

## New locality for White-masked Antbird *Pithys castaneus* and other avian range extensions for dpto. Loreto, Peru

Fabrice Schmitt, Raphaël Sané, Marc Thibault and Gabriel Vásquez

Received 3 May 2015; final revision accepted 1 October 2016

Cotinga 39 (2017): OL 1–9  
published online 2 March 2017

Presentamos los resultados de una expedición realizada en junio del 2013 cerca del distrito de San Lorenzo, depto. Loreto, Perú. El descubrimiento más notable es una nueva localidad para *Pithys castaneus* y una población de *Epinecrophylla* sp., la cual presenta características fenotípicas intermedias entre *E. fjeldsaai* y *E. haematonota*. Pensamos que esa población de *Epinecrophylla* apoya la idea que *E. fjeldsaai* debería considerarse como una subespecie de *E. haematonota*. También documentamos extensiones de rango de distribución para otras cuatro especies: *Cypseloides cryptus*, *Polytmus theresiae*, *Conopias trivirgatus* y *Tachyphonus rufus*. Nuestra lista total de 252 especies incluye varias especies de ocurrencia poco común o raras, tales como *Anurolimnas fasciatus*, *Bucco capensis*, *B. tamatia*, *Neotantes niger*, *Neopipo cinnamomea* y *Phoenicircus nigricollis*. Con estos resultados esperamos promover en las autoridades locales y regionales acciones de conservación en esta área amenazada por deforestación.

Few ornithological expeditions have been undertaken in the Amazon lowlands north of the río Marañón and west of the río Tigre, in Peru. Brooks *et al.*<sup>3</sup> compiled the results of >60 years of exploration in the Pongos area, while Pitman *et al.*<sup>7</sup> reported a Rapid Biological Assessment of the Cordillera de Kampankis, both at the western

boundaries of this general area. Álvarez Alonso<sup>1</sup> made the only bird inventory along the río Morona and we are unaware of any similar survey along the Peruvian stretch of the río Pastaza. Motivated by the recent rediscovery of White-masked Antbird *Pithys castaneus* along the Morona<sup>5</sup>, our team, comprising the authors, R. Barros, F. Díaz &

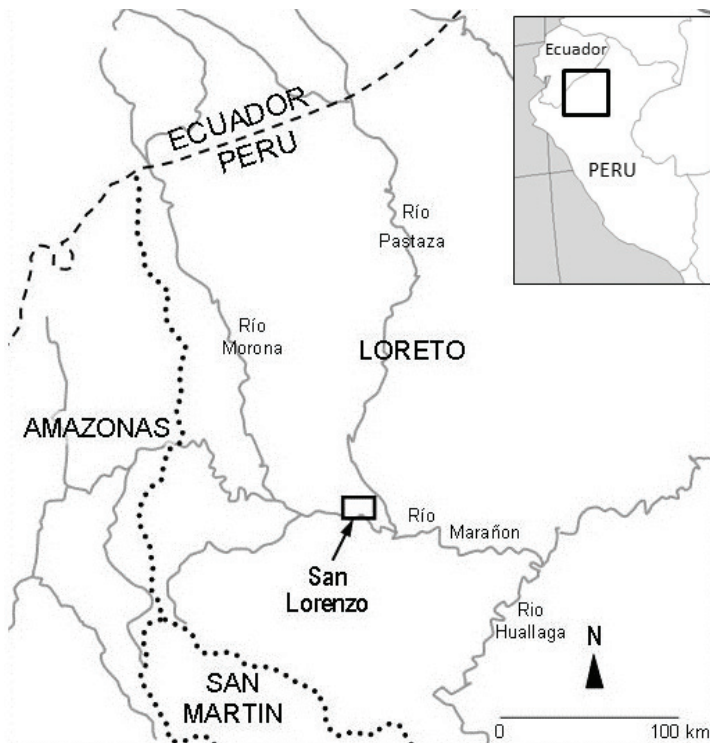


Figure 1. Map of north-west dpto. Loreto, Peru, showing the location of San Lorenzo.

C. Gouraud, organised an expedition along the Pastaza, where the type specimen was collected<sup>2</sup>. Unfortunately, after a few days exploring the lower Pastaza, Candoshi people requested that we leave their territory despite having pre-expedition authorisation from the village elder. Obligated to return towards the río Marañón, we present results from a nine-day avian survey near San Lorenzo, dpto. Loreto, Peru, in June 2013.

### Study sites and Methods

Our field work was conducted on 9–11 and 17–22 June 2013 near San Lorenzo, Loreto. San Lorenzo is the capital of both prov. Datem del Marañón and Barranca district, and has a population of c.7,500<sup>4</sup>. It is located north of the río Marañón and 18 km west of its confluence with the río Pastaza (Fig. 1). San Lorenzo lies on an ‘island’ of *terra firme* completely surrounded by swamps that has perhaps switched back and forth between the right and left banks of the río Marañón. We made observations, photographs and sound-recordings during short transects along logging tracks and forest trails, from dawn to early evening. Moreover, at one site we set ten mist-nests (each 9–12 m in length) at ground level and opened them for a full day (from first light until late evening) and during two mornings. We experienced rainfall, ranging in periods of a few minutes to two hours, almost daily. Precipitation was more frequent during the final three days of the work. We surveyed three main areas as follows.

‘Puente Machete’ is the name given by local people to a forested area along a dirt road leading north / north-east of San Lorenzo (04°46′48″S 76°31′38″W; 155 m). Areas surveyed were 5–10 km from San Lorenzo and included relatively untouched *terra firme* forest as well as logged *terra firme* and second growth, with several newly cleared areas along the dirt road and adjacent tracks. The area is drained by several small black-water streams. Soil is apparently poor, with some sand but is composed mostly of clay. The presence of the palm *Lepidocaryum tenue* is noteworthy, and in many respects the forest around Puente Machete can be categorised as *irapayal* (forest with understory dominated by *Lepidocaryum tenue*, locally known as *Irapay*). Mist-nets were erected in the forest near our camp (04°46′32″S 76°31′20″W). Surveys were conducted on 9, 11 and 17–22 June.

‘Oleoducto’ extends along another dirt road 2 km east of San Lorenzo (from 04°50′16″S 76°31′52″W to a few km further east; 140 m). Forest along this road is mainly secondary, with extensive tracts of selectively logged forest both sides of the road. Open and semi-open areas are patchily distributed along the road, with newly cleared areas, bushy second growth and *chacras* (small slash-and-

burn units), as well as 1.5 m-tall grassland with scattered bushes. Surveys were conducted on 9, 10 and 17 June 2013.

The ‘creek’ area is a small black-water stream 2 km west of San Lorenzo on the left (north) bank of the río Marañón (from 04°49′36″S 76°34′27″W up to 7 km west; 140 m). Some 30 m at its width near the mouth, it narrows to a few metres within a quite short distance upstream. White-sand banks are scattered across calmer parts of the streambed, but were too small to support any vegetation. Except a few *chacras*, the banks were covered on both sides by floodplain forest. Field work was conducted from a canoe (with several stops on the banks) for one day by three of us on 10 June 2013.

We collected 22 specimens and deposited these in the scientific collection of the Museo de Historia Natural de la Universidad Nacional de San Agustín de Arequipa (MUSA). Additionally, we deposited 119 sound-recordings of 95 species at [www.xeno-canto.org](http://www.xeno-canto.org), and most of our sightings are recorded on eBird ([www.ebird.org](http://www.ebird.org)). Taxonomy and nomenclature follow Remsen *et al.*<sup>5</sup>.

### Results

We encountered a total of 252 species near San Lorenzo (Appendix 1). Our main discoveries were a new locality for White-masked Antbird *Pithys castaneus* and a population of antwrens *Epinecrophylla* sp. showing phenotypic characters intermediate between Brown-backed *E. fjeldsaai* and Stipple-throated Antwrens *E. haematonota*. Referring primarily to distribution maps in Schulenberg *et al.*<sup>10</sup>, we also document range extensions for an additional four species.

#### White-chinned Swift *Cypseloides cryptus*

On 22 June, we photographed at least five at Puente Machete (Fig. 2) circling low above the canopy of *terra firme* forest, together with White-collared Swifts *Streptoprocne zonaris*. Observations were made in early morning light. No vocalisations were heard. Identification of *Cypseloides* is not straightforward, but the medium size, short square tail and bulbous head, lack of white on the breast, white mottling on the lower belly (at least on some individuals) and white ventral band eliminates White-chested Swift *C. lemosi*; juvenile *C. lemosi* would have longer wings, longer tail and white scalloping on the breast (S. N. G. Howell pers. comm.). The lack of white supraloral line and white spot behind the eye on all of the birds rules out Spot-fronted Swift *C. cherriei*. All of the photographed individuals were in primary moult (Fig. 2), which agrees with the moult timing of many birds observed in eastern Ecuador (S. N. G. Howell pers. comm.). *C. cryptus* is a rare, probably



Figure 2. White-chinned Swift *Cypseloides cryptus*, San Lorenzo, Loreto, Peru, June 2013 (Fabrice Schmitt)

overlooked, species in Peru, usually found on the east slope of Andes and over a wide variety of habitats, including heavily degraded areas. It breeds behind waterfalls and in gorges, like other *Cypseloides*<sup>9,10</sup>. As with most swifts, they may commute long distances from their breeding / roosting sites to feed, and the birds conceivably came from the relatively close Kampankis range (c.100 km west of our sighting), although the species was not found there during a recent field expedition<sup>7</sup>.

#### Green-tailed Goldenthrout *Polytmus theresiae*

Fairly common along the Oleoducto road, in tall grassland dominated by *Andropogon* (Poaceae), with *Verbena* (Verbenaceae), *Anoda* (Malvaceae) and a few Melastomataceae growing as scattered bushes with some tree re-growth. We discovered a loose lek of at least ten singing individuals (XC187549, XC187553) within c.4 ha. Singing males usually perched 2–4 m above ground in



Figure 3. Green-tailed Goldenthrout *Polytmus theresiae*, San Lorenzo, Loreto, Peru, June 2013 (Christophe Gouraud)

small trees and bushes, just above the level of the surrounding grass (Fig. 3), sometimes aggressively chasing a neighbouring male before returning to the same perch. *P. theresiae* is very patchily distributed in northern Peru. Our record fills a distributional gap between its two previously known locations in Peru, 50 km south-east (Jeberos) and 150 km north (along the río Pastaza) of our study site<sup>10</sup>.

#### Antwren sp. *Epinecrophylla* sp.

We observed *Epinecrophylla* antwrens daily in *terra firme* forest near Puente Machete, and two males and three females were collected (Figs. 4–5; MUSA 4953–4957). Unfortunately, we obtained no sound-recordings, although we briefly heard songs similar to those given by Stipple-throated Antwren *E. haematonota*. Skull ossification of the specimens, as well as presence of a brood patch and active moult, confirm that they were adults. Members of the genus are similar, but we eliminated White-eyed Antwren *E. leucophthalma* by the presence of dark streaks on the females' throats. The other species most closely resembling the San Lorenzo birds is *E. haematonota*, which is widespread to the south and east in Amazonian Peru, and Brown-backed Antwren *E. fjeldsaai*, in Amazonian Ecuador and northern Peru west of the río Napo. Whitney *et al.*<sup>11</sup> recently proposed that *E. haematonota* is paraphyletic with respect to *E. fjeldsaai*, but they had no evidence of presence or absence of reproductive isolation. The back colour of the San Lorenzo birds varied from all brown (one female) to brown on the upper back with some rufous on the lower back (two males and two females), intermediate between *E. haematonota* (rufous back in both sexes) and *E. fjeldsaai* (brown back in both sexes). Our observations of phenotypically intermediate birds suggest historic or ongoing gene flow and lack of reproductive isolation between the two taxa, supporting the idea that *E. fjeldsaai* is a subspecies of *E. haematonota*<sup>11</sup>.

#### White-masked Antbird *Pithys castaneus*

We encountered this rare and poorly known species daily along a 470m-long forest transect near Puente Machete; seven were trapped (Fig. 6) of which two were collected (MUSA 4936–4937). Our records are the first east of the río Morona since the type specimen was collected (its precise provenance is debated, but it was reportedly taken at 'Andoas', somewhere along the río Pastaza). Other localities are Tierra Blanca, near Puerto Alegria on the west bank of the río Morona<sup>5</sup>, the Kampankis range between the río Santiago and the río Morona<sup>5,7</sup>, and Chicais in dpto. Amazonas<sup>6</sup>. San Lorenzo is 95 km south-east of Tierra Blanca, the nearest known location. All of these localities are north of the río Marañón. Although we caught *P. castaneus* daily in mist-nets, we seldom observed





Figures 4–5. Specimens of an *Epinecrophylla antwren* sp., collected at San Lorenzo, Loreto, Peru, June 2013 (Raphaël Sané)



Figure 6. White-masked Antbird *Pithys castaneus*, San Lorenzo, Loreto, Peru, June 2013 (Gabriel Vásquez)

the species in the field, probably because we found very few army ant swarms, which usually provide the best opportunity to observe this ‘professional’ ant-follower. Most observations pertained to birds responding to pre-recorded playback, with some individuals coming to the sound over a distance of probably >100 m. On approaching, a bird would first deliver the usual song (long whistle), then circle us, sometimes perching up to 3 m above ground. All birds that did this were very shy and never stayed more than 1–2 minutes. Occasionally, we heard spontaneous song during the first hour of daylight. All of our sightings were in *irapayal* forest. Typically, after playback of *P. castaneus* song within a large stand of these palms, a bird would respond within c.5 minutes.

### Three-striped Flycatcher *Conopias trivirgatus*

We photographed (Fig. 7) and sound-recorded (XC188227) a pair on 10 June in a mosaic of logged forest, second growth and gardens in the Oleoducto road area. Two (possibly the same) were photographed on 17 June at forest edge along the Oleoducto road, and another pair was seen on 18 June at Puente Machete in forest edge. The species’ distribution in Peru is poorly known<sup>10</sup> and our observations appear to be the first records in country north of the río Marañón. Superficially similar to Social Flycatcher *Myiozetetes similis* (separated by throat colour and vocalisations), *C. trivirgatus* is easily confused with Yellow-throated Flycatcher *C. parvus* (best separated by vocalisations but also by eyebrow shape and forehead coloration) and is perhaps overlooked in Peru.



Figure 7. Three-striped Flycatcher *Conopias trivirgatus*, San Lorenzo, Loreto, Peru, June 2013 (Marc Thibault)



Figure 8. Male White-lined Tanager *Tachyphonus rufus*, San Lorenzo, Loreto, Peru, June 2013 (Christophe Gouraud)

### White-lined Tanager *Tachyphonus rufus*

We saw a pair, of which the male was photographed along the Oleoducto road on 17 June (Fig. 8). The species is patchily distributed in eastern Peru, where it mostly occurs in less humid areas or at sites with sandy soil<sup>10</sup> in inter-Andean valleys. Our record suggests that it is rare or uncommon in the San Lorenzo area, where it has possibly colonised recently opened habitats, and constitutes one of the few records from lowland Amazonian Peru.

### Conclusion

Our list of 252 bird species from the San Lorenzo region is certainly far from exhaustive.

Nevertheless, in addition to the above records, we also found several additional uncommon or rare species, including Black-banded Crane *Anurolimnas fasciatus*, Collared *Bucco capensis* and Spotted Puffbirds *B. tamatia*, Black Bushbird *Neotantes niger*, Cinnamon Manakin-Tyrant *Neopipo cinnamomea* and Black-necked Red Cotinga *Phoenicircus nigricollis*, and further visits will certainly add species to this list. Following our survey, the organisation Nature and Culture International worked together with the Provincial Municipality of Datem del Marañón to create the 53,761.75-ha 'Área de Conservación Ambiental Máscara Blanca' in May 2016, protecting habitat for White-masked Antbird.

### Acknowledgements

Firstly, we wish to thank Todd Mark, a seasoned 'explorer' who kindly oriented us towards the San Lorenzo area! We are also extremely grateful for the assistance of César Sias (director of fishery production in Datem del Marañón) for arranging logistics and providing contacts in San Lorenzo. Mauricio Ugarte-Lewis and, particularly, Daniel Caceres from the Natural History Museum of Arequipa were of enormous help in many aspects of the organisation of our trip. We are very grateful to Dan Lane, Jérôme Moreau, Fernando Angulo Pralongo, Glenn F. Seeholzer and Jacob Socolar for reviewing and improving our paper. Fernando Angulo Pralongo, Steve Howell, Dan Lane, Thomas Schulenberg and Barry Walker generously helped identify some birds found around San Lorenzo. Italo Treviño helped with floral identifications in the habitat of *Polytmus theresiae*. Christophe Gouraud permitted use of his photographs. Our trip would never have been so enjoyable without the participation of our friends, Rodrigo Barros, Fernando Díaz and Christophe Gouraud. The whole team warmly thank Noam Shany (Nature and Culture International) for his work with the Provincial Municipality of Datem del Marañón to create a protected area for White-masked Antbird. Last, but not least, we are extremely grateful to Luis Huaman, our exceptional cook who made our trip so easy!

### References

1. Álvarez Alonso, J. (2001) Informe de la expedición a los bosques de arena blanca de la zona de Jeberos y Río Morona, en el departamento de Loreto, Perú. Unpubl. rep.
2. Berlioz, J. (1938) [Description of a new species, *Pithys castanea* from Ecuador]. *Bull. Brit. Orn. Club* 58: 90–91.
3. Brooks, D.M., O'Neill, J. P., Foster, M. S., Mark, T., Dauphiné N. & Franke J. (2009) Avifauna of the Pongos Basin, Amazonas Department, Peru. *Wilson J. Orn.* 121: 54–74
4. Gobierno Regional de Loreto (2004) Informe técnico 'Creación de la Provincia de Datem del Marañón, Provincia de Alto Amazonas, Región Loreto'. Unpubl.

5. Lane, D. F., Valqui H., T., Alvarez A., J., Armenta, J. & Eckhardt, K. (2006) The rediscovery and natural history of the White-masked Antbird (*Pithys castaneus*). *Wilson J. Orn.* 118: 13–22.
6. van Oosten, H., Beunen, R., van de Meulengraaf, B. & van Noort, T. (2007) White-masked Antbird *Pithys castaneus* and Orange-throated Tanager *Wetmorethraupis sterrhopteron* at a new location in Amazonas, Peru. *Cotinga* 28: 79–81.
7. Pitman, N., Ruelas I., E., Alvira, D., Vriesendorp, C., Moskovits, D. K., del Campo, A., Wachter, T., Stotz, D. F., Noningo S., S., Tuesta C., E. & Smith, R. C. (eds.) (2012) *Perú: Cerros de Kampankis*. Rapid Biological and Social Inventories Rep. 24. Chicago: Field Museum.
8. Remsen, J. V., Areta, J. I., Cadena, C. D., Claramunt, S., Jaramillo, A., Pacheco, J. F., Pérez-Emán, J., Robbins, M. B., Stiles, F. G., Stotz, D. F. & Zimmer, K. J. (2016) A classification of the bird species of South America. [www.museum.lsu.edu/~Remsen/SACCBaseline.html](http://www.museum.lsu.edu/~Remsen/SACCBaseline.html).
9. Roesler, I., Kirwan, G. M., Agostini M., G., Beadle, D., Shirihai, H. & Binford, L. C. (2009) First sight records of White-chested Swift *Cypseloides lemosi* in Bolivia, with documented records of *C. lemosi* and White-chinned Swift *C. cryptus* in Peru. *Bull. Brit. Orn. Club* 129: 222–228.
10. Schulenberg, T. S., Stotz, D. F., Lane, D. F., O'Neill, J. P. & Parker, T. A. (2010) *Birds of Peru*. Revised edn. Princeton, NJ: Princeton University Press.
11. Whitney, B. M., Isler, M. L., Bravo, G. A., Aristizábal, N., Schunck, F., Silveira, L. F. & Piacentini, V. Q. (2013) A new species of *Epinecrophylla* antwren from the Aripuanã-Machado interfluvium in central Amazonian Brazil with revision of the "stipple-throated antwren" complex. In: del Hoyo, J., Elliott, A., Sargatal, J. & Christie, D. A. (eds.) *Handbook of the birds of the world*, spec. vol. Barcelona: Lynx Edicions.

### Fabrice Schmitt

*WINGS Birding Tours Worldwide, 1643 North Alvernon Way, Suite 109, Tucson, Arizona 85712, USA. E-mail: fabrschmitt@yahoo.com.ar.*

### Raphaël Sané

*E-mail: rufluflu@yahoo.fr.*

### Marc Thibault

*Centre de Recherche pour la Conservation des Zones Humides Méditerranéennes, Fondation Tour du Valat, Arles F-13200, France. E-mail: thibault@tourduvalat.org.*

### Gabriel Vásquez

*Colección científica de Ornitología, Museo de Historia Natural de la Universidad Nacional de San Agustín de Arequipa (MUSA), Peru. E-mail: jgabo.vasquez@gmail.com.*



### Appendix I. List of birds seen in the San Lorenzo area (Loreto, Peru)

Mach = Puente Machete, Oleo = Oleoducto area, Creek = Creek area

Evidence: P = species photographed, A = species sound-recorded and recording deposited at [www.xeno-canto.org](http://www.xeno-canto.org), S = specimen deposited in the scientific collection of the Museo de Historia Natural de la Universidad Nacional de San Agustín de Arequipa (MUSA).

Scientific name	English name	Mach	Oleo	Creek	Evidence
<b>TINAMIDAE</b>					
<i>Tinamus guttatus</i>	White-throated Tinamou	x			A
<i>Crypturellus cinereus</i>	Cinereous Tinamou	x	x		A
<i>Crypturellus soui</i>	Little Tinamou	x	x		A
<i>Crypturellus bartletti</i>	Bartlett's Tinamou	x			A
<b>CRACIDAE</b>					
<i>Ortalis guttata</i>	Speckled Chachalaca	x	x		
<b>ODONTOPHORIDAE</b>					
<i>Odontophorus</i> sp.	wood quail sp.			x	
<b>ANHINGIDAE</b>					
<i>Anhinga anhinga</i>	Anhinga		x		
<b>ARDEIDAE</b>					
<i>Tigrisoma lineatum</i>	Rufescent Tiger Heron	x			P
<i>Nycticorax nycticorax</i>	Black-crowned Night Heron	x			
<i>Butorides striata</i>	Striated Heron	x	x	x	P
<b>CATHARTIDAE</b>					
<i>Cathartes aura</i>	Turkey Vulture	x	x	x	
<i>Cathartes melambrotus</i>	Greater Yellow-headed Vulture	x	x		P
<i>Coragyps atratus</i>	Black Vulture	x	x	x	P
<i>Sarcoramphus papa</i>	King Vulture	x			P
<b>ACCIPITRIDAE</b>					
<i>Leptodon cayanensis</i>	Grey-headed Kite			x	
<i>Elanoides forficatus</i>	Swallow-tailed Kite		x		
<i>Harpagus bidentatus</i>	Double-toothed Kite	x	x		P
<i>Accipiter superciliosus</i>	Tiny Hawk	x			P, A
<i>Geranospiza caerulescens</i>	Crane Hawk	x			
<i>Buteogallus schistaceus</i>	Slate-coloured Hawk	x			P
<i>Rupornis magnirostris</i>	Roadside Hawk	x	x	x	P, A
<b>RALLIDAE</b>					
<i>Anuroilmnas fasciatus</i>	Black-banded Crane	x	x		P, A
<i>Laterallus melanophaius</i>	Rufous-sided Crane	x	x		
<b>EURYPYGDIAE</b>					
<i>Eurypyga helias</i>	Sunbittern	x			
<b>LARIDAE</b>					
<i>Sternula supercilialis</i>	Yellow-billed Tern			x	
<b>COLUMBIDAE</b>					
<i>Patagioenas cayennensis</i>	Pale-vented Pigeon	x	x	x	A
<i>Patagioenas subvinacea</i>	Ruddy Pigeon	x	x		P, A
<i>Geotrygon montana</i>	Ruddy Quail-Dove	x			P
<i>Leptotila verreauxi</i>	White-tipped Dove		x		A
<i>Leptotila rufaxilla</i>	Grey-fronted Dove	x			A
<i>Columbina talpacoti</i>	Ruddy Ground Dove	x	x	x	A
<i>Claravis pretiosa</i>	Blue Ground Dove		x		
<b>Scientific name</b>					
<b>English name</b>					
<b>Mach</b>					
<b>Oleo</b>					
<b>Creek</b>					
<b>Evidence</b>					
<b>CUCULIDAE</b>					
<i>Crotaphaga major</i>	Greater Ani				x
<i>Crotaphaga ani</i>	Smooth-billed Ani	x	x	x	P
<i>Coccyua minuta</i>	Little Cuckoo	x	x		P
<i>Piaya cayana</i>	Squirrel Cuckoo	x	x		
<i>Piaya melanogaster</i>	Black-bellied Cuckoo	x	x		P, A
<b>STRIGIDAE</b>					
<i>Megascops choliba</i>	Tropical Screech Owl	x	x		A
<i>Lophotrix cristata</i>	Crested Owl	x			P, A
<i>Glaucidium brasilianum</i>	Ferruginous Pygmy Owl	x	x		
<b>NYCTIBIIDAE</b>					
<i>Nyctibius grandis</i>	Great Potoo	x			
<b>CAPRIMULGIDAE</b>					
<i>Nyctidromus albicollis</i>	Common Pauraque	x	x		P
<b>APODIDAE</b>					
<i>Cypseloides cryptus</i>	White-chinned Swift	x			P
<i>Streptoprocne zonaris</i>	White-collared Swift	x			P
<i>Chaetura egregia</i>	Pale-rumped Swift	x			
<i>Chaetura brachyura</i>	Short-tailed Swift	x	x	x	
<i>Tachornis squamata</i>	Fork-tailed Palm Swift	x	x	x	
<b>TROCHILIDAE</b>					
<i>Florisuga mellivora</i>	White-necked Jacobin	x	x		P
<i>Glaucis hirsutus</i>	Rufous-breasted Hermit	x	x		P
<i>Phaethornis ruber</i>	Reddish Hermit	x			
<i>Phaethornis bourcierii</i>	Straight-billed Hermit	x			
<i>Phaethornis malaris</i>	Great-billed Hermit	x			P
<i>Polytmus theresiae</i>	Green-tailed Goldenthrout		x		P, A
<i>Anthracothonax nigricollis</i>	Black-throated Mango	x	x		P
<i>Helimaster longirostris</i>	Long-billed Starthroat		x		P
<i>Thalurania furcata</i>	Fork-tailed Woodnymph	x			P
<i>Amazilia fimbriata</i>	Glittering-throated Emerald		x	x	P
<b>TROGONIDAE</b>					
<i>Trogon melanurus</i>	Black-tailed Trogon			x	
<i>Trogon viridis</i>	Green-backed Trogon	x	x		P, A
<i>Trogon ramonianus</i>	Amazonian Trogon	x			
<b>ALCEDINIDAE</b>					
<i>Megaceryle torquata</i>	Ringed Kingfisher			x	
<i>Chloroceryle aenea</i>	American Pygmy Kingfisher	x	x		
<b>MOMOTIDAE</b>					
<i>Momotus momota</i>	Amazonian Motmot		x		
<b>GALBULIDAE</b>					
<i>Galbalcyrrhynchus leucotis</i>	White-eared Jacamar			x	
<i>Galbula albirostris</i>	Yellow-billed Jacamar	x			P
<i>Galbula tombacea</i>	White-chinned Jacamar	x	x		P
<i>Galbula dea</i>	Paradise Jacamar	x			P
<i>Jacamerops aureus</i>	Great Jacamar	x			A
<b>BUCCONIDAE</b>					
<i>Notharchus tectus</i>	Pied Puffbird	x			
<i>Bucco macrodactylus</i>	Chestnut-capped Puffbird		x		P
<i>Bucco tamatia</i>	Spotted Puffbird	x			P, A
<i>Bucco capensis</i>	Collared Puffbird	x			
<i>Nonnulla ruficapilla</i>	Rufous-capped Nunlet	x			P, A

Scientific name	English name	Mach	Oleo	Creek	Evidence	Scientific name	English name	Mach	Oleo	Creek	Evidence
<i>Monasa nigrifrons</i>	Black-fronted Nunbird	x	x			<i>Myrmelastes leucostigma</i>	Spot-winged Antbird	x	x		P, A
<b>CAPITONIDAE</b>						<i>Akletos melanoceps</i>	White-shouldered Antbird	x	x	x	P, A
<i>Capito aurovirens</i>	Scarlet-crowned Barbet	x	x	x	P	<i>Pithys castaneus</i>	White-masked Antbird	x			P, A, S
<i>Capito auratus</i>	Gilded Barbet	x	x		P, A	<i>Gymnophithys leucaspis</i>	White-cheeked Antbird	x			
<b>RAMPHASTIDAE</b>						<i>Gymnophithys lunulatus</i>	Lunulated Antbird		x		P
<i>Ramphastos tucanus</i>	White-throated Toucan	x	x			<i>Willisornis poeclinotus</i>	Common Scale-backed Antbird	x			P, S
<i>Ramphastos vitellinus</i>	Channel-billed Toucan	x	x			<b>GRALLARIIDAE</b>					
<i>Selenidera reinwardtii</i>	Golden-collared Toucanet		x			<i>Myrmothera campanisona</i>	Thrush-like Antpitta	x			
<i>Pteroglossus inscriptus</i>	Lettered Aracari		x			<b>FORMICARIIDAE</b>					
<i>Pteroglossus plurinctus</i>	Many-banded Aracari	x	x		P, A	<i>Formicarius colma</i>	Rufous-capped Antthrush		x		
<i>Pteroglossus azara</i>	Ivory-billed Aracari	x	x		P	<b>FURNARIIDAE</b>					
<b>PICIDAE</b>						<i>Sclerurus rufularis</i>	Short-billed Leaf-tosser	x			A
<i>Melanerpes cruentatus</i>	Yellow-tufted Woodpecker	x	x	x	P, A	<i>Deconychura longicauda</i>	Long-tailed Woodcreeper	x			P, A, S
<i>Veniliornis passerinus</i>	Little Woodpecker		x	x	P	<i>Dendrocincla merula</i>	White-chinned Woodcreeper	x			P
<i>Veniliornis affinis</i>	Red-stained Woodpecker	x			P	<i>Dendrocincla fuliginosa</i>	Plain-brown Woodcreeper	x			P
<i>Piculus flavigula</i>	Yellow-throated Woodpecker	x				<i>Glyphorhynchus spirurus</i>	Wedge-billed Woodcreeper	x	x		P, S
<i>Piculus chrysochloros</i>	Golden-green Woodpecker	x			A	<i>Dendrexetastes rufigula</i>	Cinnamon-throated Woodcreeper	x	x		
<i>Colaptes punctigula</i>	Spot-breasted Woodpecker		x	x	P	<i>Nasica longirostris</i>	Long-billed Woodcreeper	x			A
<i>Celeus torquatus</i>	Ringed Woodpecker	x				<i>Dendrocolaptes certhia</i>	Amazonian Barred Woodcreeper	x			P, A
<i>Campyphilus rubricollis</i>	Red-necked Woodpecker	x				<i>Dendrocolaptes picumnus</i>	Black-banded Woodcreeper	x			A
<b>FALCONIDAE</b>						<i>Xiphorhynchus obsoletus</i>	Striped Woodcreeper	x			P
<i>Daptrius ater</i>	Black Caracara	x	x	x	A	<i>Xiphorhynchus elegans</i>	Elegant Woodcreeper	x			P, A, S
<i>Milvago chimachima</i>	Yellow-headed Caracara		x			<i>Xiphorhynchus guttatus</i>	Buff-throated Woodcreeper	x	x	x	A
<i>Falco rufigularis</i>	Bat Falcon		x			<i>Lepidocolaptes duidae</i>	Duida Woodcreeper	x			P, A
<b>PSITTACIDAE</b>						<i>Microxenops milleri</i>	Rufous-tailed Xenops	x			A
<i>Brotogeris versicolurus</i>	Canary-winged Parakeet		x	x	A	<i>Philydor pyrrodes</i>	Cinnamon-rumped Foliage-gleaner	x			A
<i>Brotogeris cyanoptera</i>	Cobalt-winged Parakeet	x	x		P, A	<i>Ancistrops strigilatus</i>	Chestnut-winged Hookbill	x			
<i>Pyrrhura barrabandi</i>	Orange-cheeked Parrot		x			<i>Automolus infuscatus</i>	Olive-backed Foliage-gleaner		x		A
<i>Pionus menstruus</i>	Blue-headed Parrot	x	x	x		<i>Synallaxis gujanensis</i>	Plain-crowned Spinetail	x	x		P, A
<i>Amazona ochrocephala</i>	Yellow-crowned Parrot	x				<i>Synallaxis albigularis</i>	Dark-breasted Spinetail		x		P, A
<i>Amazona amazonica</i>	Orange-winged Parrot	x			P	<i>Synallaxis rutilans</i>	Ruddy Spinetail	x			P
<i>Pionites melanocephalus</i>	Black-headed Parrot	x			P, A	<b>TYRANNIDAE</b>					
<i>Pyrrhura melanura</i>	Maroon-tailed Parakeet	x				<i>Tyrannulus elatus</i>	Yellow-crowned Tyrannulet	x	x		P, A
<i>Orthopsittaca manilatus</i>	Red-bellied Macaw	x	x			<i>Myiopagis gaimardii</i>	Forest Elaenia	x	x		
<i>Ara ararauna</i>	Blue-and-yellow Macaw		x		P	<i>Myiopagis caniceps</i>	Grey Elaenia	x			
<b>THAMNOPHILIDAE</b>						<i>Elaenia spectabilis</i>	Large Elaenia		x		P
<i>Cymbilaimus lineatus</i>	Fasciated Antshrike	x	x		P, A	<i>Ornithion inerne</i>	White-lored Tyrannulet	x			
<i>Taraba major</i>	Great Antshrike			x		<i>Phaeomyias murina</i>	Mouse-coloured Tyrannulet		x		P, A
<i>Thamnophilus murinus</i>	Mouse-coloured Antshrike	x	x		P, A	<i>Corythopsis torquatus</i>	Ringed Antpitta	x			P, A, S
<i>Neotantus niger</i>	Black Bushbird	x			P, A	<i>Mionectes oleagineus</i>	Ochre-bellied Flycatcher	x			P, S
<i>Thamnomanes ardesiacus</i>	Dusky-throated Antshrike	x	x		P, A	<i>Myiornis ecaudatus</i>	Short-tailed Pygmy Tyrant	x			
<i>Isleria huxwelli</i>	Plain-throated Antwren	x	x		P, A	<i>Lophotriccus vitiosus</i>	Double-banded Pygmy Tyrant	x	x	x	A, S
<i>Pygiptila stellaris</i>	Spot-winged Antshrike	x			P, A	<i>Poecilatriccus latirostris</i>	Rusty-fronted Tody-Flycatcher	x	x	x	A
<i>Epinecrophylla sp.</i>	antwren sp.	x			P, S	<i>Todirostrum chrysocrotaphum</i>	Yellow-browed Tody-Flycatcher	x	x		
<i>Myrmotherula brachyura</i>	Pygmy Antwren			x		<i>Talmomyias assimilis</i>	Yellow-margined Flycatcher	x			A
<i>Myrmotherula ignota</i>	Moustached Antwren	x			P, A	<i>Talmomyias poliocephalus</i>	Grey-crowned Flycatcher	x			A
<i>Myrmotherula axillaris</i>	White-flanked Antwren	x	x		P, A, S	<i>Onychorhynchus coronatus</i>	Royal Flycatcher	x			P, A
<i>Myrmotherula menetriesii</i>	Grey Antwren	x			P, S	<i>Terenotriccus erythrus</i>	Ruddy-tailed Flycatcher	x			
<i>Hypocnemis peruviana</i>	Peruvian Warbling Antbird	x	x	x	P, A	<i>Neopipo cinnamomea</i>	Cinnamon Manakin-Tyrant	x			P, S
<i>Cercomacra cinerascens</i>	Grey Antbird		x								
<i>Myrmoborus myotherinus</i>	Black-faced Antbird	x			A						
<i>Sclateria naevia</i>	Silvered Antbird	x	x		A						



Scientific name	English name	Mach	Oleo	Creek	Evidence	Scientific name	English name	Mach	Oleo	Creek	Evidence
<i>Pyrocephalus rubinus</i>	Vermilion Flycatcher		x		P	<i>Pheugopedius coraya</i>	Coraya Wren	x	x		P, A
<i>Legatus leucophaeus</i>	Piratic Flycatcher		x		P	<i>Cantorchilus leucotis</i>	Buff-breasted Wren	x	x		A
<i>Myiozetetes similis</i>	Social Flycatcher	x	x	x	P	<i>Henicorhina leucosticta</i>	White-breasted Wood Wren	x			P
<i>Myiozetetes granadensis</i>	Grey-capped Flycatcher	x	x	x	P	<i>Cyphorhinus arada</i>	Musician Wren	x			P, A
<i>Myiozetetes luteiventris</i>	Dusky-chested Flycatcher	x			P	<b>DONACOBIIDAE</b>					
<i>Pitangus sulphuratus</i>	Great Kiskadee	x	x	x		<i>Donacobius atricapilla</i>	Black-capped Donacobius		x		A
<i>Pitangus lictor</i>	Lesser Kiskadee		x			<b>TURDIDAE</b>					
<i>Conopias trivirgatus</i>	Three-striped Flycatcher	x	x		P, A	<i>Turdus ignobilis</i>	Black-billed Thrush		x	x	P
<i>Myiodinastes maculatus</i>	Streaked Flycatcher	x	x		P	<i>Turdus albicollis</i>	White-necked Thrush	x	x		P, A
<i>Megarynchus pitangua</i>	Boat-billed Flycatcher	x	x	x	P, A	<b>THRAUPIDAE</b>					
<i>Tyrannopsis sulphurea</i>	Sulphury Flycatcher	x			A	<i>Cissopis leverianus</i>	Magpie Tanager	x	x		P
<i>Empidonomus varius</i>	Variiegated Flycatcher			x		<i>Tachyphonus cristatus</i>	Flame-crested Tanager	x			P
<i>Empidonomus aurantioatrocristatus</i>	Crowned Slaty Flycatcher	x			P	<i>Tachyphonus surinamus</i>	Fulvous-crested Tanager	x			P, S
<i>Tyrannus melancholicus</i>	Tropical Kingbird	x	x	x	P	<i>Tachyphonus rufus</i>	White-lined Tanager		x		P
<i>Rhytipterna simplex</i>	Greyish Mourner	x	x		P, A	<i>Ramphocelus nigrogularis</i>	Masked Crimson Tanager			x	
<i>Myiarchus ferox</i>	Short-crested Flycatcher	x	x	x	A	<i>Ramphocelus carbo</i>	Silver-beaked Tanager	x	x	x	A
<i>Ramphotrigon ruficauda</i>	Rufous-tailed Flatbill	x	x	x	A	<i>Thraupis episcopus</i>	Blue-grey Tanager	x	x	x	
<i>Attila cinnamomeus</i>	Cinnamon Attila		x		A	<i>Thraupis palmarum</i>	Palm Tanager	x	x	x	
<i>Attila citriniventris</i>	Citron-bellied Attila	x			A	<i>Tangara nigrocincta</i>	Masked Tanager	x			P
<i>Attila spadiceus</i>	Bright-rumped Attila	x	x		P, A	<i>Tangara chilensis</i>	Paradise Tanager	x	x		P
<b>COTINGIDAE</b>						<i>Tangara velia</i>	Opal-rumped Tanager	x			
<i>Phoenicircus nigricollis</i>	Black-necked Red Cotinga	x			P, A	<i>Tangara callophrys</i>	Opal-crowned Tanager	x			
<i>Querula purpurata</i>	Purple-throated Fruitcrow	x	x			<i>Tangara schrankii</i>	Green-and-gold Tanager	x	x		P
<i>Cotinga cayana</i>	Spangled Cotinga	x				<i>Tersina viridis</i>	Swallow Tanager		x		
<i>Lipaugus vociferans</i>	Screaming Piha	x	x	x	P, A	<i>Dacnis lineata</i>	Black-faced Dacnis		x		
<b>PIPRIDAE</b>						<i>Dacnis cayana</i>	Blue Dacnis	x			P
<i>Tyrannneutes stolzmanni</i>	Dwarf Tyrant-Manakin	x				<i>Cyanerpes nitidus</i>	Short-billed Honeycreeper	x			P
<i>Lepidothrix coronata</i>	Blue-crowned Manakin	x			P, A	<i>Cyanerpes caeruleus</i>	Purple Honeycreeper	x			
<i>Manacus manacus</i>	White-bearded Manakin	x	x		P, A, S	<i>Cyanerpes cyaneus</i>	Red-legged Honeycreeper		x		P
<i>Machaeropterus regulus</i>	Striped Manakin	x	x		P, A	<i>Chlorophanes spiza</i>	Green Honeycreeper	x	x		
<i>Dixiphia pipra</i>	White-crowned Manakin	x	x		P, A, S	<i>Hemithraupis flavicollis</i>	Yellow-backed Tanager	x			
<b>TITYRIDAE</b>						<i>Saltator maximus</i>	Buff-throated Saltator	x	x		P, A
<i>Tityra inquisitor</i>	Black-crowned Tityra		x		P	<i>Saltator coerulescens</i>	Greyish Saltator	x	x		P, A
<i>Tityra cayana</i>	Black-tailed Tityra	x				<i>Volatinia jacarina</i>	Blue-black Grassquit		x		P
<i>Tityra semifasciata</i>	Masked Tityra	x	x			<i>Sporophila castaneiventris</i>	Chestnut-bellied Seedeater		x		
<i>Laniocera hypopyrra</i>	Cinereous Mourner	x		x	P, A	<i>Sporophila angolensis</i>	Chestnut-bellied Seed Finch	x	x		P, A
<i>Iodopleura isabellae</i>	White-browed Purpletuff	x	x		P	<i>Sporophila muralae</i>	Caqueta Seedeater			x	
<i>Pachyrhamphus polychopterus</i>	White-winged Becard	x	x			<b>EMBERIZIDAE</b>					
<b>INCERTAE SEDIS</b>						<i>Ammodramus aurifrons</i>	Yellow-browed Sparrow	x	x		P, A
<i>Piprites chloris</i>	Wing-barred Piprites	x			A	<b>CARDINALIDAE</b>					
<b>VIREONIDAE</b>						<i>Habia rubica</i>	Red-crowned Ant Tanager	x			P
<i>Pachysylvia hypoxantha</i>	Dusky-capped Greenlet	x			A	<b>ICTERIDAE</b>					
<i>Vireo olivaceus</i>	Red-eyed Vireo	x				<i>Psarocolius angustifrons</i>	Russet-backed Oropendola	x	x		P
<b>HIRUNDINIDAE</b>						<i>Psarocolius viridis</i>	Green Oropendola			x	
<i>Stelgidopteryx ruficollis</i>	Southern Rough-winged Swallow			x		<i>Cacicus solitarius</i>	Solitary Black Caciique		x		P, A
<i>Progne chalybea</i>	Grey-breasted Martin	x		x		<i>Cacicus cela</i>	Yellow-rumped Caciique	x	x	x	
<i>Tachycineta albiventer</i>	White-winged Swallow			x		<i>Icterus cayanensis</i>	Epaulet Oriole	x	x		
<b>TROGLODYTIDAE</b>						<i>Lamprospars tanagrinus</i>	Velvet-fronted Grackle			x	P
<i>Microcerculus marginatus</i>	Scaly-breasted Wren	x	x		A	<b>FRINGILLIDAE</b>					
<i>Troglodytes aedon</i>	House Wren		x			<i>Euphonia chrysopasta</i>	Golden-bellied Euphonia		x		
						<i>Euphonia minuta</i>	White-vented Euphonia	x	x		P, A
						<i>Euphonia rufiventris</i>	Rufous-bellied Euphonia	x	x		P, A