i> Gould 1851						1v					1v	
<i>Phaethornis hispidus</i> (Gould 1846)												1v
<i>Phaethornis guy</i> (Lesson 1833)				1v	1v	1v		1v			1v	
<i>Phaethornis syrmatophorus</i> Gould 1851												1v
<i>Phaethornis malaris</i> (Nordmann 1835)									1v	1v	1v	
<i>Doryfera johannae</i> (Bourcier 1847)				1v								
<i>Phlogophilus hemileucurus</i> Gould 1860	NT	NT	EPEA	1v	1v	1v			1a,v	1a,v	1a,v	1a,v
<i>Heliodoxa schreibersii</i> (Bourcier 1847)									1v			
<i>Campylopterus villaviscensio</i> (Bourcier 1851)	ID	NT	EPEA			1v				1v		
<i>Thalurania furcata</i> (Gmelin 1788)					1v							
TROGONIDAE (2)												
<i>Trogon collaris</i> Vieillot 1817						1v					1v	1v
ALCEDINIDAE (1)												
<i>Chloroceryle amazona</i> ^{lv} (Latham 1790)												
MOMOTIDAE (2)												
<i>Baryphthengus martii</i> (Spix 1824)										1a	1a	
<i>Momotus momota</i> (Linnaeus 1766)										1a	1a	
GALBULIDAE (1)												
<i>Galbula pastazae</i> Taczanowski & Berlepsch 1885	NT	VU	EPEA						1a,v		1a,v	
CAPITONIDAE (2)												
<i>Capito auratus</i> (Dumont 1816)										1v		
<i>Eubucco bourcierii</i> (Lafresnaye 1845)						1v	1v	1v				
RAMPHASTIDAE (4)												
<i>Ramphastos ambiguus</i> Swainson 1823	NT	LC			1r	1v,r		1v,r		1a	1a	1a
<i>Ramphastos tucanus</i> Linnaeus 1758										1v	1v	
<i>Ramphastos vitellinus</i> Lichtenstein 1823						1r			1a		1a	
<i>Aulacorhynchus derbianus</i> Gould 1835										1a,v		
PICIDAE (6)												
<i>Picumnus rufiventris</i> (Bonaparte 1838)												1v
<i>Picoides fumigatus</i> (Orbigny 1840)				1v					1a			
<i>Colaptes rubiginosus</i> (Swainson 1820)								1v				
<i>Colaptes rivolii</i> (Boissonneau 1840)												1v
<i>Campephilus haematogaster</i> (Tschudi 1844)								1v,a				
FURNARIIDAE (8)												
<i>Synallaxis moesta</i> Sclater PL 1856										1a		
<i>Premnoplex brunnescens</i> (Sclater PL 1856)				1v								
<i>Syndactyla subalaris</i> (Sclater PL 1859)											1v	
<i>Philydor erythrocerum</i> (Pelzeln 1859)				1v								
<i>Xenops rutilans</i> Temminck 1821				1v						1v		
<i>Dendrocincla fuliginosa</i> (Vieillot 1818)				1v	1v,r							
<i>Glyphorhynchus spirurus</i> (Vieillot 1819)				1v,r	1v,r	1v,r	1v,r	1v,r	1a,v	1a,v	1a,v	1a,v
<i>Dendrocolaptes picumnus</i> Lichtenstein 1820				1v,r								
THAMNOPHILIDAE (11)												
<i>Taraba major</i> (Vieillot 1816)												1v
<i>Thamnophilus tenuipunctatus</i> Lafresnaye 1853						1r						
<i>Thamnophilus schistaceus</i> Orbigny 1835				1r					1a			1a
<i>Thamnophilus murinus</i> Sclater & Salvin 1868												1v
<i>Thamnophilus aethiops</i> Sclater 1858											1a	
<i>Dysithamnus mentalis</i> (Temminck 1823)								1r	1a,v	1a,v	1a,v	1a,v
<i>Epinecrophylla spodionota</i> (Sclater & Salvin 1880)									1a,v		1a,v	1a,v
<i>Myrmotherula axillaris</i> (Vieillot 1817)					1v							1v
<i>Pyriglena leuconota</i> (Spix 1824)												1v
<i>Hylophylax naevius</i> (Gmelin 1789)					1v		1v				1a	
FORMICARIIDAE (2)												

TABLE 2. CONTINUED.

FAMILY/SCIENTIFIC NAME	LOCAL	GLOBAL	EBA	RPC	RPN	RPS	RPE	RPW	NRPC	NRPN	NRPS	NRPE
<i>Formicarius rufipectus</i> Salvin 1866									1a			
<i>Chamaeza campanisona</i> (Lichtenstein 1823)								1r				
GRALLARIIDAE (2)												
<i>Grallaria guatemalensis</i> Prevost & Des Murs 1846									1a	1a	1a	
<i>Grallaria haplonota</i> Sclater PL 1877				1r		1r			1a,v			1a,v
RHINOCRYPTIDAE (1)												
<i>Scytalopus micropterus</i> (Sclater PL 1858)				1v								
TYRANNIDAE (11)												
<i>Phylloscartes ophthalmicus</i> (Tackzanowski 1874)							1v		1v			
<i>Phylloscartes orbitalis</i> (Cabanis 1873)	NT											1v
<i>Poecilatriccus capitalis</i> (Sclater PL 1857)					1v							
<i>Poecilatriccus latirostris</i> (Pelzeln 1858)												1v
<i>Todirostrum cinereum</i> (Linnaeus 1766)				1v								
<i>Mionectes olivaceus</i> Lawrence 1868												1v
<i>Myiotriccus ornatus</i> (Lafresnaye 1853)				1v,r	1v,r	1v,r	1v,r	1v,r	1a,v	1a,v	1a,v	1a,v
<i>Platyrinchus mystaceus</i> Vieillot 1818										1v		
<i>Rhynchocyclus fulvipectus</i> (Sclater PL 1860)									1v			
<i>Contopus cooperi</i> (Nuttall 1831)						1v						
<i>Myiodynastes chrysocephalus</i> (Tschudi 1844)								1v	1v			
COTINGIDAE (2)												
<i>Pipreola chlorolepidota</i> Swainson 1838	NT	NT						1v		1v		
<i>Rupicola peruvianus</i> (Latham 1790)							1v		1a,v			
PIPRIDAE (2)												
<i>Xenopipo holochlora</i> (Sclater 1888)				1r					1a,v	1a,v	1a,v	1a,v
<i>Pipra pipra</i> (Linnaeus 1758)								1v				
TITYRIDAE (1)												
<i>Schiffornis turdina</i> (Wied 1831)						1r						
CORVIDAE (1)												
<i>Cyanocorax violaceus</i> Du Bus de Gisignies 1847									1a,v		1a,v	1a,v
HIRUNDINIDAE (1)												
<i>Atticora tibialis</i> (Casin 1853)					1v							
TROGLODYTIDAE (4)												
<i>Microcerculus bambla</i> (Boddaert 1783)				1r	1r						1a	
<i>Pheugopedius coraya</i> (Gmelin 1789)				1r					1a			
<i>Henicorhina leucosticta</i> (Cabanis 1847)				1v,r	1v,r	1v,r	1v,r		1a,v	1a,v	1a,v	1a,v
<i>Cyphorhinus thoracicus</i> Tschudi 1844										1a		
POLIOPTILIDAE (1)												
<i>Polioptila plumbea</i> (Gmelin 1788)					1v							
TURDIDAE (5)												
<i>Myadestes ralloides</i> (Orbigny 1840)				1r	1r					1a	1a	
<i>Catharus dryas</i> (Gould 1855)				1r						1a		
<i>Catharus ustulatus</i> (Nuttall 1840)					1v			1v				
<i>Turdus leucops</i> (Wied 1831)											1a,v	
<i>Turdus albicollis</i> Vieillot 1818				1r								
THRAUPIDAE (13)												
<i>Lanio fulvus</i> (Boddaert 1783)									1a,v	1a,v		
<i>Chlorochrysa calliparaea</i> (Tschudi 1844)										1v		1v
<i>Tangara ruficervix</i> (Prevost & Des Murs 1846)									1v			
<i>Tangara cyanicollis</i> (Orbigny & Lafresnaye 1837)							1v		1v			
<i>Tangara chilensis</i> (Vigors 1832)						1v				1v		1v
<i>Tangara arthus</i> Lesson 1832				1v		1v	1v		1v	1v	1v	1v
<i>Tangara gyrola</i> (Linnaeus 1758)						1v	1v		1v			1v
<i>Tangara schrankii</i> (Spix 1825)					1v	1v						1v
<i>Tersina viridis</i> (Illiger 1811)						1v						
<i>Dacnis lineata</i> (Gmelin 1789)					1v							

TABLE 2. CONTINUED.

FAMILY/SCIENTIFIC NAME	LOCAL	GLOBAL	EBA	RPC	RPN	RPS	RPE	RPW	NRPC	NRPN	NRPS	NRPE
<i>Cyanerpes caeruleus</i> (Linnaeus 1758)							1v					1v
<i>Chlorophanes spiza</i> (Linnaeus 1758)				1v							1v	
<i>Diglossa glauca</i> (Sclater PL & Salvin 1876)					1v							
"INCERTAE SEDIS" (3)												
<i>Chlorospingus canigularis</i> (Lafresnaye 1848)				1a,v							1v	
<i>Chlorospingus flavigularis</i> (Sclater PL 1852)									1a,v	1a,v	1a,v	1a,v
<i>Coereba flaveola</i> Linnaeus 1758				1v					1a,v			1a,v
EMBERIZIDAE (1)												
<i>Arremon aurantirostris</i> Lafresnaye 1847				1a,v				1v			1a	
CARDINALIDAE (1)												
<i>Piranga olivacea</i> (Gmelin 1789)							1v					
PARULIDAE (4)												
<i>Dendroica fusca</i> (Statius Muller 1776)						1v						
<i>Dendroica cerulea</i> (Wilson 1810)	NE	VU		1v					1v			
<i>Wilsonia canadensis</i> (Linnaeus 1766)				1v	1v	1v			1v	1v		1v
<i>Myioborus miniatus</i> (Swainson 1827)				1a,v	1a,v	1a,v		1a,v	1a,v	1a,v	1a,v	1a,v
ICTERIDAE (1)												
<i>Psarocolius angustifrons</i> (Spix 1824)					1v,r	1v,r		1v,r	1a,v	1a,v	1a,v	1a,v
FRINGILLIDAE (2)												
<i>Euphonia saturata</i> (Cabanis 1861)				1v								
<i>Euphonia xanthogaster</i> (Sundevall 1834)				1v,r	1v,r	1v,r	1v,r	1v,r	1a,v	1a,v	1a,v	1a,v
Total	127	7	6	3	35	28	27	16	20	36	38	41

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