

Bolivia has the opportunity to create the planet's richest park for terrestrial biota

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Summary

Establishing a reserve of approximately 10,000 km² at a strategic location in depto. La Paz, northern Bolivia, would create the planet's richest park for birds and presumably all other forest-dwelling biota that reach peak diversity at tropical latitudes. By connecting puna and montane forest habitats of the Andes with lowland tropical forest and savannas of the Amazon basin, we predict that the proposed reserve would contain at least 1,088 bird species, or roughly 11% of all bird species on the planet. Among these are many threatened species and species with relatively small geographical ranges. The proposed reserve would also include threatened habitats, such as lower montane forest, dry forest, and grassland.

El establecimiento de una reserva de aproximadamente 10.000 km² en un lugar estratégico en el departamento de La Paz, Bolivia, crearía el parque de mayor riqueza de aves en el planeta. Así es de suponer que la flora y fauna que habitan en la área, llegan a su grado máximo de diversidad en las latitudes tropicales. Conectando puna, los hábitats de bosque tropical (áreas bajas) y sabanas de la cuenca del Amazonas, predecimos que la reserva que se propone tendría a lo menos 1.088 especies de aves, o aproximadamente 11% de todas las especies de aves del planeta. Dentro de estas hay muchas especies amenazadas y especies con áreas de rango geográfico muy restringido. Además la reserva que se propone también incluiría hábitats amenazados, como bosque montano, bosque seco y pajonales tropicales.

Introduction

It is well known that the lowland forests of western Amazonia and the humid montane forests of the eastern slope of the Andes are among the richest habitats in the world for species of terrestrial organisms. Thus, any park that bridged these adjacent habitats and was placed anywhere from central Colombia to northern Bolivia would be one of the planet's richest parks. If such a park could be extended to include both páramo and puna zones of the Andes, which is possible in Peru and northern Bolivia, then it would be the world's richest park. If such a park could also include some of the open lowland or drier habitats characteristic of southern South America, then this park would include not only more species of organisms than any other park on the planet, but also more species than exist in almost any country in the world as well, all within a relatively small area. In addition to astonishing species richness, the hypothetical park would encompass threatened habitats and many threatened species.

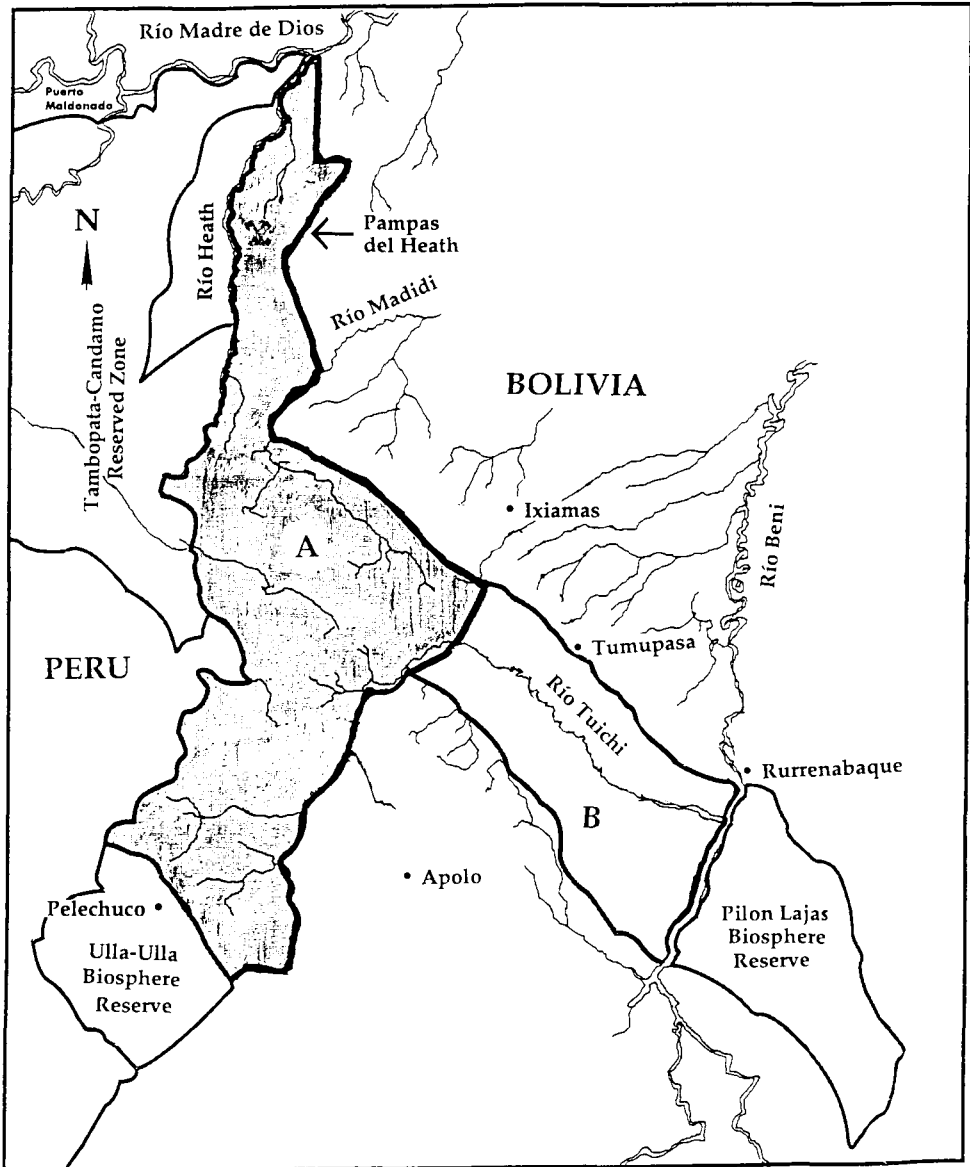


Figure 1. Location of proposed park or reserve system (shaded area, A) in depto. La Paz, northern Bolivia. Addition of the majority the Río Tuichi drainage (B) would connect the proposed park to the Pilon Lajas Biosphere Reserve. (Figure modified from one by S. F. Moolenijzer for TREX.)

The purpose of this paper is to present calculations of potential species richness for one group of terrestrial organisms, birds, for an area in extreme northern Bolivia near the border with Peru in depto. La Paz. The boundaries for the hypothetical park extend from an existing reserve, the Ulla-Ulla Biosphere Reserve, over the Andes to the area for the proposed Alto Madidi reserve and then north to the Pampas del Heath (Figure 1). The size of such a park is

approximately 10,000 km². This area would include relatively undisturbed puna and altiplano habitats in Ulla-Ulla, the páramo zone of the humid slope of the Andes, humid forest of the Andes from timberline to the lowlands, forested outlying ridges of the Andes, humid lowland forest, successional vegetation along major rivers, montane deciduous forest in the central Tuichi and Machariapo valleys, and one of the largest, least disturbed, ungrazed grasslands in the world, the Bolivian Pampas del Heath (Parker and Bailey 1991). Inclusion of this range of habitat diversity and this degree of pristine quality of the habitats in the region is probably not possible elsewhere on the planet within such a relatively small area (slightly larger than Yellowstone National Park, U.S.A., but smaller than Northern Ireland, Gambia, Jamaica, Hawaii or Connecticut). A park that spans a continuous elevational gradient from lowlands to snow-line also permits seasonal elevational movements of birds and other mobile organisms.

Methods

Our calculations are based on the bird species already recorded in the region and those that we predict will be found there once additional habitats and localities are sampled. Species predicted to occur in the park are assigned one of two levels of uncertainty: "expected" for those species recorded both north and south of the park but not yet within it, or recorded only on one side of the park but as close as 100 km in habitats present in the proposed park; and "possible" for those species recorded from 100 to 200 km beyond the proposed park boundaries but in habitats found within the park.

Sources for species already recorded within the proposed boundaries are: Ribera and Hanagarth (1982) for the Ulla-Ulla Biosphere Reserve; Parker and Bailey (1991) for the Alto Madidi site; T.A.P.'s data from the Bolivian side of the Río Heath as presented in Remsen and Traylor (1989) and Parker *et al.* (1991); and Whitney (1994) for a locality at c.3,000 m near Pelechuco, depto. La Paz, Bolivia. Sources for species "expected" to occur are as follows: (1) Graham *et al.* (1980), Foster *et al.* (1994), and unpublished data from the Museum of Natural Science, Louisiana State University (LSUMZ), and Museo Javier Prado, Lima, for the Peruvian side of the Pampas del Heath, depto. Madre de Dios, Peru; (2) Parker and Bailey (1991) for the savanna at Ixiamas and lower montane forest at Calabatea, depto. La Paz, Bolivia; (3) S. W. Cardiff *et al.* (unpubl. data) for lower montane forest in the Cerro Asunto Pata area, depto. La Paz, Bolivia, where a locality at 1,300 m was sampled in July and August 1993 by a team from the LSUMZ and the Museo Nacional de Historia Natural, La Paz; (4) unpublished and some published (Remsen 1984) specimen data from humid montane forest at Abra de Maruncunca, 2,000 m, and Valcón, 3,000 m, depto. Puno, from the LSUMZ and Museo Javier Prado, Lima, these localities lying within about 35 km of the Bolivian border; and (5) general distributional data from depto. La Paz from Remsen and Traylor (1989). Sources for species of "possible" occurrence in the area are Remsen and Traylor (1989) and Fjeldsá and Krabbe (1990) for depto. La Paz and depto. Puno, and Foster *et al.* (1994) for lowlands of depto. Madre de Dios and isolated ridges of depto. Puno, south-east Peru.

To assess the number of bird species with “small” geographical ranges that might be contained within the proposed reserve, we consulted references on South American bird distribution (e.g. Fjeldså and Krabbe 1990). We arbitrarily considered any species of Andean bird whose distribution includes only extreme southern Peru (depto. Puno) and northern Bolivia (deptos. La Paz, Cochabamba, and extreme northern Santa Cruz) to have a “small” range. For lowland species, we considered distribution that included only south-east Peru (deptos. Madre de Dios or Puno) and northern Bolivia (deptos. Pando, La Paz, and northern Beni) as “small”. To determine the number of endangered, threatened, and potentially threatened species, we used appendix B of Collar *et al.* (1992). We condensed their 12 categories into five categories by using their alternative descriptive terms: (1) Endangered, (2) Indeterminate, (3) Vulnerable (including “vulnerable/rare”), (4) Rare (no species from Appendix in this category), and (5) Insufficiently Known.

Results and discussion

Our calculations (Appendix) show that a reserve system delineated as in Figure 1 would contain a minimum of 1,088 bird species (recorded or expected), or roughly 11% of all bird species on the planet. Inclusion of the “possible” category would boost the total to 1,138 species. Even this total may be conservative, because range extensions of more than 200 km are a routine feature of avifaunal surveys in South America (e.g. Parker and Remsen 1987). Nonetheless, this total is more than the number of bird species recorded in all but a few countries in the world. We predict that similar calculations for other groups of terrestrial biota that reach peak species richness in the Neotropical region, particularly in forest habitats, would show the same pattern: such a park would be the richest in the world for them as well.

Species richness is only one measure of the biotic value of a reserve. Another is the number of species with small geographical ranges. Using our criteria for “small” geographical ranges (see Methods), the proposed park has seven such species recorded, 17 “expected” to be recorded, and three “possible”. Another criterion is the number of endangered or threatened species. Using Collar *et al.* (1992; see Methods), eight such species are “expected” to be recorded and six are “possible” in the proposed park (Table 1). This total of 17 species is more

Table 1. Threatened bird species of the proposed park in northern Bolivia. See Methods for explanations for categories for conservation status and occurrence.

Conservation status	Occurrence	
	Expected	Possible
Endangered	<i>Cinclodes aricomae</i>	<i>Simoxenops striatus</i> <i>Anairetes alpinus</i>
Indeterminate	<i>Asthenes berlepschi</i>	<i>Crax globulosa</i> <i>Popelairia letitia</i>
Vulnerable	<i>Nothoprocta taczanowskii</i> <i>Terenura sharpei</i> <i>Myrmotherula grisea</i> <i>Formicarius rufifrons</i> <i>Agriornis andicola</i>	<i>Pauxi unicornis</i>
Insufficiently Known	<i>Tinamus osgoodi</i>	<i>Tangara meyerdeschauenseei</i>

than the national totals for 25 of the 34 countries of the Western Hemisphere (using totals from appendix C in Collar *et al.* 1992). The proposed park would also contain the entire known range of the newly discovered, undescribed *Herpsilochmus* antwren (Pearman 1993).

More broadly, the proposed park contains at least two endangered habitats. Inclusion of the grasslands of the Pampas del Heath would protect one of the last ungrazed grasslands in South America (Parker and Bailey 1991) and perhaps the most pristine major area of grassland on the continent. Inclusion of lower montane cloud-forest would protect a habitat that is everywhere threatened in the Neotropics (Parker and Bailey 1991). If the proposed park contains *Polylepis* woodland, then it would also protect another endangered habitat (Fjeldså 1992).

We encourage the Bolivian government and non-governmental conservation and development agencies to work together to make the proposed park a reality and a source of national pride. Although access to most of the proposed park is currently difficult, visits to parts of the park for ecotourism will become more feasible when the La Paz to Apolo road is completed. Access from Rurrenabaque through the Río Tuichi is also a possibility. The lure provided by advertising that the park is the richest in the world should accelerate development of access for ecotourism and provide economic incentive for establishing the park.

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Appendix. Bird species recorded or predicted to occur in proposed park or reserve system, La Paz, Bolivia.

X indicates that the species has already been recorded. Numbers refer to the following sources: 1, Parker and Bailey (1991); 2, Ribera and Hanagarth (1982); 3, Pearman (1993); 4, T. A. Parker's survey from the Bolivian side of Río Heath (in Remsen and Traylor 1989, Parker *et al.* 1991), only included for species not recorded elsewhere in region; 5, Whitney (1994). Expected species are indicated by E, and species that might possibly be present by P (see text for criteria). Species with small geographical ranges (see Methods) are noted by an asterisk (*) after the name. Migrants from the Nearctic region are indicated by BM (boreal migrant) after the name. Because knowledge of seasonal movements of many South American species is limited, we do not designate suspected austral or intratropical migrants.

RHEIDAE (2 species)			
<i>Rhea americana</i>	P	<i>Crypturellus variegatus</i>	X(1)
<i>Pterocnemia pennata</i>	P	<i>Crypturellus bartletti</i>	X(1)
		<i>Crypturellus parvirostris</i>	E
		<i>Crypturellus tataupa</i>	X(3)
TINAMIDAE (21 species)			
<i>Tinamus tao</i>	X(1, 3)	<i>Rhynchotus rufescens</i>	E
<i>Tinamus major</i>	X(1)	<i>Nothoprocta ornata</i>	E
<i>Tinamus osgoodi</i>	E	<i>Nothoprocta pentlandii</i>	E
<i>Tinamus guttatus</i>	X(1)	<i>Nothoprocta taczanowskii</i>	E
<i>Nothocercus nigrocapillus</i>	E	<i>Nothura darwinii</i>	E
<i>Crypturellus cinereus</i>	X(1)	<i>Tinamotis pentlandii</i>	X(2)
<i>Crypturellus soui</i>	X(1)	PODICIPEDIDAE (4 species)	
<i>Crypturellus obsoletus</i>	X(1)	<i>Rollandia rolland</i>	X(2)
<i>Crypturellus undulatus</i>	X(1, 3)	<i>Tachybaptus dominicus</i>	E
<i>Crypturellus strigulosus</i>	E	<i>Podilymbus podiceps</i>	P
<i>Crypturellus atrocapillus</i>	X(3)	<i>Podiceps occipitalis</i>	X(2)

PHALACROCORACIDAE (1 species)		ANHIMIDAE (2 species)	
<i>Phalacrocorax brasilianus</i>	X(1, 2)	<i>Anhima cornuta</i>	X(1)
ANHINGIDAE (1 species)		<i>Chauna torquata</i>	X(1)
<i>Anhinga anhinga</i>	X(1)	ANATIDAE (18 species)	
ARDEIDAE (17 species)		<i>Dendrocygna bicolor</i>	E
<i>Ixobrychus involucris</i>	E	<i>Dendrocygna viduata</i>	E
<i>Ixobrychus exilis</i>	E	<i>Dendrocygna autumnalis</i>	E
<i>Botaurus pinnatus</i>	E	<i>Chloephaga melanoptera</i>	X(2)
<i>Zebrilus undulatus</i>	E	<i>Neochen jubata</i>	X(1)
<i>Tigrisoma fasciatum</i>	E	<i>Cairina moschata</i>	X(1)
<i>Tigrisoma lineatum</i>	X(1)	<i>Callonetta leucophrys</i>	E
<i>Syrigma sibilatrix</i>	E	<i>Amazonetta brasiliensis</i>	E
<i>Pilherodius pileatus</i>	X(1)	<i>Merganetta armata</i>	E
<i>Ardea cocoi</i>	X(1)	<i>Anas flavirostris</i>	X(2)
<i>Ardea alba</i>	X(1, 2)	<i>Anas specularioides</i>	X(2)
<i>Bubulcus ibis</i>	X(1)	<i>Anas georgica</i>	X(2)
<i>Egretta thula</i>	X(1)	<i>Anas bahamensis</i>	E
<i>Egretta caerulea</i>	E	<i>Anas versicolor</i>	X(2)
<i>Butorides striatus</i>	X(1)	<i>Anas cyanoptera</i>	E
<i>Agamia agami</i>	E	<i>Anas platalea</i>	P
<i>Nycticorax nycticorax</i>	X(1, 2)	<i>Oxyura dominica</i>	E
<i>Cochlearius cochlearius</i>	E	<i>Oxyura jamaicensis</i>	X(2)
PHOENICOPTERIDAE (3 species)		ACCIPITRIDAE (44 species)	
<i>Phoenicopterus chilensis</i>	X(2)	<i>Pandion haliaetus</i>	X(1)
<i>Phoenicoparrus andinus</i>	P	<i>Leptodon cayanensis</i>	X(1)
<i>Phoenicoparrus jamesi</i>	P	<i>Chondrohierax uncinatus</i>	E
THRESKIORNITHIDAE (7 species)		<i>Elanoides forficatus</i>	X(1)
<i>Phimosus infuscatus</i>	P	<i>Gampsonyx swainsonii</i>	X(1)
<i>Plegadis ridgwayi</i>	X(2)	<i>Elanus caeruleus</i>	E
<i>Theristicus caerulescens</i>	E	<i>Rostrhamus sociabilis</i>	E
<i>Theristicus caudatus</i>	E	<i>Helicolestes hamatus</i>	E
<i>Theristicus melanopis</i>	X(2)	<i>Harpagus bidentatus</i>	X(1)
<i>Mesembrinibis cayennensis</i>	X(1)	<i>Ictinia mississippiensis</i> (BM)	P
<i>Platalea ajaja</i>	X	<i>Ictinia plumbea</i>	E
CICONIIDAE (3 species)		<i>Circus cinereus</i>	E
<i>Mycteria americana</i>	X(1)	<i>Circus buffoni</i>	E
<i>Ciconia maguari</i>	P	<i>Accipiter poliogaster</i>	E
<i>Jabiru mycteria</i>	X(1)	<i>Accipiter superciliosus</i>	E
CATHARTIDAE (6 species)		<i>Accipiter striatus</i>	E
<i>Coragyps atratus</i>	X(1, 3)	<i>Accipiter bicolor</i>	X(1)
<i>Cathartes aura</i>	X(3)	<i>Geranoospiza caerulescens</i>	X(1)
<i>Cathartes burrovianus</i>	E	<i>Leucopternis schistacea</i>	X(1)
<i>Cathartes melambrotus</i>	X(1)	<i>Leucopternis kuhli</i>	E
<i>Vultur gryphus</i>	E	<i>Leucopternis albicollis</i>	X(1)
<i>Sarcoramphus papa</i>	X(1)	<i>Asturina nitida</i>	X(1)
		<i>Buteogallus urubitinga</i>	X(1)
		<i>Buteogallus meridionalis</i>	E

<i>Parabuteo unicinctus</i>	E	ODONTOPHORIDAE (4 species)	
<i>Busarellus nigricollis</i>	E	<i>Odontophorus gujanensis</i>	E
<i>Geranoaetus melanoleucus</i>	E	<i>Odontophorus speciosus</i>	E
<i>Harpophalioetus solitarius</i>	E	<i>Odontophorus balliviani</i>	E
<i>Buteo magnirostris</i>	X(1, 3)	<i>Odontophorus stellatus</i>	X(1)
<i>Buteo leucorrhous</i>	E		
<i>Buteo platypterus</i> (BM)	E	RALLIDAE (17 species)	
<i>Buteo brachyurus</i>	E	<i>Rallus sanguinolentus</i>	E
<i>Buteo albigula</i>	E	<i>Rallus nigricans</i>	X(1)
<i>Buteo swainsonii</i> (BM)	E	<i>Pardirallus maculatus</i>	E
<i>Buteo albicaudatus</i>	E	<i>Amaurolimnas concolor</i>	E
<i>Buteo polyosoma</i>	E	<i>Aramides cajanea</i>	X(1)
<i>Buteo poecilochrous</i>	X(2)	<i>Anurolimnas castaneiceps</i>	E
<i>Buteo albonotatus</i>	E	<i>Porzana albicollis</i>	E
<i>Morphnus guianensis</i>	X(1)	<i>Porzana flaviventer</i>	E
<i>Harpia harpyja</i>	E	<i>Laterallus exilis</i>	X(1)
<i>Spizastur melanoleucus</i>	E	<i>Laterallus melanophaius</i>	X(1)
<i>Spizaetus tyrannus</i>	X(1)	<i>Micropygia schomburgkii</i>	E
<i>Spizaetus ornatus</i>	X(4)	<i>Neocrex erythrops</i>	E
<i>Oroaetus isidori</i>	E	<i>Gallinula chloropus</i>	X(2)
		<i>Porphyryla martinica</i>	X(1)
		<i>Porphyryla flavirostris</i>	E
		<i>Fulica ardesiaca</i>	X(2)
		<i>Fulica gigantea</i>	X(2)
FALCONIDAE (15 species)		HELIORNITHIDAE (1 species)	
<i>Daptrius ater</i>	X(1)	<i>Heliornis fulica</i>	X
<i>Daptrius americanus</i>	X(1)		
<i>Phalcoboenus megalopterus</i>	X(2)	EURYPYGIDAE (1 species)	
<i>Polyborus plancus</i>	E	<i>Eurypyga helias</i>	X(1)
<i>Milvago chimachima</i>	E		
<i>Herpetotheres cachinnans</i>	X(1)	ARAMIDAE (1 species)	
<i>Micrastur ruficollis</i>	X(1, 3)	<i>Aramus guarauana</i>	E
<i>Micrastur gilvicollis</i>	X(1)		
<i>Micrastur mirandollei</i>	E	PSOPHIIDAE (1 species)	
<i>Micrastur semitorquatus</i>	E	<i>Psophia leucoptera</i>	X(1)
<i>Falco sparverius</i>	X		
<i>Falco femoralis</i>	E	CHARADRIIDAE (8 species)	
<i>Falco rufigularis</i>	X(1)	<i>Vanellus cayanus</i>	X(1)
<i>Falco peregrinus</i>	E	<i>Vanellus chilensis</i>	E
<i>Falco deiroleucus</i>	E	<i>Vanellus resplendens</i>	X(2)
		<i>Pluvialis dominicus</i> (BM)	X(2)
CRACIDAE (9 species)		<i>Charadrius collaris</i>	X(1)
<i>Ortalis motmot</i>	X(1, 3)	<i>Charadrius falklandicus</i>	E
<i>Penelope montagnii</i>	E	<i>Phegornis mitchellii</i>	E
<i>Penelope jacquacu</i>	X(1)	<i>Eudromias ruficollis</i>	E
<i>Pipile cumanensis</i>	X(1)		
<i>Chamaepetes goudotii</i>	E	RECURVIROSTRIDAE (2 species)	
<i>Mitu tuberosa</i>	X(1)	<i>Himantopus mexicanus</i>	E
<i>Pauxi unicornis</i>	E	<i>Recurvirostra andina</i>	X(2)
<i>Crax globulosa</i>	P		
<i>Crax fasciolata</i>	E		

JACANIDAE (1 species)*Jacana jacana* E**SCOLOPACIDAE (14 species)**

Bartramia longicauda (BM) E
Tringa melanoleuca (BM) E
Tringa flavipes (BM) X(2)
Tringa solitaria (BM) X(4)
Actitis macularia (BM) E
Phalaropus tricolor (BM) X(2)
Gallinago paraguayae E
Gallinago jamesoni E
Calidris minutilla (BM) P
Calidris fuscicollis (BM) E
Calidris bairdii (BM) X(2)
Calidris melanotos (BM) E
Calidris himantopus (BM) E
Tryngites subruficollis (BM) E

THINOCORIDAE (3 species)

Attagis gayi E
Thinocorus orbignyianus X(2)
Thinocorus rumicivorus E

LARIDAE (3 species)

Larus serranus X(2)
Phaetusa simplex X(1)
Sterna superciliaris X(1)

RYNCHOPIDAE (1 species)*Rynchops niger* X(1)**COLUMBIDAE (23 species)**

Columba speciosa E
Columba maculosa P
Columba fasciata E
Columba cayennensis X(1)
Columba plumbea E
Columba subvinacea X(1)
Zenaidura auriculata X(3)
Columbina minuta E
Columbina talpacoti X(1)
Columbina picui X(1, 3)
Claravis pretiosa X(1)
Claravis mondetoura E
Metriopelia ceciliae E
Metriopelia melanoptera X(2)
Metriopelia aymara E
Uropelia campestris E
Leptotila verreauxi X(3)

Leptotila megalura E
Leptotila rufaxilla X(1)
Geotrygon frenata E
Geotrygon violacea E
Geotrygon saphirina E
Geotrygon montana X(1)

PSITTACIDAE (34 species)

Ara ararauna X(1)
Ara militaris E
Ara macao X(1)
Ara chloroptera X(1)
Ara severa X(1)
Ara manilata X(1)
*Ara couloni** E
Ara nobilis X(4)
Aratinga leucophthalmus X(1, 3)
Aratinga weddellii X(1)
Aratinga aurea X(4)
Pyrrhura molinae E
Pyrrhura picta X(1)
Pyrrhura rupicola X(1)
Bolborhynchus aurifrons P
Bolborhynchus orbygniesius P
Forpus xanthopterygius E
Forpus sclateri X(1)
Brotogeris versicolurus E
Brotogeris cyanoptera X(1)
Brotogeris sanctithomae E
Nannopsittaca dachilleae X(1)
Touit huetii X(4)
Pionites leucogaster X(1)
Pionopsitta barrabandi X(1)
Hapalopsittaca melanotis E
Pionus menstruus X(1, 3)
Pionus sordidus E
Pionus tumultuosus E
Amazona aestiva E
Amazona ochrocephala X(1)
Amazona amazonica E
Amazona mercenaria E
Amazona farinosa X(1)

CUCULIDAE (14 species)

Coccyzus cinereus E
Coccyzus erythrophthalmus (BM) X(3)
Coccyzus americanus (BM) E
Coccyzus melacoryphus X(1)
Piaya cayana X(1, 3)

<i>Piaya melanogaster</i>	X(1)	<i>Chordeiles acutipennis</i>	E
<i>Piaya minuta</i>	X(1)	<i>Podager nacunda</i>	E
<i>Crotophaga major</i>	E	<i>Nyctidromus albicollis</i>	X(1, 3)
<i>Crotophaga ani</i>	X(1)	<i>Nyctiphrynus ocellatus</i>	X(1)
<i>Guira guira</i>	E	<i>Caprimulgus sericocaudatus</i>	E
<i>Tapera naevia</i>	X(1)	<i>Caprimulgus longirostris</i>	E
<i>Dromococyx phasianellus</i>	X(1)	<i>Caprimulgus maculicaudus</i>	E
<i>Dromococyx pavoninus</i>	X(1)	<i>Caprimulgus parvulus</i>	E
<i>Neomorphus geoffroyi</i>	X(3)	<i>Hydropsalis climacocerca</i>	X(1)
OPISTHOCOMIDAE (1 species)		<i>Hydropsalis brasiliiana</i>	E
<i>Opisthocomus hoazin</i>	X(1)	<i>Uropsalis segmentata</i>	E
TYTONIDAE (1 species)		<i>Uropsalis lyra</i>	E
<i>Tyto alba</i>	E	APODIDAE (11 species)	
STRIGIDAE (18 species)		<i>Cypseloides cryptus</i>	E
<i>Otus guatemalae</i>	X(3)	<i>Streptoprocne rutila</i>	E
<i>Otus choliba</i>	X(1)	<i>Streptoprocne zonaris</i>	X(1)
<i>Otus ingens</i>	E	<i>Chaetura chapmani</i>	E
<i>Otus watsonii</i>	X(1)	<i>Chaetura cinereiventris</i>	X(1)
<i>Otus albobularis</i>	E	<i>Chaetura egregia</i>	X(1)
<i>Lophostrix cristata</i>	X(1)	<i>Chaetura andrei</i>	E
<i>Bubo virginianus</i>	E	<i>Chaetura brachyura</i>	X(1)
<i>Pulsatrix perspicillata</i>	X(1)	<i>Aeronautes montivagus</i>	E
<i>Pulsatrix melanota</i>	E	<i>Panyptila cayennensis</i>	X(1)
<i>Glaucidium hardyi</i>	X(1)	<i>Tachornis squamata</i>	X(4)
<i>Glaucidium bolivianum</i>	X(1)	TROCHILIDAE (61 species)	
<i>Glaucidium brasilianum</i>	X(1)	<i>Doryfera ludoviciae</i>	E
<i>Speotyto cunicularia</i>	E	<i>Glaucis hirsuta</i>	X(1)
<i>Ciccaba virgata</i>	X(1)	<i>Threnetes leucurus</i>	X(1)
<i>Ciccaba huhula</i>	E	<i>Phaethornis superciliosus</i>	X(1)
<i>Ciccaba albitarsus</i>	E	<i>Phaethornis hispidus</i>	X(1)
<i>Rhinoptynx clamator</i>	E	<i>Phaethornis philippii</i>	X(4)
<i>Asio flammeus</i>	E	<i>Phaethornis stuarti*</i>	E
STEATORNITHIDAE (1 species)		<i>Phaethornis ruber</i>	X(1)
<i>Steatornis caripensis</i>	E	<i>Eutoxeres condamini</i>	E
NYCTIBIIDAE (5 species)		<i>Campylopterus largipennis</i>	E
<i>Nyctibius grandis</i>	X(1)	<i>Eupetomena macroura</i>	E
<i>Nyctibius griseus</i>	E	<i>Florisuga mellivora</i>	X(1)
<i>Nyctibius maculosus</i>	E	<i>Colibri delphinae</i>	E
<i>Nyctibius aethereus</i>	E	<i>Colibri thalassinus</i>	E
<i>Nyctibius bracteatus</i>	E	<i>Colibri coruscans</i>	E
CAPRIMULGIDAE (16 species)		<i>Anthracothorax nigricollis</i>	X(1)
<i>Lurocalis semitorquatus</i>	E	<i>Klais guimeti</i>	X(3)
<i>Lurocalis rufiventris</i>	E	<i>Lophornis delattrei</i>	E
<i>Chordeiles rupestris</i>	X(1)	<i>Lophornis chalybea</i>	E
<i>Chordeiles minor</i> (BM)	E	<i>Popelairia langsdorffi</i>	E
		<i>Popelairia letitia*</i>	P
		<i>Chlorostilbon mellisugus</i>	E

<i>Thalurania furcata</i>	X(1)	<i>Trogon curucui</i>	X(1, 3)
<i>Hylocharis sapphirina</i>	P	<i>Trogon violaceus</i>	X(1)
<i>Hylocharis cyanus</i>	X(1)		
<i>Chrysuronia oenone</i>	E	MOMOTIDAE (3 species)	
<i>Polytmus guainumbi</i>	E	<i>Electron platyrhynchum</i>	X(1)
<i>Polytmus theresia</i>	E	<i>Baryphthengus martii</i>	X(1)
<i>Calliphlox amethystina</i>	E	<i>Momotus momota</i>	X(1, 3)
<i>Taphrospilus hypostictus</i>	E		
<i>Amazilia fimbriata</i>	E	ALCEDINIDAE (5 species)	
<i>Amazilia lactea</i>	X(1)	<i>Ceryle torquata</i>	X(1)
<i>Adelomyia melanogenys</i>	X	<i>Chloroceryle amazona</i>	X(1)
<i>Polyplancta aurescens</i>	X(1)	<i>Chloroceryle americana</i>	X(1)
<i>Heliodoxa leadbeateri</i>	X	<i>Chloroceryle inda</i>	X(1)
<i>Oreotrochilus estella</i>	E	<i>Chloroceryle aenea</i>	X(1)
<i>Patagona gigas</i>	E		
<i>Aglaeactis pamela*</i>	E	BUCCONIDAE (15 species)	
<i>Pterophanes cyanoptera</i>	E	<i>Notharchus macrorhynchos</i>	X(1)
<i>Coeligena coeligena</i>	X	<i>Notharchus ordii</i>	E
<i>Coeligena torquata</i>	E	<i>Notharchus tectus</i>	P
<i>Coeligena violifer</i>	E	<i>Bucco macrodactylus</i>	E
<i>Ensifera ensifera</i>	E	<i>Bucco capensis</i>	E
<i>Heliangelus amethysticollis</i>	E	<i>Nystalus chacuru</i>	X(3)
<i>Eriocnemis luciani</i>	E	<i>Nystalus striolatus</i>	X(1)
<i>Haplophaedia aureliae</i>	X	<i>Malacoptila semicincta</i>	X(1)
<i>Ocreatus underwoodii</i>	X	<i>Malacoptila fulvogularis</i>	E
<i>Lesbia nuna</i>	E	<i>Nonnula sclateri</i>	E
<i>Ramphomicron microrhynchum</i>	P	<i>Nonnula ruficapilla</i>	X(1)
<i>Metallura aeneocauda</i>	E	<i>Monasa nigrifrons</i>	X(1)
<i>Metallura tyrianthina</i>	E	<i>Monasa morphoeus</i>	X(1)
<i>Chalcostigma ruficeps</i>	E	<i>Monasa flavirostris</i>	E
<i>Chalcostigma olivaceum</i>	E	<i>Chelidoptera tenebrosa</i>	X(1)
<i>Chalcostigma stanleyi</i>	E		
<i>Aglaiocercus kingi</i>	X	GALBULIDAE (7 species)	
<i>Schistes geoffroyi</i>	E	<i>Galbalcyrhynchus purusianus</i>	E
<i>Heliothryx aurita</i>	X(1)	<i>Brachygalba albogularis</i>	X(4)
<i>Heliomaster longirostris</i>	X(1)	<i>Galbula cyanescens</i>	X(1)
<i>Heliomaster furcifer</i>	P	<i>Galbula ruficauda</i>	X(3)
<i>Calliphlox amethystina</i>	E	<i>Galbula leucogastra</i>	P
<i>Acestrura mulsant</i>	X	<i>Galbula dea</i>	X(4)
		<i>Jacamerops aurea</i>	X(1)
TROGONIDAE (9 species)		CAPITONIDAE (4 species)	
<i>Pharomachrus antisianus</i>	E	<i>Capito niger</i>	X(1)
<i>Pharomachrus auriceps</i>	E	<i>Eubucco richardsoni</i>	X(1)
<i>Pharomachrus pavoninus</i>	X(1)	<i>Eubucco versicolor</i>	E
<i>Trogon melanurus</i>	X(1)	<i>Eubucco tucinckae</i>	X(1)
<i>Trogon viridis</i>	X(1)		
<i>Trogon collaris</i>	X(1)	RAMPHASTIDAE (12 species)	
<i>Trogon personatus</i>	E	<i>Aulacorhynchus prasinus</i>	X(1)
		<i>Aulacorhynchus derbianus</i>	E

<i>Aulacorhynchus coeruleicinctis</i>	E	<i>Dendrocolaptes picumnus</i>	X(1, 3)
<i>Pteroglossus inscriptus</i>	X(1)	<i>Xiphorhynchus picus</i>	X(1)
<i>Pteroglossus flavirostris</i>	X(1)	<i>Xiphorhynchus obsoletus</i>	X(4)
<i>Pteroglossus castanotis</i>	X(1, 3)	<i>Xiphorhynchus ocellatus</i>	E
<i>Pteroglossus beauharnaesii</i>	X(1)	<i>Xiphorhynchus spixii</i>	X(1)
<i>Selenidera reinwardtii</i>	X(1)	<i>Xiphorhynchus guttatus</i>	X(1)
<i>Andigena cucullata*</i>	E	<i>Xiphorhynchus triangularis</i>	E
<i>Ramphastos vitellinus</i>	X(1)	<i>Lepidocolaptes angustirostris</i>	E
<i>Ramphastos tucanus</i>	X(1)	<i>Lepidocolaptes affinis</i>	X(3)
<i>Ramphastos toco</i>	E	<i>Lepidocolaptes albolineatus</i>	X(1)
		<i>Campylorhamphus trochilirostris</i>	X(1, 3)

PICIDAE (24 species)

<i>Picumnus rufiventris</i>	E
<i>Picumnus minutissimus</i>	X(3)
<i>Picumnus aurifrons</i>	X(1)
<i>Melanerpes candidus</i>	E
<i>Melanerpes cruentatus</i>	X(1)
<i>Veniliornis nigriceps</i>	E
<i>Veniliornis fumigatus</i>	E
<i>Veniliornis passerinus</i>	X(1)
<i>Veniliornis affinis</i>	X(1, 3)
<i>Piculus leucolaemus</i>	X(1)
<i>Piculus chrysochloros</i>	X(1)
<i>Piculus rubiginosus</i>	E
<i>Piculus rivolii</i>	E
<i>Colaptes punctigula</i>	X(1)
<i>Colaptes rupicola</i>	X(2)
<i>Colaptes campestris</i>	E
<i>Celeus grammicus</i>	X(1)
<i>Celeus elegans</i>	X(1)
<i>Celeus flavus</i>	X(1)
<i>Celeus spectabilis</i>	X(1)
<i>Celeus torquatus</i>	X(1)
<i>Dryocopus lineatus</i>	X(1, 3)
<i>Campyphilus melanoleucos</i>	X(1, 3)
<i>Campyphilus rubricollis</i>	X(1)

**DENDROCOLAPTIDAE
(21 species)**

<i>Dendrocincla fuliginosa</i>	X(1)
<i>Dendrocincla merula</i>	X(1)
<i>Deconychura longicauda</i>	X(1)
<i>Sittasomus griseicapillus</i>	X(1, 3)
<i>Glyphorhynchus spirurus</i>	X(1)
<i>Nasica longirostris</i>	X(4)
<i>Dendrexetastes rufigula</i>	X(1)
<i>Hylexetastes stresemanni</i>	P
<i>Xiphocolaptes promeropirhynchus</i>	X(1)
<i>Dendrocolaptes certhia</i>	X(1)

FURNARIIDAE (74 species)

<i>Geositta punensis</i>	E
<i>Geositta cunicularia</i>	X(2)
<i>Geositta tenuirostris</i>	E
<i>Upucerthia dumetaria</i>	X(2)
<i>Upucerthia jelskii</i>	E
<i>Upucerthia ruficauda</i>	P
<i>Cinclodes aricomae</i>	E
<i>Cinclodes fuscus</i>	X(2)
<i>Cinclodes atacamensis</i>	X(2)
<i>Furnarius rufus</i>	E
<i>Furnarius leucopus</i>	X(1)
<i>Phleocryptes melanops</i>	E
<i>Leptasthenura fuliginiceps</i>	P
<i>Leptasthenura yanacensis</i>	E
<i>Schoeniophylax phryganophila</i>	E
<i>Synallaxis azarae</i>	E
<i>Synallaxis frontalis</i>	E
<i>Synallaxis cabanisi</i>	E
<i>Synallaxis hypospodia</i>	E
<i>Synallaxis albescens</i>	X(1)
<i>Synallaxis gujanensis</i>	X(1)
<i>Synallaxis rutilans</i>	X(1)
<i>Certhiaxis cinnamomea</i>	E
<i>Poecilurus scutatus</i>	X(3)
<i>Cranioleuca curtata</i>	E
<i>Cranioleuca vulpina</i>	E
<i>Cranioleuca albiceps*</i>	E
<i>Cranioleuca gutturalata</i>	X(1)
<i>Schizoeaca helleri</i>	X(5)
<i>Asthenes dorbignyi</i>	E
<i>Asthenes berlepschi*</i>	E
<i>Asthenes modesta</i>	E
<i>Asthenes heterura*</i>	E
<i>Asthenes wyatti</i>	E
<i>Asthenes humilis</i>	E

<i>Asthenes maculicauda</i>	E	<i>Thamnophilus schistaceus</i>	X(1)
<i>Asthenes urubambensis</i>	E	<i>Thamnophilus aroyae*</i>	X(3)
<i>Thripophaga fusciceps</i>	X(4)	<i>Thamnophilus amazonicus</i>	E
<i>Phacellodomus striaticeps</i>	E	<i>Thamnophilus caerulescens</i>	E
<i>Phacellodomus ruber</i>	X(3)	<i>Thamnophilus ruficapillus</i>	E
<i>Metopothrix aurantiacus</i>	E	<i>Pygoptila stellaris</i>	X(1)
<i>Margarornis squamiger</i>	E	<i>Thamnistes anabatinus</i>	E
<i>Premnoplex brunnescens</i>	E	<i>Dysithamnus mentalis</i>	X(3)
<i>Premnornis guttuligera</i>	E	<i>Thamnomanes ardesiacus</i>	X(1)
<i>Pseudocolaptes boissonneautii</i>	E	<i>Thamnomanes schistogynus</i>	X(1)
<i>Berlepschia rikeri</i>	E	<i>Myrmotherula brachyura</i>	X(1)
<i>Hylocistis subulatus</i>	X(1)	<i>Myrmotherula sclateri</i>	X(1)
<i>Ancistrops strigilatus</i>	X(1)	<i>Myrmotherula surinamensis</i>	X(4)
<i>Syndactyla rufosuperciliata</i>	E	<i>Myrmotherula longicauda</i>	X(3)
<i>Simoxenops ucayalae</i>	E	<i>Myrmotherula hauxwelli</i>	X(1)
<i>Simoxenops striatus*</i>	P	<i>Myrmotherula leucophthalma</i>	X(1)
<i>Anabacerthia striaticollis</i>	E	<i>Myrmotherula haematonota</i>	E
<i>Philydor erythrocerus</i>	X(1)	<i>Myrmotherula ornata</i>	E
<i>Philydor pyrrhodes</i>	X(1)	<i>Myrmotherula erythrura</i>	E
<i>Philydor rufus</i>	X(1)	<i>Myrmotherula axillaris</i>	X(1)
<i>Philydor erythropterus</i>	X(1)	<i>Myrmotherula longipennis</i>	X(1)
<i>Philydor ruficaudatus</i>	X	<i>Myrmotherula iheringi</i>	P
<i>Anabazenops dorsalis</i>	X(1)	<i>Myrmotherula grisea*</i>	E
<i>Automolus infuscatus</i>	X(1)	<i>Myrmotherula menetriesii</i>	X(1)
<i>Automolus rubiginosus</i>	E	<i>Dichrozona cincta</i>	X(1)
<i>Automolus ochrolaemus</i>	X(1)	<i>Herpsilochmus sp. nov.*</i>	X(1, 3)
<i>Automolus rufipileatus</i>	X(1)	<i>Herpsilochmus rufimarginatus</i>	E
<i>Automolus melanopezus</i>	E	<i>Microrhophias quixensis</i>	E
<i>Thripadectes holostictus</i>	X	<i>Formicivora melanogaster</i>	X(3)
<i>Thripadectes scrutator</i>	E	<i>Formicivora rufa</i>	E
<i>Xenops milleri</i>	X(1)	<i>Drymophila devillei</i>	E
<i>Xenops tenuirostris</i>	E	<i>Drymophila caudata</i>	E
<i>Xenops rutilans</i>	X(1)	<i>Terenura humeralis</i>	X(1)
<i>Xenops minutus</i>	X(1, 3)	<i>Terenura sharpei*</i>	E
<i>Sclerurus albigularis</i>	E	<i>Cercomacra cinerascens</i>	X(1)
<i>Sclerurus mexicanus</i>	E	<i>Cercomacra nigrescens</i>	X(1)
<i>Sclerurus rufigularis</i>	E	<i>Cercomacra seroa</i>	X(1)
<i>Sclerurus caudacutus</i>	X(1)	<i>Cercomacra manu</i>	X(1)
<i>Lochmias nematura</i>	E	<i>Cercomacra melanaria</i>	P
		<i>Pyriglena leuconota</i>	X(3)
		<i>Neotantes niger</i>	P
FORMICARIIDAE (83 species)		<i>Myrmoborus leucophrys</i>	X(1)
<i>Cymbilaimus lineatus</i>	X(1)	<i>Myrmoborus myotherinus</i>	X(1)
<i>Cymbilaimus sanctaemariae*</i>	X(4)	<i>Hypocnemis cantator</i>	X(1)
<i>Frederickena unduligera</i>	X(1)	<i>Hypocnemoides maculicauda</i>	E
<i>Taraba major</i>	X(1, 3)	<i>Sclateria naevia</i>	X(1)
<i>Thamnophilus doliatus</i>	X(1)	<i>Schistocichla leucostigma</i>	E
<i>Thamnophilus palliatus</i>	X(3)	<i>Percnostola lophotes*</i>	X(1)
<i>Thamnophilus aethiops</i>	X(1)		

<i>Myrmeciza hemimelaena</i>	X(1)	<i>Sublegatus modestus</i>	E
<i>Myrmeciza hyperythra</i>	X(1)	<i>Sublegatus obscurior</i>	X(1)
<i>Myrmeciza goeldii*</i>	X(1)	<i>Suiriri suiriri</i>	E
<i>Myrmeciza fortis</i>	X(1)	<i>Tyrannulus elatus</i>	X(1)
<i>Myrmeciza atrothorax</i>	X(1)	<i>Myiopagis gaimardii</i>	X(1)
<i>Gymnopathys salvini</i>	X(1)	<i>Myiopagis caniceps</i>	X(1)
<i>Rhegmatorhina melanosticta</i>	X(1)	<i>Myiopagis viridicata</i>	X(1, 3)
<i>Hylophylax naevia</i>	E	<i>Elaenia flavogaster</i>	E
<i>Hylophylax punctulata</i>	E	<i>Elaenia spectabilis</i>	X(1)
<i>Hylophylax poecilinota</i>	X(1)	<i>Elaenia albiceps</i>	X(3)
<i>Phlegopsis nigromaculata</i>	X(1)	<i>Elaenia parvirostris</i>	X(4)
<i>Phlegopsis erythroptera</i>	P	<i>Elaenia cristata</i>	E
<i>Formicarius colma</i>	X(1)	<i>Elaenia strepera</i>	E
<i>Formicarius analis</i>	X(1)	<i>Elaenia gigas</i>	E
<i>Formicarius rufifrons*</i>	E	<i>Elaenia chiriquensis</i>	E
<i>Chamaeza nobilis</i>	X(1)	<i>Elaenia obscura</i>	E
<i>Chamaeza campanisona</i>	X(3)	<i>Elaenia pallatangae</i>	E
<i>Chamaeza mollissima</i>	E	<i>Mecocerculus leucophrys</i>	E
<i>Grallaria squamigera</i>	E	<i>Mecocerculus hellmayri</i>	E
<i>Grallaria guatimalensis</i>	E	<i>Mecocerculus stictopterus</i>	E
<i>Grallaria albigula</i>	E	<i>Serpophaga cinerea</i>	E
<i>Grallaria rufula</i>	E	<i>Serpophaga subcristata</i>	E
<i>Grallaria erythrotis*</i>	X(5)	<i>Inezia inornata</i>	X(1)
<i>Hylopezus macularius</i>	E	<i>Anairetes alpinus</i>	P
<i>Hylopezus berlepschi</i>	X(1)	<i>Anairetes flavirostris</i>	P
<i>Myrmothera campanisona</i>	X(1)	<i>Anairetes parulus</i>	E
<i>Grallaricula flavirostris</i>	E	<i>Tachuris rubrigastra</i>	P
<i>Grallaricula ferrugineipectus</i>	E	<i>Culicivora caudacuta</i>	E
		<i>Pseudocolopteryx acutipennis</i>	P
CONOPOPHAGIDAE (2 species)		<i>Pseudocolopteryx flaviventris</i>	E
<i>Conopophaga peruviana</i>	X(1)	<i>Euscarthmus melacoryphus</i>	X(1)
<i>Conopophaga ardesiaca</i>	E	<i>Mionectes olivaceus</i>	X(1)
		<i>Mionectes striaticollis</i>	E
RHINOCRYPTIDAE (4 species)		<i>Mionectes oleagineus</i>	X(1)
<i>Scytalopus parvirostris</i>	X(5)	<i>Mionectes macconnelli</i>	X(1)
<i>Scytalopus bolivianus</i>	E	<i>Leptopogon amaurocephalus</i>	X(1, 3)
<i>Scytalopus schulenbergi*</i>	X(5)	<i>Leptopogon superciliaris</i>	E
<i>Scytalopus magellanicus</i>	X (5)	<i>Phylloscartes ophthalmicus</i>	E
		<i>Phylloscartes orbitalis</i>	E
TYRANNIDAE (191 species)		<i>Phylloscartes poecilotis</i>	E
<i>Phyllomyias burmeisteri</i>	E	<i>Phylloscartes sp. nov.</i>	E
<i>Phyllomyias sclateri</i>	E	<i>Phylloscartes ventralis</i>	E
<i>Phyllomyias cinereiceps</i>	E	<i>Capsiempis flaveola</i>	E
<i>Phyllomyias uropygialis</i>	E	<i>Corythopsis torquata</i>	X(1, 3)
<i>Zimmerius bolivianus</i>	E	<i>Pseudotriccus simplex*</i>	E
<i>Zimmerius gracilipes</i>	X(1)	<i>Pseudotriccus ruficeps</i>	E
<i>Ornithion inerme</i>	X(1)	<i>Myiornis albiventris</i>	X(3)
<i>Camptostoma obsoletum</i>	X(1, 3)	<i>Myiornis ecaudatus</i>	X(1)
<i>Phaeomyias murina</i>	X(1)		

<i>Lophotriccus eulophotes</i>	P	<i>Sayornis nigricans</i>	E
<i>Hemitriccus flammulatus</i>	E	<i>Pyrocephalus rubinus</i>	X(1)
<i>Hemitriccus zosterops</i>	X(1)	<i>Ochthoeca cinnamomeiventris</i>	E
<i>Hemitriccus iohannis</i>	X(4)	<i>Ochthoeca frontalis</i>	E
<i>Hemitriccus striaticollis</i>	E	<i>Ochthoeca pulchella</i>	E
<i>Hemitriccus spodiops*</i>	X(3)	<i>Ochthoeca rufipectoralis</i>	E
<i>Hemitriccus margaritaceiventer</i>	X(3)	<i>Ochthoeca fumicolor</i>	E
<i>Hemitriccus granadensis</i>	E	<i>Ochthoeca oenanthoides</i>	E
<i>Hemitriccus rufigularis</i>	E	<i>Ochthoeca leucophrys</i>	E
<i>Poecilotriccus albifacies*</i>	E	<i>Ochthornis littoralis</i>	X(1)
<i>Todirostrum plumbeiceps</i>	E	<i>Myiotheretes striaticollis</i>	E
<i>Todirostrum latirostre</i>	X(1)	<i>Myiotheretes erythropygius</i>	E
<i>Todirostrum maculatum</i>	X(1)	<i>Myiotheretes rufipennis</i>	E
<i>Todirostrum cinereum</i>	E	<i>Myiotheretes fuscorufus</i>	E
<i>Todirostrum chrysocrotaphum</i>	X(1)	<i>Xolmis cinerea</i>	E
<i>Cnipodectes subbrunneus</i>	E	<i>Xolmis velata</i>	E
<i>Ramphotrigo megalcephala</i>	X(1)	<i>Xolmis irupero</i>	E
<i>Ramphotrigo fuscicauda</i>	E	<i>Agriornis montana</i>	E
<i>Ramphotrigo ruficauda</i>	X(1)	<i>Agriornis andicola</i>	E
<i>Rhynchocyclus olivaceus</i>	X(1)	<i>Agriornis microptera</i>	E
<i>Rhynchocyclus fulvipectus</i>	E	<i>Agriornis murina</i>	E
<i>Tolmomyias sulphurescens</i>	X(3)	<i>Muscisaxicola maculirostris</i>	E
<i>Tolmomyias assimilis</i>	X(1)	<i>Muscisaxicola fluviatilis</i>	X(1)
<i>Tolmomyias poliocephalus</i>	X(1)	<i>Muscisaxicola capiistrata</i>	E
<i>Tolmomyias flaviventris</i>	X(1)	<i>Muscisaxicola rufivertex</i>	E
<i>Platyrinchus mystaceus</i>	E	<i>Muscisaxicola juninensis</i>	E
<i>Platyrinchus coronatus</i>	X(1)	<i>Muscisaxicola albilora</i>	E
<i>Platyrinchus platyrhynchos</i>	E	<i>Muscisaxicola alpina</i>	X(2)
<i>Onychorhynchus coronatus</i>	X(1)	<i>Muscisaxicola cinerea</i>	P
<i>Terenotriccus erythrurus</i>	X(1)	<i>Muscisaxicola albifrons</i>	E
<i>Myiobius villosus</i>	E	<i>Muscisaxicola frontalis</i>	E
<i>Myiobius barbatus</i>	P	<i>Lessonia oreas</i>	X(2)
<i>Myiotriccus ornatus</i>	E	<i>Lessonia rufa</i>	E
<i>Myiophobus inornatus</i>	E	<i>Knipolegus hudsoni</i>	E
<i>Myiophobus ochraceiventris</i>	E	<i>Knipolegus signatus</i>	E
<i>Myiophobus fasciatus</i>	X(1)	<i>Knipolegus poecilurus</i>	P
<i>Pyrrhomyias cinnamomea</i>	E	<i>Hymenops perspicillata</i>	X(1)
<i>Mitrephanes olivaceus</i>	E	<i>Fluvicola pica</i>	X(4)
<i>Contopus borealis</i> (BM)	X(3)	<i>Arundinicola leucocephala</i>	E
<i>Contopus fumigatus</i>	E	<i>Colonia colonus</i>	E
<i>Contopus virens</i> (BM)	E	<i>Alectrurus tricolor</i>	E
<i>Contopus sordidulus</i> (BM)	E	<i>Gubernetes yetapa</i>	E
<i>Contopus cinereus</i>	X(1)	<i>Satrapa icterophrys</i>	X(1)
<i>Empidonax alnorum</i> (BM)	X(3)	<i>Hirundinea ferruginea</i>	E
<i>Lathrotriccus euleri</i>	X(1, 3)	<i>Machetornis rixosus</i>	E
<i>Cnemotriccus fuscatus</i>	X(1)	<i>Attila cinnamomeus</i>	X(1)
Undescribed tyrannid, cf.		<i>Attila bolivianus</i>	X(1)
<i>Cnemotriccus*</i>	E	<i>Attila spadiceus</i>	X(1)

<i>Casiornis rufa</i>	X(1, 3)	<i>Pipreola frontalis</i>	E
<i>Rhytipterna simplex</i>	X(1)	<i>Pipreola chlorolepidota</i>	E
<i>Laniocera hypopyrra</i>	X(1)	<i>Ampelioides tschudii</i>	E
<i>Sirystes sibilator</i>	X(1)	<i>Iodopleura isabellae</i>	X(1)
<i>Myiarchus tuberculifer</i>	X(1)	<i>Lipaugus vociferans</i>	X(1)
<i>Myiarchus swainsoni</i>	X(1)	<i>Lipaugus uropygialis*</i>	E
<i>Myiarchus ferox</i>	X(1)	<i>Porphyrolaema porphyrolaema</i>	P
<i>Myiarchus cephalotes</i>	X(3)	<i>Cotinga maynana</i>	X(1)
<i>Myiarchus tyrannulus</i>	X(1)	<i>Cotinga cayana</i>	E
<i>Pitangus lictor</i>	X(1)	<i>Conioptilon mcilhennyi*</i>	P
<i>Pitangus sulphuratus</i>	X(1)	<i>Gymnoderus foetidus</i>	X(1)
<i>Megarynchus pitangua</i>	X(1, 3)	<i>Querula purpurata</i>	X(1)
<i>Myiozetetes cayanensis</i>	X(4)	<i>Cephalopterus ornatus</i>	E
<i>Myiozetetes similis</i>	X(1, 3)	<i>Rupicola peruviana</i>	E
<i>Myiozetetes granadensis</i>	X(1)		
<i>Myiozetetes luteiventris</i>	X(1)	OXYRUNCIDAE (1 species)	
<i>Conopias trivirgata</i>	E	<i>Oxyruncus cristatus</i>	E
<i>Myiodynastes chrysocephalus</i>	E		
<i>Myiodynastes maculatus</i>	X(1, 3)	PIPRIDAE (17 species)	
<i>Myiodynastes luteiventris</i> (BM)	E	<i>Schiffornis major</i>	E
<i>Legatus leucophaeus</i>	E	<i>Schiffornis turdinus</i>	X(1)
<i>Empidonomus varius</i>	X(1)	<i>Piprites chloris</i>	X(1)
<i>Empidonomus</i>		<i>Xenopipo atronitens</i>	E
<i>aurantioatrocristatus</i>	E	<i>Heterocercus linteatus</i>	E
<i>Tyrannopsis sulphurea</i>	E	<i>Tyranneutes stolzmanni</i>	X(1)
<i>Tyrannus albogularis</i>	E	<i>Neopelma sulphureiventer</i>	E
<i>Tyrannus melancholicus</i>	X(1, 3)	<i>Machaeropterus pyrocephalus</i>	X(1)
<i>Tyrannus savana</i>	E	<i>Chloropipo holochlora</i>	E
<i>Tyrannus tyrannus</i> (BM)	E	<i>Chloropipo unicolor</i>	E
<i>Xenopsaris albinucha</i>	P	<i>Manacus manacus</i>	E
<i>Pachyramphus viridis</i>	P	<i>Chiroxiphia pareola</i>	E
<i>Pachyramphus versicolor</i>	E	<i>Chiroxiphia boliviana</i>	E
<i>Pachyramphus castaneus</i>	E	<i>Pipra coronata</i>	X(1)
<i>Pachyramphus polychopterus</i>	X(1, 3)	<i>Pipra fasciicauda</i>	X(1)
<i>Pachyramphus marginatus</i>	X(1, 3)	<i>Pipra rubrocapilla</i>	E
<i>Pachyramphus minor</i>	X(1)	<i>Pipra chloromeros</i>	X(1)
<i>Pachyramphus validus</i>	X(1)		
<i>Tityra cayana</i>	X(1)	HIRUNDINIDAE (18 species)	
<i>Tityra semifasciata</i>	X(1)	<i>Tachycineta albiventer</i>	X(1)
<i>Tityra inquisitor</i>	E	<i>Tachycineta leucorrohoa</i>	E
		<i>Tachycineta leucopyga</i>	P
		<i>Progne tapera</i>	E
COTINGIDAE (20 species)		<i>Progne subis</i> (BM)	P
<i>Laniisoma (elegans) buckleyi</i>	E	<i>Progne chalybea</i>	E
<i>Phibalura flavirostris</i>	P	<i>Progne modesta</i>	E
<i>Ampelion rubrocristatus</i>	E	<i>Notiochelidon murina</i>	E
<i>Ampelion rufaxilla</i>	E	<i>Notiochelidon cyanoleuca</i>	X(1, 3)
<i>Pipreola intermedia</i>	E	<i>Notiochelidon flavipes</i>	E
<i>Pipreola arcuata</i>	E	<i>Atticora fasciata</i>	X(1)

<i>Neochelidon tibialis</i>	X(1)	MIMIDAE (2 species)	
<i>Stelgidopteryx ruficollis</i>	X(1)	<i>Mimus saturninus</i>	E
<i>Alopocheilidon fucata</i>	E	<i>Mimus triurus</i>	E
<i>Riparia riparia</i> (BM)	E	CORVIDAE (4 species)	
<i>Hirundo rustica</i> (BM)	E	<i>Cyanolyca viridicyana</i>	E
<i>Hirundo andecola</i>	E	<i>Cyanocorax cyanomelas</i>	X(3)
<i>Hirundo pyrrhonota</i> (BM)	E	<i>Cyanocorax violaceus</i>	X(1)
TROGLODYTIDAE (14 species)		<i>Cyanocorax yncas</i>	E
<i>Campylorhynchus turdinus</i>	X(1)	VIREONIDAE (8 species)	
<i>Odontorchilus branickii</i>	E	<i>Cyclarhis gujanensis</i>	X(1, 3)
<i>Cinnycerthia peruana</i>	E	<i>Vireolanius leucotis</i>	E
<i>Cistothorus platensis</i>	E	<i>Vireo olivaceus</i>	X(1, 3)
<i>Thryothorus genibarbis</i>	X(1, 3)	<i>Vireo flavoviridis</i>	P
<i>Thryothorus leucotis</i>	X(1)	<i>Vireo leucophrys</i>	E
<i>Troglodytes aedon</i>	X(1, 3)	<i>Hylophilus thoracicus</i>	E
<i>Troglodytes solstitialis</i>	E	<i>Hylophilus hypoxanthus</i>	X(1)
<i>Henicorhina leucophrys</i>	E	<i>Hylophilus ochraceiceps</i>	X(1)
<i>Microcerculus marginatus</i>	X(1)	MOTACILLIDAE (5 species)	
<i>Microcerculus bambla</i>	P	<i>Anthus furcatus</i>	E
<i>Cyphorhinus aradus</i>	X(1)	<i>Anthus lutescens</i>	E
<i>Cyphorhinus thoracicus</i>	E	<i>Anthus correndera</i>	E
<i>Donacobius atricapillus</i>	X(1)	<i>Anthus hellmayri</i>	E
CINCLIDAE (1 species)		<i>Anthus bogotensis</i>	E
<i>Cinclus leucocephalus</i>	E	EMBERIZIDAE (49 species)	
SYLVIIDAE (3 species)		<i>Zonotrichia capensis</i>	X(2, 3)
<i>Ramphocaenus melanurus</i>	E	<i>Ammodramus humeralis</i>	X(3)
<i>Microbates cinereiventris</i>	E	<i>Ammodramus aurifrons</i>	X(1, 3)
<i>Polioptila plumbea</i>	P	<i>Phrygilus punensis</i>	E
TURDIDAE (17 species)		<i>Phrygilus fruticeti</i>	P
<i>Myadestes ralloides</i>	E	<i>Phrygilus unicolor</i>	E
<i>Entomodestes leucotis</i>	E	<i>Phrygilus plebejus</i>	E
<i>Catharus fuscater</i>	E	<i>Phrygilus alaudinus</i>	P
<i>Catharus dryas</i>	E	<i>Haplospiza rustica</i>	E
<i>Catharus fuscescens</i> (BM)	E	<i>Donacospiza albifrons</i>	E
<i>Catharus ustulatus</i> (BM)	X(3)	<i>Diuca speculifera</i>	X(2)
<i>Platycichla leucops</i>	E	<i>Idiopis brachyurus</i>	E
<i>Turdus chiguanco</i>	E	<i>Sicalis lutea</i>	X(2)
<i>Turdus fuscater</i>	E	<i>Sicalis uropygialis</i>	X(2)
<i>Turdus serranus</i>	E	<i>Sicalis olivascens</i>	P
<i>Turdus nigriceps</i>	E	<i>Sicalis flaveola</i>	E
<i>Turdus leucomelas</i>	E	<i>Sicalis luteola</i>	E
<i>Turdus amaurochalinus</i>	X(1)	<i>Emberizoides herbicola</i>	E
<i>Turdus ignobilis</i>	E	<i>Volatinia jacarina</i>	X(1)
<i>Turdus lawrencii</i>	X(1)	<i>Sporophila schistacea</i>	X(3)
<i>Turdus hauxwelli</i>	E	<i>Sporophila plumbea</i>	E
<i>Turdus albicollis</i>	X(1)	<i>Sporophila collaris</i>	E

<i>Sporophila americana</i>	P	<i>Hemithraupis flavicollis</i>	X(1)
<i>Sporophila lineola</i>	E	<i>Nemosia pileata</i>	X(3)
<i>Sporophila luctuosa</i>	E	<i>Chlorothraupis carmioli</i>	E
<i>Sporophila caerulescens</i>	X(1)	<i>Eucometis penicillata</i>	E
<i>Sporophila leucoptera</i>	E	<i>Lanio versicolor</i>	X(1, 3)
<i>Sporophila minuta</i>	E	<i>Creurgops dentata</i>	E
<i>Sporophila ruficollis</i>	X(3)	<i>Tachyphonus cristatus</i>	X(1)
<i>Sporophila castaneiventris</i>	X(1)	<i>Tachyphonus rufiventer</i>	E
<i>Sporophila hypochroma</i>	E	<i>Tachyphonus luctuosus</i>	X(1)
<i>Oryzoborus maximiliani</i>	E	<i>Trichothraupis melanops</i>	E
<i>Oryzoborus angolensis</i>	X(1)	<i>Habia rubica</i>	X(1)
<i>Catamenia analis</i>	E	<i>Piranga flava</i>	E
<i>Catamenia inornata</i>	E	<i>Piranga rubra</i> (BM)	E
<i>Catamenia homochroa</i>	E	<i>Piranga olivacea</i> (BM)	E
<i>Arremon taciturnus</i>	X(1)	<i>Piranga leucoptera</i>	E
<i>Arremon flavirostris</i>	X(3)	<i>Ramphocelus carbo</i>	X(1, 3)
<i>Atlapetes rufinucha</i>	E	<i>Ramphocelus nigrogularis</i>	X(1)
<i>Buarremon torquatus</i>	E	<i>Thraupis episcopus</i>	X(1)
<i>Buarremon brunneinuchus</i>	E	<i>Thraupis sayaca</i>	X(3)
<i>Coryphaspiza melanotis</i>	E	<i>Thraupis palmarum</i>	X(1, 3)
<i>Paroaria gularis</i>	X(1)	<i>Thraupis cyanocephala</i>	E
<i>Pheucticus aureoventris</i>	E	<i>Thraupis bonariensis</i>	E
<i>Caryothraustes humeralis</i>	X(1)	<i>Buthraupis montana</i>	E
<i>Saltator grossus</i>	E	<i>Anisognathus igniventris</i>	E
<i>Saltator maximus</i>	X(1, 3)	<i>Anisognathus flavinuchus</i>	E
<i>Saltator coerulescens</i>	X(1)	<i>Iridosornis analis</i>	E
<i>Cyanocompsa cyanoides</i>	X(1, 3)	<i>Iridosornis jelskii</i>	E
CATAMBLYRHYNCHIDAE		<i>Delothraupis castaneoventris</i>	E
(1 species)		<i>Pipraeidea melanonota</i>	E
<i>Catamblyrhynchus diadema</i>	E	<i>Euphonia chlorotica</i>	X(3)
THRAUPIDAE (91 species)		<i>Euphonia laniirostris</i>	X(1, 3)
<i>Schistochlamys melanopis</i>	X(3)	<i>Euphonia musica</i>	X(1)
<i>Conothraupis speculigera</i>	X(1)	<i>Euphonia chrysopasta</i>	X(1)
<i>Lamprospiza melanoleuca</i>	X(1)	<i>Euphonia mesochrysa</i>	E
<i>Cissopis leveriana</i>	X(1)	<i>Euphonia minuta</i>	X(1)
<i>Chlorornis riefferii</i>	E	<i>Euphonia xanthogaster</i>	X(1)
<i>Chlorospingus ophthalmicus</i>	E	<i>Euphonia rufiventris</i>	X(1)
<i>Chlorospingus parvirostris</i>	E	<i>Chlorophonia cyanea</i>	X(1)
<i>Chlorospingus canigularis</i>	E	<i>Chlorochrysa calliparaea</i>	E
<i>Hemispingus calophrys</i> *	E	<i>Tangara mexicana</i>	X(1)
<i>Hemispingus superciliaris</i>	E	<i>Tangara chilensis</i>	X(1)
<i>Hemispingus melanotis</i>	E	<i>Tangara schrankii</i>	X(1)
<i>Hemispingus xanthophthalmus</i>	E	<i>Tangara arthus</i>	E
<i>Hemispingus trifasciatus</i>	E	<i>Tangara xanthocephala</i>	E
<i>Thlypopsis sordida</i>	E	<i>Tangara chrysotis</i>	E
<i>Thlypopsis ruficeps</i>	E	<i>Tangara xanthogastra</i>	X(1)
<i>Hemithraupis guira</i>	X(3)	<i>Tangara punctata</i>	E
		<i>Tangara gyrola</i>	E

<i>Tangara cayana</i>	E	<i>Basileuterus tristriatus</i>	E
<i>Tangara meyerdeschauensei</i> *	E	<i>Phaeothlypis fulvicauda</i>	E
<i>Tangara ruficervix</i>	E	<i>Phaeothlypis rivularis</i>	X(1)
<i>Tangara cyanotis</i>	E	<i>Conirostrum speciosum</i>	X(3)
<i>Tangara cyanicollis</i>	E	<i>Conirostrum cinereum</i>	E
<i>Tangara nigrocincta</i>	X(1)	<i>Conirostrum ferrugineiventre</i>	E
<i>Tangara nigroviridis</i>	E	<i>Conirostrum sitticolor</i>	E
<i>Tangara vassorii</i>	E	<i>Conirostrum albifrons</i>	E
<i>Tangara argyrofenges</i>	E	ICTERIDAE (22 species)	
<i>Tangara viridicollis</i>	E	<i>Clypicerus oseryi</i>	X(1)
<i>Tangara velia</i>	X(1)	<i>Psarocolius decumanus</i>	X(1, 3)
<i>Tangara callophrys</i>	X(1)	<i>Psarocolius atrovirens</i>	E
<i>Dacnis lineata</i>	X(1)	<i>Psarocolius angustifrons</i>	X(1, 3)
<i>Dacnis flaviventer</i>	X(1)	<i>Psarocolius bifasciatus</i>	X(1)
<i>Dacnis cayana</i>	X(1)	<i>Cacicus cela</i>	X(1)
<i>Chlorophanes spiza</i>	X(1)	<i>Cacicus haemorrhous</i>	X(1)
<i>Cyanerpes caeruleus</i>	X(1)	<i>Cacicus leucoramphus</i>	E
<i>Cyanerpes cyaneus</i>	E	<i>Cacicus solitarius</i>	X(1)
<i>Oreomanes fraseri</i>	E	<i>Amblycercus holosericeus</i>	E
<i>Diglossa baritula</i>	E	<i>Icterus cayanensis</i>	X(1)
<i>Diglossa mystacalis</i>	E	<i>Icterus icterus</i>	E
<i>Diglossa carbonaria</i>	E	<i>Agelaius cyanopus</i>	E
<i>Diglossa glauca</i>	E	<i>Agelaius xanthophthalmus</i>	E
<i>Diglossa caerulescens</i>	E	<i>Leistes militaris</i>	E
<i>Diglossa cyanea</i>	E	<i>Leistes superciliaris</i>	X(1)
<i>Tersina viridis</i>	X(1, 3)	<i>Amblyramphus holosericeus</i>	E
<i>Coereba flaveola</i>	X(3)	<i>Gnorimopsar chopi</i>	E
PARULIDAE (22 species)		<i>Lampropsar tanagrinus</i>	E
<i>Parula pitiayumi</i>	X(3)	<i>Molothrus bonariensis</i>	X(1)
<i>Dendroica cerulea</i> (BM)	E	<i>Molothrus oryzivorus</i>	X(1)
<i>Dendroica fusca</i> (BM)	E	<i>Dolichonyx oryzivorus</i> (BM)	E
<i>Geothlypis aequinoctialis</i>	X(1, 3)	CARDUELIDAE (6 species)	
<i>Oporornis agilis</i> (BM)	E	<i>Carduelis crassirostris</i>	E
<i>Myioborus miniatus</i>	E	<i>Carduelis magellanica</i>	E
<i>Myioborus melanocephalus</i>	E	<i>Carduelis olivacea</i>	E
<i>Basileuterus bivittata</i>	X(3)	<i>Carduelis xanthogastra</i>	E
<i>Basileuterus chrysogaster</i>	E	<i>Carduelis atrata</i>	X(2)
<i>Basileuterus flaveolus</i>	E	<i>Carduelis uropygialis</i>	E
<i>Basileuterus luteoviridis</i>	E	TOTAL SPECIES POSSIBLE	1,138
<i>Basileuterus signatus</i>	E	Recorded so far (X)	515
<i>Basileuterus coronatus</i>	E	Expected (E)	573
<i>Basileuterus culicivorus</i>	E	Possible (P)	50