

AVIFAUNA OF THE PONGOS BASIN, AMAZONAS DEPARTMENT, PERU

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ABSTRACT.—We provide an inventory of the avifauna of the Pongos Basin, northern Amazonas Department, Peru based on museum specimens collected during expeditions spanning >60 years within the 20th century. Four hundred and thirty-eight species representing 52 families are reported. Differences between lowland and higher elevation avifaunas were apparent. Species accounts with overviews of specimen data are provided for four species representing distributional records, two threatened species, and 26 species of Nearctic and Austral migrants, of which six are considered probable migrants. Received 25 October 2007. Accepted 7 June 2008.

A distinctive feature of the Peruvian Andes is the frequent presence of 'pongos', or water gaps, which are transverse openings in mountain ridges caused by tectonic activity. In some instances, rivers cut through sufficiently high uplifted areas to create valleys of considerable amplitude. The highest concentration of pongos in Peru is in northern Amazonas Department (Fig. 1), an area that geologists have aptly named the 'Pongos Basin' (Cobbing et al. 1981). The basin consists of a system of mesic valleys separated by relatively low ridgelines; the valleys are drained by north-south and south-north flowing rivers that enter the Marañón River as it flows toward the northeast. The basin is continuously bathed by humidity from the Amazon, and the dominant vegetation is humid lowland tropical forest. The valleys that form the adjacent upper Marañón drainage to the southwest, as well as the downstream middle Huallaga-Mayo Valley drainages to the east, are covered with dry forest. The Pongos Basin serves as a corridor for humid forest birds to cross the less restrictive narrows of the Marañón provided by the pon-

gos. The area is occupied primarily by humid-forest species with affinities to Amazonian faunas rather than dry forest species.

This region can be difficult to work in due to territoriality by indigenous Jivaro-speaking people, represented by the Aguaruna and Huambisa Amerindians. More recently, periodic armed conflicts between Peru and Ecuador have also contributed to dangerous working conditions (Palmer 1997, Landmine Monitor 2005). Some ornithological work has occurred in the region despite the potential for adverse working conditions. Some of the most successful avian studies were conducted in tandem with anthropological studies (e.g., Berlin and O'Neill 1981, Berlin et al. 1981, Berlin and Berlin 1983, Boster et al. 1986).

Ornithological work in this region has primarily focused on single-species studies, including descriptions of new species (e.g., Lowery and O'Neill 1964) and breeding biology (e.g., Dauphine et al. 2007). Some general surveys were accomplished for threatened taxa (Davies et al. 1997), but comprehensive community-level studies are entirely lacking. Our objectives are to: (1) provide a comprehensive inventory of the region's avifauna, (2) compare highland versus lowland avifaunas, and (3) provide natural history accounts for distributional records, threatened taxa, and migrants, based on museum specimen data.

METHODS

Description of the Study Region.—The study area comprises the entire Pongos Basin. Sixteen pongos exist along the Río Marañón between Pongo de Rentama (upstream from Pomará) and Pongo de Manseriche (a short

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distance downstream from the Marañón/Santiago confluence). To the west the basin is circumscribed by distinct biogeographic boundaries: Cordillera de Colán, a high (3,000+ m) mountain area to the southwest; Pongo de Rentama, which creates a rapid transition from the dry Tumbesian upper Marañón Valley to wet Amazonian forest; Cordillera del Cóndor, a high (2,200+ m) mountain area that forms a natural border with Ecuador for most of its extension; and Pongo Paute, which separates the Cordillera del Cóndor from the Ecuadorian Cordillera de Cutucú, divided by the Santiago River. The Cordillera Campánquiz, a relatively low (1,800 m) mountain chain, forms the eastern border of Amazonas Department and is bisected by the Marañón River at Pongo de Manseriche. The Campánquiz Range is less of a biogeographic barrier than the other ranges, but these mountains may act as a filter for certain lowland species (e.g., várzea specialists) entering the Pongos Basin.

The principal area studied comprises habitats to an upper elevation limit of 900 m, known as the humid tropical zone (Parker et al. 1982) with lowland *terra firme* forest covering most of the study region. We also report on a small collection of bird specimens from the western slope of the Campánquiz Range as a basis for comparing the avifaunal communities of the upper and lower humid tropical zones in this region.

History of Ornithological Fieldwork.—This region was the focus of one of the earliest attempts of exploration and colonization in Peru (Ulloa and Ulloa 1806), but our study area remained neglected by scientific explorers until ~80 years ago, mainly due to conflicts with native Amerindians. The first expedition into the area was led by Harry Watkins, who collected for the American Museum of Natural History (AMNH) at Pomará during 1923 to 1924. Another relatively small collection was amassed by José Schunke during 1928 to 1930 near the mouths of the Cenepa and Santiago rivers (now part of AMNH's Bassler Collection).

A new impetus for collecting in the area was provided in the early 1960s by the discovery of the Orange-throated Tanager (*Wetmorethraupis sterrhopteron*) among a small collection of bird skins prepared by Aguaruna Amerindians and given to missionary Mildred

Larsen (Lowery and O'Neill 1964). In 1964, missionaries Jeanne Grover and Martha Jakway invited JPO and John Farrand Jr. on an expedition to accompany them to find *Wetmorethraupis* in nature. That effort led JPO to undertake additional expeditions there, along with Louisiana State University Museum of Zoology (LSUMZ) staff and graduate students in 1968, 1973 to 1974, and 1977 to 1980. Peter Hocking, collecting for the Field Museum of Natural History (FMNH), explored the Santiago Basin during 1965 to 1966, and again during 1972 to 1974. The Museum of Vertebrate Zoology, University of California–Berkeley (MVZ) led an expedition near Nazareth in 1970, and a joint LSUMZ and MVZ expedition in which MSF participated visited the Huampami area in 1977. The first all-Peruvian expedition, Museo de Historia Natural, Lima (MUSM) collected at Falsa Paquisha in 1987, exploring the area around a newly established military base in the remote upper Cenepa Basin.

Data Compilation.—Available data (locality, dates, and gender in most cases) for all specimens from the localities in the Gazetteer (Fig. 1) were obtained from the respective museums in which the specimens were housed; the data were tabularized and condensed to an applicable format. Questions that arose regarding identification or data were resolved through direct examination of specimens, generally by at least one of the authors. Specimens housed at LSUMZ were partly examined by JPO, TM, and DMB. Specimens at MVZ were examined by MSF. Specimens at MUSM were partly examined by IF, JPO, and TM. Specimens at AMNH and FMNH were partly examined by TM. Specimens at Houston Museum of Natural Science (HMNS) were examined by DMB, ND, and TM. For consistency we follow taxonomy of Gill and Wright (2006) despite some accepted changes since that publication.

Species Accounts.—We obtained known elevational ranges of the Pongos Basin species from Hilty and Brown (1986), Fjeldså and Krabbe (1990), Stotz et al. (1996), and Schulenberg et al. (2007) and compared them to elevations at collecting sites. Basic biological information (e.g., mass, breeding condition, etc.) was available for some of the specimens. However, because of its magnitude, lack of

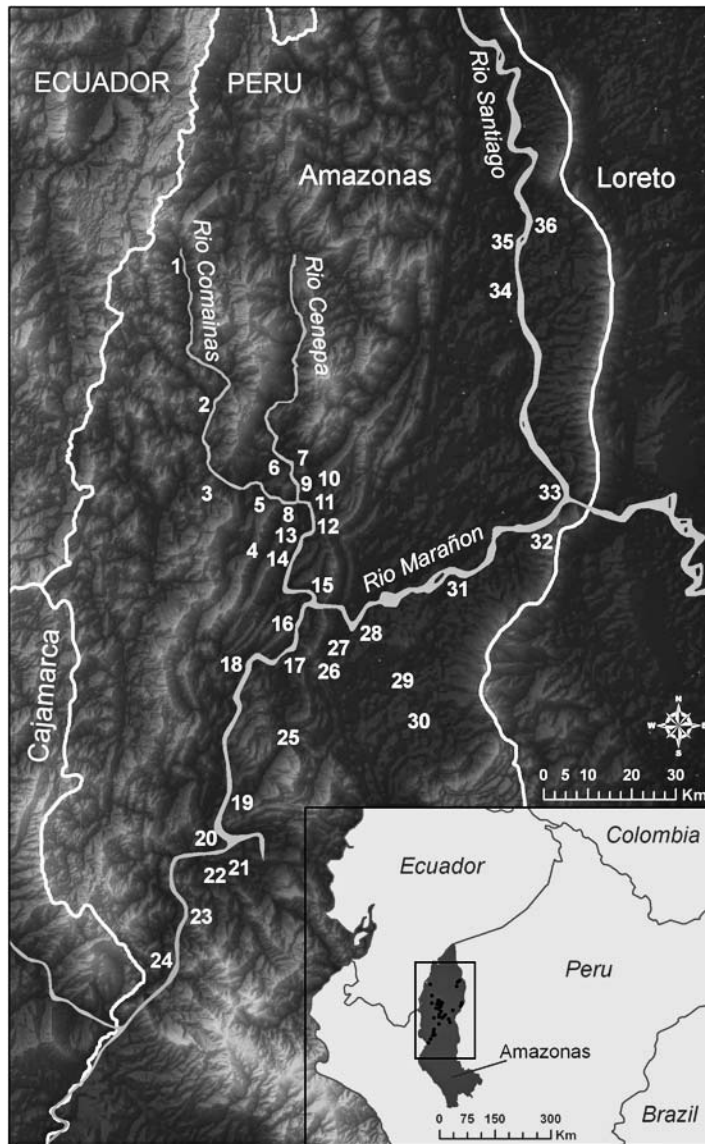


FIG. 1. Pongos Basin of northern Amazonas, Peru showing localities where specimens were collected. Inset shows the location of the Pongos Basin within Peru. Map created by Lars Pomara with elevation and topographic data provided by USGS (2004). Gazetteer: Numbers refer to locations on the map (m asl in parentheses following each site). 1: Falsa Paquisha-PV 22 (810); 2: Calavera (~400), Entsa Maik (~400), Kanam (~400), Shaim (~400), Sua Maik (~400), Sugkas (~400); 3: Cerro Guadalupe—S of Pongo Mori (~300–900); 4: Bashuim (400); 5: Kusú (~250), Quebrada Achunts (~250), Quebrada Pagkits (~250); 6: Río Kagka headwaters (800–900); 7: vicinity of Shimpunts (~300); 8: vicinity of Chávez Valdivia (250), Chigkanentsa (~250), vicinity of Pongo Sajino (250); Río Kagka—near mouth (250); 9: Muchigentsa (230), Pagat (~250); 10: Kumpinentsa (~250); 11: Aintani (~250); Etseketaientsa (~250), Huampami (213–250), Najem (250); 12: San Antonio (~250); 13: Suwa (~250); 14: Tutinum (~250); 15: Boca Cenepa (250); 16: Chicais (350); 17: Wawik (300); 18: Río Kusú—Marañón (300), Chipi (300); 19: 23 km NE Chiriaco (305); 20: Nazareth (300); 21: 4 km SW Chiriaco (500), 7 km SW Chiriaco (325), 10 km SW Chiriaco (457), 11 km SW Chiriaco (325); 22: 13 km SW Chiriaco (350), 15 km SW Chiriaco (350), 19 km SW Chiriaco (~350), 20 km SW Chiriaco (350–567), 19 km SSW Nazareth (367); 23: 38 km SW Chiriaco (450), 45 km SW Chiriaco (325), Corral Quemado-Nazareth Hwy.—km 381.4 (280–300); 24: Pomará (400); 25: 43 km NE Chiriaco (320–350); 26: 79 km NE Chiriaco

uniformity among collectors, and absence from some of the museums' electronic data bases, we report biological information only for species of special interest. Accounts are provided for distributional records of selected taxa, as well as species of conservation concern (designated by Birdlife International 2006) as information about vulnerable species may contribute to their protection. We also provide information on both Nearctic and Austral migrant species as designated by Chesser (1994), Stotz et al. (1996), and Ridgely and Greenfield (2001). Many migrant species are well known in breeding areas but information on their winter distributions and biology is limited. Parametric biological data for species accounts were obtained from data bases or gleaned directly from specimen data tags by TM. We use the term "ossified" to refer to the condition of the skull as an indication of age because of its pervasiveness in the literature and on museum specimen labels.

RESULTS AND DISCUSSION

Localities.—We considered specimens from 66 sampling sites with coordinates and seven additional generic localities for a total of 73 sites (Fig. 1). The sampling sites with coordinates were combined into 36 groups based upon close geographic proximity (Fig. 1). Generic localities, such as a river or basin, lacked any reference to the exact location.

Species Richness.—Four hundred and thirty-eight species in 52 families are presented (Appendix) from the ~4,000 specimens from the humid tropical zone region, most of which are housed at LSUMZ. Additionally, there were 36 specimens (25 species in 14 families) from the humid upper tropical zone region (Campánquiz; 1,148 m). An additional nine specimens could not be identified to species level, and were excluded from analyses.

In contrast, Berlin et al. (1981) found ~160 species during an ethno-zoological coding study, although they suggested the region

could harbor as many as 500 species. Ted Parker found 210 predominantly Amazonian bird species during only a few days of surveys (27 Jul to 1 Aug 1993) at nearby Miazzi, Ecuador in the Cordillera del Cóndor at the upper limit of the humid tropical zone (Schulenberg and Awbrey 1997). The present review, in which we report two to three times as many species as other nearby studies, reflects field work covering more seasons and sites.

The Campánquiz Highlands.—Thirty-six specimens representing 21 species were collected during 25–26 July 1964 and 17–20 November 1979 from the Campánquiz Range. All but one species were collected along the ridge; two female *Nothocrax* were collected at 350 m (Appendix). It is possible these two curassows were collected en-route to or from the higher site. Only three species present at the higher elevation were absent from the lower regions: Russet Antshrike (*Thamnistes anabatinus*), Grey-breasted Wood Wren (*Henicorhina leucophrys*), and Golden Tanager (*Tangara arthus*) (Appendix). Swainson's Thrush (*Catharus ustulatus*; LSUMZ 93066, 17 Nov 1979) is the only migrant species collected from the Campánquiz Range.

Only a few days of collection at the Campánquiz highland site yielded 21 species, but only three species were unique to this higher elevation site. Tom Schulenberg and Walter Wust recorded 208 species during 3 weeks (14 Jul to 7 Aug 1994) of bird surveys at higher elevations (1,100–2,100 m) along the Peruvian side of the Cordillera del Cóndor (Schulenberg and Awbrey 1997). Forty-four of these 208 species were found exclusively at upper elevations, and were not recorded at lower elevations surveyed by Ted Parker in Ecuador (Schulenberg and Awbrey 1997). Their 44 species versus our much lower number of three species is likely the result of differences in elevation of the sites (and associated habitats) surveyed.

Elevation Records.—We report 20 new low

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(305); 27: 81 km NE Chiriaco (~320), 85 km NE Chiriaco (320), 86 km NE Chiriaco (~320); 28: Urakusa (250), 3.2 km W Urakusa (250); 29: Chiangkus (~250); 30: Kigkis (250); 31: Santa Maria de la Nieva (200); 32: Campánquiz (1,148); 33: Boca Santiago (200); 34: La Poza (180), Puerto Galilea (200–245); 35: Betel (200), Caterpiza (200), Villa Gonzalo (200); 36: Chosica (200). General localities (no coordinates): Cenepa/Comainas Basin, Cenepa/Santiago Basin, Río Cenepa, Río Cenepa–upper, Río Comainas, Río Marañón, and Río Santiago.

elevation records and eight new high elevation records (Table 1). Many changes in elevational range were significant. Species for which the lower elevation limit decreased by at least 600 m include White-throated Quail-Dove (*Geotrygon frenata*) and Slaty Antwren (*Myrmotherula schisticolor*). The upper elevation limit of eight species increased and seven of these records (87.5%) were based on specimens collected at the Campánquiz (1,148 m) site.

Of the 25 species collected at Campánquiz, 33% represented upper elevation records. This emphasizes the importance of including samples from this area to enhance understanding the role of elevation in affecting avifaunal community structure in this region. The Campánquiz Range is extremely isolated in a relatively homogeneous landscape of lowlands, and many individuals from lower elevations may regularly pass over the ridge (which is as low as 385–421 m in some areas), going east or west, or through the Pongo de Manseriche. The small amount of cloud forest at the top of the ridge would not likely present a barrier to lowland species and would not likely attract many upper zone tropical species.

Distribution Records.—We report important distributional records for four species at the levels of region (i.e., Amazonia), country or Department. Catalog numbers provided in each account represent specimens containing data. These records support the need for additional exploration of little known areas and suggest additional species are likely to be recorded from Peru.

Pied-billed Grebe (*Podilymbus podiceps*). This specimen is of the resident subspecies *P. p. antarcticus* (S. Cardiff in litt.) and appears to be the only record for the central (Restall et al. 2007) or western (Hilty and Brown 1986, Ridgely and Greenfield 2001, Schulenberg et al. 2007) Amazon Basin. This also represents the first record for Amazonas Department. This specimen (LSUMZ 98965), a male (testes = 7×4 mm), may be a vagrant from the adjacent Andes (T. S. Schulenberg in litt.), and was collected on 7 February 1980 at Caterpiza (200 m).

Black-faced Hawk (*Leucopternis melanops*). The first specimen for Peru was a female (AMNH 255077) collected on 28 November 1925 at Boca Curaray, Loreto Department.

Two specimens included in our study represent the second and third specimens for the country, and the first two specimens for Amazonas Department (T. S. Schulenberg in litt.). Two adult (skulls 100% ossified) females (ovary = 1 mm in one, smooth in the other; MVZ 165098, LSUMZ 84289) were collected on 3 and 6 August 1977. The stomach of one contained a snake; Orthopterans and other insects were found in the other stomach. These specimens had masses of 310 and 345 g with no fat, and both were collected at Huampami (210 m).

Rufous Potoo (*Nyctibius bracteatus*). The first specimen for Peru (AMNH 231045) was collected in 1937 at Apayacu, Loreto Department (Alvarez-Alonso and Whitney 2003). A specimen included in our study represents the second specimen for the country and the first specimen for Amazonas Department (T. S. Schulenberg in litt.). The adult (skull ossified) male (testes = 5×2.5 mm; LSUMZ 87299) had a mass of 48 g with little fat, and had insect remains in its stomach including beetle parts; it was collected on 5 August 1978 at Huampami (213 m).

White-lored Antpitta (*Hylopezus fulviventeris*). This specimen represents the first specimen for Peru and Amazonas Department (T. S. Schulenberg in litt.). The single adult (skull ossified) male (testes = $\sim 6 \times 2.5$ mm; LSUMZ 88072) had a mass of 54 g with little fat, and was collected on 10 July 1978 at Huampami (230 m).

Threatened Species.—Two Vulnerable (Birdlife International 2006) species were recorded.

Spot-winged Parrotlet (*Touit stictopterus*). Status: Vulnerable. This species was represented by a single female (AMNH 185573) collected on 15 July 1924 near Pomará (400 m). The single specimen was collected more than 80 years ago, well before rampant pet bird trade diminished parrot populations throughout the Neotropics (cf. Brooks et al. 2005). These small parakeets seem to prefer forest ridges (1,000–2,000 m) with poor soil and stunted vegetation, a habitat that is more common to the west in Cajamarca Department. They can be fairly common in the proper habitat, although they are mainly seen in fast flying pairs or small groups, and are difficult to collect (JPO, unpubl. data).

TABLE 1. Unusual elevation ranges of avian species based on specimens from the Pongos Basin and Cordillera Campánquiz, Peru.

English name	Scientific name	Previous records (m)	New record(s)	Change (m)
Great Tinamou	<i>Tinamus major</i>	1,000 max ^a	Campánquiz	+148
White-throated Tinamou	<i>T. guttatus</i>	1,100 max ^c	Campánquiz	+298
Sickle-winged Guan	<i>Chamaepetes goudotii</i>	900 min ^a	Río Kagka headwaters	-100
Sapphire Quail-Dove	<i>Geotrygon saphirina</i>	1,100 max ^a	Campánquiz	+48
White-throated Quail-Dove	<i>G. frenata</i>	900 min ^a	Shimpunts, Shaim	-500-600
Spot-winged Parrotlet	<i>Touit stictopterus</i>	600 min ^a	Pomará	-200
Koepeke's Hermit	<i>Phaethornis koepekeae</i>	450 min ^c	Nazareth, 43 km NE Chiriaco	-130-150
Blue-fronted Lancebill	<i>Doryfera johannae</i>	400 min ^a	Huampami, 43 km NE Chiriaco	-80-187
Spangled Coquette	<i>Lophornis stictolophus</i>	500 min ^a	Pomará	-100
Red-headed Barbet	<i>Eubucco bourcierii</i>	900 min ^a	Río Kagka headwaters	-100
White-throated Toucan	<i>Ramphastos tucanus</i>	1,100 max ^c	Campánquiz	+48
Chestnut Woodpecker	<i>Celeus elegans</i>	800 max ^a	Campánquiz	+348
Bamboo Foliage-gleaner	<i>Anabazenops dorsalis</i>	350 min ^a	Caterpiza, Huampami	-137-150
Slaty Antwren	<i>Myiotherula schisticolor</i>	800 min ^c	Caterpiza, Shaim	-400-600
Black-necked Red Cotinga	<i>Phoenicircus nigricollis</i>	900 max ^a	Campánquiz	+248
Brazilian Laniusoma	<i>Laniusoma elegans</i>	700 min ^a	Caterpiza	-500
Fiery-throated Fruiteater	<i>Pipreola chlorolepidota</i>	300 min ^b	Huampami, Pagat	-50-87
Scarlet-breasted Fruiteater	<i>P. frontalis</i>	900 min ^c	Río Kagka headwaters	-100
Andean Cock-of-the-rock	<i>Rupicola peruviana</i>	500 min ^c	Huampami, Kusú, Quebrada Achunts, Nazareth, Bashuin, Pomará	-100-287
Jet Manakin	<i>Chloropipo unicolor</i>	900 min ^c	Río Kagka headwaters	-50
Green Manakin	<i>C. holochlora</i>	400 min ^c	Villa Gonzalo, Huampami, Quebrada Achunts	-100-200
Wire-tailed Manakin	<i>Pipra filicauda</i>	800 max ^a	Campánquiz	+348
Streak-necked Flycatcher	<i>Mionectes striaticollis</i>	500 min ^c	Kusú	-250
Cinnamon Neopipo	<i>Neopipo cinnamomea</i>	700 max ^c	Río Kagka headwaters	+100
Western Wood Pewee	<i>Contopus sordidulus</i>	600 min ^c	La Poza, Caterpiza, 86 km NE Chiriaco	-280-420
Pale-eyed Thrush	<i>Platycichla leucops</i>	850 min ^a	Pomará	-450
Masked Crimson Tanager	<i>Ramphocelus nigrogularis</i>	1,100 max ^c	Campánquiz	-48
Orange-throated Tanager	<i>Wetmorethraupis sierrhopteron</i>	400 min ^a	Huampami, 3.2 km w of Urakusa, Chávez Valdivia, Chiangkus, Pagat, Quebrada Achunts, Suwa, Tutinum, Chipi, Kusú on the Río Marañón, Nazareth, Chicaits	-50-190

^a Stotz et al. (1996).^b Hilty and Brown (1986).^c Schulenberg et al. (2007).

Orange-throated Tanager (*Wetmorethraupis sterrhopteron*). Status: Vulnerable. The vast majority of the 54 specimens (LSUMZ 31457, 32891–32898, 34387–34422, 35352–35353, 42901, 48982–48983, 85547, 88971–88973; MVZ 165361) were prepared without data by Aguaruna Indians, as was the holotype (Lowery and O'Neill 1964). Of those identified to gender, five were males (Apr: testes = 12×7 ; Jul: 3×2 ; Aug: 2×1 , 11×6 to 7 ; and Sep: 8×10 mm) and four were females (Apr: ovary = 11 mm, largest ovum 2.5 mm, brood patch; Jul: 4×2 ; and Aug–Sep: 8×5 [$n = 2$]). Specimens with enlarged cloacal protuberances in April, August, and September suggest a prolonged breeding season. Specimens were collected during April ($n = 3$), May ($n = 4$), July ($n = 32$), August ($n = 10$), and September ($n = 5$). All were collected in 1964 except for one in 1963, two in 1977, and three in 1978. Two stomachs contained "fruit" in April; one also contained seeds, pulp, and a beetle. Two females had a mass of 54 and 55 g in September and July, respectively, and a single male had a mass of 56 g in July. Six specimens were collected at Tutinim (250 m); four at Kusú on Río Marañón (300 m); three each were from Chicais (350 m) and Nazareth (300 m); two each from Basuim (400 m), Chiangkus (250 m), Comainas, Huampami (210 m), Quebrada Achunts (250 m), and 3.2 km west of Urakusa (250 m); and single specimens were from Chávez Valdivia (250 m), Chipi (300 m), Pagat (250 m), and Suwa (250 m). This species is probably common where it occurs (O'Neill 1969; ND, unpubl. data), but has a small geographic range threatened by habitat destruction. This bright tanager is restricted in its distribution to hills and low mountains at ~600 m, but it is not uncommon where the habitat is minimally impacted. It is almost entirely restricted to areas inhabited by indigenous Aguaruna and, thus, not easily encountered by people who are not native to the area (JPO, unpubl. data).

Migrants.—We report 14 species of Nearctic migrants and a single probable Nearctic migrant, one species with subspecies of both Nearctic and Austral migrants, and five species each for Austral migrants and probable Austral migrants. Catalog numbers of specimens in each account represent those containing data.

Blue-winged Teal (*Anas discors*). Status: Nearctic migrant. Three female (ovary = 16×4 , 17×7 [not enlarged], and 18×6 mm) specimens (LSUMZ 91602–91604) were collected on 14 November 1979 at La Poza (180 m). All three had little fat and were adults (skulls 100% ossified).

Swallow-tailed Kite (*Elanoides forficatus*). Status: probable Austral migrant. This species could be a resident or a Nearctic or Austral migrant in Peru, although it is likely the latter given the date (T. S. Schulenberg in litt.). A single male specimen (AMNH 185548) was collected on 17 July 1924 near Pomará (400 m).

Plumbeous Kite (*Ictinia plumbea*). Status: probable Austral migrant. Three specimens (LSUMZ 84284, 87141, 91606) were collected on 15 August 1977, an unknown date in 1978, and 7 August 1979, respectively. Collecting localities were Caterpiza (200 m) and two sites along the Río Comainas.

Purple Gallinule (*Porphyrio martinicus*). Status: probable Nearctic migrant. This species is both resident and migratory in Peru (T. S. Schulenberg in litt.), and it is possible these specimens represent migrants. Eleven specimens included at least one male (LSUMZ 98977) and six females (AMNH 406833; LSUMZ 87170, 98975, 98978; MUSM 5571–5572, 5575). Testes of the male measured 7×4 mm on 9 February; ovaries of females measured 24×7 (4 Nov), 10×5 (29 Jan), 6×2 (4 Feb), 15×8 (9 Feb), and 6×3 mm (11 Feb). All specimens were collected during 4 November to 11 February; one each during 1930 and 1978, and six during the early 1980s. One female had a mass of 210 g in November. Single specimens were collected from 43 km northeast of Chiriaco (320 m) and Rio Cenepa, and six were collected from Caterpiza (200 m).

American Golden Plover (*Pluvialis dominica*). Status: Nearctic migrant. A single female (ovary = 6×3 mm; LSUMZ 91633) was collected on 22 November 1979 at La Poza (180 m).

Spotted Sandpiper (*Actitis macularius*). Status: Nearctic migrant. Eleven specimens include at least three males (LSUMZ 87194, 91637; FMNH 424578) and six females (LSUMZ 84321, 87192–87193, 87195–87196; MUSM 11929). Testes were 1 mm for a young male (skull 20% ossified) on 2 No-

ember and 2 mm for an adult male (skull 100% ossified) on 23 October. Ovaries ranged from 7×3 to 4 mm for three young females (skulls 10 to 30% ossified) to $10 \times 2 \text{ mm}$ for a young female (skull 30% ossified) between 22 October and 2 November. Two adult females (skulls 100% ossified) had ovaries ranging from 6×2.5 to $9 \times 4 \text{ mm}$ on 15 August and 2 November, respectively. All 11 specimens were collected during 15 August to 8 December, although eight were collected between 22 October and 2 November. Six specimens were collected in 1986, two in 1987, and one each in 1965, 1977, and 1979. A young male had a mass of 26 g on 2 November, four young females ranged from 28.5 to 34 g between 22 October and 2 November, and two adult females ranged from 29 to 32 g on 15 August and 2 November, respectively. Two young females had light fat on 2 November, an unknown gender adult had abundant fat on 24 October, and an adult and a young female had no fat on 15 August and 22 October, respectively. Six specimens were collected 43 km northeast of Chiriaco (320 m), two at Falsa Paquisha-PV 22 (810 m), and single specimens at Huampami (230 m), Caterpiza (200 m), and Puerto Galilea (245 m).

Black-billed Cuckoo (*Coccyzus erythrophthalmus*). Status: Nearctic migrant. A single specimen (LSUMZ 87266) was collected in 1978 in the Río Cenepa-Río Comaina drainage.

Yellow-billed Cuckoo (*Coccyzus americanus*). Status: Nearctic migrant. A single female (AMNH 406982) was collected on 17 November 1929 along the Río Cenepa.

Dark-billed Cuckoo (*Coccyzus melacoryphus*). Status: Austral migrant. This species was represented by four specimens (HMNS 1548–1550; LSUMZ 87266), including a single female (ovary = $6 \times 3 \text{ mm}$, ova minute) collected on 17 July 1978 at Huampami (213 m).

Grey Elaenia (*Myiopagis caniceps*). Status: probable Austral migrant. A single male (testes = $2 \times 4 \text{ mm}$; LSUMZ 64399) was collected on 17 July 1968, 4 km southwest of Chiriaco (500 m).

White-crested Elaenia (*Elaenia albiceps*). Status: Austral migrant. A single specimen (LSUMZ 85202) was collected on 11 August 1977 at Shaim (400 m).

Western Wood Pewee (*Contopus sordidulus*). Status: Nearctic migrant. A single adult

(skull 100% ossified; LSUMZ 88359) with a mass of 14.5 g and light fat was collected on 10 November 1978, 86 km northeast of Chiriaco (~320 m).

Eastern Wood Pewee (*Contopus virens*). Status: Nearctic migrant. This species was represented by at least three males (LSUMZ 93841; MUSM 5560, 11972) and two females (LSUMZ 93842, 99203). Testes were $1 \times 0.5 \text{ mm}$ for a young male (skull 95% ossified) on 26 October, and $3 \times 1 \text{ mm}$ for an adult male (skull 100% ossified) on 28 October. Two adult females (skulls 100% ossified) had ovaries measuring 2×4 and $3 \times 6 \text{ mm}$ on 7 November and 5 February, respectively. Two specimens were collected on 26 and 28 October, a third on 7 November, and two on 5 February. Two specimens each were collected during 1979 and 1980, and one was collected in 1987. A young male had a mass of 9 g on 26 October, and another (unknown gender, no date) was 14.5 g. A young male had no fat on 26 October, an adult male had moderate fat on 28 October, and an unknown gender (no date) had light fat. Three specimens were collected at Caterpiza (200 m), and one each at La Poza (180 m), Falsa Paquisha-PV 22 (810 m), and 86 km northeast of Chiriaco (300 m).

Alder Flycatcher (*Empidonax alnorum*). Status: Nearctic migrant. Eleven specimens included four males (LSUMZ 78745–78746, 88361, 93844) and seven females (LSUMZ 88360, 93843, 99197, 99199; MUSM 5540–5541, 5559). A male had $2 \times 3 \text{ mm}$ testes on 7 November, and three additional (undated) males had testes ranging from 1×1 to $3 \times 1 \text{ mm}$ (mean = $2 \times 1 \text{ mm}$). Two adult females (skulls 100% ossified) had ovaries measuring 3×2 and $4 \times 2 \text{ mm}$ (not enlarged) on 2 and 7 November, respectively. Reproductive data for five unknown age females are: two females had ovaries measuring 1×1 and $6 \times 3 \text{ mm}$ on 5 and 27 December, respectively, and three females measured 7×2 , 2×1 , and $7 \times 3 \text{ mm}$ on 12 January, 6 February, and 27 February, respectively. Three specimens were collected during 2 to 7 November, two on 5 and 27 December, one on 12 January, and two on 6 and 27 February; extreme dates are apparently 2 November to 27 February. A single specimen was collected in 1978, two in 1979, and five in the early 1980s. An adult male had a mass of 12 g on 7 November, and three

males (no date) ranged from 8.5 to 11 g (mean = 9.8 g); an adult female was 11 g on 2 November. Two adult females had moderate fat on 2 and 7 November. Five specimens were collected at Caterpiza (200 m), and two each 20 km southwest Chiriaco, 43 km northeast Chiriaco (320 m), and at La Poza (180 m).

Swainson's Flycatcher (*Myiarchus swainsoni*). Status: Austral migrant. A single female (ovary = 4×3 mm; LSUMZ 34317) was collected on 16 August 1964 at Tutinum (250 m).

Streaked Flycatcher (*Myiodynastes maculatus*). Status: Austral migrant. This species was represented by six specimens, including a male (AMNH 185874) and three females (LSUMZ 85064; MVZ 165310; MUSM 10288). All four specimens were of the migratory subspecies *M. m. solitarius* rather than the resident nominate subspecies. An adult (skull ossified) female with no fat had a granular ovary on 17 July, and another female had a 13×7 mm ovary on 18 August; these birds had a mass of 36.5 and 40 g, respectively. All four birds were collected during 17 July to 18 August; two during 1977, and one each in 1924 and 1980. Single specimens were collected at Pomará (400 m), Huampami (210 m), Shaim (400 m), and Quebrada Achunts (250 m).

Crowned Slaty Flycatcher (*Griseotyrannus aurantioatrocristatus*). Status: Austral migrant. A single adult (skull 100% ossified) female (ovary = 6.5×2 mm; LSUMZ 85081) was collected on 29 August 1977. This specimen had a mass of 23 g with moderate fat; its stomach contained Hymenoptera insects, and was collected at Huampami (213 m).

Tropical Kingbird (*Tyrannus melancholicus*). Status: probable Austral migrant. This species is both resident and migratory in Peru (T. S. Schulenberg in litt.), and it is possible these specimens represent migrants. This species was represented by four males (LSUMZ 34311, 48839, 64327, 78724) and three females (LSUMZ 85078, 88337; AMNH 185932). An adult male (skull 100% ossified) had testes measuring 1×2 mm on 18 December, and three additional unknown age males had testes measuring: 5.5×3 ($n = 1$) on 17 July, and 2×1 mm ($n = 2$) on 3 August. An adult female (skull 100% ossified) had a 6×1.5 mm ovary on 10 August, and an unknown age female had a 2×3 mm ova-

ry on 18 August. Six birds were collected during 17 July to 18 August, and an additional specimen was collected on 18 December. Single birds were collected in 1924, 1968, 1974, 1977, 1978, and two birds were collected during 1964. A male had slight fat on 17 July, and an adult female had little fat and a mass of 39 g on 10 August; another female was 20 g on 18 August. Two specimens were collected at Urakusa (250 m), and single specimens were collected at Pomará (400 m), Huampami (213 m), Kusú (250 m), 20 km southwest Chiriaco (518 m), and 4 km southwest Chiriaco (500 m).

Southern Rough-winged Swallow (*Stelgidopteryx ruficollis*). Status: probable Austral migrant. This species is both resident and migratory in Peru (T. S. Schulenberg in litt.), and it is possible these specimens represent migrants. This species was represented by 17 individuals, of which at least one was a male (LSUMZ 85256) and three were females (LSUMZ 99215; MUSM 11889; MVZ 161095). A female had a 6×2 mm ovary on 4 February, and a juvenile female (ova minute) with a mass of 18 g and no fat was collected in early September; another female (skull 95% ossified) was 14.5 g with abundant fat and was collected on 22 October. A male was collected on 11 August, and females in early September, 22 October, and 4 February; five unknown gender specimens were also collected on 2 February. One specimen was collected each in 1974, 1977, 1980, and 1987, and five during 1984. Six specimens were collected at Caterpiza (200 m) with single specimens at Shaim (400 m), Falsa Paquisha-PV 22 (810 m), and 19 km south-southwest of Nazareth (367 m).

Grey-cheeked Thrush (*Catharus minimus*). Status: Nearctic migrant. A young female (skull 75% ossified; LSUMZ 88638) with a 12×5 mm ovary and a mass of 31 g was collected on 3 November 1978, 43 km northeast Chiriaco (320 m). A second female (ovary = 5×3 mm) (LSUMZ 99235) was collected on 8 December 1979 at Caterpiza (200 m).

Swainson's Thrush (*Catharus ustulatus*). Status: Nearctic migrant. Forty specimens were represented by at least 15 males (including LSUMZ 88641–88643, 93063, 93066–93068, 99242; MUSM 4770–4771, 4800,

11946, 11966, 11977, 12001) and nine females (including LSUMZ 88639, 99244; MUSM 5499–5500, 5505, 5536, 5543, 5597, 5617). Testes ranged from 1×1 to 8×4 mm (mean = 2.6×1.5 mm, $n = 15$) for males collected during 19 October to 10 December, but 80% of the specimens had smaller testes (1×1 to 2×1.5 mm, $n = 12$) and were the only age-known specimens (at least 2 subadults [skulls 75 to 80% ossified] and 4 adults [100% ossified]). Ovaries ranged from 4×1 to 7×3 mm (mean = 5.8×2.2 mm, $n = 8$) for females collected during 2 December to 7 February. All but one of the males (a Dec specimen) were collected 44 days earlier than the first female, perhaps to facilitate males establishing winter territories. Thirteen specimens were collected in the early 1980s, seven during 1979, five during 1987, and three during 1978. Mass of male specimens ranged from 21 to 31 g (mean = 25.8, $n = 6$) during 22 October to 8 November. Fat was recorded for five males between 19 and 22 October as none ($n = 1$), little or light ($n = 3$), or moderate ($n = 1$); an unknown gender individual had abundant fat on 25 October. Data on mass and fat were not provided for females. Twenty-four specimens were collected at Caterpiza (200 m), five at Falsa Paquisha-PV 22 (810 m), three 43 km northeast of Chiriaco (320 m), two each at La Poza (180 m) and Cenepa/Comainas Basin, and one at Campánquiz (1,148 m).

Red-eyed Vireo (*Vireo olivaceus*). Status: Nearctic and Austral migrant. This species is often present in Peru throughout the year, as it is represented by subspecies that are Nearctic (*V. o. olivaceus*) and Austral (*V. o. chivi*) migrants (Schulenberg et al. 2007); both subspecies were present in the Pongos Basin. The Nearctic migrant (*V. o. olivaceus*) was represented by a single unknown gender individual (LSUMZ 99306) collected during February 1980 at Caterpiza (200 m). The Austral migrant (*V. o. chivi*) was represented by two adult (skulls 100% ossified) males (LSUMZ 89320; MVZ 165378) and one unknown gender younger (skull 80% ossified) individual (LSUMZ 93808). One adult male collected on 13 July had a mass of 11 g with moderate fat; the other adult male collected on 29 August was 15.3 g with light fat and testes measuring 1.5×1 mm. The young specimen collected on 4 October had moderate fat.

One bird was collected each year from 1977 to 1979. Two stomachs contained insects. The two adults were collected at Huampami (213 m) and the young specimen was obtained at La Poza (180 m).

Yellow-green Vireo (*Vireo flavoviridis*). Status: Nearctic migrant. Nineteen specimens were collected including at least four males (LSUMZ 93804, 94206; MUSM 5530, 6032), 11 females (MUSM 5524–5525, 5529, 6030–6032, 10050; LSUMZ 93805, 93809–93810, 99297), and four unknown gender individuals (MUSM 5526–5528, 5531). Testes were 3×1 mm for a male collected on 25 January. Ovaries ranged from 1×1 to 7×3 mm (mean = 4.4×1.8 mm, $n = 11$) for females collected during 26 October to 8 February. Specimens ($n = 19$) were collected between 24 October and 8 February with four individuals (all unknown gender) collected on 2 February. Thirteen specimens were collected during the early 1980s and six during 1979. Adults (skulls 100% ossified), including a male and two females with little fat were collected on 24 October, 27 October, and 14 November, respectively, and the adult male contained Melastome fruit in his stomach. Sixteen specimens were collected at Caterpiza (200 m), and two at La Poza (180 m).

Canada Warbler (*Wilsonia canadensis*). Status: Nearctic migrant. A single female (ovary = 7×3 mm, LSUMZ 79030) and male (testes = 2×1 mm, LSUMZ 79031) were collected on 16 and 19 July 1974 with mass of 9 and 10 g, respectively, 20 km southwest Chiriaco at elevations of 457 and 518 m, respectively. A third unknown gender specimen with no data (LSUMZ 89215) was collected in 1974 in the Río Cenepa-Río Comaina drainage.

Scarlet Tanager (*Piranga olivacea*). Status: Nearctic migrant. This species was represented by at least three males (two with data = LSUMZ 93322, 99271) and two females (LSUMZ 99269–99270). Males had testes measuring 3×1 and 6×3 mm on 5 November 1979 and 26 February 1980, respectively. Females were collected on 15 January 1980 and 11 February 1980; the ovary of the latter specimen measured 1×1 mm. All specimens were collected at Caterpiza (200 m).

Summer Tanager (*Piranga rubra*). Status: Nearctic migrant. A single adult (skull 100%

ossified) female (ovary = 5×2 mm, not enlarged; LSUMZ 93321) was collected on 3 November 1979 with little fat at La Poza (180 m).

CONSERVATION IMPLICATIONS

The Pongos Basin supports a rich avifauna and a high diversity of other taxa. Its fauna and flora include both threatened species and species with limited geographic distributions, all of which are vulnerable to uncontrolled development (Schulenberg and Awbrey 1997). The presence of indigenous Aguaruna inhabiting the region has restricted development by people from outside their community, which translates directly to habitat protection for this region. Logging and other forest uses that may threaten bird conservation appear to occur at relatively low levels (Dauphiné et al. 2008). Cracids are some of the best bio-indicators to measure sustainable harvest levels (Brooks 2006), and are often the first species to disappear due to overhunting (Brooks 1999). Six species of cracids present in the region are preferred food (Berlin and Berlin 1983) and their presence suggests the fauna in the region is not overharvested. The native inhabitants generally use their faunal resources in a sustainable fashion (Dauphiné et al. 2008). Human-generated habitat disturbance in the region is not significant as roads, trails, and timber removal is minimal.

The governments of Peru and Ecuador established a transboundary protected area in 1998 to promote political stability in the region and to protect its contained biodiversity (Ponce and Ghersi 2003). In addition, the Peruvian government established (1999), and then expanded (2000), the Santiago-Comaina Reserved Zone (IUCN 2007). This region presently includes the Pongos Basin and the Comaina and Cenepa river drainages. Habitat conservation through creation of reserves with appropriate infrastructure is an important step for preservation of minimally impacted areas such as the Pongos Basin. However, population densities of the indigenous people continue to increase, as does their participation in the market economy, both of which will likely lead to a significant increase in the pressure for development of the area. Despite the existence of reserves, commercial logging and mining, as well as clearing for subsistence agriculture are sure to increase with resulting

habitat loss and degradation, and increased hunting eventually threatening populations of birds and other organisms.

Parks and other protected areas with appropriate infrastructure and long-term support, as well as sustainable development projects that will provide direct economic benefit to the local people should help ensure the diverse communities of the region continue to thrive. Area conservation would benefit from further research and the assignment of reserve personnel, both of which appear to be currently lacking. Conservation education and outreach is urgently needed, primarily in colonist communities, where many people do not appear to be aware of the existence of protected areas or protected species in the region (ND, pers. obs.). Formal participation by Aguaruna and Huambisa residents in reserve protection and management should help ensure their success as protected areas.

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APPENDIX. Avian inventory for the Pongos Basin lowlands and Cordillera Campánquiz Highlands, Amazonas Department, Peru.

English name	Family/Scientific name	Status ^a	Lowlands (m asl)	Campánquiz Highlands (m asl)
Tinamous	Tinamidae			
Grey Tinamou	<i>Tinamus tao</i>			
Great Tinamou	<i>T. major</i>		400	1,148
White-throated Tinamou	<i>T. guttatus</i>		656–810	1,148
Cinereous Tinamou	<i>Crypturellus cinereus</i>		591	
Little Tinamou	<i>C. soui</i>		213–400	
Variegated Tinamou	<i>C. variegatus</i>			
Bartlett's Tinamou	<i>C. bartletti</i>		656	
Grebes	Podicipedidae			
Least Grebe	<i>Tachybaptus dominicus</i>		320	
Pied-billed Grebe	<i>Podilymbus podiceps</i>	D	656	
Hérons	Ardeidae			
Striated Heron	<i>Butorides striata</i>		591	
Rufescent Tiger Heron	<i>Tigrisoma lineatum</i>		656	
Ducks/Geese/Swans	Anatidae			
Blue-winged Teal	<i>Anas discors</i>	N	591	
Masked Duck	<i>Nomonyx dominicus</i>		656	
Kites/Hawks/Eagles	Accipitridae			
Grey-headed Kite	<i>Leptodon cayanensis</i>		210	
Swallow-tailed Kite	<i>Elanoides forficatus</i>	A?	400	
Double-toothed Kite	<i>Harpagus bidentatus</i>		400	
Plumbeous Kite	<i>Ictinia plumbea</i>	A?	656	
Bicolored Hawk	<i>Accipiter bicolor</i>		213–591	
Black-faced Hawk	<i>Leucopternis melanops</i>	D	200–656	
White Hawk	<i>L. albicollis</i>			
Great Black Hawk	<i>Buteogallus urubitinga</i>		656	
Roadside Hawk	<i>Buteo magnirostris</i>		210–320	
Crested Eagle	<i>Morphnus guianensis</i>			
Ornate Hawk-Eagle	<i>Spizaetus ornatus</i>		200	
Black Hawk-Eagle	<i>S. tyrannus</i>		200–300	
Caracaras/Falcons	Falconidae			
Red-throated Caracara	<i>Ibycter americanus</i>			
Laughing Falcon	<i>Herpetotheres cachinnans</i>		200–656	
Barred Forest Falcon	<i>Micrastur ruficollis</i>		200	
Slaty-backed Forest Falcon	<i>M. mirandollei</i>			
Collared Forest Falcon	<i>M. semitorquatus</i>		200	
Buckley's Forest Falcon	<i>M. buckleyi</i>		210–213	
Bat Falcon	<i>Falco rufigularis</i>		300	
Orange-breasted Falcon	<i>F. deiroleucus</i>		400	
Chachalacas/Curassows/Guans	Cracidae			
Speckled Chachalaca	<i>Ortalis guttata</i>		200–656	
Spix's Guan	<i>Penelope jacquacu</i>		210–591	
Common Piping Guan	<i>Pipile pipile</i>			
Sickle-winged Guan	<i>Chamaepetes goudotii</i>		793	
Nocturnal Curassow	<i>Nothocrax urumutum</i>		200–793	350
Salvin's Curassow	<i>Mitu salvini</i>		793	
New World Quail	Odontophoridae			
Starred Wood Quail	<i>Odontophorus stellatus</i>		200–210	
Hoatzin	Opisthocomidae			
Hoatzin	<i>Opisthocomus hoazin</i>		210–656	
Limpkin	Aramidae			
Limpkin	<i>Aramus guarauna</i>		200	
Rails/Crakes/Coots	Rallidae			
Chestnut-headed Crake	<i>Anurolimnas castaneiceps</i>		200–656	

APPENDIX. Continued.

English name	Family/Scientific name	Status ^a	Lowlands (m asl)	Campánquiz Highlands (m asl)
Rufous-sided Crane	<i>Laterallus melanophaius</i>		591	
Grey-breasted Crane	<i>L. exilis</i>		210	
Grey-necked Wood Rail	<i>Aramides cajanea</i>		591	
Red-winged Wood Rail	<i>A. calopterus</i>		210	
Uniform Crane	<i>Amaurolimnas concolor</i>		400	
Purple Gallinule	<i>Porphyrio martinicus</i>	N?	200–656	
Finfoots	Helionithidae			
Sungrebe	<i>Heliornis fulica</i>		210–656	
Sunbittern	Eurypygidae			
Sunbittern	<i>Eurypyga helias</i>		400	
Plovers	Charadriidae			
American Golden Plover	<i>Pluvialis dominica</i>	N	591	
Sandpipers/Snipes	Scolopacidae			
Spotted Sandpiper	<i>Actitis macularius</i>	N	213–810	
Pigeons/Doves	Columbidae			
Pale-vented Pigeon	<i>Patagioenas cayennensis</i>		591	
Plumbeous Pigeon	<i>P. plumbea</i>		210	
Ruddy Pigeon	<i>P. subvinacea</i>		213–656	
Blue Ground Dove	<i>Claravis pretiosa</i>		400–591	
White-tipped Dove	<i>Leptotila verreauxi</i>		200–400	
Grey-fronted Dove	<i>L. rufaxilla</i>		213–656	
Sapphire Quail-Dove	<i>Geotrygon saphirina</i>			1,148
White-throated Quail-Dove	<i>G. frenata</i>			
Ruddy Quail-Dove	<i>G. montana</i>		400–810	
Cockatoos/Parrots	Psittacidae			
Chestnut-fronted Macaw	<i>Ara severus</i>		210–656	
White-eyed Parakeet	<i>Aratinga leucophthalma</i>		213–656	
Dusky-headed Parakeet	<i>A. weddellii</i>			
Painted Parakeet	<i>Pyrrhura picta</i>		210–810	
Blue-winged Parrotlet	<i>Forpus xanthopterygius</i>		656	
Cobalt-winged Parakeet	<i>Brotogeris cyanoptera</i>		320–656	
Scarlet-shouldered Parrotlet	<i>Touit huetii</i>		210–213	
Spot-winged Parrotlet	<i>T. stictopterus</i>	VU	400	
Orange-cheeked Parrot	<i>Pionopsitta barrabandi</i>		656	
Blue-headed Parrot	<i>Pionus menstruus</i>		591–810	
Red-billed Parrot	<i>P. sordidus</i>		210	
Yellow-crowned Amazon	<i>Amazona ochrocephala</i>		656	
Orange-winged Amazon	<i>A. amazonica</i>			
Mealy Amazon	<i>A. farinosa</i>		656	
Cuckoos	Cuculidae			
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	N		
Yellow-billed Cuckoo	<i>C. americanus</i>	N		
Dark-billed Cuckoo	<i>C. melacoryphus</i>	A		
Squirrel Cuckoo	<i>Piaya cayana</i>		210–656	
Black-bellied Cuckoo	<i>P. melanogaster</i>		213	
Greater Ani	<i>Crotophaga major</i>		656	
Smooth-billed Ani	<i>C. ani</i>		305–656	
Owls	Strigidae			
Tropical Screech Owl	<i>Megascops choliba</i>		210–213	
Tawny-bellied Screech Owl	<i>M. watsonii</i>		210–591	
Mottled Owl	<i>Strix virgata</i>		200	
Black-banded Owl	<i>S. huhula</i>		210–591	
Crested Owl	<i>Lophotrix cristata</i>		656	
Spectacled Owl	<i>Pulsatrix perspicillata</i>		210–656	
Ferruginous Pygmy Owl	<i>Glaucidium brasilianum</i>		210–591	

APPENDIX. Continued.

English name	Family/Scientific name	Status ^a	Lowlands (m asl)	Campánquiz Highlands (m asl)
Oilbird	Steatornithidae			
Oilbird	<i>Steatornis caripensis</i>		732	
Potoos	Nyctibiidae			
Great Potoo	<i>Nyctibius grandis</i>		210	
Long-tailed Potoo	<i>N. aethereus</i>		210–656	
Common Potoo	<i>N. griseus</i>		213	
Rufous Potoo	<i>N. bracteatus</i>	D	213	
Nightjars	Caprimulgidae			
Pauraque	<i>Nyctidromus albicollis</i>		210–656	
Blackish Nightjar	<i>Caprimulgus nigrescens</i>		210–320	
Swifts	Apodidae			
Grey-rumped Swift	<i>Chaetura cinereiventris</i>		457	
Hummingbirds	Trochilidae			
White-tipped Sicklebill	<i>Eutoxeres aquila</i>		300–810	
Buff-tailed Sicklebill	<i>E. condamini</i>		200–810	
Rufous-breasted Hermit	<i>Glaucis hirsutus</i>		100–656	
Pale-tailed Barbthroat	<i>Threnetes niger</i>		200–810	
Green Hermit	<i>Phaethornis guy</i>		793–850	
White-bearded Hermit	<i>P. hispidus</i>		210–656	
Long-tailed Hermit	<i>P. superciliosus</i>		200–810	
Koepcke's Hermit	<i>P. koepckeae</i>		300–518	
Straight-billed Hermit	<i>P. bourcierii</i>		213–793	
Black-throated Hermit	<i>P. atrimentalis</i>			
Blue-fronted Lancebill	<i>Doryfera johannae</i>		210–320	
Grey-breasted Sabrewing	<i>Campylopterus largipennis</i>		200–810	
White-necked Jacobin	<i>Florisuga mellivora</i>		210	
Fiery Topaz	<i>Topaza pyra</i>			
Violet-headed Hummingbird	<i>Klais guimeti</i>		400	
Black-bellied Thorntail	<i>Popelairia langsdorffi</i>		210	
Spangled Coquette	<i>Lophornis stictolophus</i>		400	
Fork-tailed Woodnymph	<i>Thalurania furcata</i>		200–850	
Golden-tailed Sapphire	<i>Chrysuronia oenone</i>		210–400	
Glittering-throated Emerald	<i>Amazilia fimbriata</i>		210–656	
Ecuadorian Piedtail	<i>Phlogophilus hemileucurus</i>		793	
Gould's Jewelfront	<i>Heliodoxa aurescens</i>		200–793	
Black-throated Brilliant	<i>H. schreibersii</i>		793–823	
Pink-throated Brilliant	<i>H. gularis</i>		793	
Black-eared Fairy	<i>Heliothryx auritus</i>		213–400	
Amethyst Woodstar	<i>Calliphlox amethystina</i>		213–400	
Trogons	Trogonidae			
Pavonine Quetzal	<i>Pharomachrus pavoninus</i>		305–656	
Amazonian White-tailed Trogon	<i>Trogon viridis</i>		200–656	
Black-throated Trogon	<i>T. rufus</i>		200	
Kingfishers	Alcedinidae			
Ringed Kingfisher	<i>Megaceryle torquata</i>		656–810	
Amazon Kingfisher	<i>Chloroceryle amazona</i>		367	
Green Kingfisher	<i>C. americana</i>		320–810	
Motmots	Momotidae			
Blue-crowned Motmot	<i>Momotus momota</i>		591	
Rufous Motmot	<i>Baryphthengus martii</i>		200–656	
Broad-billed Motmot	<i>Electron platyrhynchum</i>		200–591	
Jacamars	Galbulidae			
White-eared Jacamar	<i>Galbalcyrhynchus leucotis</i>			
Brown Jacamar	<i>Brachygalba lugubris</i>		305	
Yellow-billed Jacamar	<i>Galbula albirostris</i>		200–810	

APPENDIX. Continued.

English name	Family/Scientific name	Status ^a	Lowlands (m asl)	Campánquiz Highlands (m asl)
Bronzy Jacamar	<i>G. leucogastra</i>		210–656	
Great Jacamar	<i>Jacamerops aureus</i>		210–400	
Puffbirds	Bucconidae			
White-necked Puffbird	<i>Notharchus macrorhynchos</i>		591–656	
Pied Puffbird	<i>N. tectus</i>			
Chestnut-capped Puffbird	<i>Bucco macrodactylus</i>		200–656	
Collared Puffbird	<i>B. capensis</i>		213	
Striolated Puffbird	<i>Nystalus striolatus</i>		213	
White-chested Puffbird	<i>Malacoptila fusca</i>		200–656	
Brown Nunlet	<i>Nonnula brunnea</i>		210	
Black-fronted Nunbird	<i>Monasa nigrifrons</i>		200–656	
White-fronted Nunbird	<i>M. morphoeus</i>		200–793	
Yellow-billed Nunbird	<i>M. flavirostris</i>		200–210	
Swallow-winged Puffbird	<i>Chelidoptera tenebrosa</i>			
Toucans/Barbets	Ramphastidae			
Gilded Barbet	<i>Capito auratus</i>		200–656	
Lemon-throated Barbet	<i>Eubucco richardsoni</i>		200–793	
Red-headed Barbet	<i>E. bourcierii</i>		793	
Chestnut-tipped Toucanet	<i>Aulacorhynchus derbianus</i>		793	
Lettered Aracari	<i>Pteroglossus incriptus</i>		210–656	
Ivory-billed Aracari	<i>P. azara</i>		200–762	
Chestnut-eared Aracari	<i>P. castanotis</i>		216	
Many-banded Aracari	<i>P. pluricinctus</i>		185–656	
Golden-collared Toucanet	<i>Selenidera reinwardtii</i>		210–656	
Channel-billed Toucan	<i>Ramphastos vitellinus</i>		210–656	
Black-mandibled Toucan	<i>R. ambiguus</i>			
White-throated Toucan	<i>R. tucanus</i>		210–656	1,148
Woodpeckers	Picidae			
Bar-breasted Piculet	<i>Picumnus aurifrons</i>		810	
Lafresnaye's Piculet	<i>P. lafresnayi</i>		457–793	
Rufous-breasted Piculet	<i>P. rufiventris</i>		367	1,148
Yellow-tufted Woodpecker	<i>Melanerpes cruentatus</i>		245–656	
Little Woodpecker	<i>Veniliornis passerinus</i>		200–656	
Red-stained Woodpecker	<i>V. affinis</i>		210–656	
White-throated Woodpecker	<i>Piculus leucolaemus</i>			
Spot-breasted Woodpecker	<i>Chrysoptilus punctigula</i>		210	
Scaly-breasted Woodpecker	<i>Celeus grammicus</i>		210–656	
Chestnut Woodpecker	<i>C. elegans</i>		210–656	1,148
Rufous-headed Woodpecker	<i>C. spectabilis</i>		210–367	
Lineated Woodpecker	<i>Dryocopus lineatus</i>		450–810	
Red-necked Woodpecker	<i>Campephilus rubricollis</i>		200–656	
Crimson-crested Woodpecker	<i>C. melanoleucus</i>		200–656	
Ovenbirds	Furnariidae			
Pale-legged Hornero	<i>Furnarius leucopus</i>		200–656	
Dark-breasted Spinetail	<i>Synallaxis albigularis</i>		210–591	
Dusky Spinetail	<i>S. moesta</i>		213–810	
Ruddy Spinetail	<i>S. rutilans</i>		229	
Ash-browed Spinetail	<i>Cranioleuca curtata</i>		810	
Speckled Spinetail	<i>C. gutturala</i>		400–591	
Slender-billed Xenops	<i>Xenops tenuirostris</i>		213	
Plain Xenops	<i>X. minutus</i>		200–810	
Eastern Woodhaunter	<i>Hyloctistes subulatus</i>		200–793	
Chestnut-winged Hookbill	<i>Ancistrops strigilatus</i>		200–656	
Rufous-rumped Foliage-gleaner	<i>Philydor erythrocerum</i>		200–793	
Bamboo Foliage-gleaner	<i>Anabazenops dorsalis</i>		213–656	
Buff-throated Foliage-gleaner	<i>Automolus ochrolaemus</i>		213–300	

APPENDIX. Continued.

English name	Family/Scientific name	Status ^a	Lowlands (m asl)	Campánquiz Highlands (m asl)
Chestnut-crowned Foliage-gleaner	<i>A. rufipileatus</i>		200–656	
Olive-backed Foliage-gleaner	<i>A. infuscatus</i>		200–656	
Brown-rumped Foliage-gleaner	<i>A. melanopezus</i>		591–810	
Ruddy Foliage-gleaner	<i>A. rubiginosus</i>		210–793	
Short-billed Leaf-tosser	<i>Sclerurus rufigularis</i>		656	
Black-tailed Leaf-tosser	<i>S. caudacutus</i>		213–793	
Woodcreepers	Dendrocolaptidae			
Plain-brown Woodcreeper	<i>Dendrocincla fuliginosa</i>		320–810	
Long-tailed Woodcreeper	<i>Deconychura longicauda</i>		400	
Spot-throated Woodcreeper	<i>D. stictolaema</i>		400	
Olivaceous Woodcreeper	<i>Sittasomus griseicapillus</i>		656	
Wedge-billed Woodcreeper	<i>Glyphorhynchus spirurus</i>		200–810	
Strong-billed Woodcreeper	<i>Xiphocolaptes promeropirhynchus</i>		793	
Amazonian Barred Woodcreeper	<i>Dendrocolaptes certhia</i>		200–656	
Ocellated Woodcreeper	<i>Xiphorhynchus ocellatus</i>		200–810	
Striped Woodcreeper	<i>X. obsoletus</i>		591	
Elegant Woodcreeper	<i>X. elegans</i>		213–591	
Buff-throated Woodcreeper	<i>X. guttatus</i>		200–591	
Red-billed Scythebill	<i>Campyloramphus trochiliformis</i>		200–793	
Antbirds	Thamnophilidae			
Fasciated Antshrike	<i>Cymbilaimus lineatus</i>		200–656	
Undulated Antshrike	<i>Frederickena unduligera</i>		213–793	
Great Antshrike	<i>Taraba major</i>		200–656	
Castelnau's Antshrike	<i>Thamnophilus cryptoleucus</i>		591	
White-shouldered Antshrike	<i>T. aethiops</i>		793	
Plain-winged Antshrike	<i>T. schistaceus</i>		200–810	
Mouse-colored Antshrike	<i>T. murinus</i>		200–656	
Spot-winged Antshrike	<i>Pygiptila stellaris</i>		591–656	
Black Bushbird	<i>Neotantus niger</i>		200–656	
Russet Antshrike	<i>Thamnistes anabatinus</i>			1,148
Plain Antwren	<i>Dysithamnus mentalis</i>		793	
Dusky-throated Antshrike	<i>Thamnomanes ardesiacus</i>		200–810	
Cinereous Antshrike	<i>T. caesius</i>		200–656	
Pygmy Antwren	<i>Myrmotherula brachyura</i>		200–810	
Moustached Antwren	<i>M. ignota</i>		200–656	
Stripe-chested Antwren	<i>M. longicauda</i>		537	
Plain-throated Antwren	<i>M. hauxwelli</i>		200–656	
Stipple-throated Antwren	<i>M. haematonota</i>		793	
Ornate Antwren	<i>M. ornate</i>		591–810	
Rufous-tailed Antwren	<i>M. erythrura</i>		200–656	
White-flanked Antwren	<i>M. axillaris</i>		210–810	
Slaty Antwren	<i>M. schisticolor</i>		200–656	
Long-winged Antwren	<i>M. longipennis</i>		320–793	
Grey Antwren	<i>M. menetriesii</i>		200–810	
Banded Antbird	<i>Dichrozona cincta</i>		793	
Dugand's Antwren	<i>Herpsilochmus dugandi</i>		591	
Grey Antbird	<i>Cercomacra cinerascens</i>		200–656	
Blackish Antbird	<i>C. nigrescens</i>		656	
Black Antbird	<i>C. serva</i>		320–656	
White-browed Antbird	<i>Myrmoborus leucophrys</i>		210–656	
Black-faced Antbird	<i>M. myotherinus</i>		200–810	
Warbling Antbird	<i>Hypocnemis cantator</i>		200–656	
Yellow-browed Antbird	<i>H. hypoxantha</i>		200–656	

APPENDIX. Continued.

English name	Family/Scientific name	Status ^a	Lowlands (m asl)	Campánquiz Highlands (m asl)
Silvered Antbird	<i>Sclateria naevia</i>		656	
Spot-winged Antbird	<i>Schistocichla leucostigma</i>		200–793	
Northern Chestnut-tailed Antbird	<i>Myrmeciza castanea</i>		810	
White-shouldered Antbird	<i>M. melanoceps</i>		200–656	
Sooty Antbird	<i>M. fortis</i>		210	
White-plumed Antbird	<i>Pithys albifrons</i>		210–810	
Bicolored Antbird	<i>Gymnopithys leucaspis</i>		200–656	
Hairy-crested Antbird	<i>Rhegmatorhina melanosticta</i>		793	
Spot-backed Antbird	<i>Hylophylax naevius</i>		200–793	
Scale-backed Antbird	<i>H. poecilnotus</i>		200–793	1,148
Reddish-winged Bare-eye	<i>Phlegopsis erythroptera</i>		656	
Antthrushes/Antpittas	Formicariidae			
Rufous-capped Antthrush	<i>Formicarius colma</i>			
Black-faced Antthrush	<i>F. analis</i>		300–656	
Striated Antthrush	<i>Chamaeza nobilis</i>		591	
Short-tailed Antthrush	<i>C. campanisona</i>		793	
Scaled Antpitta	<i>Grallaria guatemalensis</i>		400	
Ochre-striped Antpitta	<i>G. dignissima</i>		200	
White-lored Antpitta	<i>Hylopezus fulviventris</i>	D	213	
Thrush-like Antpitta	<i>Myrmothera campanisona</i>		210–400	
Gnateaters	Conopophagidae			
Ash-throated Gnateater	<i>Conopophaga peruviana</i>		320–656	
Tapaculos	Rhinocryptidae			
Rusty-belted Tapaculo	<i>Liosceles thoracicus</i>		200–656	1,148
Cotingas	Cotingidae			
Black-necked Red Cotinga	<i>Phoenicircus nigricollis</i>		210–656	1,148
Brazilian Laniisoma	<i>Laniisoma elegans</i>		656	
Masked Tityra	<i>Tityra semifasciata</i>		210–591	
Black-crowned Tityra	<i>T. inquisitor</i>		213–367	
Thrush-like Schiffornis	<i>Schiffornis turdina</i>		200–793	
Cinereous Mourner	<i>Laniocera hypopyrra</i>			
Fiery-throated Fruiteater	<i>Pipreola chlorolepidota</i>		210–213	1,148
Scarlet-breasted Fruiteater	<i>P. frontalis</i>		793	
White-browed Purpleletuft	<i>Iodopleura isabellae</i>			
Chestnut-crowned Becard	<i>Pachyramphus castaneus</i>		300	
White-winged Becard	<i>P. polychopterus</i>		200–656	
Black-capped Becard	<i>P. marginatus</i>			
Pink-throated Becard	<i>Platypsaris minor</i>		656	
Grey-tailed Piha	<i>Snowornis subalaris</i>		793–810	
Screaming Piha	<i>Lipaugus vociferans</i>		210–656	
Purple-throated Cotinga	<i>Porphyrolaema porphyrolaema</i>		656	
Plum-throated Cotinga	<i>Cotinga maynana</i>		210	
Spangled Cotinga	<i>C. cayana</i>			
Bare-necked Fruitcrow	<i>Gymnoderus foetidus</i>		210–656	
Purple-throated Fruitcrow	<i>Querula purpurata</i>		200–656	
Amazonian Umbrellabird	<i>Cephalopterus ornatus</i>			1,148
Andean Cock-of-the-rock	<i>Rupicola peruvianus</i>		210–400	
Manakins	Pipridae			
Jet Manakin	<i>Chloropipo unicolor</i>		793	
Green Manakin	<i>C. holochlora</i>		210–850	
White-bearded Manakin	<i>Manacus manacus</i>		200–656	
Blue-backed Manakin	<i>Chiroxiphia pareola</i>		200–656	
Wire-tailed Manakin	<i>Pipra filicauda</i>		200–656	1,148
White-crowned Manakin	<i>P. pipra</i>		400–793	
Golden-headed Manakin	<i>P. erythrocephala</i>		200–810	

APPENDIX. Continued.

English name	Family/Scientific name	Status ^a	Lowlands (m asl)	Campánquiz Highlands (m asl)
Blue-crowned Manakin	<i>Lepidothrix coronata</i>		200–810	
Blue-rumped Manakin	<i>L. isidorei</i>		630–793	
Western Striped Manakin	<i>Machaeropterus striolatus</i>		210–518	
Wing-barred Piprites	<i>Piprites chloris</i>		210–656	
Flycatchers	Tyrannidae			
White-lored Tyrannulet	<i>Ornithion inerme</i>		656	
Forest Elaenia	<i>Myiopagis gaimardii</i>		400–500	
Grey Elaenia	<i>M. caniceps</i>	A?	500	
White-crested Elaenia	<i>Elaenia albiceps</i>	A		
Streak-necked Flycatcher	<i>Mionectes striaticollis</i>		810	
Olive-striped Flycatcher	<i>M. olivaceus</i>		210–810	
Ochre-bellied Flycatcher	<i>M. oleagineus</i>		210–810	
Sepia-capped Flycatcher	<i>Leptopogon amaurocephalus</i>		591–656	
Spectacled Bristle Tyrant	<i>Pogonotriccus orbitalis</i>		793–810	
Short-tailed Pygmy Tyrant	<i>Myiornis ecaudatus</i>		400	
Double-banded Pygmy Tyrant	<i>Lophotriccus vitiensis</i>		200–656	
White-eyed Tody-Tyrant	<i>Hemitriccus zosterops</i>		213–810	
Rusty-fronted Tody-Flycatcher	<i>Poecilatriccus latirostris</i>		200–656	
Golden-winged Tody-Flycatcher	<i>P. calopteryx</i>		213–367	
Common Tody-Flycatcher	<i>Todirostrum cinereum</i>			
Yellow-browed Tody-Flycatcher	<i>T. chrysocrotaphum</i>			
Ringed Antpiper	<i>Corythopis torquatus</i>		320–793	
Olivaceous Flatbill	<i>Rhynchocyclus olivaceus</i>		200–810	
Yellow-olive Flycatcher	<i>Tolmomyias sulphurescens</i>			
Zimmer's Flatbill	<i>T. assimilis</i>		210–656	
Grey-crowned Flatbill	<i>T. poliocephalus</i>		400	
Orange-eyed Flatbill	<i>T. traylori</i>		200–656	
Ochre-lored Flatbill	<i>T. flaviventris</i>		200–656	
White-throated Spadebill	<i>Platyrinchus mystaceus</i>		793	
Golden-crowned Spadebill	<i>P. coronatus</i>		400–810	
Amazonian Royal Flycatcher	<i>Onychorhynchus coronatus</i>		200–656	
Ornate Flycatcher	<i>Myiobius ornatus</i>		793–810	
Bran-colored Flycatcher	<i>Myiophobus fasciatus</i>		210	
Olive-chested Flycatcher	<i>M. cryptoxanthus</i>			
Ruddy-tailed Flycatcher	<i>Terentotriccus erythrurus</i>		210–810	
Tawny-breasted Myiobius	<i>Myiobius villosus</i>		793–800	
Whiskered Myiobius	<i>M. barbatus</i>		200–656	
Black-tailed Myiobius	<i>M. atricaudus</i>		591–656	
Dwarf Tyrannulet	<i>Tyrannulettes stolzmanni</i>		200–656	
Cinnamon Neopipo	<i>Neopipo cinnamomea</i>		793	
Fuscous Flycatcher	<i>Cnemotriccus fuscatus</i>		210	
Euler's Flycatcher	<i>Lathrotriccus euleri</i>		210	
Western Wood Pewee	<i>Contopus sordidulus</i>	N	320	
Eastern Wood Pewee	<i>C. virens</i>	N	180–810	
Alder Flycatcher	<i>Empidonax alnorum</i>	N	200–656	
Black Phoebe	<i>Sayornis nigricans</i>		320–810	
Drab Water Tyrant	<i>Ochthornis littoralis</i>		245	
Long-tailed Tyrant	<i>Colonia colonus</i>		367–656	
Bright-rumped Attila	<i>Attila spadiceus</i>		300–400	
Greyish Mourner	<i>Rhytipterna simplex</i>		200–656	
Dusky-capped Flycatcher	<i>Myiarchus tuberculifer</i>			
Swainson's Flycatcher	<i>M. swainsoni</i>	A		
Short-crested Flycatcher	<i>M. ferox</i>		200–656	
Lesser Kiskadee	<i>Philohydor lictor</i>		325	
Great Kiskadee	<i>Pitangus sulphuratus</i>		200–656	

APPENDIX. Continued.

English name	Family/Scientific name	Status ^a	Lowlands (m asl)	Campánquiz Highlands (m asl)
Boat-billed Flycatcher	<i>Megarhynchus pitangua</i>		200–656	
Social Flycatcher	<i>Myiozetetes similis</i>		305–518	
Grey-capped Flycatcher	<i>M. granadensis</i>		210–810	
Dusky-chested Flycatcher	<i>M. luteiventris</i>		656	
Streaked Flycatcher	<i>Myiodynastes maculatus</i>	A	210–400	
Piratic Flycatcher	<i>Legatus leucophaeus</i>		518–656	
Crowned Slaty Flycatcher	<i>Griseotyrannus</i> <i>aurantioatrocristatus</i>	A	213	
Tropical Kingbird	<i>Tyrannus melancholicus</i>	A?	213–518	
Swallows/Martins	Hirundinidae			
White-banded Swallow	<i>Atticora fasciata</i>		200–656	
White-thighed Swallow	<i>Neochelidon tibialis</i>		320–518	
Southern Rough-winged Swallow	<i>Stelgidopteryx ruficollis</i>	A?	200–810	
Wrens	Troglodytidae			
Black-capped Donacobius	<i>Donacobius atricapilla</i>		367–656	
Thrush-like Wren	<i>Campylorhynchus turdinus</i>		656	
Coraya Wren	<i>Thryothorus coraya</i>		200–656	
Buff-breasted Wren	<i>T. leucotis</i>		213	
House Wren	<i>Troglodytes aedon</i>		810	
White-breasted Wood Wren	<i>Henicorhina leucosticta</i>		210–793	
Grey-breasted Wood Wren	<i>H. leucophrys</i>			
Southern Nightingale Wren	<i>Microcerculus marginatus</i>		200–656	
Musician Wren	<i>Cyphorhinus arada</i>		210–367	
Thrushes	Turdidae			
Andean Solitaire	<i>Myadestes ralloides</i>		793	
Grey-cheeked Thrush	<i>Catharus minimus</i>	N	320–656	
Swainson's Thrush	<i>C. ustulatus</i>	N	200–810	1,148
Pale-eyed Thrush	<i>Platycichla leucops</i>		400	
Black-billed Thrush	<i>Turdus ignobilis</i>		200–656	
White-necked Thrush	<i>T. albicollis</i>		400–810	
Gnatcatchers	Poliopitilidae			
Tawny-faced Gnatwren	<i>Microbates cinereiventris</i>		793	
Long-billed Gnatwren	<i>Ramphocaenus melanurus</i>		200–656	
Crows/Jays	Corvidae			
Inca Jay	<i>Cyanocorax yncas</i>			
Violaceous Jay	<i>C. violaceus</i>		200–656	1,148
Vireos/Greenlets	Vireonidae			
Red-eyed Vireo	<i>Vireo olivaceus</i>	N/A	210–656	
Yellow-green Vireo	<i>V. flavoviridis</i>	N	200–656	
Dusky-capped Greenlet	<i>Hylophilus hypoxanthus</i>		300	
Tawny-crowned Greenlet	<i>H. ochraceiceps</i>		210–793	
Slaty-capped Shrike-Vireo	<i>Vireolanius leucotis</i>			
New World Warblers	Parulidae			
Canada Warbler	<i>Wilsonia canadensis</i>	N	457–518	
Buff-rumped Warbler	<i>Phaeothlypis fulvicauda</i>		213–810	
Tanagers and Allies	Thraupidae			
Black-and-white Tanager	<i>Conothraupis speculigera</i>		213–400	
Magpie Tanager	<i>Cissopis leverianus</i>		200–656	
Yellow-throated Bush Tanager	<i>Chlorospingus flavigularis</i>		793–810	
Yellow-backed Tanager	<i>Hemithraupis flavicollis</i>		200–591	
Fulvous Shrike-Tanager	<i>Lanio fulvus</i>		400–810	1,148
Flame-crested Tanager	<i>Tachyphonus cristatus</i>		200–656	
Fulvous-crested Tanager	<i>T. surinamus</i>		200–656	
White-shouldered Tanager	<i>T. luctuosus</i>		200–300	
Red-crowned Ant Tanager	<i>Habia rubica</i>		213–656	
Scarlet Tanager	<i>Piranga olivacea</i>	N	656	

APPENDIX. Continued.

English name	Family/Scientific name	Status ^a	Lowlands (m asl)	Campánquiz Highlands (m asl)
Summer Tanager	<i>P. rubra</i>	N	591	
Masked Crimson Tanager	<i>Ramphocelus nigrogularis</i>		210–656	1,148
Silver-beaked Tanager	<i>R. carbo</i>		200–810	
Blue-grey Tanager	<i>Thraupis episcopus</i>		210–810	
Palm Tanager	<i>T. palmarum</i>		210–810	
Orange-throated Tanager	<i>Wetmorethraupis sterrhopteron</i>	VU	210	
Turquoise Tanager	<i>Tangara mexicana</i>		210–656	
Paradise Tanager	<i>T. chilensis</i>		200–656	
Green-and-gold Tanager	<i>T. schrankii</i>		185–810	1,148
Golden Tanager	<i>T. arthus</i>			
Yellow-bellied Tanager	<i>T. xanthogastra</i>		210–793	
Spotted Tanager	<i>T. punctata</i>		793	
Bay-headed Tanager	<i>T. gyrola</i>		400–793	1,148
Masked Tanager	<i>T. nigrocincta</i>		210–793	
Opal-rumped Tanager	<i>T. velia</i>		210–400	
Opal-crowned Tanager	<i>T. callophrys</i>		210–213	
Black-faced Dacnis	<i>Dacnis lineata</i>		200–656	
Yellow-bellied Dacnis	<i>D. flaviventer</i>		350–656	
Blue Dacnis	<i>D. cayana</i>		400–500	
Green Honeycreeper	<i>Chlorophanes spiza</i>		200–656	
Short-billed Honeycreeper	<i>Cyanerpes nitidus</i>		656	
Purple Honeycreeper	<i>C. caeruleus</i>		200–656	
Black-and-white Seedeater	<i>Sporophila luctuosa</i>		320–810	
Yellow-bellied Seedeater	<i>S. nigricollis</i>		518–810	
Chestnut-bellied Seedeater	<i>S. castaneiventris</i>		367	
Lesser Seed Finch	<i>Oryzoborus angolensis</i>		200–656	
Buntings/New World Sparrows and Allies	Emberizidae			
Red-capped Cardinal	<i>Paroaria gularis</i>		656	
Orange-billed Sparrow	<i>Arremon aurantiostris</i>		210–810	
Yellow-browed Sparrow	<i>Myospiza aurifrons</i>		367–810	
Grosbeaks/Saltators and Allies	Cardinalidae			
Greyish Saltator	<i>Saltator coerulescens</i>		200–656	
Buff-throated Saltator	<i>S. maximus</i>		200–656	
Slate-colored Grosbeak	<i>S. grossus</i>		200–793	
Blue-black Grosbeak	<i>Cyanocompsa cyanooides</i>		200–820	
New World Blackbirds	Icteridae			
Giant Cowbird	<i>Molothrus oryzivorus</i>		245–656	
Moriche Oriole	<i>Icterus chryscephalus</i>		210–810	
Venezuelan Troupial	<i>I. icterus</i>		656	
Yellow-rumped Cacique	<i>Cacicus cela</i>		210–656	
Ecuadorian Cacique	<i>C. sclateri</i>		210–213	
Solitary Cacique	<i>C. solitarius</i>		200–656	
Casqued Oropendola	<i>Clypicterus oseryi</i>			
Crested Oropendola	<i>Psarocolius decumanus</i>		210–320	
Russet-backed Oropendola	<i>P. angustifrons</i>		591–810	1,148
Para Oropendola	<i>P. bifasciatus</i>		213–400	
Finches	Fringillidae			
Thick-billed Euphonia	<i>Euphonia lanirostris</i>		210	
Bronze-green Euphonia	<i>E. mesochrysa</i>		793	
White-lored Euphonia	<i>E. chrysopasta</i>		213	
White-vented Euphonia	<i>E. minuta</i>		200	
Orange-bellied Euphonia	<i>E. xanthogaster</i>		210–810	

^a D = Distributional record, VU = Vulnerable, N = Nearctic migrant, A = Austral migrant, N? = probable Nearctic migrant, and A? = probable Austral migrant.