# Ornithological surveys in Serranía de los Churumbelos, southern Colombia

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Se realizó un inventario de la comunidad de aves de la Serranía de los Churumbelos, Cauca (Colombia), en el marco de dos expediciones Anglo-Colombianas, durante julio y agosto de 1998 y julio de 1999. Se muestrearon siete localidades entre los 350 v 2,500 m, en las que se registraron 421 especies. Presentamos un resumen de las especies más destacadas para cada sitio, incluvendo los reportes más significativos de extensión de distribución. Los resultados indican fuertemente que la Serranía de los Churumbelos debe ser una prioridad para la conservación en Colombia, en tanto que estamos trabajando junto a las autoridades ambientales locales para establecer mecanismos que permitan la protección del macizo.

During 14 July–17 August 1998 and 3–22 July 1999, ornithological surveys were undertaken in Serranía de los Churumbelos, Department of Cauca, by two

Anglo-Colombian conservation expeditions-'Colombia '98' and the 'Colombian EBA Project'. Seven study sites were investigated using non-systematic observations and standardised mist-netting techniques by the three authors, with Dan Davison and Liliana Dávalos in 1998. Each study site was situated along an altitudinal transect at c.300 m-elevational steps, from 350-2,500 m on the Amazonian slope of the Serranía. Our principal aim was to allow comparisons to be made between sites and with other biological groups (mammals, herptiles, insects and plants), and, incorporating geographical and anthropological information, to produce a conservation assessment of the region (full results in Salaman et al.4). A sizeable part of eastern Cauca-the Bota Caucana-including the 80 kmlong Serranía de los Churumbelos had never been subject to faunal surveys.

The Churumbelos massif of southern Colombia encompasses c.50,000 ha of primary forest, a pristine wilderness that rises from the Amazon basin to over 3,000 m. It forms the southernmost spur of the 1,200 km-long Cordillera Oriental or East Andes (Fig. 1). The Churumbelos mountains have a remarkable geology of sedimentary sequences which form several large 'mesetas' (table mountains).

We recorded a total of 421 bird species during the 44 days of fieldwork. including Threatened and nine Nearthreatened species. Over 100 notable new distributional and altitudinal extensions were recorded and will be published in detail in forthcoming papers and the final report4. At sites from 350-1,450 m. elevation, six EBA (Endemic Bird Area) species were recorded7. Most originated from the Ecuador-Peru East Andes EBA (044) suggesting a northerly range extension of that EBA4. Above 1,600 m, all four endemics recorded originated from the Colombian Inter-Andean Slopes EBA (040).

For each of the seven Study Sites (SS) in the Serranía de los

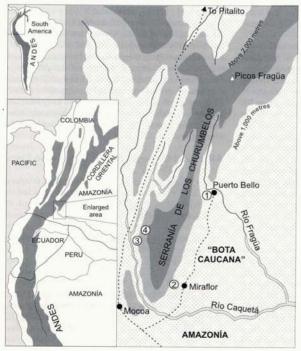


Figure 1: Map of Serranía de los Churumbelos, southern Colombia.

Churumbelos, we have provided a brief summary of the location and habitat, followed by a description of the avifauna, with the principal elements described and attention drawn to poorly known and rare species.

# Puerto Bello (SSI), Municipio Piamonte, 01°08'N 76°16'W; 350 m

A 26 km-road has been constructed within the last five years through lowland humid forest beside the steep eastern wall of the Serranía, from the Río Caquetá to Puerto Bello on the banks of the Río Fragua. A 1,200 m-transect was established, 300 m west of Puerto Bello, leading from the forest edge through a transition from tall selectively logged secondary forest to primary forest with a canopy level of c.30 m.

SS1 was the most diverse site for birds, which was reflected in other groups such as bats and herptiles. A total of 165 species was recorded, but when non-forest species are excluded, a total of 120 forest-dependent species is comparable with that of other study sites. The site was characterised by a wide diversity of Ramphastidae (six species), Thamnophilidae (12 species) and Pipridae (seven species). In almost all groups, birds were representative of an Amazonian avifauna, with Andean Solitaire Myadestes ralloides the most notable exception, representing a significant downslope elevational extension.

Lined Forest-falcon Micrastur gilvicollis was regularly heard in dawn surveys (and at SS2), but was replaced at SS3 and SS4 by Barred Forest-falcon M. ruficollis. The elusive Cinnamon Tyrant Neopipo (Myiophobus) cinnamomea was caught in primary forest, only the second known location for the species in Colombia. Other rare species with a poorly known distribution recorded here included Gould's Jewelfront Heliodoxa aurescens, White-shouldered Antshrike Thamnophilus aethiops and Swainson's Flycatcher Myiarchus swainsoni. No threatened or endemic species were registered, but, nonetheless, the site is of much interest with several poorly known species, several range extensions and a probable new species of Myrmeciza antbird.

# **Río Nabueno (SS2)**, Municipio Piamonte, 01°06'N 76°24'W; 700 m

From the town of Miraflor, 14 km south-west of SS1, a trail follows the Río Nabueno for 4 km as the Churumbelos climbs steeply to over 1,500 m from the Amazonian plains. The steep terrain has largely deterred human activity, and an extensive tract of tropical foothill and premontane (subtropical) humid forest exists on the eastern flank of the Serranía. Hunting apart, the study site encompassed pristine forest, characteristic of lower premontane humid forest, despite the low elevation, with a vegetation physiognomy influenced by high

levels of rainfall (estimated at c.4,000 mm). The steep terrain and ridge-top effects resulted in reduced canopy level (c.20 m) and high understorey vegetation density.

Of the 137 species recorded, 37 were not recorded at other study sites. Mist-netting proved immensely successful with 85 species caught. Thamnophilidae (11 species) and Pipridae (eight species) continued to dominate, although more species of Thraupidae (12 species) were recorded than at SS1. Hummingbird diversity and abundance appeared to be much increased on the basis of mistnet captures. The site was also most notable with 16 elevational range extensions, largely new high records of Amazonian species.

Two Near-threatened species were recorded: Lanceolated Monklet Micromonacha lanceolata and Pink-throated Brilliant Heliodoxa gularis. H. gularis is known in Colombia from just one specimen, collected in 1971 in Putumayo3 and was found to be sympatric with Black-throated Brilliant H. schreibersii, Band-bellied Owl Pulsatrix melanota was previously known in Colombia from one specimen of undetermined location or date3 and a recent sight record by PGWS. Individuals and pairs were regularly heard and tape-recorded in primary forest at SS2 and SS3, with one adult caught and photographed at SS2. Grev-tailed Piha Lipaugus subalaris is well-known in Ecuador, but a recent addition to the Colombian list, following the discovery of two specimens taken in the 1960s3. Several individuals were seen in the subcanopy and four birds were trapped. Additional notable range extensions include Buff-tailed Sicklebill Eutoxeres condamini (sympatric with White-tipped Sicklebill E. aquila), Striped Treehunter Thripadectes holosticus, Hairy-crested Antbird Rhegmatorhina melanosticta and Olive Tanager Chlorothraupis carmioli.

### Alto Río Hornoyaco (SS3), Municipio Santa Rosa, 01°13'N 76°31'W; 1,100 m

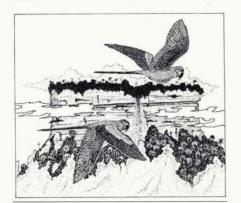
A new highway linking the Amazonian frontier town, Mocoa, directly to Bogotá was constructed in the early 1990s. It cuts across the western flank of the Serranía and has facilitated colonisation and associated deforestation. Following helicopter reconnaissance, a 10 km-trail was followed from the highway bridge over the Río Caquetá to the base of the topographically unique table mountains or 'mesetas', 18 km north of SS2. This premontane, very humid forest was similar in floristic composition and stratification to montane forest.

A total of 114 species was recorded here, principally Andean in composition, including 15 Thraupidae. Two Near-threatened species were recorded: Ecuadorian Piedtail Phlogophilus hemileucurus (previously known in Colombia from just one location in Putumayo<sup>3</sup>) and Fiery-throated

Fruiteater Pipreola chlorolepidota. Napo Sabrewing Campylopterus villaviscensio, caught several times here and at SS4, was unknown in Colombia prior to 1998<sup>5</sup>. A Scaled Piculet Picumnus squamulatus, a species typically restricted to dry open woodland in the Orinoco basin3, was captured in an isolated patch of secondary growth within a vast forest wilderness at SS3, representing a significant range extension. Foothill Antwren Myrmotherula spodionota-with observations and 10 mist-net captures in both primary and secondary forest at SS3-was previously known only from sight records in Colombia8. Blue-rumped Manakin Pipra isidorei-with a total of 27 mist-net captures at SS1-3 (of which 20 were at SS3)-was previously known from just one Colombian record3. Among other significant distributional records at this site, Golden-winged Tody-flycatcher Todirostrum calopterum is an Upper Amazon / Napo lowlands EBA 066 endemic. Colombia's first individual of the nominate subspecies of Orange-crested Flycatcher Myiophobus p. phoenicomitra was photographed. A pair of White-winged Tanagers Piranga leucoptera observed on the forest edge represents the first east slope record for Colombia.

# Villa Iguana (SS4), Municipio Santa Rosa, 01°14'N 76°31'W; 1,450 m

Following a newly cut trail from the clearing at SS3, a large plateau was surveyed at 1,450 m, located 2 km north of SS3 between two 'mesetas'. A transect was cut to the base of the largest 'meseta', Alto Cagadero (1,600 m), which we ascended and studied briefly. The character and composition of SS4 were remarkable in containing many elements typical of a forest over 600 m higher in altitude. A very high abundance and diversity of arboreal and terrestrial epiphytes, and a low canopy level (c.12 m) characterise the forests as montane humid (cloud) forest.



Military Macaws Ara militaris (Paul G. W. Salaman)

A total of 106 species was recorded here. The avifauna was almost entirely Andean in composition, with, e.g. just four Formicariidae, but 16 Thraupidae. There were some notable exceptions. For example, Golden-headed Manakin *Pipra erythrocephala* was recorded at its highest known elevation to date.

One threatened species-Military Macaw Ara militaris, considered Vulnerable1-was observed daily in flocks of up to 12 birds around the 'mesetas', at SS3 and SS4 from 4-17 August 1998. Their considerable activity, particularly in forests adjacent to the large limestone cliffs of Alto Cagadero, suggests that the Churumbelos are an important area for the species. Yellow-throated Tanager Iridosornis analis, a recent addition to the Colombian list, was observed several times in the forest canopy. Other highlights included Whitetipped Swift Aeronautes montivagus, Lyre-tailed Nightjar Uropsalis lyra, Rufous-vented Whitetip Urosticte ruficrissa, Violet-fronted Brilliant Heliodoxa leadbeateri, Black-billed Treehunter Thripadectes melanorhynchus, Rufous-tailed Tyrant Knipolegus poecilurus and Vermilion Tanager Calochaetes coccineus.

#### Nabú (SS5), Municipio Santa Rosa, 01°36'N 76°16'W: 1.900 m

From La Petrolera at km 90 along the Mocoa-Pitalito road, a trail crosses the Río Villalobos and provides access to the north-west edge of the Serranía. A transect was studied through primary lower montane humid forest characterised by a canopy level of c.20–25 m with a high abundance of white oak (*Quercus* spp.), a dense understorey (10– 12 m high) and dense arboreal epiphytes.

A total of 109 species was recorded, with Thraupidae (14 species) predictably diverse, but with surprisingly high diversity in Tyrannidae (16 species) and Furnariidae (10 species). Two individuals of the Vulnerable¹ Hooded Antpitta Grallaricula cucullata were captured and photographed at this site. Other poorly known species and important range extensions included Red-billed Parrot Pionus sordidus, Spectacled Prickletail Siptornis striaticollis, Scalloped Antthrush Chamaeza turdina and White-capped Tanager Sericossypha albocristata.

### Tatauí (SS6), Municipio Santa Rosa, 01°37'N 76°16'W; 2,200 m

The same ridge of SS5 was ascended a further 2 km to a flat ridge line at 2,250 m. The stunted physiognomy of SS6 was similar to montane very humid (cloud) elfin forest, influenced by perpetual mists and strong lateral winds. The physiognomy is characterised by a dense low understorey (c.3 m high) dominated by terrestrial bromeliads and mosses and a canopy level of c.7 m.

A significantly reduced avian richness was recorded (59 species), with few arboreal insectivores e.g. Furnariidae and Dendrocolaptidae. However, the ridge-top physiognomy facilitated improved canopy observations, and an greater number of supercanopy species, e.g. Psittacidae and Accipiteridae, were recorded. Nectarivorous birds were encouraged by the high density of flowering bromeliads, with hummingbirds the most dominant family. Diglossa flowerpiercers (four species) dominated mixed-species foraging flocks.

The Near-threatened Black-and-chestnut Eagle Oroaetus isidori was observed soaring over the forest. Other notable range extensions included Andean Potoo Nyctibius maculosus and Flammulated Treehunter Thripadectes flammulatus. A male Purple Honeycreeper observed foraging on bromeliads on an exposed summit peak at 2,300 m represents a substantial elevation extension from 1,400 m³.

extension from 1,400 m.

## El Dorón (SS7), Municipio Santa Rosa, 01°40'N 76°14'W; 2500 m

Situated on the Cauca / Huila department border, SS7 was located above two telecomunication towers at km 100 along the Mocoa–Pitalito road, where a ridge formed the watershed of the Río Villalobos and tributaries of the Río Magdalena. A transect was established from an abandoned military installation through primary montane humid (cloud) forest with some signs of selective logging. The forest physiognomy was dominated by stunted white oak (Quercus spp.) to 15–20 m in height with large canopy epiphyte burdens, and an understorey to 10 m dominated by flowering Ericaceae, epiphytes and bushes.

A total of 112 species was recorded, despite observations being hampered by several days of military-guerrilla combat at 10 km distance. Trochlidae were extremely abundant and diverse with 15 species recorded, including the poorly known Gorgeted Woodstar Acestrura heliodor and Rufous-vented Whitetip Urosticte ruficrissa, endemic to EBA 044.

Three Galliformes, especially vulnerable to human settlement, were recorded: Wattled Guan Aburria aburri (Near-threatened), Chestnut Woodquail Odontophorus hyperythrus (Near-threatened), and Sickle-winged Guan Chamaepetes goudotii. Dusky-headed Brush-finch Atlapetes fuscoolivaceus (Near-threatened) was observed briefly on several occasions in scrub growth around the communication installations, in mixed-species foraging flocks. Other interesting range extensions included Ashy-tailed Swift Chaetura andrei, Stygian Owl Asio stygius and Ocellated Tapaculo Acropternis orthonyx.

Our ornithological assessment provides the first insight into avifaunal altitudinal distribution patterns at the Amazonian / Andean interface in Colombia. While far from complete, this study will serve as a benchmark from which future, more detailed, surveys can be launched. Full details and analysis of the ornithological surveys, and other taxa as well as a general conservation assessment, will appear elsewhere<sup>4</sup> and can be viewed on the Internet: http://www.proaxis.com/~salaman.

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### Appendix 1: Systematic inventory of all birds recorded in Serranía de los Churumbelos.

Taxonomy and nomenclature largely follows Stotz et al.7, Sequence follows Hilty & Brown3,

Key: Species observed / caught at each site: 1 Study Site 1; Puerto Bello, 300 m

- 3 Study Site 3; Alto Río Hornoyaco, 1,100 m
- 5 Study Site 5; Nabú, 1,900 m
- 7 Study Site 7; El Doron, 2,500 m

2 Study Site 2; Rio Nabueno, 700 m 4 Study Site 4; Villa Iguana, 1,450 m 6 Study Site 6; Tataui, 2,200 m

Species	1	2	3	4	5	6	7
Great Tinamou Tinamus major	×					8	
Little Tinamou Crypturellus soui	×	×					
Undulated Tinamou Crypturellus undulatus	×						
Snowy Egret Egretta thula		×					
Turkey Vulture Cathartes aura	×	×					
Greater Yellow-headed Vulture Cathartes melambrotus		×	×	×			
Black Vulture Coragyps atratus	×	×	×		×	×	>
Osprey Pandion haliaetus	×						
American Swallow-tailed Kite Elanoides forficatus	×		×	×	×		
White-tailed Kite Elanus leucurus	×						
Plumbeous Kite Ictinia plumbea	×			×		x	,
Sharp-shinned Hawk Accipiter striatus					1		
Tiny Hawk Accipiter superciliosus		1					
Roadside Hawk Buteo magnirostris	×		×		×	×	х
Black Hawk-eagle Spizaetus tyrannus		×					
Black-and-chestnut Eagle Orogetus isidori						×	
Laughing Falcon Herpetotheres cachinnans	×	×					×
Barred Forest-falcon Micrastur ruficollis			1	×			
Lined Forest-falcon Micrastur gilvicollis	×	1.					
Collared Forest-falcon Micrastur semitorquatus		×					
Wattled Guan Aburria aburri							-
Sickle-winged Guan Chamaepetes goudotii							1
Marbled Wood-quail Odontophorus gujanensis	×	2					
Chestnut Wood-quail Odontophorus hyperythrus					x		×
Grey-necked Wood-rail Aramides cajanea	×						х
Purple Gallinule Porphyrio martinica	×						
Wattled Jacana Jacana jacana	×						
Band-tailed Pigeon Columba fasciata						×	×
Pale-vented Pigeon Columba cayennensis		×					
Ruddy Pigeon Columba subvinacea				×	×		,
Ruddy Ground-dove Columbina talpacoti	×						
Ruddy Quail-dove Geotrygon montana	1	6					
White-throated Quail-dove Geotrygon frenata			4		×		
Military Macaw Ara militaris			×	×			
Dusky-headed Parakeet Aratinga weddellii	×						
Maroon-tailed Parakeet Pyrrhura melanura	×	×			×		
Barred Parakeet Bolborhynchus lineola						×	,
Blue-headed Parrot Pionus menstruus	×						
Red-billed Parrot Pionus sordidus					×	×	×
Scaly-naped Parrot Amazona mercenaria						×	×
Mealy Parrot Amazona farinosa	×		×				
Squirrel Cuckoo Piaya cayana	×	×	×		×		×

Black-bellied Cuckoo Piaya melanogaster		×					
Smooth-billed Ani Crotophaga ani	×						
Striped Cuckoo Tapera naevia Great Horned Owl Bubo virginianus					×		
Spectacled Owl Pulsatrix perspicillata	×				^		
Band-bellied Owl Pulsatrix melanota	î	1	×				
Andean Pygmy-owl Glaucidium jardinii			-		×		
Stygian Owl Asio stygius							×
Common Potoo Nyctibius griseus					×		
Andean Potoo Nyctibius maculosus						×	×
Pauraque Nyctidromus albicollis	×						
Band-winged Nightjar Coprimulgus longirostris					X		×
Lyre-tailed Nightjar Uropsalis lyra				×			×
White-collared Swift Streptoprocne zonaris	×	×		×	×	×	×
Chestnut-collared Swift Cypseloides rutilus		55		100			×
Chapman's Swift Chaetura chapmani		×		×			
Grey-rumped Swift Chaetura cinereiventris Ashy-tailed Swift Chaetura andrei		^		^			×
Short-tailed Swift Chaetura brachyura	×	×					^
White-tipped Swift Aeronautes montivagus	~			×			
Rufous-breasted Hermit Glaucis hirsuta	10	1					
Pale-tailed Barbthroat Threnetes leucurus	11	49	- 1				
Green Hermit Phaethornis guy	7.5	3	9	2			
Tawny-bellied Hermit Phaethornis syrmatophorus				9	20		3
Long-tailed Hermit Phaethornis (superciliosus) longirostris	28	39	4				
White-bearded Hermit Phaethornis hispidus	1						
Straight-billed Hermit Phaethornis bourcieri	10	- 14					
White-tipped Sicklebill Eutoxeres aquila		6	5	3	4		
Buff-tailed Sicklebill Eutoxeres condamini	9	18	3				
Blue-fronted Lancebill Doryfera johannae	3	12	5	1			-
Green-fronted Lancebill Doryfera ludoviciae	_						7
Grey-breasted Sabrewing Campylopterus largipennis	7	2	9	,			
Napo Sabrewing Campylopterus villaviscensio		2	9	6			
White-necked Jacobin Florisuga mellivora		2					
Brown Violetear Colibri delphinae Black-throated Mango Anthracothorax nigricollis	×	2					
Violet-headed Hummingbird Klais guimeti	^		2				
Fork-tailed Woodnymph Thalurania furcata	6	14	-				
Golden-tailed Sapphire Chrysuronia oenone		14	×	- 1			
Speckled Hummingbird Adelomyia melanogenys		100.0	100	11	24	28	46
Rufous-vented Whitetip Urosticte ruficrissa				7			8
Ecuadorian Piedtail Phlogophilus hemileucurus			3				
Gould's Jewelfront Heliodoxa aurescens	4 .	6					
Fawn-breasted Brilliant Heliodoxa rubinoides					5		- 1
Violet-fronted Brilliant Heliodoxa leadbeateri				7	6		
Black-throated Brilliant Heliodoxa schreibersii		4	2				
Pink-throated Brilliant Heliodoxa gularis		3		-	7.2	-	
Bronzy Inca Coeligena coeligena				3	18	.7	3
Collared Inca Coeligena torquata					1	11	66
Buff-tailed Coronet Boissonneaua flavescens							20
Tourmaline Sunangel Heliangelus exortis						19	41
Emerald-bellied Puffleg Eriocnemis alinae					14	14	26
Greenish Puffleg Haplophaedia aureliae Buff-booted Racket-tail Ocreatus (underwoodii) addae				×	17	1	2
Tyrian Metaltail Metallura tyrianthina						100	6
Blue-throated Sylph Aglaiocercus kingi				×	2	5	13
Wedge-billed Hummingbird Schistes geoffroyi					ĩ		100
Gorgeted Woodstar Acestrura heliodor							1
Golden-headed Quetzal Pharomachrus auriceps			×		×		
Payonine Quetzal Pharomachrus payoninus	×	×					
White-tailed Trogon Trogon viridis	×	×					
Masked Trogon Trogon personatus					2		
Black-throated Trogon Trogon rufus	1	3					
Blue-crowned Trogon Trogon curucui			×				
Violaceous Trogon Trogon violaceus		×					
Ringed Kingfisher Megaceryle torquata	×	×					
Amazon Kingfisher Chloroceryle amazona	×	×					
	1						
Green-and-rufous Kingfisher Chloroceryle inda	1						
Green-and-rufous Kingfisher Chloroceryle inda Pygmy Kingfisher Chlorocerlye aenea Rufous Motmot Baryphthengus martii	10	×	1				

Great Jacamar Jacamerops aurea	2						
Pied Puffbird Notharchus tectus	×		7.				
Black-streaked Puffbird Malacoptila fulvogularis		2	- 1				
Lanceolated Monklet Micromonacha lanceolata	×	2					
Black-fronted Nunbird Monasa nigrifrons	×	×					
White-fronted Nunbird Monasa morphoeus Yellow-billed Nunbird Monasa flavirostris	×	^					
Swallow-wing Chelidoptera tenebrosa	×						
Black-spotted Barbet Capito niger	î	10					
Lemon-throated Barbet Eubucco richardsoni			x				
Red-headed Barbet Eubucco bourcierii			×				
Crimson-rumped Toucanet Aulacorhynchus haematopygus				1	×		
Chestnut-eared Araçari Pteroglossus costonotis	×						
Many-banded Araçari Pteroglossus pluricinctus	×						
Lettered Araçari Pteroglossus inscriptus	×						
Azara Araçari Pteroglossus azara	×	×					
Golden-collared Toucanet Selenidera reinwardtii	2	4			1		
Black-billed Mountain-toucan Andigena nigrirostris		- 1					×
Yellow-ridged Toucan Ramphastos culminatus			12.1	- 12	×		
Black-mandibled Toucan Ramphastos ambiguus	1207	×	×	×	×		
Cuvier's Toucan Ramphastos cuvieri	×	×	1.				
Scaled Piculet Picumnus squamulatus			×				
Lafesnaye's Piculet Picumnus lafresnayi Spot-breasted Woodpecker Colaptes punctigula	×		^				
Crimson-mantled Woodpecker Piculus rivolii	^				×	×	×
Golden-olive Woodpecker Piculus rubiginosus				2	×		
Yellow-throated Woodpecker Piculus flavigula		×					
White-throated Woodpecker Piculus leucolaemus			×				
Chestnut Woodpecker Celeus elegans	1						
Acorn Woodpecker Melanerpes formicivorus					×		×
Yellow-tufted Woodpecker Melanerpes cruentatus	×						
Yellow-vented Woodpecker Veniliornis dignus				×	×		
Crimson-crested Woodpecker Campephilus melanoleucos	×						
Red-necked Woodpecker Campephilus rubricollis	×	×					
Powerful Woodpecker Campephilus pollens					×	127	X
Tyrannine Woodcreeper Dendrocincla tyrannina			4		2	- 1	3
Plain-brown Woodcreeper Dendrocincla fuliginosa	7	.!	6	19			
Wedge-billed Woodcreeper Glyphorhynchus spirurus	66	46	4	19			
Southern Barred Woodcreeper Dendrocolaptes certhia	1 2	2	×				
Black-banded Woodcreeper Dendrocolaptes picumnus			*				
Rusty-breasted Woodcreeper Xiphocolaptes orenocensis	×				×		
Strong-billed Woodcreeper Xiphocolaptes promeropirhynchus	5	17	1.1		^		
Ocellated Woodcreeper Xiphorhynchus ocellatus Buff-throated Woodcreeper Xiphorhynchus guttatus	ĭ						
Olive-backed Woodcreeper Xiphorhynchus triangularis			4	7	4		×
Spot-crowned Woodcreeper Lepidocolaptes affinis					2		
Brown-billed Scythebill Campylorhamphus pusillus				1	T.		
Elegant Spinetail Synallaxis (azarae) elegantior				1	×		×
Dusky Spinetail Synallaxis moesta			5				
Rufous Spinetail Synallaxis unirufa							1
Ash-browed Spinetail Cranioleuca curtata					- 1		
Spectacled Prickletail Siptomis striaticollis					1		
Pearled Treerunner Margarornis squamiger					×	1	3
Rusty-winged Barbtail Premnornis guttuligera					9		
Spotted Barbtail Premnoplex brunnescens			1.1	10	4	2	
Streaked Tuftedcheek Pseudocolaptes boissonneautii						2	X
Chestnut-winged Hookbill Ancistrops strigilatus	X			3	4		
Lineated Foliage-gleaner Syndactyla subalaris	4	2		3	7		
Buff-throated Foliage-gleaner Automolus ochrolaemus	-	2				1	
Flammulated Treehunter Thripadectes flammulatus		3				/15/	
Striped Treehunter Thripadectes holosticus			1.	5	1		
Black-billed Treehunter Thripadectes melanorhynchus Plain Xenops Xenops minutus		T.	2		×		
Grey-throated Leaftosser Sclerurus albigularis			ī				
Tawny-throated Leaftosser Scierurus mexicanus			i	×			
Short-billed Leaftosser Scierurus rufigularis	6			(53.0)			
Black-tailed Leaftosser Scientis rujigaturis	3	1					
Sharp-tailed Streamcreeper Lochmias nematura				1			
Undulated Antshrike Frederickena unduligera	×	1					
Black-capped Antshrike Thamnophilus schistaceus		3					







Figure 1. Cinnamon Tyrant Neopipo (Myiophobus) cinnamomea (Dan Davison) Figure 2. Striped Manakins

Machaeropterus regulus (Dan Davison) Figure 3. Band-bellied Owl Pulsatrix melanota (Dan Davison)

Figure 4. Lined Forest-falcon Microstur gilvicollis (Paul G. W. Salaman)

White-shouldered Antshrike Thamnophilus aethiops	2					
Uniform Antshrike Thamnophilus unicolor				5	5	×
Antbird sp. Myrmeciza sp.	1					
Russet Antshrike Thamnistes anabatinus			2			
Plain Antvireo Dysithamnus mentalis			5			
White-streaked Antvireo Dysithamnus leucostictus			ĵ	×		
Dusky-throated Antshrike Thamnomanes ardesiacus	12					
Plain-throated Antwren Myrmotherula hauxwelli	1.					
Stipple-throated Antwren Myrmotherula haematonota		2	1			
Foothill Antwren Myrmotherula (haematonota) spodionota			10			
Ornate Antwren Myrmotherula ornata			2			
White-flanked Antwren Myrmotherula axillaris	16	14				
Slaty Antwren Myrmotherula schisticolor				4		
Long-tailed Antbird Drymophila caudata						×
Dusky Antbird Cercomacra tyrannina		1	2 7			
White-backed Fire-eye Pyriglena (leuconota) castanoptera			7	6	2	
Black-faced Antbird Myrmoborus myotherinus	13	9				
Spot-winged Antbird Schistocichla leucostigma	2	×	2			
Sooty Antbird Myrmeciza fortis	T					
Eastern Wing-banded Antbird Myrmornis torquata	4					
White-plumed Antbird Pithys albifrons	30	12	7			
White-cheeked Antbird Gymnopithys leucaspis	8					
Hairy-crested Antbird Rhegmatorhina melanosticta		1				
Spot-backed Antbird Hylophylax naevia		1	3			
Scale-backed Antbird Hylophylox poecilinota	3		1			
Short-tailed Antthrush Chamaeza campanisona			5	6		
Scalloped Antthrush Chamaeza turdina					1.	
Chestnut-crowned Antpitta Grallaria ruficapilla						×
White-bellied Antpitta Grallaria hypoleuca				×	×	×
Thrush-like Antpitta Myrmothera campanisona			×			
Ochre-breasted Antpitta Grallaricula flavirostris				5		

Hooded Antpitta Grallaricula cucullata					2		
Northern White-crowned Tapaculo Scytalopus atratus			X.	×			
Equatorial Rufous-vented Tapaculo Scytalopus micropterus				2	×	- 3	
Unicoloured Tapaculo sp. Scytalopus unicolor sp.  Andean Tapaculo sp. Scytalopus magellanicus sp.						- 3	î
Ocellated Tapaculo Acropternis orthonyx							×
Golden-headed Manakin Pipra erythrocephala	22	14		1			
White-crowned Manakin Pipra pipra	5	6	11				
Blue-rumped Manakin Pipra isidorei	1	6	20				
Blue-crowned Manakin Pipra coronata Golden-winged Manakin Masius chrysopterus	62	74 1	3	10	14	3	1
White-bearded Manakin Manacus manacus	×		-		1.7	-	- 1
Striped Manakin Machaeropterus regulus	3		1				
Green Manakin Chloropipo holochlora	4	7	1				
Wing-barred Piprites Piprites chloris		2					
Fiery-throated Fruiteater Pipreola chlorolepidota			×	×		-	
Green-and-black Fruiteater Pireola rieferii				Υ.	5	3	5
Scaled Fruiteater Ampelioides tschudii Dusky Piha Lipaugus fuscocinereus						-1	
Screaming Piha Lipaugus vociferans	110						
Grey-tailed Piha Lipaugus subalaris	- 150	4					
Plum-throated Cotinga Cotinga maynana		×					
Purple-throated Fruitcrow Querula purpurata	×						
Red-ruffed Fruitcrow Pyroderus scutatus							
Amazonian Umbrellabird Cephalopterus ornatus		×	1	4			
Andean Cock-of-the-Rock Rupicola peruviana		4	,	7	×	5	2
Black-capped Tyrannulet Phyllomyias nigrocapillus Ashy-headed Tyrannulet Phyllomyias cinereiceps					i i	,	-
Golden-faced Tyrannulet Zimmerius chrysops			2	- 1	×		
White-throated Tyrannulet Mecocerculus leucophrys				×			
Sulphur-bellied Tyrannulet Mecocerculus minor			1		4	- 1	6
Streak-necked Flycatcher Mionectes striaticallis				8	73	29	72
Olive-striped Flycatcher Mionectes olivaceus	136	63	28	2			
Ochre-bellied Flycatcher Mionectes oleogineus	42	23	1	×			
Slaty-capped Flycatcher Leptopogon superciliaris Variegated Bristle-tyrant Pogonotriccus poecilotis				^	3		
Bronze-olive Pygmy-tyrant Pseudotriccus pelzelni			×	4	-		
Rufous-headed Pygmy-tyrant Pseudotriccus ruficeps					3	- 1	7
Scale-crested Pygmy-tyrant Lophotriccus pileatus			4	×	×		
Rufous-crowned Tody-tyrant Poecilotriccus ruficeps					1	127	×
Black-throated Tody-tyrant Hemitriccus granadensis					5	12	4
White-eyed Tody-tyrant Hemitriccus zosterops	1:	6	1				
Golden-winged Tody-flycatcher Todirostrum calopterum Olivaceous Flatbill Rhynchocyclus olivaceus	3	3	,				
Grey-crowned Flycatcher Tolmomyias poliocephalus	,	i					
Yellow-olive Flycatcher Tolmomyias sulphurescens	11		1				
Western Yellow-margined Flycatcher Tolmomyias assimilis		×					
White-throated Spadebill Platyrinchus mystaceus			*	13			
Ornate Flycatcher Myiotriccus ornatus		×	3	2			
Ruddy-tailed Flycatcher Terenotriccus erythrurus	f	2					
Cinnamon Tyrant Neopipo cinnamomea Tawny-breasted Flycatcher Myiobius villosus	1		4				
Flavescent Flycatcher Myiophobus flavicans			7		3		3
Orange-crested Flycatcher Myiophobus phoenicomitra			ī	T.			100
Handsome Flycatcher Myiophobus (pulcher) bellus					1		x
Cinnamon Flycatcher Pyrrhomyias cinnamomea				×	2	1	3
Smoke-coloured Pewee Contopus fumigatus				×	×		X
Vermilion Flycatcher Pyrocephalus rubinus	×					1.00	
Yellow-bellied Chat-tyrant Ochthoeca diadema					×	4 ×	4
Smoky Bush-tyrant Myiotheretes fumigotus Rufous-tailed Tyrant Knipolegus poecilurus				×	×	*	
Long-tailed Tyrant Colonia colonus			×	î			
Cliff Flycatcher Hirundinea ferruginea			×	×			
Bright-rumped Attila Attila spadiceus		1					
Grayish Mourner Rhytipterna simplex		5					
Short-crested Flycatcher Mylarchus ferox	×						
Pale added Elyestehan Mujarchus cathalatas			×	×			
Pale-edged Flycatcher Myjarchus cephalotes	1.00						
Dusky-capped Flycatcher Myjarchus swainsoni  Dusky-capped Flycatcher Myjarchus tuberculifer	×	1	1	×			

Boat-billed Flycatcher Megarynchus pitangua Social Flycatcher Myiozetetes similis	×	×					
Dusky-chested Flycatcher Myiozetetes luteiventris	×						
Golden-crowned Flycatcher Myiodynastes chrysocephalus				×			
Piratic Flycatcher Legatus leucophaius	×						
Variegated Flycatcher Empidonomus varius Sulphury Flycatcher Tyrannopsis sulphurea	×						
Tropical Kingbird Tyrannus melancholicus	×						×
Barred Becard Pachyromphus versicolor			×	x	×		
Black-and-white Becard Pachyramphus albogriseus		×					
Pink-throated Becard Pachyramphus minor Black-tailed Tityra Tityra cayana	×	×		×			
White-winged Swallow Tachycineta albiventer	×						
Blue-and-white Swallow Notiochelidon cyanoleuca	x			×	×		×
White-banded Swallow Atticora fasciata	×						
White-thighed Swallow Neochelidon tibialis			×				
Southern Rough-winged Swallow Stelgidopteryx ruficollis	×	×		×	×		
Collared Jay Cyanocorax viridicyana Violaceous Jay Cyanocorax violaceus	×	×	×				
Green Jay Cyanocorax yncas		**					×
Rufous Wren Cinnycerthia unirufa						×	
Sepia-brown Wren Cinnycerthia peruana					3	3	10
Thrush-like Wren Campylorhynchus turdinus Southern House Wren Troglodytes (aedon) musculus			×				
Mountain Wren Troglodytes solstitialis	×				1		2
White-breasted Wood-wren Henicorhina leucosticta	7	2	9				-
Grey-breasted Wood-wren Henicorhina leucophrys				1	12		×
Southern Nightingale-wren Microcerculus marginatus	11	×	×				
Musician Wren Cyphorhinus aradus	3	7	2	8	30	11	10
Andean Solitaire Myadestes ralloides Spotted Nightingale-thrush Catharus dryas	3	×	6	5	30	11	10
Pale-eyed Thrush Platycichla leucops		2		-			
Great Thrush Turdus fuscater						×	×
Glossy-black Thrush Turdus serranus				- 1		4	3
Chestnut-bellied Thrush Turdus fulviventris				2	5	2	×
Black-billed Thrush Turdus ignobilis White-necked Thrush Turdus albicollis	5	6					×
Collared Gnatwren Microbates collaris	3	3					
White-browed Gnatcatcher Polioptila (plumbea) bilineata	5	2	3				
Rufous-browed Peppershrike Cyclarhis gujanensis	×	×	×	×			
Black-billed Peppershrike Cyclarhis nigrirostris				2000	x 2	×	×
Brown-capped Vireo Vireo leucophrys Tawny-crowned Greenlet Hylophilus ochraceiceps		3		×	2		
Crested Oropendola Psarocolius decumanus	×	×					
Black-billed Oropendola Psarocolius angustifrons				×	×		×
Russet-backed Oropendola Psarocolius alfredi	×	3	2				
Olive Oropendola Gymnostinops yuracares	×	3					
Yellow-rumped Cacique Cacicus cela Red-rumped Cacique Cacicus haemorrhous	×	3					
Subtropical Cacique Cacicus uropygialis	^						×
Mountain Cacique Cacicus leucoramphus					×		×
Velvet-fronted Grackle Lampropsar tanagrinus	×						
Moriche Oriole Icterus chrysocephalus			×				
Oriole Blackbird Gymnomystax mexicanus Red-breasted Blackbird Sturnella militaris	×						
Slate-throated Whitestart Myioborus miniatus				I	6		
Golden-fronted Whitestart Myioborus ornatus				18		1.	1
Citrine Warbler Basileuterus luteoviridis						1	4
Russet-crowned Warbler Basileuterus coronatus					- 14		4
Three-striped Warbler Basileuterus tristriatus Buff-rumped Warbler Basileuterus fulvicauda				×	14		
Capped Conebill Conirostrum albifrons	×						×
Bananaquit Coereba flaveola			4		×		157
Bluish Flowerpiercer Diglossa caerulescens				×		19	3
Masked Flowerpiercer Diglossa cyanea				×		3	11
Deep-blue Flowerpiercer Diglossa glauca				×	4	1	9
White-sided Flowerpiercer Diglossa albilatera Purple Honeycreeper Cyanerpes caeruleus	×	26		×		×	,
Red-legged Honeycreeper Cyanerpes cyaneus	x	-7		200			
Green Honeycreeper Cyanerpes spiza	×						

Blue Dacnis Dacnis cayana	×	×					
Golden-collared Honeycreeper Iridophanes pulcherrima			×	×			
Black-faced Dacnis Dacnis lineata		×					
Yellow-bellied Dacnis Dacnis flaviventer	×						
Swallow Tanager Tersina viridis	×			7	50	7.0	
Orange-bellied Euphonia Euphonia xanthogaster	12	3	14	5	15	3	3
Thick-billed Euphonia Euphonia Ianiirostris	×	×		5			
Rufous-bellied Euphonia Euphonia rufiventris	3			3			
Orange-eared Tanager Chlorochrysa calliparaea			4	3	×		
Opal-rumped Tanager Tangara velia Paradise Tanager Tangara chilensis	×	765	×				
Green-and-gold Tanager Tangara schrankii	×	x 2	×				
Speckled Tanager Tangara guttata		×					
Yellow-bellied Tanager Tangara xanthogastra		4					
Golden Tanager Tangara arthus		-7	3	×			
Saffron-crowned Tanager Tangara xanthocephala			3	×	×		×
Golden-eared Tanager Tangara chrysotis			T.	×	^		^
Flame-faced Tanager Tangara parzudakii			70	×	×		
Metallic-green Tanager Tangara labradorides				^	×		
Blue-necked Tanager Tangara cyanicollis			1	×	^		
Masked Tanager Tangara nigrocincta				^	×		
Golden-naped Tanager Tangara ruficervix				×	-		
Bay-headed Tanager Tangara gyrola		1	×	^-			
Scrub Tanager Tangara vitriolina		1.0	×				
Beryl-spangled Tanager Tangara nigroviridis			^	×	1	1	-1
Blue-and-black Tanager Tangara vassorii				^	10		×
Yellow-throated Tanager Iridosornis analis				×			^
Golden-crowned Tanager Iridosornis rufivertex				^		5	3
Blue-winged Mountain-tanager Anisognathus flavinucha				×	1	-	×
Hooded Mountain-tanager Buthraupis montana				^		2	2
Blue-grey Tanager Thraupis episcopus	×		×			-	
Palm Tanager Throupis palmarum	×		^				
Silver-beaked Tanager Ramphocelus carbo	×		6				
Masked Crimson Tanager Ramphocelus nigrogularis	x						
Vermilion Tanager Calochaetes coccineus	×		×	×			
White-winged Tanager Piranga leucoptera			×				
Red-hooded Tanager Piranga rubriceps							×
Olive Tanager Chlorothraupis carmioli		10	3				
Fulvous Shrike-tanager Lanio fulvus		3	2				
White-lined Tanager Tachyphonus rufus	×	100					
Flame-crested Tanager Tachyphonus cristatus		×					
Fulvous-crested Tanager Tachyphonus surinamus	×	4					
Rufous-crested Tanager Creurgops verticalis				×	1		
Yellow-backed Tanager Hemithroupis flovicollis	×	×					
White-capped Tanager Sericossypha albocristata					×	×	×
Common Bush-tanager Chlorospingus ophthalmicus					2	1	6
Yellow-throated Bush-tanager Chlorospingus flavigularis			8	×	×		
Grey-hooded Bush-tanager Cnemoscopus rubrirostris						×	×
Grass-green Tanager Chlorornis riefferii						3	3
Magpie Tanager Cissopis leveriana	×	×					
Oleaginous Hemispingus Hemispingus frontalis					12		
Red-capped Cardinal Paroaria gularis	×						
Slate-coloured Grosbeak Pitylus grossus	×	3					
Buff-throated Saltator Saltator maximus	×	5	2				
Blue-black Grosbeak Cyanocompsa cyanoides	6	5					
Yellow-browed Sparrow Ammodramus aurifrons	×						
Blue-black Grassquit Volatinia jacarina	×						
Caquetá Seedeater Sporophila (americana) murallae	×						
Yellow-bellied Seedeater Sporophila nigricollis							×
Chestnut-bellied Seedeater Sporophila castaneiventris	×						
Slaty Finch Haplospiza rustica					2	4	
Rufous-collared Sparrow Zonotrichia capensis							×
Chestnut-bellied Seed-finch Oryzoborus angolensis	×						
Orange-billed Sparrow Arremon aurantiirostris			2				
Dusky-headed Brush-finch Atlapetes fuscoolivaceus							×
Slaty Brush-finch Atlapetes schistaceus						×	
Chestnut-capped Brush-finch Atlapetes brunneinucha				3	6		2
Olive Finch Lysurus castaneiceps			5		×		
170							