

## AVIFAUNA OF THE UPPER ESSEQUIBO RIVER AND ACARY MOUNTAINS, SOUTHERN GUYANA

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**Resumen.** – Avifauna del alto Río Essequibo y la Sierra de Acary, en el sur de Guyana. – Realizamos inventarios intensivos durante dos temporadas y varias visitas de menor duración en el alto Río Essequibo, en el extremo sur de Guyana, en una zona que está entre las menos impactadas por humanos en el planeta. En total, registramos 441 especies de aves, incluyendo los primeros registros de 12 especies para el país. Para otras cuatro especies, colectamos los primeros especímenes del país. Presentamos información acerca de abundancia relativa, preferencias de hábitat y estatus reproductivo. La lista de especies para esta región es mayor que la de otro sitio intensamente estudiado al norte de Manaus, en Brazil, pero menor que la de la Selva Iwokrama en el centro de Guyana. Es probable que las diferencias en la composición de especies entre estos sitios se basen en la heterogeneidad del hábitat.

**Abstract.** – We conducted two extensive and several shorter-term avifaunal surveys during different seasons in the upper Essequibo River drainage of extreme southern Guyana, one of the least human-impacted areas on the planet. A total of 441 avian species were recorded including the first Guyana records for 12 species. Four additional species were documented with the first Guyana specimens. Relative abundance, habitat preferences, and breeding status are presented. The species list for the Upper Essequibo region is higher than that for an intensively studied site north of Manaus, Brazil, but lower than that for the Iwokrama Forest in central Guyana. The likely explanation for differences in species composition between these sites is habitat heterogeneity. *Accepted 3 March 2007.*

**Key words:** Avifauna, Essequibo River, Acary Mountains, Guyana, new records.

## INTRODUCTION

The lowland forests of the Guiana Shield represent one of the largest blocks of pristine forest on earth. The majority of the natural vegetation remains intact, with estimates of relatively untouched forest of 80% in Guyana, 90% in Suriname and French Guiana, and 42% in adjacent Brazil (Bryant *et al.* 1997). The area of southern Guyana, southern Suriname and abutting Brazil has been particularly unaffected by humans. Excluding the Rupununi Savanna, Guyana forests south of the 4<sup>th</sup> parallel comprise nearly 7,000,000 ha and have only one permanent settlement, the Wai-Wai Amerindian village near Gunn's Strip (D. Clarke pers. observ.; see below). At the extreme southern end of this region, the Wai-Wai own about 625,000 ha, these lands being known as the Konashen Community Owned Conservation Area.

From an ornithological standpoint, this area remains very poorly known. The nearest thorough avian surveys were conducted about 80 km north of Manaus, Amazonas, Brazil (Cohn-Haft *et al.* 1997) and at the Iwokrama Forest reserve in central Guyana (Ridgely *et al.* 2005). Oren & Albuquerque's (1991) update of Haffer's (1974) catalog of collecting localities for the Brazilian component of this region underscored how few areas have been even minimally surveyed, with large sections still totally unknown. The only survey within the Guyana portion of this region was made by Blake (1950) in 1938, without such invaluable survey tools as mist-nets, tape recorders, and field identification guides.

## STUDY AREA AND METHODS

As part of a long-term assessment of the biodiversity of Guyana, we conducted two extensive and several shorter surveys during different seasons in the upper Essequibo

River drainage of extreme southern Guyana. All of our field sites were within the Konashen Community Owned Conservation Area. In August–September 1998 and in February–March 1999, we mounted expeditions to the headwaters of the Essequibo River. Finch, O'Shea, and others briefly visited these same areas in subsequent years. Access to the region was via small aircraft from Georgetown to a laterite runway, known as Gunn's Strip, in an isolated, wet savanna surrounded by thousands of sq. km of contiguous, primary forest. Our itinerary and description of each surveyed site follow.

*Gunn's Strip.* 01°39'N, 58°37'W, 225 m, Fig. 1. At the time of our work about 200 Wai-Wai occupied a village near the airstrip. Following high water in 2000, the community moved to a point < 1.5 straight-line km upriver. The Gunn's site is seasonally flooded with much of the savanna and forest floor inundated for months, typically from late April through at least July. We surveyed about 12 km<sup>2</sup> of the natural savanna (Robbins *et al.* 2005). Interspersed within the savanna, which grows on gray, sandy, clay hard pan, are tongues of gallery forest and small, isolated patches of low, dense forest known in Guyana as "bush islands". Moriche or ité palms (*Mauritia flexuosa*) were conspicuous at this site. As a result of periodic burning by the Wai-Wai during the dry season, the savanna-forest interface was often abrupt.

This site was surveyed during the following periods: 16–19 August 1998 & 17–20 September 1998 by Robbins, Braun, Milensky, Schmidt, Prince, and Rice; 27 February–8 March 1999 & 23–26 March 1999 by Braun, Milensky, Schmidt, and Prince; 18–19 November 1999, 28–29 April 2001, 4–6 and 22–23 November 2002 by Finch *et al.*, and 4–5 and 27–28 October 2006 by O'Shea. No mist-nets were used during the 1998 surveys, Finch *et al.* and O'Shea visits, but about 10 mist-nets

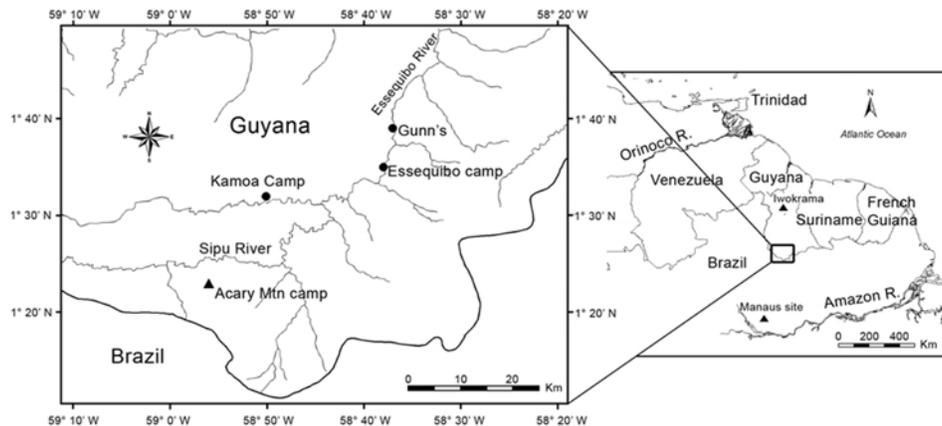


FIG. 1. Principal localities mentioned in text.

were used during the February–March 1999 survey.

*Sipu River.* 01°25'N, 58°57'W, 225 m, Fig. 1. Many downed trees made this narrow watercourse difficult to navigate, and where the camp was established on its south bank, the river was < 15 m wide. While botanist David Clarke and our logistical crew cut a trail southward toward the Acary (*ACK-a-rye*) Mountains, we surveyed (15 mist-nets) birds in the seasonally flooded, swampy forest from 21–27 August 1998. Finch *et al.* worked along the Sipu River up to this site from 12–15 & 20–21 November 2002. The forest canopy was relatively low and uneven as a result of poor soil and the area being flooded for at least 3 months of the year. All the forest strata were laden with vines, and the terrain was very uneven with hummocks of drier ground intermixed with canal-shaped, low-lying areas. Palms such as *Astrocaryum janari* and *Euterpe oleracea* were a dominant component of the understory. During this short period, the river dropped about 13 cm at our campsite, and by the time we left the area on 16 September, it had dropped a total of about 30 cm. Except during infrequent periods of rain, cicadas pro-

duced considerable ambient noise from about 07:00 until sunset.

*Acary Mountains.* 01°23'N, 58°56'W, 225 m, Fig 1. This camp was near a stream in tall primary *terra firme* forest at the northern base of the mountains, about 4 straight-line km from the Sipu camp. The area was worked from 28 August to 15 September 1998. Finch *et al.* visited the site from 15–19 November 2002, followed by O'Shea from 7–18 October 2006. In 1998, in order to survey the highest elevations (about 1100 m), we rotated personnel to a mini-camp established at 575 m where we set up 3 mist-nets. While two people worked at the mini-camp, the remaining team surveyed birds at the base camp, cutting new trails and working the trail back to the Sipu camp. About 20 mist-nets were used at the base camp. At about 800 m, the forest appeared wetter with the first sign of large terrestrial ferns, moss and bromeliads on the trees. Frequent cloud contact along the ridges supported abundant epiphytes on trees and sphagnum moss on the ground, but very few plants were restricted to the high elevations (D. Clarke pers. observ.). Bamboo (*Guadua latifolia*) was prevalent along the ridge crests as

a result of tree falls and in the peneplain of creeks at the mountain base. A number of trees were flowering and fruiting from the base to the crest of the mountains. The highest summit consisted of granitic bedrock with a thin cover of organic soil and scrub vegetation [Myrtaceae, *Mimosa* (Fabaceae), and *Erythroxylon* (Erythroxylaceae) (D. Clarke pers. observ.)].

*Essequibo River camp.* Upriver, about 7 straight-line km from Gunn's Strip. 01°35'N, 58°38'W, 250 m, Fig. 1. Surveyed by Braun, Milensky, Schmidt, and Prince from 9 to 22 March 1999. Finch *et al.* worked along the river near this site from 6–8 & 21–22 November 2002. A camp was established adjacent to the river. Seasonally flooded, *terra firme*, and riverine habitats were surveyed, using 15+ mist-nets near the base camp. A temporary camp (01°35'N, 58°35'W) was established at the base of a range of low hills to the east, permitting surveys of upper elevations (about 700 m) on five mornings. Guyana Lands and Surveys topographical maps refer to these hills as "Zibingatzako Mountain". The area between this massif and the Essequibo River is a mosaic of *terra firme* and seasonally flooded forest. The canopy of the *terra firme* forest was as high as 40 m, whereas the seasonally flooded forest canopy was 20–25 m in height.

*Kamoa River.* 01°32'N, 58°50'W, 240 m, Fig. 1. Surveyed by Finch *et al.* 8–11 November 2002 and O'Shea 19–28 October 2006. Both Finch and O'Shea worked from a camp at the above coordinates and Finch also worked from a second camp at 01°31.5'N, 58°46.3'W. During O'Shea's visit, birds were surveyed along trails cut in both directions along the river. Another trail was cut perpendicular (north) to the river, and led to a small rocky hill (about 560 m) in *terra firme* forest. This trail passed through an extensive area of low-stature for-

est with many palms, resembling forest around Gunn's Strip. Birds were also surveyed by boat on several mornings. Habitat immediately adjacent to the river was seasonally flooded forest of shorter stature than that found along the Sipu or Essequibo rivers; the forest became taller farther away from the river. The understory of this flooded forest was very sparse. There appeared to be a high degree of habitat heterogeneity at this site.

Specimens are deposited at the USNM, KUMNH, and the University of Guyana, Georgetown. Tissue samples are at USNM. Robbins's and Finch's recordings have been deposited and O'Shea's and Braun's will be deposited at the Macaulay Library of Natural Sounds, Cornell University. Taxonomy and nomenclature follow Remsen *et al.* (2007), except for the *Icterus cayanensis* complex, where we follow Jaramillo & Burke (1999) in order to make equivalent taxonomic comparisons among three sites.

## RESULTS AND DISCUSSION

We recorded a total of 441 species in the region. To our knowledge, the only other published avifaunal information for the Upper Essequibo region is that of Blake (1950) who, in late 1938, amassed nearly 1000 skins. Unfortunately, half of this invaluable collection was lost when his boat capsized in rapids on the return from the Acary Mountains and adjacent lowlands. In his assessment of the region's affinities, Blake reported that only 5 of 125 species that he recorded above about 450 m were subtropical-inhabiting species: Chestnut-tipped Toucanet (*Aulacorhynchus derbianus*), Golden-olive Woodpecker (*Piculus rubiginosus*), Strong-billed Woodcreeper (*Xiphocolaptes promeropirhynchus*), Rufous-rumped Antwren (*Terenura callinota*), and Sharpbill (*Oxyruncus cristatus*). We do not consider either the *Piculus* or *Xiphocolaptes* to be indicative of the subtropical zone, as both

occur in lowland forests across the Guiana Shield, as elsewhere in South America. However, Blake recorded three species which should be included in that list as they are found primarily in montane regions in the Guiana Shield: Collared Trogon (*Trogon collaris*), Brown Violetear (*Colibri delphinae*), and Blackish Pewee (*Contopus nigrescens*). We documented an additional seven montane species that Blake did not record: Vermiculated Screech-Owl [*Megascops (guatemalae) roraimae*], Green-bellied Hummingbird [*Amazilia (viridigaster) cupreicauda*], Plain Antvireo (*Dysithamnus mentalis*), Rufous-tailed Tyrant (*Knipolegus poecilurus*), Tepui Greenlet (*Hylophilus sclateri*), Hepatic Tanager [*Piranga (flava) haemalea*], and Blue-naped Chlorophonia (*Chlorophonia cyanea*). We exclude Cliff Flycatcher (*Hirundinea ferruginea*), which was recorded only along ridge crests, because its preferred habitat of bare cliff faces is not restricted to mountains. Several species were present in open, scrubby vegetation along the Acary crests that normally are found in similar habitat in the lowlands, e.g. Red-shouldered Tanager (*Tachyphonus phoeniceus*) and Dusky Antbird (*Cercomacra tyrannina*). Two additional species, Tropical Parula (*Parula pitayumi*) and Rufous-winged Antwren (*Herpsilochmus rufimarginatus*), were restricted to the Acary Mountains; both are found in montane areas as well as locally in the lowlands in western Guyana, eastern Venezuela, and Roraima, Brazil (Hilty 2003, Naka *et al.* 2006). In Suriname the *Herpsilochmus* is known only from the montane Tafelberg (O'Shea pers. observ.). Blake recorded two species that we failed to detect: Greater Ani (*Crotophaga major*) and Guira Tanager (*Hemithraupis guira*). Thus, the species total for the Upper Essequibo region is at least 443. Additional surveys will probably bring the total close to that of the Iwokrama Forest (about 475 species; see below). Most of our surveys were conducted during the non-breeding season (see below), when relatively

few species were vocalizing, and we undoubtedly missed several boreal and austral migrants.

During February–March 1999, we conservatively documented breeding in 22% (n = 93 species) of the avifauna, whereas 20% (n = 85) of the avifauna was documented breeding during August–September 1998 (Appendix 1). Breeding criteria were based on specimen gonad data, behavior (displays, carrying nesting material), and active nests. In addition, 17 species were vocalizing considerably more during February–March than during August–September and we considered all of these to be breeding (Appendix 1). These figures should be considered very conservative, as our specimen sample sizes even for common species were low, and many species were not collected. Because of manpower, our effort was biased in favor of the 1998 survey (763 specimens collected in 1998, 522 specimens in 1999). Based on our work elsewhere in Guyana (Robbins *et al.* 2004, unpubl.), the majority of the Guyana avifauna initiates breeding at the onset of the main rainy season, typically from late April into August; exceptions include columbids and other frugivores. Thus, if both our intensive surveys had been conducted a month later, i.e., in April and October, we predict that we would have found a significantly higher percentage of the avifauna breeding, especially in April. Finally, more North American passerine migrants were recorded during the February to late March period than in the August to mid-September period, when most such migrants have not yet reached Guyana (Appendix 1). An example is the American Redstart (*Setophaga rutilla*), which O'Shea found to be fairly common in the Acary Mountains in mid-October, whereas it was unrecorded there during our late August to mid-September survey.

Gunn's Strip had a fair amount of hunting and burning pressure in the vicinity of the village, but the other sites were pristine. The

human population today is a fraction of what it was when Schomburgk and party visited the region in 1837. Following the influenza epidemic of 1918, only a few, scattered villages remained (Guppy 1958). Indicative of the very low human presence at the Sipu and Acary sites were the relatively large numbers of *Crax* and *Penelope*, seven monkey species, and multiple observations and signs of jaguar and tapir.

*Comparison with avifaunas at other Guiana Shield sites.* It is of interest to compare the Upper Essequibo River drainage avifauna with other extensively inventoried sites to reveal patterns of diversity across the Guiana Shield region. The avian biogeographical affinities of the *terra firme* forests east of the Rio Branco, Brazil are with the Guiana Shield, whereas the avifauna west of this drainage is more closely related to western Amazonia (Naka *et al.* 2006). Thus, we compare the Upper Essequibo inventory with the two most complete surveys in this region: 1) The Biological Dynamics of Forest Fragments Project site about 80 km north of Manaus (Cohn-Haft *et al.* 1997); 2) the Iwokrama Forest reserve in central Guyana (Ridgely *et al.* 2005). The Manaus inventory covered a general area of about 500 km<sup>2</sup> (Fig. 1) and was based on 15 years of fieldwork by many experienced observers who recorded a total of 394 species. An even higher species list, 476 species, was recorded at the Iwokrama Forest (surveyed 8 months over 2 years; Ridgely *et al.* 2005; Fig. 1). What explains the diversity differences among these three sites? We concur with Cohn-Haft *et al.* (1997) and Naka *et al.* (2006) that the primary cause of differences in species richness among sites is habitat heterogeneity. We believe that the 113 species (112 that we found, plus the *Hemithraupis* that Blake recorded) recorded in the Upper Essequibo region that were not recorded north of Manaus (Appendix 1), are also best explained

by differences in habitat heterogeneity between the sites. The Upper Essequibo area included savanna, extensive seasonally flooded forest, and montane areas in contrast to the largely *terra firme* Manaus site. In addition to the unique montane element outlined above and the obvious contribution of savanna to diversity of the Upper Essequibo area (category 4 under habitat preferences in Appendix 1), a comparison of the species-rich Thamnophilidae between these two areas underscores some microhabitat differences. Of the 13 antbird species recorded in the Upper Essequibo area that were absent from north of Manaus, several were restricted to vine tangles in seasonally flooded forest and two were highland species (Appendix 1). The Spot-backed Antwren (*Herpsilochmus dorsimaculatus*) was the only thamnophilid found at the Manaus area not present at the Upper Essequibo region.

Of these three areas, the Iwokrama Forest has the greatest diversity of habitats. Sixty-seven species were recorded at the Upper Essequibo that were unrecorded from Iwokrama (Appendix 1). Montane and savanna-inhabiting species, vine tangle specialists, and migrants constitute the bulk of the 67 species found in the Upper Essequibo and not Iwokrama. Iwokrama had the unique *Humiria*-dominated low woodland ("Muri Scrub", known as a type of *campina* in Amazonian Brazil) that added six species not recorded in the Upper Essequibo, and the montane avifauna at Iwokrama included four tepui species not found in the Acary Mountains (Ridgely *et al.* 2005). Finally, *terra firme* forest was more prevalent at Iwokrama than the Upper Essequibo.

Cohn-Haft *et al.* (1997) proposed that although species diversity differed considerably among their Manaus locality and two sites in southwestern Amazonia sites, the core *terra firme* fauna was surprisingly similar between Manaus (n = 264 species) and Manu

( $n = 271$  species). Using their same criteria (i.e., treating most of our aerial species as *terra firme*-inhabiting) in defining the Upper Essequibo *terra firme* avifauna, we tallied about 248 species. Unfortunately, the unpublished Iwokrama Forest species list does not include habitat preference designations, so *terra firme* figures for that locality are not available for comparison. It should be recognized that these numbers should not be considered precise, as habitat requirements of some species vary among sites, and not all researchers agree when allocating species to particular habitats. Nevertheless, these differences would not dramatically change the overall pattern.

#### Species accounts

We obtained the first documentation for 12 species in Guyana, and the first Guyana specimens for four additional species. Details and documentation are provided below for all these except Vermiculated Screech-Owl [*Megascops (guatemalae) roraimae*], Versicolored Emerald (*Amazilia versicolor*), Rufous-winged Antwren (*Herpsilochmus rufimarginatus*), Rufous-tailed Tyrant (*Knipolegus poecilurus*) and White-naped Seedeater (*Dolospingus fringilloides*), details of which we have published earlier (Braun *et al.* 2003; Robbins *et al.* 2004, 2005).

All references to French Guiana, Suriname, the region north of Manaus, Brazil, and the Guyana Rupununi are based on information in Tostain *et al.* (1992), Haverschmidt & Mees (1994), Cohn-Haft *et al.* (1997), and Robbins *et al.* (2004), respectively.

*Rusty Tinamou* (*Crypturellus brevirostris*). This poorly known tinamou was recorded on only a few occasions in *terra firme* forest up to 700 m, only at our Acary site. No definite vocalizations were noted during the 1998 trip, but Finch heard the species in November 2002, and O'Shea obtained a tape recording in October 2006. Although these represent the

first records for Guyana, the species is known from French Guiana and northeastern Amazonian Brazil, and almost certainly occurs in adjacent southern Suriname. Specimens: 2 males, 209 & 233 g (USNM 625102; KUMNH 89676, respectively); female, 295 g (USNM 621695).

*Stygian Owl* (*Asio stygius*). An adult male was flushed during the day on 18 September from a bush island in savanna at Gunn's Strip by Robbins and Rice (KUMNH 89697) and Finch heard one there on 19 November 1999. Finch *et al.* heard and recorded two birds along the Kuyuwini River (02° 02.85'N, 58° 50.40'W; MLNS 106352). These are the first Guyana records, and we subsequently heard the species calling from the forest/savanna edge at Kusad Mountain in the Rupununi. Apparently it is still unknown from Suriname, although we predict that ultimately it will be found there, perhaps in the Sipaliwini savanna region. This species is also known from Amazonian savannas (Borges *et al.* 2001).

*Green-bellied Hummingbird* (*Amazilia viridigaster cupreicauda*). Robbins and Milensky observed an adult at eye level for about 5 min in excellent light along an Acary ridge crest at 850 m and O'Shea also found this species along a ridge crest in October 2006. This taxon, which may deserve species status (Hilty 2003), is more commonly encountered in montane forests (750–2000 m) of the Pantepui in southern Venezuela (Hilty 2003), northern Brazil (Naka *et al.* 2006), and western Guyana (Merume Mountains, Quonga, Snyder 1966; Kopinang Mountain, O'Shea pers. observ.). However, there are records from as low as 60 m in Venezuela (Hilty 2003), and specimens from lowland savanna edge in the southern Rupununi, Guyana and Sipaliwini, Suriname. Temporal variation in abundance on Sierra de Lema, Venezuela (Hilty 2003) suggests the possibility

of seasonal or elevational movement in this species.

*Rusty-breasted Nunlet* (*Nonnula rubecula*). A non-breeding female collected in seasonally flooded forest at our Sipu camp by Schmidt and Braun on 24 August represents the first Guyana specimen (USNM 625135). It had been observed by Finch *et al.* on two prior occasions: 17 April 1996 at Kuyuwini Landing (02°05.92'N, 59°14.98'W) and 16 November 1997, along the Rewa River (03°44.02'N, 58°43.32'W; MLNS 89872). This species has been recorded in Suriname, French Guiana, and across much of Amazonia, including north of Manaus.

*Chestnut Woodpecker* (*Celeus elegans*). Blake (1950: 442) remarked that a bird that he collected was either an atypical example of the subspecies *hellmayri* or was intermediate between *hellmayri* and *approximans*. The three females (USNM 625153; KUMNH 89713-4) that we collected from the Acary Mountains have pale, creamy yellow crowns with a darker cinnamon color on the elongated crest, bright yellow flanks, and yellow upper tail coverts with varying amounts of cinnamon. The crowns of the Acary birds, which closely resemble nominate *elegans*, are noticeably paler than those of birds from northeastern Guyana (Berbice River, 05°40'N, 57°53'W, KUMNH 88156; Rockstone, east bank of the lower Essequibo, ANSP 186590), that have been assigned to *hellmayri*.

*Rufous-tailed Xenops* (*Xenops milleri*). A breeding male (USNM 625165) taken by Braun from a mixed-species flock on 27 August at our Sipu camp represents the first Guyana record. A few other individuals were seen in mixed-species flocks up to 600 m in the Acary Mountains. It has been recorded at several localities in Suriname, French Guiana, and north of Manaus.

*Spot-throated Woodcreeper* (*Deconychura stictolaema*). Three non-breeding individuals (USNM 625433-5) were mist-netted in March at two of our camps (Appendix 1). These represent the second Guyana locality; the only other site is based on an unpublished specimen of a female collected by A. Capparella on 13 August 1994, 5 km NW Mabura Hill (05°19'N, 58°39'W; ANSP 186698). This woodcreeper has recently been observed in Suriname (O'Shea 2005) and it was noted as common north of Manaus, as well as present throughout Brazilian Amazonia in mixed-species canopy flocks (M. Cohn-Haft, pers. com.).

*Band-tailed Antshrike* (*Sakesphorus melanothorax*). O'Shea observed a female in an overgrown clearing in bamboo-dominated understory along a creek near the Acary camp on 17 October 2006. The first and only other Guyana records for this low-density, poorly-known species are those of Finch *et al.*: pair, 5 November 1999 and again 15 April 2001, left bank of Kuyuwini River (02°05.72'N, 59°14.19'W; MLNS 106337, 115727); pair, 21 April 2001, left bank of Kassikaityu River (01°50.76'N, 59°04.95'W; MLNS 115771); pair, 22 April 2001, left bank of West Kassikaityu River (01°50.20'N, 59°12.66'W; MLNS 115786); male, 12 November 2001, left bank of Rewa River (03° 06.06'N, 58°38.49'W). It appears to be rare in Guyana, although it is somewhat more common locally in Suriname (O'Shea & Finch pers. observ.).

*Spot-winged Antshrike* (*Pygiptila stellaris*). This antshrike was uncommon to fairly common in subcanopy vine tangles of seasonally flooded forest at our Sipu camp (MLNS 131061; 131124). A non-breeding, apparent pair was collected on 7 September (USNM 625180, KUMNH 89752) by Schmidt and Robbins. These represent the first Guyana specimens. The first Guyana records were

obtained on 17 April 1997, at Kuyuwini Landing (02°05.92'N, 59°14.98'W) and on 14 November 1997 along the Rewa River (03°52.15'N, 58°46.41'W; MLNS 89848) by Finch *et al.* It is known from Suriname and French Guiana, but it was not reported from north of Manaus.

*Plain Antvireo* (*Dysithamnus mentalis*). This species was occasionally encountered above 850 m at the Acary site. Birds vocalized infrequently, but a female collected by Schmidt on 11 September had recently laid an egg (USNM 625181). These represent the first definite records for Guyana, although it is known from the Venezuela portion of Mt. Roraima (Phelps 1938, Snyder 1966). Although it has recently been found in Suriname (O'Shea pers. observ.), it has not been reported from French Guiana or the Manaus region.

*Willis's Antbird* (*Cercomacra laeta*). This range-restricted species was fairly common along the forest-savanna interface at Gunn's Strip (MLNS, n = 5 cuts) and a single bird was heard on 6–8 November 2002 near the Essequibo River camp by Finch *et al.* A series of specimens (USNM, KUMNH) indicated no breeding during August/September or March. These represent the first Guyana records, and we subsequently recorded it in the extreme southern portion of the Rupununi savanna.

*Olive-green Tyrannulet* (*Phylloscartes virescens*). This inconspicuous, canopy and subcanopy-dwelling species is poorly known. It was uncommon in *terra firme* forest at our Acary and Essequibo River camps. Presumed pairs were associated with mixed-species flocks. A female taken on 9 September had an unshelled egg, 13 x 10 mm, in her oviduct (KUMNH 89807). The species is known from scattered localities across the Guiana Shield.

*Large-headed Flatbill* (*Ramphotrigon megacephalum*). O'Shea tape recorded at least two individuals in a patch of dense *Gnadua* bamboo along a creek downstream from the Acary camp on 8 October 2006. This species is a bamboo specialist and hence has a patchy distribution across the Amazon basin. This record extends the species' known range eastward ca. 800 km and represents the first for the Guianas; the nearest published locality is in Amazonas, Venezuela (Hilty 2003).

*Pale-bellied Mourner* (*Rhytipterna immunda*). This species was encountered in forest/savanna edge at Gunn's Strip. Two males from September and March had small testes (USMN 625235, 622069). Although known from Suriname and French Guiana, these are the first Guyana records, and we subsequently found it in forest/savanna edge at the extreme southern edge of the Rupununi savanna.

*Boat-billed Tody-Tyrant* (*Hemitriccus josephinae*). Species in this genus are inconspicuous and poorly known (Cohn-Haft 2000). This tody-tyrant is represented by only a handful of specimens in museums and very little is known about it in life. Prior to our work, it was known in Guyana only from the type specimen taken in 1910 along the Supenaam River near the mouth of the Essequibo River (Chubb 1914). We observed calling males ca. 4–9 m above the ground in dense vine tangles of seasonally flooded forest at our Sipu and Essequibo River camps, and in the southern Rupununi. All individuals were in non-breeding condition. As described by Donahue (1985), birds gave a "pic-pic", or sometimes a 3-noted series (MLNS 131064; USMN 625252, 616573, 622048). This species is now known from Suriname, French Guiana, and Amazonian Brazil.

*White-eyed Tody-Tyrant* (*Hemitriccus zosterops*). At our Acary and Essequibo camps, as

many as four individuals/day were encountered 6–10 m above the ground in *terra firme* forest. Birds called infrequently (MLNS 131059, 131105, 131172), although two males collected in August had enlarged testes. These represent the first Guyana records; the species is known from Suriname and French Guiana, and was considered common north of Manaus.

*Glossy-backed Becard* (*Pachyramphus surinamensis*). An adult male, with a presumed female, was taken out of a canopy mixed-species flock at our Sipu camp on 23 August by Robbins (KUMNH 89835). It had enlarged, 9 x 5 mm, testes. This is the first Guyana record; the species is known from Suriname, French Guiana, and north of Manaus.

*White-thighed Swallow* (*Neochelidon tibialis*). Groups of up to 6 individuals were encountered foraging just above the canopy along ridges in the Acary Mountains and at Zibingatzako Mountain near our Essequibo River camp. These are the first Guyana records (MLNS 131092). There are only a few records for Suriname, but it is known from French Guiana, and it was considered uncommon north of Manaus.

*Collared Gnatwren* (*Microbates collaris*). This was a low-density species encountered within a few meters of the ground in *terra firme* forest from 300–750 m. Birds were not singing during either period and all specimens were in non-breeding condition (USNM, KUNHM). Our specimens are the first for Guyana; the species was first recorded in the country in February 1993 in the Kanuku Mountains (Parker *et al.* 1993). It is also known from several Suriname and French Guiana localities, and was considered common north of Manaus.

*Dotted Tanager* (*Tangara varia*). A non-breed-

ing adult male feeding on melostome berries at 825 m in the Acary Mountains was collected by Robbins on 29 August. This represents the first Guyana specimen (KUMNH 89866). The species was encountered on only one other occasion at this site. This tanager had previously been seen on at least two occasions, 15 June 1997, at Turtle Mountain in the Iwokrama Reserve (Ridgely *et al.* 2005) and 19 April 2001, along the Kassikaityu River (01°50.51'N, 59°05.16'W) by Finch *et al.* It is also known from a few records in Suriname, French Guiana, and north of Manaus.

*Epanlet* (*Icterus cayanensis*) & *Moriche* (*Icterus chryscephalus*) *Orioles*. Although often treated as separate species (Meyer de Schauensee 1970, Ridgely & Tudor 1989, Jaramillo & Burke 1999), Remsen *et al.* (2007) treat *chryscephalus* as a subspecies of *cayanensis*. Nonetheless, for consistency of among-site comparisons, we follow traditional taxonomy and treat these as separate species. Regardless of taxonomic treatment, the distribution of the two taxa has not been delineated in Guyana, as Snyder (1966) made no mention of *cayanensis*, stating that *chryscephalus* was widespread and common. These taxa have been found syntopically at our Sipu and Gunn's Strip sites, Iwokrama Forest (M. Robbins, R. Ridgely pers. observ.), and at Kusad in the Rupununi. Although hybridization has been documented in Suriname (Haverschmidt & Mees 1994), this has not yet been demonstrated in Guyana.

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APPENDIX 1. Relative abundance, habitat preferences, and breeding status for the Upper Essequibo River and Acary Mountain avifauna.

English names	Scientific names	Sipu/Acary <sup>1</sup>	Gunn's Strip <sup>1</sup>	Essequibo River <sup>1</sup>	Kamoa <sup>1</sup>	Unique to Upper Essequibo Region <sup>2</sup>	Habitat <sup>3</sup>	Breeding status <sup>4</sup>
Tinamous	Tinamidae							
Great Tinamou	<i>Tinamus major</i>	U	U	U	U		1,2	*
Cinereous Tinamou	<i>Crypturellus cinereus</i>	S	U	S	U	M	3	
Little Tinamou	<i>Crypturellus soui</i>	U	U		X		2	
Undulated Tinamou	<i>Crypturellus undulatus</i>				U	M,I	2	
Red-legged Tinamou	<i>Crypturellus erythropus</i>			X		M	3	
Variegated Tinamou	<i>Crypturellus variegatus</i>	S		F	F		1,2	*
Rusty Tinamou	<i>Crypturellus brevirostris</i>	S				I	1	
Ducks, Geese	Anatidae							
Muscovy Duck	<i>Cairina moschata</i>	U	S	U		M	5	
Curassows, Guans	Cracidae				U			
Variable Chachalaca	<i>Ortalis motmot</i>	U	F	U			3,2,5,1	*
Marail Guan	<i>Penelope marail</i>	U	U	U	F		1,2	*,#
Blue-throated Piping-Guan	<i>Pipile cumanensis</i>	S			U	I	2	#
Black Curassow	<i>Crax alector</i>	F		U	U		1,2	*,#
Quails	Odontophoridae				F			
Marbled Wood-Quail	<i>Odontophorus gujanensis</i>	U		S			1,2	
Cormorants	Phalacrocoracidae				U			
Neotropic Cormorant	<i>Phalacrocorax brasilianus</i>		X			M	5	
Anhingas	Anhingidae							
Anhinga	<i>Anhinga anhinga</i>	U	U	U	C		5	
Hérons	Ardeidae							
Zigzag Heron	<i>Zebrilus undulatus</i>	S				M	1,2	
Rufescent Tiger-Heron	<i>Tigrisoma lineatum</i>	U	S		S		2,5	*
Agami Heron	<i>Agamia agami</i>	S			F	M	5	
Boat-billed Heron	<i>Cochlearius cochlearius</i>		X		S		5	
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>			X			5	
Striated Heron	<i>Butorides striata</i>	F	F	F			5	
Cattle Egret	<i>Bubulcus ibis</i>		X	X	U		4	

English names	Scientific names	Sipu/Acary <sup>1</sup>	Gunn's Strip <sup>1</sup>	Essequibo River <sup>1</sup>	Kamoa <sup>1</sup>	Unique to Upper Essequibo Region <sup>2</sup>	Habitat <sup>3</sup>	Breeding status <sup>4</sup>
Capped Heron	<i>Pilherodius pileatus</i>			X			5	
Cocoi Heron	<i>Ardea cocoi</i>	S	U	U	U		5	
Great Egret	<i>Ardea alba</i>			X			5	
Little Blue Heron	<i>Egretta caerulea</i>	S				M	5	
Ibises	Threskiornithidae							
Green Ibis	<i>Mesembrinibis cayennensis</i>	U	U	U	U		5	
Vultures	Cathartidae							
Lesser Yellow-headed Vulture	<i>Cathartes burrovianus</i>		X				4	
Greater Yellow-headed Vulture	<i>Cathartes melambrotus</i>	F	U	U	F		1	
Black Vulture	<i>Coragyps atratus</i>		X	X			4	
King Vulture	<i>Sarcoramphus papa</i>	U	S	S	U		6	
Ospreys	Pandionidae							
Osprey	<i>Pandion haliaetus</i>			X	S		5	
Hawks, Eagles	Accipitridae							
Hook-billed Kite	<i>Chondrohierax uncinatus</i>				S			
Swallow-tailed Kite	<i>Elanoides forficatus</i>	F		U			6	
Double-toothed Kite	<i>Harpagus bidentatus</i>	S		S			1,2	
Plumbeous Kite	<i>Idinia plumbea</i>		X				6	
Bicolored Hawk	<i>Accipiter bicolor</i>		X	X		I	1	
White Hawk	<i>Leucopternis albicollis</i>	S		S			1	
Black-faced Hawk	<i>Leucopternis melanops</i>	X	X		S		1	
Great Black-Hawk	<i>Buteogallus urubitinga</i>	S	S	S	U		2,3,5	
Roadside Hawk	<i>Buteo magnirostris</i>		U				3,4	
Short-tailed Hawk	<i>Buteo brachyurus</i>	S			S		6	
White-tailed Hawk	<i>Buteo albicaudatus</i>		S				4	
Harpy Eagle	<i>Harpia harpyja</i>			X	X		6	
Black-and-white Hawk-Eagle	<i>Spizaetus melanoleucus</i>	X					2	
Black Hawk-Eagle	<i>Spizaetus tyrannus</i>				S		2	
Ornate Hawk-Eagle	<i>Spizaetus ornatus</i>	X			S		1	

APPENDIX 1. Continued.

English names	Scientific names	Sipu/Acary <sup>1</sup>	Gunn's Strip <sup>1</sup>	Essequibo River <sup>1</sup>	Kamoa <sup>1</sup>	Unique to Upper Essequibo Region <sup>2</sup>	Habitat <sup>3</sup>	Breeding status <sup>4</sup>
Falcons, Caracaras	Falconidae							
Black Caracara	<i>Daptrius ater</i>	U	U	U			5	
Red-throated Caracara	<i>Ibycter americanus</i>	F	U	U	F		2,1,3	
Yellow-headed Caracara	<i>Milvago chimachima</i>			X			5	
Laughing Falcon	<i>Herpotheres cacinans</i>	U	S	X	S		2,3	
Barred Forest-Falcon	<i>Micrastur ruficollis</i>	S		X	S		2	
Lined Forest-Falcon	<i>Micrastur gilvicolis</i>	U		S	U		1	
Slaty-backed Forest-Falcon	<i>Micrastur mirandollei</i>	X			U		1	
Collared Forest-Falcon	<i>Micrastur semitorquatus</i>	S			X		1	
Bat Falcon	<i>Falco rufigularis</i>	U	U	U	S		4,5	
Trumpeters	Psophiidae							
Gray-winged Trumpeter	<i>Psophia crepitans</i>	F		S	U		1,2	#
Rails	Rallidae							
Gray-breasted Crake	<i>Laterallus exilis</i>		X			M,I	4	
Ash-throated Crake	<i>Porzana albicollis</i>		F			M,I	4	V
Gray-necked Wood-Rail	<i>Aramides cajanea</i>	X	X		X		3	
Azure Gallinule	<i>Porphyrio flavirostris</i>		X			M,I	4	
Sungrebes	Heliornithidae							
Sungrebe	<i>Heliornis fulica</i>	S			F		5	
Sunbitterns	Eurypygidae							
Sunbittern	<i>Eurypyga belias</i>	U		S	U		5	V
Plovers	Charadriidae							
American Golden-Plover	<i>Pluvialis dominica</i>		X			I	4	
Sandpipers	Scolopacidae							
Lesser Yellowlegs	<i>Tringa flavipes</i>		S			I	4	
Solitary Sandpiper	<i>Tringa solitaria</i>	S	F				5,4	
Spotted Sandpiper	<i>Actitis macularius</i>	U	U	U	U		5	
Upland Sandpiper	<i>Bartramia longicauda</i>		X			M,I	4	
White-rumped Sandpiper	<i>Calidris fuscicollis</i>		X				4	

English names	Scientific names	Sipu/Acary <sup>1</sup>	Gunn's Strip <sup>1</sup>	Essequibo River <sup>1</sup>	Kamoa <sup>1</sup>	Unique to Upper Essequibo Region <sup>2</sup>	Habitat <sup>3</sup>	Breeding status <sup>4</sup>
Pectoral Sandpiper	<i>Calidris melanotos</i>		S			I	4	
South American Snipe	<i>Gallinago paraguaiiae</i>		S	S			4	*
Terns	Laridae							
Yellow-billed Tern	<i>Sternula superciliaris</i>	X				M	5	
Pigeons, Doves	Columbidae							
Common Ground-Dove	<i>Columbina passerina</i>		X				4	
Ruddy Ground-Dove	<i>Columbina talpacoti</i>		S				4	
Blue Ground-Dove	<i>Claravis pretiosa</i>		U			M	3	#
Scaled Pigeon	<i>Patagioenas speciosa</i>		F	S		M	3,4	*.#
Pale-vented Pigeon	<i>Patagioenas cayennensis</i>		X			M	3	
Plumbeous Pigeon	<i>Patagioenas plumbea</i>	F	U	S	F		1,2	*.#
Ruddy Pigeon	<i>Patagioenas subvinacea</i>	U	U	S	F		2,1	#
Gray-fronted Dove	<i>Leptotila rufaxilla</i>	U	X	S	U	M	2,1	
Ruddy Quail-Dove	<i>Geotrygon montana</i>	S	X	S	S		1,2	*
Parrots	Psittacidae							
Blue-and-yellow Macaw	<i>Ara ararauna</i>	S	U	S	U		2,5	
Scarlet Macaw	<i>Ara macao</i>	S	X	U	U		1,2,6	
Red-and-green Macaw	<i>Ara chloropterus</i>	F	U		U		2,1	
Chestnut-fronted Macaw	<i>Ara severus</i>				X	M,I	5	
Red-bellied Macaw	<i>Orthopsittaca manilata</i>		C				4,3	#
White-eyed Parakeet	<i>Aratinga leucophthalmus</i>		C	F	C	I	2,3	
Painted Parakeet	<i>Pyrrhura picta</i>	U	U	U	U	M	1,2,3	
Golden-winged Parakeet	<i>Brotogeris chrysopterus</i>	U	S	S	U		1,2,5	
Sapphire-rumped Parrotlet	<i>Touit purpuratus</i>	U			U		1	
Black-headed Parrot	<i>Pionites melanocephalus</i>	F	U	S	S		1,2	
Caica Parrot	<i>Pionopsitta caica</i>	F	U	S	U		1,2	
Blue-headed Parrot	<i>Pionus menstruus</i>	U	U	S	F		2,3,5	
Dusky Parrot	<i>Pionus fuscus</i>	U	S	S	F		2,1	
Blue-cheeked Parrot	<i>Amazona dufresniana</i>	U					2	

APPENDIX 1. Continued.

English names	Scientific names	Sipu/Acary <sup>1</sup>	Gunn's Strip <sup>1</sup>	Essequibo River <sup>1</sup>	Kamoa <sup>1</sup>	Unique to Upper Essequibo Region <sup>2</sup>	Habitat <sup>3</sup>	Breeding status <sup>4</sup>
Orange-winged Parrot	<i>Amazona amazonica</i>	F	C	U	F	M	2,3	
Red-fan Parrot	<i>Derophtyus accipitrinus</i>	F	U	U	U		2,1	
Hoatzins	Opisthocomidae							
Hoatzin	<i>Opisthocomus hoazin</i>	X				I	5	
Cuckoos	Cuculidae							
Little Cuckoo	<i>Coccyua minuta</i>		X			I	3	
Squirrel Cuckoo	<i>Piaya cayana</i>	U	U	U	U		1,2	
Black-bellied Cuckoo	<i>Piaya melanogaster</i>	U		S	S		1,2	
Pavonine Cuckoo	<i>Dromococcyx pavoninus</i>	S			S		1	
Smooth-billed Ani	<i>Crotophaga ani</i>		C				4	
Typical Owls	Strigidae							
Tawny-bellied Screech-Owl	<i>Megascops watsonii</i>	S	F	U	S		2,3	V
Vermiculated Screech-Owl	<i>Megascops guatemalae</i>	S,h				M	1	
Crested Owl	<i>Lophotrix cristata</i>	S	S		S		1,2	
Spectacled Owl	<i>Pulsatrix perspicillata</i>	S	S	S	S		1,2	
Amazonian Pygmy-Owl	<i>Glaucidium hardyi</i>	U			U		2	
Stygian Owl	<i>Asio stygius</i>		S			M,I	4	
Potoos	Nyctibiidae							
Long-tailed Potoo	<i>Nyctibius aethereus</i>	X					1	
Common Potoo	<i>Nyctibius grisens</i>	S	F	U	U		2,3,5	V
White-winged Potoo	<i>Nyctibius leucopterus</i>				S		2	
Rufous Potoo	<i>Nyctibius bracteatus</i>				S		2	
Nighthawks, Nightjars	Caprimulgidae							
Semicollared Nighthawk	<i>Lurocalis semitorquatus</i>	S	S	U	U		3,5,6	
Common Pauraque	<i>Nyctidromus albicollis</i>		F				3,4	
Blackish Nightjar	<i>Caprimulgus nigrescens</i>	U	S	X	U		1,4,5	#
Ladder-tailed Nightjar	<i>Hydropsalis climacocerca</i>	S		F		M	5	
Swifts	Apodidae							
Swift sp.	<i>Cypseloides</i> sp.	U				M,I	6	

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White-collared Swift	<i>Streptoprocne zonaris</i>	U		X	S		6	
Band-rumped Swift	<i>Chaetura spinicandus</i>	F	C	C	C		6	*,#
Gray-rumped Swift	<i>Chaetura cinereiventris</i>	U	U	U			6	
Chapman's Swift	<i>Chaetura chapmani</i>	X		S	F		6	*
Short-tailed Swift	<i>Chaetura brachyura</i>			X			6	
White-tipped Swift	<i>Aeronautes montivagus</i>	C				M,I	6	
Fork-tailed Palm-Swift	<i>Tachornis squamata</i>		C	S			4	*
Lesser Swallow-tailed Swift	<i>Panyptila cayennensis</i>	X		S	S		6	
Hummingbirds	Trochilidae							
Rufous-breasted Hermit	<i>Glaucis hirsutus</i>		X	U	U	M	3	
Pale-tailed Barbthroat	<i>Threnetes leucurus</i>	U	U	U	U	M	2,3,5	
Eastern Long-tailed Hermit	<i>Phaethornis superciliosus</i>	U	U	U	U		2,1	#
Straight-billed Hermit	<i>Phaethornis bourcieri</i>	F	F	F	F		1,2	#
Reddish Hermit	<i>Phaethornis ruber</i>	F	U	U	F		1,2,5	#
Gray-breasted Sabrewing	<i>Campylopterus largipennis</i>	U	S	U	U		1,2	
White-necked Jacobin	<i>Florisuga mellivora</i>	U	U	U	F		1,2,3,5	#
Brown Violetear	<i>Colibri delphinae</i>	F,h				M	1	
Crimson Topaz	<i>Topaza pella</i>	F	U	U	F		5	#
Tufted Coquette	<i>Lophornis ornatus</i>	X				M	5	
Racket-tailed Coquette	<i>Discosura longicauda</i>	X	U				3,1	
Fork-tailed Woodnymph	<i>Thalurania furcata</i>	F	U	F	F		1,2	#
White-chinned Hummingbird	<i>Hylocharis cyanus</i>		X	S	X	M	3	
Rufous-throated Hummingbird	<i>Hylocharis sapphirina</i>		U				3	
Green-tailed Goldenthrout	<i>Polytmus theresiae</i>		F		U		4	
Versicolored Hummingbird	<i>Amazilia versicolor</i>		X			I	3	
Green-bellied Hummingbird	<i>Amazilia viridigaster</i>	X,h				M,I	1	
Black-eared Fairy	<i>Heliothryx aurita</i>	S	U	U			1,2,5	
Amethyst Woodstar	<i>Calliphlox amethystina</i>	U	S	S		M,I	3	
Trogons	Trogonidae				X			

## APPENDIX 1. Continued.

English names	Scientific names	Sipu/Acary <sup>1</sup>	Gunn's Strip <sup>1</sup>	Essequibo River <sup>1</sup>	Kamoa <sup>1</sup>	Unique to Upper Essequibo Region <sup>2</sup>	Habitat <sup>3</sup>	Breeding status <sup>4</sup>
White-tailed Trogon	<i>Trogon viridis</i>	F	U	F	F		1,2	*
Violaceous Trogon	<i>Trogon violaceus</i>	U	U	S	F		1,2	
Collared Trogon	<i>Trogon collaris</i>	U,h				M	1	
Black-throated Trogon	<i>Trogon rufus</i>	S			U		1,2	
Black-tailed Trogon	<i>Trogon melanurus</i>	F	U	F	U		1,2	
Kingfishers	Alcedinidae							
Ringed Kingfisher	<i>Megaceryle torquata</i>	F	F	F	F		5	
Amazon Kingfisher	<i>Chloroceryle amazona</i>	F	U	F	F		5	
Green Kingfisher	<i>Chloroceryle americana</i>	F	U	F	F		5	
Green-and-rufous Kingfisher	<i>Chloroceryle inda</i>	F	U	U	U		5	
Pygmy Kingfisher	<i>Chloroceryle aenea</i>	U	U		U		2,5	
Motmots	Momotidae							
Blue-crowned Motmot	<i>Momotus momota</i>	U	F	F	F		1,2	V
Jacamars	Galbulidae							
Yellow-billed Jacamar	<i>Galbula albirostris</i>	U	F	F			1,2	#
Green-tailed Jacamar	<i>Galbula galbula</i>		X			M	3	
Bronzy Jacamar	<i>Galbula leucogastra</i>	X	U		U		2,3	
Paradise Jacamar	<i>Galbula dea</i>	U	F	F	F		1,2	
Great Jacamar	<i>Jacamerops aureus</i>	S	S	U	S		1,2	
Puffbirds	Bucconidae							
Guianan Puffbird	<i>Notharchus macrorhynchus</i>	X			S		2	
Pied Puffbird	<i>Notharchus tectus</i>	X		U			1,2,5	
Spotted Puffbird	<i>Buco tamatia</i>	S	F	U	U		3,5	V
Collared Puffbird	<i>Buco capensis</i>	U	X	X			2	#
White-chested Puffbird	<i>Malacoptila fusca</i>	S		X		I	1	*
Rusty-breasted Nunlet	<i>Nonnula rubecula</i>	X			S	I	2	
Black Nunbird	<i>Monasa atra</i>	U	U	U	U		1,2	
Swallow-winged Puffbird	<i>Chelidoptera tenebrosa</i>	U	F	F	S		3,4,5	
Barbets	Capitonidae							

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Black-spotted Barbet	<i>Capito niger</i>	U	S	S	U		1,2	
Toucans	Ramphastidae							
Chestnut-tipped Toucanet	<i>Aulacorhynchus derbianus</i>	F,h		S		M	1,2	#
Guianan Toucanet	<i>Selenidera culike</i>	U		S	S		1,2,3	V
Black-necked Aracari	<i>Pteroglossus aracari</i>	U	S	S	S	M	3,5	
Green Aracari	<i>Pteroglossus viridis</i>	X	U	U	S		5,3	
Channel-billed Toucan	<i>Ramphastos vitellinus</i>	U	F	F	F		1,2,5	
White-throated Toucan	<i>Ramphastos tucanus</i>	F	F	F	F		1,2,5	
Woodpeckers	Picidae							
Golden-spangled Piculet	<i>Picumnus exilis</i>	S	U	U			1,2,3	
Yellow-throated Woodpecker	<i>Piculus flavigula</i>	U	U	U	S		1,2	
Golden-green Woodpecker	<i>Piculus chrysochloros</i>		X			I	1	
Golden-olive Woodpecker	<i>Piculus rubiginosus</i>	U,h		X,h		M	2	*
Chestnut Woodpecker	<i>Ceelus elegans</i>	U	U	U	S		2,1,5	
Waved Woodpecker	<i>Ceelus undatus</i>	U	U	U	F		1,2	*
Cream-colored Woodpecker	<i>Ceelus flavus</i>	X	S		S		2	
Ringed Woodpecker	<i>Ceelus torquatus</i>	U	S	S	S		2,5,1	*,#
Lineated Woodpecker	<i>Dryocopus lineatus</i>	X	U	U	X		3,4,5	
Golden-collared Woodpecker	<i>Veniliornis cassini</i>	U	U	U	F		1,2	*
Red-necked Woodpecker	<i>Campephilus rubricollis</i>	U	U	U	U		1,2	
Crimson-crested Woodpecker	<i>Campephilus melanoleucos</i>	S	U	S	X		3,2,1	
Ovenbirds	Furnariidae							
Ruddy Spinetail	<i>Synallaxis rutilans</i>	U	U	U		I	2,1	*,#
Yellow-chinned Spinetail	<i>Certhiaxis cinnamomeus</i>		S			M,I	3	
Point-tailed Palmcreeper	<i>Berlepschia rikeri</i>		U			M	4	
Cinnamon-rumped Foliage-gleaner	<i>Philydor pyrrhodes</i>	U		X	S		2,1	#
Rufous-tailed Foliage-gleaner	<i>Philydor ruficaudatum</i>	U				M	1	
Rufous-rumped Foliage-gleaner	<i>Philydor erythrocerum</i>	F		S			2,1	#
Olive-backed Foliage-gleaner	<i>Automolus infuscatus</i>	F	S	S	U		2,1	#

APPENDIX 1. Continued.

English names	Scientific names	Sipu/Acary <sup>1</sup>	Gunn's Strip <sup>1</sup>	Essequibo River <sup>1</sup>	Kamoa <sup>1</sup>	Unique to Upper Essequibo Region <sup>2</sup>	Habitat <sup>3</sup>	Breeding status <sup>4</sup>
Buff-throated Foliage-gleaner	<i>Automolus ochrolaemus</i>	U	U	U	U		2,1	*
Chestnut-crowned Foliage-gleaner	<i>Automolus rufipileatus</i>	U		U		M	1,3	*,#
Ruddy Foliage-gleaner	<i>Automolus rubiginosus</i>	S		X		I	1	
Plain Xenops	<i>Xenops minutus</i>	F	X	U	U		1,2	*
Rufous-tailed Xenops	<i>Xenops milleri</i>	S			S	I	1,2	#
Short-billed Leaf-tosser	<i>Sclerurus rufigularis</i>	U		U			1,2	*
Black-tailed Leaf-tosser	<i>Sclerurus caudacutus</i>	S		S			1	*,#
Plain-brown Woodcreeper	<i>Dendrocincla fuliginosa</i>	U	X	C	F		1,2,3	*,#
White-chinned Woodcreeper	<i>Dendrocincla merula</i>	U		X	S		2,1	*,#
Spot-throated Woodcreeper	<i>Deconychura stictolaema</i>	X	S	X		I	2	
Wedge-billed Woodcreeper	<i>Glyphorhynchus spirurus</i>	F	F	F	F		1,2	*
Olivaceous Woodcreeper	<i>Sittasomus griseicapillus</i>		U		S		3	
Cinnamon-throated Woodcreeper	<i>Dendrexetastes rufigula</i>	S					2	
Red-billed Woodcreeper	<i>Hylexetastes perrotii</i>	S					1	#
Amazonian Barred-Woodcreeper	<i>Dendrocolaptes certhia</i>	U	U	F	S		1,2	#
Black-banded Woodcreeper	<i>Dendrocolaptes picumnus</i>	U			S		1,2	
Strong-billed Woodcreeper	<i>Xiphocolaptes promeropirhynchus</i>	S			S	M	2	
Striped Woodcreeper	<i>Xipborhynchus obsoletus</i>	U	U	C	F	M	2,5	
Chestnut-rumped Woodcreeper	<i>Xipborhynchus pardalotus</i>	F	F	F	F		1,2	#
Buff-throated Woodcreeper	<i>Xipborhynchus guttatus</i>	S	S	X	U	M	2	
Lineated Woodcreeper	<i>Lepidocolaptes albolineatus</i>	U	U				2,3	*
Curve-billed Scythebill	<i>Campylorhynchus procurvoides</i>	S	S	S	S		2,1	
Typical Antbirds	Thamnophilidae							
Fasciated Antshrike	<i>Cymbilaimus lineatus</i>	U	U	U	F		1,2	V
Black-throated Antshrike	<i>Frederickena viridis</i>	S		X			1	
Great Antshrike	<i>Taraba major</i>		X			M	3	
Black-crested Antshrike	<i>Sakesphorus canadensis</i>				S	M	2	

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Band-tailed Antshrike	<i>Sakesphorus melanothorax</i>	X				M,I	2	
Mouse-colored Antshrike	<i>Thamnophilus murinus</i>	F	U	F	F		2,1	#
Guianan Slaty-Antshrike	<i>Thamnophilus punctatus</i>	S	S	U	U		1,3,5	
Amazonian Antshrike	<i>Thamnophilus amazonicus</i>	U	U	U	F	M	2,3,5	
Spot-winged Antshrike	<i>Pygiptila stellaris</i>	U	X		U	M,I	2	
Plain Antwren	<i>Dysithamnus mentalis</i>	S,h				M,I	1	#
Dusky-throated Antshrike	<i>Thamnomanes ardesiacus</i>	F	U	F	F		1,2	
Cinereous Antshrike	<i>Thamnomanes caesius</i>	F	U	F	F		1,2	#
Pygmy Antwren	<i>Myrmotherula brachyura</i>	F	U	U	F		2,1	
Guianan Streaked-Antwren	<i>Myrmotherula surinamensis</i>	U	S	C	F		5	
Rufous-bellied Antwren	<i>Myrmotherula guttata</i>	U	U	U	U		1,2	#
Brown-bellied Antwren	<i>Myrmotherula gutturalis</i>	F	S	S	U		2,1	#
White-flanked Antwren	<i>Myrmotherula axillaris</i>	F	F	F	F		1,2,3	V,#
Long-winged Antwren	<i>Myrmotherula longipennis</i>	F		U	U		1,2	
Gray Antwren	<i>Myrmotherula menetriesii</i>	U	U	U	U		1,2	
Spot-tailed Antwren	<i>Herpsilochmus sticturus</i>	F	U	U	U	M	1,2	
Todd's Antwren	<i>Herpsilochmus stictocephalus</i>	F	U	U	F	M	1,2	
Rufous-winged Antwren	<i>Herpsilochmus rufimarginatus</i>	F,h				M,I	1	
Dot-winged Antwren	<i>Microrhopias quixensis</i>	U		S	U	M,I	2	
Rufous-rumped Antwren	<i>Terenura callinota</i>	U,h				M,I	1	#
Ash-winged Antwren	<i>Terenura spodioptila</i>	U	U	U	U		1,2	
Gray Antbird	<i>Cercomacra cinerascens</i>	F	U	U	U		2,1	
Dusky Antbird	<i>Cercomacra tyrannina</i>	S	F	F	U		3,5,1	V
Willis's Antbird	<i>Cercomacra laeta</i>		F	S		M,I	3,4	
White-browed Antbird	<i>Myrmoborus leucophrys</i>	S	U	S	X	M	3	
Warbling Antbird	<i>Hypocnemis cantator</i>	F	F	F	F		3,2,1,5	
Black-chinned Antbird	<i>Hypocnemoides melanopogon</i>	F	U	F	F	M	5,2	#

APPENDIX 1. Continued.

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Silvered Antbird	<i>Sclateria naevia</i>		S	S			5	
Spot-backed Antbird	<i>Hylophylax naevius</i>	F	X	U		I	2,1,3	
Scale-backed Antbird	<i>Hylophylax poecilinotus</i>	F	U	F			2,1	*
Black-headed Antbird	<i>Percnostola rufifrons</i>	F	U	U	U	I	2,1	*,#
Spot-winged Antbird	<i>Percnostola leucostigma</i>	F	F	F	X		2,1,3	
Ferruginous-backed Antbird	<i>Myrmeciza ferruginea</i>	F	U	U	U		1,2	#
Black-throated Antbird	<i>Myrmeciza atrotborax</i>	X	F	U			3,2	
Wing-banded Antbird	<i>Myrmornis torquata</i>	S		S	X		1,2	#
White-plumed Antbird	<i>Pitohys albifrons</i>	F	U	U	U		1,2	
Rufous-throated Antbird	<i>Gymnopythys rufigula</i>	F	U	U	U		2,1	*,#
Ground Antbirds	Formicariidae							
Rufous-capped Antthrush	<i>Formicarius colma</i>	U	U	U			2,1	*
Black-faced Antthrush	<i>Formicarius analis</i>	F	U	U			2,1	*
Variegated Antpitta	<i>Grallaria varia</i>			U	S		1	V
Spotted Antpitta	<i>Hylopezus macularius</i>	U		U	S		1	*
Thrush-like Antpitta	<i>Myrmothera campanisona</i>	F	F	F	F		2,1	*
Gnateaters	Conopophagidae							
Chestnut-belted Gnateater	<i>Conopophaga aurita</i>	X				I	2	
Tyrant Flycatchers	Tyrannidae							
Sooty-headed Tyrannulet	<i>Phyllomyias griseiceps</i>	S					1,2	
Yellow-crowned Tyrannulet	<i>Tyrannulus elatus</i>	F	U	U	F		3,2,1	
Gray Elaenia	<i>Myiopagis caniceps</i>	X	X		S		2	
Forest Elaenia	<i>Myiopagis gaimardii</i>	U	U	U	F		2,1	#
Yellow-crowned Elaenia	<i>Myiopagis flavivertex</i>	U	S	U	F	M	1,2	*
Yellow-bellied Elaenia	<i>Elaenia flavogaster</i>		S			M	4	
Lesser Elaenia	<i>Elaenia chiriquensis</i>		S				4	
Plain-crested Elaenia	<i>Elaenia cristata</i>		F			M	4	*
Rufous-crowned Elaenia	<i>Elaenia ruficeps</i>		U			M	4	*
White-lored Tyrannulet	<i>Ornithion inermis</i>	S	U		S		2	

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Southern Beardless-Tyrannulet	<i>Camptostoma obsoletum</i>		U	S			3,4	
Ringed Antpipit	<i>Corythopis torquatus</i>	U	U	U	S		1,2	V,#
Slender-footed Tyrannulet	<i>Zimmerius gracilipes</i>	F	U	U	F		1,2,3	
Olive-green Tyrannulet	<i>Phylloscartes virescens</i>	U		S			1	#
Ochre-bellied Flycatcher	<i>Mionectes oleagineus</i>	U	X	U		M	1,2	
McConnell's Flycatcher	<i>Mionectes macconnelli</i>	U		U	U		1,2	V
Sepia-capped Flycatcher	<i>Leptopogon amaurocephalus</i>	S				M,I	2	
Amazonian Scrub-Flycatcher	<i>Sublegatus obscurior</i>			X		M	3	
Short-tailed Pygmy-Tyrant	<i>Myiornis ecaudatus</i>	F	U		S		2,3,1	
Double-banded Pygmy-Tyrant	<i>Lophotriccus vitiosus</i>	F	U	F	F	I	1,2	V
Helmeted Pygmy-Tyrant	<i>Lophotriccus galeatus</i>	U	U	U	U		2,3	*
Boat-billed Tody-Tyrant	<i>Hemitriccus josephinae</i>	S		S	S	M,I	2,3	
White-eyed Tody-Tyrant	<i>Hemitriccus zosterops</i>	U	X	U	U	I	1,2	#
Common Tody-Flycatcher	<i>Todirostrum cinereum</i>		X			M	3	
Painted Tody-Flycatcher	<i>Todirostrum pictum</i>	U	U	U	S		1,2,3,5	
Olivaceous Flatbill	<i>Rhynchoocyclus olivaceus</i>			X			2	
Yellow-margined Flatbill	<i>Tolmomyias assimilis</i>	F	U	U	U		1,2	*
Gray-crowned Flatbill	<i>Tolmomyias poliocephalus</i>	U	S	U	U		2,1	
Ochre-lored Flatbill	<i>Tolmomyias flaviventris</i>		F			M	3	
White-crested Spadebill	<i>Platyrrinchus platyrhynchos</i>	U		S			2,1	#
Cinnamon-crested Spadebill	<i>Platyrrinchus saturatus</i>	S		U	S		2,1	#
Golden-crowned Spadebill	<i>Platyrrinchus coronatus</i>	U			S		2,1	
Amazonian Royal-Flycatcher	<i>Onychorhynchus coronatus</i>	U	S	S			2,1	#
Whiskered Flycatcher	<i>Myiobius barbatus</i>	U	U	U	X		1,2	
Ruddy-tailed Flycatcher	<i>Terentotriccus erythrurus</i>	F	U	U			1,2,3	
Cinnamon Manakin-Tyrant	<i>Neopipo cinnamomea</i>	S	S	S			2,1	V
Cliff Flycatcher	<i>Hirundinea ferruginea</i>	U				M,I	1	
Euler's Flycatcher	<i>Lathrotriccus euleri</i>	U		S	U	M,I	2	#
Fuscous Flycatcher	<i>Cnemotriccus fuscatus</i>		U		S	M	3,4	*,#

APPENDIX 1. Continued.

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Tropical Pewee	<i>Contopus cinereus</i>	X				M	3	
Blackish Pewee	<i>Contopus nigrescens</i>	F,h				M,I	1	#
Amazonian Black-Tyrant	<i>Knipolegus poecilocercus</i>		X			M	5	
Rufous-tailed Tyrant	<i>Knipolegus poecilurus</i>	U,h				M,I	1	
Drab Water-Tyrant	<i>Ochthornis littoralis</i>	F	F	F		M	5	
Piratic Flycatcher	<i>Legatus leucophaius</i>		C	C	S		3,5	*
Rusty-margined Flycatcher	<i>Myiozetetes cayanensis</i>		F	U			3,4,5	*
Dusky-chested Flycatcher	<i>Myiozetetes luteiventris</i>	U					1,2	
Great Kiskadee	<i>Pitangus sulphuratus</i>				S		2	
Yellow-throated Flycatcher	<i>Conopias parvus</i>	U	U	U	U		2,1,3	#
Boat-billed Flycatcher	<i>Megarynchus pitangua</i>		S			M	3	
Sulphury Flycatcher	<i>Tyrannopsis sulphurea</i>		U				4,5,3	*
White-throated Kingbird	<i>Tyrannus albogularis</i>		X			M,I	4	
Tropical Kingbird	<i>Tyrannus melancholicus</i>	X	F	F	U		3,4,5	*
Fork-tailed Flycatcher	<i>Tyrannus savana</i>		U				4	
Grayish Mourner	<i>Rhytipterna simplex</i>	F	U	S	F		2,1	
Pale-bellied Mourner	<i>Rhytipterna immunda</i>		S			M,I	3	
Dusky-capped Flycatcher	<i>Myiarchus tuberculifer</i>	U			S		1,2	
Swainson's Flycatcher	<i>Myiarchus swainsoni</i>		U			M,I	3,4	*,#
Short-crested Flycatcher	<i>Myiarchus ferrox</i>		F	U			3,4	*,#
Large-headed Flatbill	<i>Ramphotricon megacephalum</i>	S				M,I	2	
Rufous-tailed Flatbill	<i>Ramphotricon ruficauda</i>	U	S		U		2,1	#
Cinnamon Attila	<i>Attila cinnamomeus</i>	U	U	U	F	M	2,3,4,5	*
Bright-rumped Attila	<i>Attila spadiceus</i>	U		S	U		1	#
Sharpbills	Oxyruncidae							
Sharpbill	<i>Oxyruncus cristatus</i>	S,h				M	1	
Cotingas	Cotingidae							
Spangled Cotinga	<i>Cotinga cayana</i>	X	S	S	S		2	

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Pompadour Cotinga	<i>Xipholena punicea</i>	S	S	S	S		2,1	
White Bellbird	<i>Procnias albus</i>	U		X	S	M	1	V
Screaming Piha	<i>Lipaugus vociferans</i>	C	F	F	F		2,1	#
Purple-throated Fruitcrow	<i>Querula purpurata</i>	U	U	U		M	2,1	
Crimson Fruitcrow	<i>Haematoderus militaris</i>	X					1	
Capuchinbird	<i>Perissocephalus tricolor</i>	S		F	S		1,2	
Guianan Red-Cotinga	<i>Phoenicircus carnifex</i>	U	X	S	S		1,2	
Guianan Cock-of-the-Rock	<i>Rupicola rupicola</i>	U		S	U	M	1,2	
Manakins	Pipridae							
Saffron-crested Manakin	<i>Neopelma chrysocephalus</i>		X		U		3	
Tiny Tyrant-Manakin	<i>Tyrannetes virescens</i>	U	F	F	F		2,1	V
Black Manakin	<i>Xenopipo atronitens</i>		C		U	M	3,4	*
White-bearded Manakin	<i>Manacus manacus</i>	S	S	S	S	I	3,5	
White-throated Manakin	<i>Corapipo gutturalis</i>	C		U	F		1	
Golden-headed Manakin	<i>Pipra erythrocephala</i>	U	U	F	F		2,1	*
White-crowned Manakin	<i>Pipra pipra</i>	U	F	F	F		1,2	*
White-fronted Manakin	<i>Lepidothrix serena</i>	C		U		I	1,2	*,#
<i>Incertae Sedis</i>								
Black-tailed Tityra	<i>Tityra cayana</i>	X	S				2,3	
Thrush-like Schiffornis	<i>Schiffornis turdina</i>	U	U	F	U		2,1	#
Wing-barred Piprites	<i>Piprites chloris</i>	U		S	S		2,1	#
Cinereous Mourner	<i>Laniocera hypopyrra</i>			X	S		1	
Glossy-backed Becard	<i>Pachyramphus surinamus</i>	S				I	2	#
White-winged Becard	<i>Pachyramphus polychopterus</i>		S			M	3	#
Black-capped Becard	<i>Pachyramphus marginatus</i>	F	U	U	U		2,1,3	#
Cinereous Becard	<i>Pachyramphus rufus</i>		X			I	3	
Pink-throated Becard	<i>Pachyramphus minor</i>	S					2,1	
Vireos	Vireonidae							
Rufous-browed Peppershrike	<i>Cyclarhis gujanensis</i>	S		U			2	*

APPENDIX 1. Continued.

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Slaty-capped Shrike-Vireo	<i>Vireolanius leucotis</i>	F	U	S	U		1,2	
Red-eyed Vireo	<i>Vireo olivaceus</i>	S	X	X			3	
Lemon-chested Greenlet	<i>Hylophilus thoracicus</i>	F	U	U	F	M	1,2	
Tepui Greenlet	<i>Hylophilus sclateri</i>	F,h			U, h		1	#
Buff-cheeked Greenlet	<i>Hylophilus muscicapinus</i>	F	U	U	F		1,2	
Tawny-crowned Greenlet	<i>Hylophilus ochraceiceps</i>	F	U				2,1	#
Jays	Corvidae							
Cayenne Jay	<i>Cyanocorax cayanus</i>	U	U	U	U	M	2,1,3	
Swallows	Hirundinidae							
White-winged Swallow	<i>Tachycineta albiventer</i>	C	C	C		M	5	#
Brown-chested Martin	<i>Progne tapera</i>	S	F				4,5	
Gray-breasted Martin	<i>Progne chalybea</i>		F				4,5	
White-banded Swallow	<i>Atticora fasciata</i>	C	C	C	U	M	5	#
Black-collared Swallow	<i>Atticora melanoleuca</i>	F	F	F		M	5	
White-thighed Swallow	<i>Neochelidon tibialis</i>	U,h		S,h		I	1	
Bank Swallow	<i>Riparia riparia</i>		X	X			4,5	
Barn Swallow	<i>Hirundo rustica</i>	S	C	C	X		6,5,4	
Wrens	Troglodytidae							
Coraya Wren	<i>Thryothorus coraya</i>	U	U	U	U		2,3,5,1	#
Southern House-Wren	<i>Troglodytes musculus</i>		F				4,3	*
White-breasted Wood-Wren	<i>Henicorbina leucosticta</i>	U	U	U		M	2,1	*
Musician Wren	<i>Cyborhinus arada</i>	U	S	S			2,1	
Wing-banded Wren	<i>Microcerculus bambla</i>	U	U	U			2,1	*
Gnatwrens, Gnatcatchers	Poliptilidae							
Collared Gnatwren	<i>Microbates collaris</i>	U		S		I	1	
Long-billed Gnatwren	<i>Ramphocaenus melanurus</i>	F	F	F	U		2,3,1	
Tropical Gnatcatcher	<i>Poliptila plumbea</i>	U	X			M	1,2	
Guianan Gnatcatcher	<i>Poliptila guianensis</i>		X	X			1,2	
Thrushes	Turdidae							

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Veery	<i>Catharus fuscescens</i>			X		I	1	
Gray-checked Thrush	<i>Catharus minimus</i>			X			1	
Black-billed Thrush	<i>Turdus ignobilis</i>		X			M	3,4	
Cocoa Thrush	<i>Turdus fumigatus</i>	U	X	S	F	M	2,3	*
White-necked Thrush	<i>Turdus albicollis</i>	F	U	U	U		1,2	*
Tanagers	Thraupidae							
Black-faced Tanager	<i>Schistochlamys melanopis</i>		U			M,I	4,3	
Red-billed Pied Tanager	<i>Lamprospiza melanoleuca</i>	S				I	1	
Fulvous Shrike-Tanager	<i>Lanio fulvus</i>	F	U	U			1,2	#
Flame-crested Tanager	<i>Tachyphonus cristatus</i>	U	U	U			1,2	#
Fulvous-crested Tanager	<i>Tachyphonus surinamus</i>	U	U	U	U		1,2	*
White-shouldered Tanager	<i>Tachyphonus luctuosus</i>	U	U			M	2,3,1	#
Red-shouldered Tanager	<i>Tachyphonus phoenicius</i>	U,h	F				4,3,1	*
Silver-beaked Tanager	<i>Ramphocelus carbo</i>	U	F	F	S		4,3,5	*
Blue-gray Tanager	<i>Thraupis episcopus</i>		X				4	
Palm Tanager	<i>Thraupis palmarum</i>	S	C	C			4,3,5	*,#
Blue-backed Tanager	<i>Cyanicterus cyanicterus</i>	U	S		S		1,2	#
Turquoise Tanager	<i>Tangara mexicana</i>	S					2	
Opal-rumped Tanager	<i>Tangara velia</i>	U			S		1	
Paradise Tanager	<i>Tangara chilensis</i>	C	F	S	U	I	1,2	
Spotted Tanager	<i>Tangara punctata</i>	C		S	U		1,2	
Dotted Tanager	<i>Tangara varia</i>	S,h					1	
Bay-headed Tanager	<i>Tangara gyrola</i>	F		S	U		1,2	
Blue Dacnis	<i>Dacnis cayana</i>	U	F	U	S		1,2,3	*,#
Black-faced Dacnis	<i>Dacnis lineata</i>	F	X				1	#
Short-billed Honeycreeper	<i>Cyanerpes nitidus</i>	X	X	X			1	
Purple Honeycreeper	<i>Cyanerpes caeruleus</i>	C	U	U	U		1,2,3	*
Red-legged Honeycreeper	<i>Cyanerpes cyaneus</i>	C	F	U	U		1,2,3	
Green Honeycreeper	<i>Chlorophanes spiza</i>	C	F	U	U		1,2	*

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Yellow-backed Tanager	<i>Hemitraupis flavicollis</i>	U			S		1	
Swallow-Tanager	<i>Tersina viridis</i>	X	U	S	F		5	*
Incertae Sedis								
Hepatic Tanager	<i>Piranga flava</i>	U,h		U,h		M	1	#
Summer Tanager	<i>Piranga rubra</i>	X				I	1	
Bananaquit	<i>Coereba flaveola</i>	F	F	U	F		1,2,3	#
Emberizine Finches								
Emberizidae								
Blue-black Grassquit	<i>Volatinia jacarina</i>		F				3,4	
Yellow-bellied Seedeater	<i>Sporophila nigricollis</i>		U			M,I	3,4	
Chestnut-bellied Seed-Finch	<i>Oryzoborus angolensis</i>		F	S			3,4,5	*,#
White-naped Seedeater	<i>Dolospingus fringilloides</i>		F			M,I	4,3	*,#
Pectoral Sparrow	<i>Arremon taciturnus</i>	U	U	U			2,1,3	#
Red-capped Cardinal	<i>Paroaria gularis</i>		U	U	S	M	5	
Grosbeaks, Saltators								
Cardinalinae								
Buff-throated Saltator	<i>Saltator maximus</i>	S	S	S			3,1	
Slate-colored Grosbeak	<i>Saltator grossus</i>	U	F	F	U		1,2,5	*
Blue-black Grosbeak	<i>Cyanocompsa cyanooides</i>	S	F	F	U		1,2,5	*
Yellow-green Grosbeak	<i>Caryothraustes canadensis</i>	C	U	U	U		1,2,3	
Wood Warblers								
Parulidae								
Tropical Parula	<i>Parula pitiayumi</i>	F,h		U,h		M	1	
Blackpoll Warbler	<i>Dendroica striata</i>			X	S		1	
American Redstart	<i>Setophaga ruticilla</i>	U,h		S		M,I	1	
River Warbler	<i>Phaeothlypis rivularis</i>	U		S	U		5,2	
Incertae Sedis								
Rose-breasted Chat	<i>Granatellus pelzelni</i>	S	X	S	U	M	1,2,3	
Icteridae								
New World Blackbirds	<i>Icterus</i>							
Green Oropendola	<i>Psarocolius viridis</i>	F	U		U		1,2	
Crested Oropendola	<i>Psarocolius decumanus</i>		S	S		M	2,5	
Yellow-rumped Cacique	<i>Cacicus cela</i>	F	C	C	U	M	5,2	*,#

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Red-rumped Cacique	<i>Cacicus haemorrhous</i>	U	U	U	U		2,3,5	*
Epaulet Oriole	<i>Icterus cayanensis</i>	U	U	X			3,4,1,2	*
Moriche Oriole	<i>Icterus chryscephalus</i>	S	S				3,4,1,2	
Giant Cowbird	<i>Molothrus oryzivorus</i>		C	U			3,4,5	*
Red-breasted Blackbird	<i>Sturnella militaris</i>		X			I	4	
Bobolink	<i>Dolichonyx oryzivorus</i>		S			M,I	4	
Cardueline Finches	Fringillidae							
Plumbeous Euphonia	<i>Euphonia plumbea</i>			X			1	
Violaceous Euphonia	<i>Euphonia violacea</i>	U	X	F	X	M	3	
Golden-bellied Euphonia	<i>Euphonia chrysopasta</i>	U	S	S	S		2	
White-vented Euphonia	<i>Euphonia minuta</i>	S					2	
Golden-sided Euphonia	<i>Euphonia cayennensis</i>	F	S	X	U		2,1	*
Blue-naped Chlorophonia	<i>Chlorophonia cyanea</i>	U,h				M	1	

<sup>1</sup>Relative abundance: C = common; more than 20 individuals/day; F = fairly common; 5-20 individuals/day; U = uncommon; present in small numbers (< 5 individuals/day); not encountered daily even in prime habitat; S = scarce; only occasionally encountered in small numbers; X = single record; h = only above 300 m.

<sup>2</sup>Species absent from either Manaus (M) and/or Iwokrama (I).

<sup>3</sup>Habitat: 1 = *terra firme* forest, 2 = seasonally flooded forest, 3 = forest edge, clearings, 4 = savannah (includes grassland and bush islands), 5 = river, river edge, 6 = aerial.

<sup>4</sup>Asterisk indicates breeding during February/March; # indicates breeding during Aug/Sept period; V = species vocalizing more in Feb/March vs Aug/Sept.