

The threatened birds of the río Frío Valley, Sierra Nevada de Santa Marta, Colombia

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La cuenca del río Frío es un área de 37.000 ha ubicado en la vertiente occidental de la Sierra Nevada de Santa Marta, dpto. Magdalena, Colombia. Después de más de 80 años de las investigaciones de Todd & Carriker¹⁶ sobre la avifauna de la Sierra Nevada de Santa Marta, estudios amplios fueron realizados en bosques húmedos premontanos y montanos, y páramo, en elevaciones desde 650 hasta 4.200 m, en la cuenca del río Frío, entre el 2000–2001. Se presenta un listado anotado de las 285 especies de la zona y se colectaron datos de especies endémicas y con rangos restringidos. Se analiza la situación de 13 especies amenazadas. Basado en los resultados se identificaron prioridades de conservación, se diseñó un corredor de conservación y se desarrollo una estrategia de conservación de hábitats y nominado la cuenca del río Frío como Área Importante para la Conservación de Aves en Colombia (AICA).

The Sierra Nevada de Santa Marta is an isolated pyramid-shaped massif on the Caribbean coast of north-east Colombia, close to the border with Venezuela. The twin snow-covered peaks of Pico Simon Bolivar and Pico Cristobal reach 5,775 m just 46 km from the Caribbean coast, representing the world's highest coastal massif. The Sierra Nevada is separated to the south from the Central Andean Cordillera by 330 km of floodplains, and from the Serranía de Perijá to its east and south-east by the low valleys of the ríos Ranchería and César. The massif is among the world's most important continental avian endemism centres, with 18 endemic species and a further 55 endemic subspecies, wholly restricted to this montane area. The Sierra Nevada Endemic Bird Area (EBA 036) has 27 restricted-range species, of which nine occur within additional EBAs. Eight bird species of the eco-region are restricted to EBA 035, Caribbean Colombia and Venezuela¹⁶.

We present data from the first ornithological survey of the río Frío Valley, on the western slope of the massif, collected during field work for a project entitled 'Habitat conservation of migratory and resident bird species in the Sierra Nevada de Santa Marta', conducted in 2000–2001 on the northern and western slopes of the massif. Given the avifaunal importance of the area, we present the status of all bird species recorded in the area, as well as more detailed information for threatened species.

Study area and methods

The 37,000-ha río Frío watershed lies on the west flank of the Santa Marta massif, in the municipality of Ciénaga, dpto. Magdalena (Fig. 1). The river's source is in the páramo, at the lagoons of Chubdula (10°54'N 73°53'W; c.3,900 m), from where the steep-sided V-shaped valley descends to the plain of the Ciénaga Grande. The valley encompasses the following life zones: páramo, above 3,500 m, and

humid montane and pre-montane forest, and tropical humid forest, in the lower valley. Below 500 m very little forest persists, as the land is intensively farmed and used for cattle grazing, whilst the sea-level plain (which naturally held tropical lowland forest) is nearly totally covered by intensive banana plantations. At 500–2,000 m, the valley represents a mosaic of humid pre-montane forest fragments, shade-coffee plantations and pasture. From 2,000 m to the treeline still larger forest fragments exist. Field work was centred on El Congo reserve (10°59'N 74°04'W; c.40 ha), owned by Fundación Pro-Sierra Nevada de Santa Marta, which protects one of the last forest fragments at 650–1,050 m in the middle río Frío Valley.

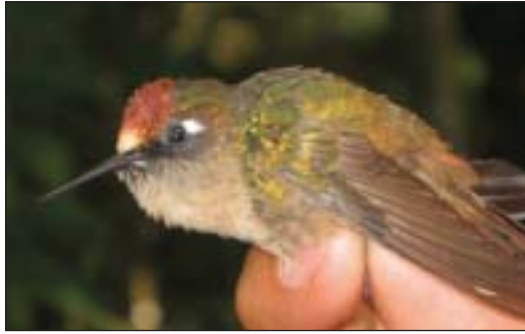
The limits of the Sierra Nevada de Santa Marta National Park are above 2,000 m and the Indian reserve of Kogi-Malayo extends above 2,500 m. Access to the higher parts of the valley, above 2,500 m, were limited during the study period, due to problems with permissions from the indigenous



Figure 1. Map of the río Frío valley, Sierra Nevada de Santa Marta, north-east Colombia.



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community within the reserve boundaries, and the security situation.

Darlington³ conducted 14 months of ornithological work in dry and humid parts of the coastal plain near the small town of Río Frío. In the pre-montane and montane zones, the closest areas that have been surveyed are on the northern slope of the Sierra Nevada, along the San Lorenzo ridge (11°06'N 74°04'W) in the vicinity of Santa Marta city, where ornithological studies have continued since the publication of Todd & Carriker¹⁷. The latter intensively collected in this area in the early 20th century, over a period of several years and at different sites and elevations within the Sierra Nevada.

We visited the río Frío valley on seven occasions, each of 5–10 days (over a total of 48 days), in June 2000–July 2001, and surveyed different habitats at 650–4,200 m. Standardised methodologies and techniques for assessing bird population abundance were utilised, namely mist-netting (15 x 12 m nets), fixed-radius point counts, non-systematic field observations and tape-recordings. Knowledge exchange with local residents concerning the sierra's avifauna produced additional information.

Results

In total, 285 bird species of 42 families were recorded in the middle and upper río Frío Valley (Appendix 1). The checklist for the Sierra Nevada de Santa Marta region includes 672 species (Strewe unpubl.). Characteristic families are Trochilidae (20 species), Thraupidae (27 species) and, especially, Tyrannidae (43 species). We collected information on 18 species with limited ranges

within the Sierra Nevada Endemic Bird Area (EBA 036). Three others are range-restricted species known from EBA 036, but also occur in other EBAs. In total, 55 Santa Marta endemic subspecies were recorded in the study area (Appendix 1).

Threatened species

Accounts are presented for 13 threatened species of the río Frío valley, including 11 species considered globally threatened according to BirdLife International¹ (one Critical, two Endangered, three Vulnerable, five Near Threatened), and two additional species from the Colombian Red Data Book¹¹.

Black-fronted Wood-quail *Odontophorus atrifrons*

Owing to its small and fragmented range and habitat loss, considered Vulnerable^{1,5}. In the Sierra Nevada, Black-fronted Wood-quail is principally known from the San Lorenzo ridge^{4,8,17}. Within the río Frío Valley it was uncommon in pre-montane forest fragments and shade-grown coffee plantations, at 850–2,500 m. At El Congo reserve six groups were noted calling at dusk and dawn.

Blue-billed Curassow *Crax alberti*

We confirmed the presence of a small population of this Critically Endangered Colombian endemic within the río Frío Valley^{1,2}. At El Congo reserve three pairs were found, with observations in primary forest and males heard calling in January–March 2001. Juveniles were observed by local people outside the reserve boundaries, in the lower Congo Valley, at 650 m, in April 2001, indicating that breeding still occurs in the area. A group of five was seen by locals, c.20 km from El Congo reserve, at Piedras Blancas, within the main río Frío Valley, at 750 m, in 1999 (I. Padierna pers. comm.). Within its limited range, the species is declining due to habitat destruction and hunting pressure. A species-focused protection campaign is underway, and hunting is now controlled by local authorities within the valley.

Andean Condor *Vultur gryphus*

Treated as Endangered in the Colombian Red Data Book¹¹. We recorded three at 3,500–4,000 m in April 2001. Local people reported the species lower, at 2,200 m, in a very steep and narrow part of the río Frío Valley, where it may also breed.

Semi-collared Hawk *Accipiter collaris*

This little-known raptor, considered Near Threatened^{1,11}, was recorded in the río Frío Valley, with individuals or pairs hunting at forest borders and over shade-grown coffee plantations, at 1,050–1,600 m. The species is rare and highly sensitive to human disturbance.

Figure 2. Santa Marta Antpitta *Grallaria bangsi* (Ralf Strewe)

Figure 3. Blossomcrown *Anthocephala floriceps* (Ralf Strewe)

Figure 4. Santa Marta Brush-finch *Atlapetes melanocephalus* (Ralf Strewe)

Figure 5. White-lored Warbler *Basileuterus conspicillatus* (Ralf Strewe)

Figure 6. White-tailed Starfrontlet *Coeligena phalerata* (Ralf Strewe)

Figure 7. Santa Marta Warbler *Basileuterus basilicus* (Ralf Strewe)

Figure 8. Rufous-headed Spinetail *Synallaxis fusciorufa* (Ralf Strewe)

Figure 9. Streak-capped Spinetail *Cranioleuca hellmayri* (Ralf Strewe)

Figure 10. Yellow-crowned Whitestart *Myioborus flavivertex* (Ralf Strewe)

Figure 11. Santa Marta Tapaculo *Scytalopus sanctaemartae* (Ralf Strewe)

Black-and-chestnut Eagle *Oraetus isidori*

Considered Endangered in the Colombian Red Data Book¹¹, but not treated as globally threatened¹. From the río Frío Valley there is only one record, of a pair soaring over montane forest, at 2,800 m, in April 2001.

Military Macaw *Ara militaris*

In the middle and upper río Frío Valley this Vulnerable^{1,11} species is only present during the breeding season (December–July). Altitudinal migration has been confirmed for the species on the north slope of the Sierra Nevada (Strewe & Molina unpubl.). Several nests were found in forest fragments at 800–1,600 m. One at El Congo reserve was intensively studied in 2001. The nest was located in an abandoned woodpecker hole, 12 m above ground in a *Ceiba* sp., within open primary forest on a steep slope at 900 m. Two juveniles departed the cavity in May 2001. The breeding population of c.12 pairs, with groups of up to 28 observed in December 2000, but is still threatened in the valley by habitat loss and domestic trade (two cases noted in 2001).

Santa Marta Parakeet *Pyrrhura viridicata*

This highly range-restricted and Endangered species is best known in the Sierra Nevada from a historical site at Taquima, dpto. La Guajira, and from recent records on the San Lorenzo ridge^{1,14}. An additional population was discovered in the río Frío valley, in montane forests at 2,600–3,200 m, in April 2001. On several occasions, two flocks of eight and 12 individuals were observed feeding in the canopy of undisturbed montane forest. Hunting pressure by local residents occurs, as we observed the flight feathers of several individuals in a Kogi Indian settlement (see also Rodríguez-Mahecha & Renjifo¹⁴).

Blossomcrown *Anthocephala floriceps*

This Vulnerable Colombian endemic was uncommon in the valley at 850–1,700 m, especially at El Congo reserve^{1,11}. Individuals were observed feeding low at forest borders, at *Psychotria* flowers (Rubiaceae), and both sexes were caught in primary forest at 1,600 m.

Rusty-headed Spinetail *Synallaxis fusciorufa*

Santa Marta endemic considered globally Near Threatened¹ and Vulnerable in the Colombian Red Data Book¹¹. Recorded in humid shrubby forest borders and montane forest above 2,200 m within the valley. Five were caught in dense undergrowth at 2,600 m. Individuals frequently joined mixed-species foraging flocks as a core species.

Santa Marta Antpitta *Grallaria bangsi*

Inhabits humid montane forest and mature secondary woodland at 1,200–2,400 m and is considered globally Near Threatened¹, and Vulnerable in the Colombian Red Data Book¹¹. A new locality, not mentioned by Kattan & Renjifo⁹, was found in the río Frío valley, where five were heard calling along a 4.5-km trail in April 2001, and one was caught, in March 2001, in a pre-montane forest patch at 1,800–2,400 m.

Santa Marta Bush-tyrant *Myiotheretes pernix*

This Endangered Santa Marta endemic was recently known only from the San Lorenzo ridge^{1,15}. An additional population was found in montane forest at 2,400–3,000 m in the upper río Frío valley. Three were seen over 2.5 km in the naturally open canopy of ridge-top primary forest, in April 2001.

White-lored Warbler *Basileuterus conspicillatus*

Considered globally Near Threatened¹, and Endangered in the Colombian Red Data Book¹⁰. This Santa Marta endemic is quite common (on the basis of mist-netting and point counts) in different habitats, from primary forest, forest borders, older second growth to shade-coffee plantations, at 650–2,200 m in the valley. It tolerates a degree of habitat degradation and is among the most common endemics in the pre-montane zone. At El Congo reserve the species is sympatric with Rufous-capped Warbler *B. rufifrons* and Golden-crowned Warbler *B. culicivorus*, sometimes within the same mixed-species flocks.

Santa Marta Warbler *Basileuterus basilicus*

Considered globally Near Threatened¹, and Vulnerable in the Colombian Red Data Book¹². This Santa Marta endemic is known from four sites on the massif, including the río Frío valley, where it is uncommon (2–4 individuals following mixed-species flocks) in montane forest with dense bamboo (*Chusquea* sp.) stands at 2,300–2,400 m. Birds were caught at 2,600 m in April 2001.

Other noteworthy species**White-tailed Starfrontlet** *Coeligena phalerata*

This Santa Marta endemic is known from six sites on the northern slope, including the San Lorenzo ridge at 1,600–2,400 m^{8,17}. The first records from the río Frío Valley were from montane forest above 2,000 m, where both sexes were caught in primary forest in April 2001.

Santa Marta Woodstar *Chaetocercus astreans*

This little-known endemic is principally known from the San Lorenzo ridge, in the pre-montane zone. We recorded it for the first time on the western slope of the massif, in the río Frío Valley,

where individuals were observed feeding on *Inga* flowers and hunting insects from high exposed perches in shade-coffee plantations at 900–1,600 m.

Santa Marta Wren *Troglodytes monticola*

Santa Marta endemic known only from collections made by Carriker¹⁷. Thus, we made the first record for 90 years in the upper río Frío Valley, at 3,600 m, where a pair was observed and tape-recorded in a small montane forest patch (c.2 ha) amidst heavily burned and overgrazed páramo. Only one other such intact forest patch was found in an area of c.5,000 ha, some 12 km distant, where we unsuccessfully searched for the species. The wren's habitat is extremely isolated, due to burning and overgrazing. Thus, based on our work in the río Frío Valley, *T. monticola* appears to be threatened, due to its very narrow distribution, low population density and habitat destruction. More data are required concerning the habitat condition of other páramo and high montane forests elsewhere on the massif.

Santa Marta Tapaculo *Scytalopus sanctamartae*

A little-known endemic which occurs in the pre-montane zone of the massif. On the western slope, within the río Frío valley, it is uncommon in dense undergrowth of almost undisturbed forest. At El Congo reserve several were caught and four pairs were recorded along a 2-km trail. As Stattersfield *et al.*¹⁶ noted, the species might be threatened by habitat loss, as it occurs at low density in a similar altitudinal range (750–2,000 m) to *Basileuterus conspicillatus*.

Five other Santa Marta endemics were recorded in the study area: Streak-capped Spinetail *Cranioleuca hellmayri* (1,600–3,000 m), Brown-rumped Tapaculo *Scytalopus latebricola* (2,200–3,800 m), Yellow-crowned Whitestart *Myioborus flavivertex* (1,200–2,800 m), Santa Marta Mountain-tanager *Anisognathus melanogenys* (1,500–2,900 m) and Santa Marta Brush-finch *Atlapetes melanocephalus*. The latter occupies a broad altitudinal range, from 900 to 2,800 m, due to the lack of competition from congeners in the Sierra Nevada. All five endemics were found in different habitats, from secondary forest, forest borders to primary forest.

Discussion

Currently, less than 15% of the sierra's forests remain and these are seriously threatened. Historically, settlers arrived in the Sierra Nevada de Santa Marta during the 1950s, as a result of political violence in Colombia's interior. In the río Frío Valley, forests were cleared to grow bananas in the lowlands, to create pastures for cattle and other livestock or to grow shade coffee in the pre-montane

zone. Due to international demand in the late 1970s, marijuana cultivation intensified, resulting in the greatest loss of forest in the río Frío Valley. Furthermore, severe environmental damage resulted when the illegal crops were subsequently sprayed with herbicide by the government⁶. Loss of vegetation cover and inadequate protection systems, especially in the páramo and montane zone, has serious consequences for the region's water catchment, as the río Frío is an important freshwater source for lowland communities, and for the sensitive mangrove ecosystem of the Ciénaga Grande.

Habitat loss within the different vegetation zones of the valley is caused by various factors. Those habitats of the high montane areas are threatened by management of the natural timberline scrub and forest-páramo ecotone through seasonal burning and grazing by farmers and indigenous people. Montane and pre-montane forests are cleared for agriculture (coffee cultivation, cattle ranching), and narcotics cultivation. Ongoing destruction of natural habitats is threatening the resident avifauna, especially the endemics with limited ranges, low population densities and naturally localised distributions resulting from specific habitat preferences.

The Sierra Nevada was declared a Biosphere Reserve by UNESCO, and has been partially protected by the 3,830 km² Sierra Nevada de Santa Marta National Park, which was declared in 1977. Nevertheless, despite such protection, in the upper río Frío valley forest loss continues almost unabated, demonstrating that formal designation is inadequate and has failed to protect ever-dwindling natural habitats. El Congo reserve functions only as a secure nesting site for *Ara militaris*, as a refuge for the tiny *Crax alberti* population, and other threatened and endemic species in the valley, but is too small to conserve viable populations. A conservation project focusing on the coffee zone of the middle río Frío is ongoing and aims to create a conservation corridor connecting natural habitats and shade-grown coffee plantations. Analysis of the vegetation types and actual forest cover in the valley was performed using extensive information held by, and the GIS capabilities of, Fundación Pro-Sierra Nevada de Santa Marta, and has enabled the remaining forest islands to be plotted and their degree of isolation to be assessed. These data will be used to develop a habitat management strategy for the valley, addressing identified threats to migrant and resident birds, and to implement a network of private reserves. Other project objectives are to commercially produce bird-friendly coffee, and to establish an educational programme involving local communities in nature conservation and sustainable agronomy. The río Frío Valley has been designated an Important Bird

Area (IBA), under a joint BirdLife International and Alexander von Humboldt Institute (Bogotá) programme.

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References

- BirdLife International (2000) *Threatened birds of the world*. Cambridge, UK: BirdLife International & Barcelona: Lynx Edicions.
- Cuervo, A. M. (2002) *Crax alberti*. In: Renjifo, L. M., Franco-Maya, A. M., Amaya-Espinel, J. D., Kattan, G. H. & López-Lanús, B. (eds.) *Libro rojo de aves de Colombia*. Bogotá: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt & Ministerio del Medio Ambiente.
- Darlington, P. J. (1931) Notes on the birds of Río Frío (near Santa Marta), Magdalena, Colombia. *Bull. Mus. Comp. Zool.*, Harvard 71: 347–421.
- Fjeldsá, J. & Krabbe, N. (1990) *Birds of the high Andes*. Copenhagen: Zool. Mus., Univ. Copenhagen & Svendborg: Apollo Books.
- Franco-Amaya, A. M. & Amaya-Espinel, J. D. (2002) *Odontophorus atrifrons*. In: Renjifo, L. M., Franco-Maya, A. M., Amaya-Espinel, J. D., Kattan, G. H. & López-Lanús, B. (eds.) *Libro rojo de aves de Colombia*. Bogotá: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt & Ministerio del Medio Ambiente.
- Fundación Pro-Sierra Nevada de Santa Marta (2000) *Evaluación ecológica rápida: definición de áreas críticas para la conservación en la Sierra Nevada de Santa Marta—Colombia*. Santa Marta: Fundación Pro-Sierra Nevada de Santa Marta, Ministerio del Medio Ambiente—UAESPNN & Nature Conservancy.
- Hilty, S. L. (2003) *Birds of Venezuela*. Princeton, NJ: Princeton University Press.
- Hilty, S. L. & Brown, W. L. (1986) *A guide to the birds of Colombia*. Princeton, NJ: Princeton University Press.
- Kattan, G. H. & Renjifo L. M. (2002) *Grallaria bangsi*. In: Renjifo, L. M., Franco-Maya, A. M., Amaya-Espinel, J. D., Kattan, G. H. & López-Lanús, B. (eds.) *Libro rojo de aves de Colombia*. Bogotá: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt & Ministerio del Medio Ambiente.
- López-Lanús, B. & Renjifo, L. M. (2002) *Basileuterus conspicillatus*. In: Renjifo, L. M., Franco-Maya, A. M., Amaya-Espinel, J. D., Kattan, G. H. & López-Lanús, B. (eds.) *Libro rojo de aves de Colombia*. Bogotá: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt & Ministerio del Medio Ambiente.
- Renjifo, L. M., Franco-Maya, A. M., Amaya-Espinel, J. D., Kattan, G. H. & López-Lanús, B. (eds.) *Libro rojo de aves de Colombia*. Bogotá: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt & Ministerio del Medio Ambiente.
- Renjifo, L. M. & Salaman P. G. W. (2002) *Basileuterus basilicus*. In: Renjifo, L. M., Franco-Maya, A. M., Amaya-Espinel, J. D., Kattan, G. H. & López-Lanús, B. (eds.) *Libro rojo de aves de Colombia*. Bogotá: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt & Ministerio del Medio Ambiente.
- Rodríguez-Mahecha, J. V. & Hernández-Camacho, J. I. (2002) *Loros de Colombia*. Bogotá: Conservation International.
- Rodríguez-Mahecha, J. V. & Renjifo, L. M. (2002) *Pyrrhura viridicata*. In: Renjifo, L. M., Franco-Maya, A. M., Amaya-Espinel, J. D., Kattan, G. H. & López-Lanús, B. (eds.) *Libro rojo de aves de Colombia*. Bogotá: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt & Ministerio del Medio Ambiente.
- Salaman, P. G. W., Amaya-Espinel, J. D. & Renjifo, L. M. (2002) *Myiotheretes pernix*. In: Renjifo, L. M., Franco-Maya, A. M., Amaya-Espinel, J. D., Kattan, G. H. & López-Lanús, B. (eds.) *Libro rojo de aves de Colombia*. Bogotá: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt & Ministerio del Medio Ambiente.
- Stattersfield, A. J., Crosby, M. J., Long, A. J. & Wege, D. C. (1998) *Endemic Bird Areas of the world: priorities for biodiversity conservation*. Cambridge, UK: BirdLife International (Conservation Series 7).
- Todd, W. E. & Carriker, M. A. (1922) The birds of the Santa Marta region of Colombia: a study in altitudinal distribution. *Ann. Carnegie Mus.* 14.

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Appendix 1. List of the birds of the río Frío Valley, dpto. Magdalena, Colombia. Taxonomy and order follows Hilty and Brown⁸ (subspecies) and Hilty⁷. Codes in parentheses: Nm = Nearctic migrant, +Nm = resident and Nearctic migrant populations, with EBAs (Endemic Bird Areas)¹⁶ as follows: Coastal Central Mountains of Venezuela 032; Andes Mérida 033; Caribbean Colombia and Venezuela 035; Santa Marta Mountains 036; Nechi lowlands 037; Colombian Oriental Andes 038; Inter-Andean Colombian valleys 040. Endemic subspecies are included.

General abundance status:

c common; detected on >90% of days
 f fairly common; detected on 50–90% of days
 u uncommon; detected on 10–50% of days
 r rare; detected on <10% of days

Evidence: s = sight record; t = tape-recorded; m = mist-netted;
 p = photographed.

Scientific name / English name	Status	Evidence
<i>Crypturellus soui</i> Little Tinamou	u	s, t
<i>Ardea alba</i> Great Egret	r	s
<i>Bubulcus ibis</i> Cattle Egret	u	s
<i>Butorides striatus</i> Striated Heron	r	s
<i>Tigrisoma fasciatum</i> Fasciated Tiger-heron	r	s
<i>Cathartes aura</i> (+Nm) Turkey Vulture	c	s
<i>Coragyps atratus</i> Black Vulture	c	s
<i>Sarcoramphus papa</i> King Vulture	f	s
<i>Vultur gryphus</i> Andean Condor	u	s, p
<i>Chondrohierax uncinatus</i> Hook-billed Kite	r	s
<i>Harpagus bidentatus</i> Double-toothed Kite	u	s
<i>Accipiter collaris</i> Semi-collared Hawk	u	s, t
<i>Accipiter bicolor</i> Bicoloured Hawk	r	s
<i>Accipiter superciliosus</i> Tiny Hawk	r	s
<i>Accipiter striatus</i> Sharp-shinned Hawk	u	s
<i>Buteo nitidus</i> Grey-lined Hawk	f	s, t
<i>Buteo magnirostris</i> Roadside Hawk	c	s, t
<i>Buteo leucorrhous</i> White-rumped Hawk	u	s, t
<i>Buteo platypterus</i> (Nm) Broad-winged Hawk	f	s, p
<i>Buteo brachyurus</i> Short-tailed Hawk	f	s
<i>Buteo albonotatus</i> Zone-tailed Hawk	u	s
<i>Buteo jamaicensis</i> (Nm) Red-tailed Hawk	r	s
<i>Oraetus isidori</i> Black-and-chestnut Eagle	r	s, p
<i>Herpetotheres cachinnans</i> Laughing Falcon	f	s, t
<i>Micrastur ruficollis zonothorax</i> Barred Forest-falcon	u	s, t, m, p
<i>Micrastur semitorquatus</i> Collared Forest-falcon	u	s, t, m, p
<i>Falco sparverius</i> American Kestrel	f	s
<i>Falco columbarius</i> (Nm) Merlin	r	s
<i>Falco ruficularis</i> Bat Falcon	u	s, p
<i>Falco peregrinus</i> (Nm) Peregrine Falcon	r	s
<i>Penelope argyrotis colombiana</i> Band-tailed Guan	c	s, t
<i>Chamaepetes goudotii sanctamarthae</i> Sickle-winged Guan	f	s, t
<i>Crax alberti</i> (EBA 36, 37) Blue-billed Curassow	u	s, t
<i>Colinus cristatus littoralis</i> Crested Bobwhite	u	s, t
<i>Odontophorus atrifrons atrifrons</i> (EBA 36, 38) Black-fronted Wood-quail	c	s, t
<i>Tringa solitaria</i> (Nm) Solitary Sandpiper	r	s
<i>Actitis macularia</i> (Nm) Spotted Sandpiper	u	s
<i>Columba fasciata</i> Band-tailed Pigeon	f	s, t
<i>Columba speciosa</i> Scaled Pigeon	f	s, t
<i>Columba cayennensis</i> Pale-vented Pigeon	u	s, t
<i>Columbina passerina</i> Common Ground-dove	r	s, m, p
<i>Columbina talpacoti</i> Ruddy Ground-dove	u	s
<i>Claravis pretiosa</i> Blue Ground-dove	u	s, t, m, p
<i>Leptotila verreauxi</i> White-tipped Dove	c	s, t, m, p
<i>Geotrygon montana</i> Ruddy Quail-dove	u	s, t, m, p
<i>Geotrygon linearis infusca</i> Lined Quail-dove	f	s, t, m, p
<i>Ara militaris</i> Military Macaw	f	s, t, p
<i>Aratinga wagleri</i> Scarlet-fronted Parakeet	c	s, t, p
<i>Brotogeris jugularis</i> Orange-chinned Parakeet	c	s, t, m, p
<i>Bolborhynchus lineola</i> Barred Parakeet	u	s, t
<i>Touit batavicus</i> Lilac-tailed Parrotlet	u	s, t
<i>Amazona mercenaria</i> Scaly-naped Parrot	f	s, t
<i>Pionus menstruus</i> Blue-headed Parrot	c	s, t, p
<i>Pionus sordidus saturatus</i> Red-billed Parrot	c	s, t, p
<i>Pyrrhura viridicata</i> (EBA 36) Santa Marta Parakeet	u	s, t, p
<i>Playa cayana</i> Squirrel Cuckoo	c	s, t, m, p
<i>Crotophaga ani</i> Smooth-billed Ani	c	s, t, m, p
<i>Tapera naevia</i> Striped Cuckoo	f	s, t
<i>Otus choliba</i> Tropical Screech-owl	u	s, t
<i>Glaucidium brasilianum</i> Ferruginous Pygmy-owl	f	s, t
<i>Pulsatrix perspicillata</i> Spectacled Owl	u	s, t, p
<i>Strix virgata</i> Mottled Owl	c	s, t
<i>Lurocallis semitorquatus</i> Semi-collared Nighthawk	u	s, t
<i>Caprimulgus longirostris</i> Band-winged Nightjar	f	s, t
<i>Chordeiles acutipennis</i> Lesser Nighthawk	r	s, t, m, p
<i>Nyctidromus albicollis</i> Pauraque	f	s, t, m, p
<i>Streptoprocne zonaris</i> White-collared Swift	c	s, t, p
<i>Streptoprocne rutila</i> Chestnut-collared Swift	f	s, t
<i>Chaetura pelagica</i> (Nm) Chimney Swift	r	s
<i>Chaetura cinereiventris</i> Grey-rumped Swift	r	s, m, p
<i>Chaetura spinicauda</i> Band-rumped Swift	u	s
<i>Aeronautes montivagus</i> White-tipped Swift	u	s
<i>Panyptila cayennensis</i> Lesser Swallow-tailed Swift	u	s, t, p
<i>Phaethornis longirostris sussurus</i> Western Long-tailed Hermit	f	s, t, m, p
<i>Phaethornis augusti curiosus</i> Sooty-capped Hermit	u	s, m, p
<i>Phaethornis strigularis</i> Stripe-throated Hermit	u	s, t, m, p
<i>Florisuga mellivora</i> White-necked Jacobin	f	s, m, p
<i>Colibri delphinae</i> Brown Violetear	f	s, t, m, p
<i>Colibri thalassinus</i> Green Violetear	c	s, t, m, p
<i>Colibri coruscans</i> Sparkling Violetear	c	s, t, m, p
<i>Chlorostilbon gibsoni</i> Red-billed Emerald	f	s, t, m, p
<i>Chlorostilbon russatus</i> (EBA 36, 38) Coppery Emerald	u	s, m, p
<i>Thalurea colombica</i> Purple-crowned Woodnymph	c	s, m, p
<i>Lepidopygia goudotii</i> Shining-green Hummingbird	u	s
<i>Amazilia saucerrottei</i> Steely-vented Hummingbird	u	s, m, p
<i>Amazilia tzacatl</i> Rufous-tailed Hummingbird	c	s, t, m, p
<i>Chalybura buffonii aeneicauda</i> White-vented Plumeteer	c	s, t, m, p
<i>Anthocephala floriceps floriceps</i> (EBA 36, 40) Blossomcrown	u	s, t, m, p
<i>Lafresnaya lafresnayi liriopie</i> Mountain Velvetbreast	f	s, m, p
<i>Coeligena phalerata</i> (EBA 36) White-tailed Starfrontlet	u	s, m, p
<i>Metallura tyrianthina districta</i> Tyrian Metaltail	f	s, t, m, p
<i>Heliomaster longirostris</i> Long-billed Starthroat	u	s, m, p
<i>Chaetocercus astreans</i> (EBA 36) Santa Marta Woodstar	u	s, t, p
<i>Pharomachrus fulgidus festatus</i> (EBA 32, 33, 36) White-tipped Quetzal	f	s, t, p
<i>Trogon personatus sanctamartae</i> Masked Trogon	f	s, t
<i>Trogon caligatus</i> Northern Violaceous Trogon	c	s, t, p
<i>Megaceryle torquata</i> Ringed Kingfisher	r	s, t, m, p
<i>Chloroceryle americana</i> Green Kingfisher	f	s, m, p
<i>Momotus momota</i> Blue-crowned Motmot	f	s, t, m, p
<i>Galbula ruficauda</i> Rufous-tailed Jacamar	f	s, t, m, p
<i>Malacoptila mystacalis</i> Moustached Puffbird	u	s, m, p
<i>Aulacorhynchus calorhynchus</i> (EBA 32, 33, 36) Yellow-billed Toucanet	f	s, t
<i>Aulacorhynchus prasinus lautus</i> Emerald Toucanet	f	s, t

<i>Pteroglossus torquatus</i> Collared Aracari	f s, t, m, p	<i>Elaenia flavogaster</i> Yellow-bellied Elaenia	c s, t, m, p
<i>Ramphastos sulfuratus</i> Keel-billed Toucan	c s, t, m, p	<i>Elaenia chiriquensis</i> Lesser Elaenia	f s, t
<i>Picumnus squamulatus</i> Scaled Piculet	f s, t, m, p	<i>Elaenia frantzii browni</i> Mountain Elaenia	f s, t, m, p
<i>Piculus rubiginosus alleni</i> Golden-olive Woodpecker	c s, t, m, p	<i>Mionectes olivaceus galbinus</i> Olive-striped Flycatcher	c s, t, m, p
<i>Dryocopus lineatus</i> Lineated Woodpecker	f s, t, m, p	<i>Mionectes oleaginus</i> Ochre-bellied Flycatcher	c s, t, m, p
<i>Melanerpes rubricapillus</i> Red-crowned Woodpecker	c s, t, m, p	<i>Mecocerculus leucophrys montensis</i> White-throated Tyrannulet	f s, t, m, p
<i>Veniliornis fumigatus</i> Smoky-brown Woodpecker	u s	<i>Leptopogon amaurocephalus</i> Sepia-capped Flycatcher	c s, t, m, p
<i>Campephilus melanoleucos</i> Crimson-crested Woodpecker	f s, t, m, p	<i>Atalotriccus pilaris</i> Pale-eyed Pygmy-tyrant	f s, t, m, p
<i>Campylorhamphus trochilirostris</i> Red-billed Scythebill	u s	<i>Hemitriccus granadensis lehmanni</i> Black-throated Tody-tyrant	u s, t, m, p
<i>Dendrocincla fuliginosa</i> Plain-brown Woodcreeper	f s, t, m, p	<i>Todirostrum cinereum</i> Common Tody-flycatcher	u s, t, m, p
<i>Xiphorhynchus susurrans</i> Cocoa Woodcreeper	c s, t, m, p	<i>Rhynchocyclus olivaceus</i> Olivaceous Flatbill	u s, t, m, p
<i>Lepidocolaptes lacrymiger sanctaemartae</i> Spot-crowned Woodcreeper	u s, t, m, p	<i>Tolmomyias sulphureus</i> Yellow-olive Flycatcher	r s, t, m, p
<i>Xiphocolaptes promeropirhynchus</i> Strong-billed Woodcreeper	u s, t	<i>Platyrinchus mystaceus</i> White-throated Spadebill	r s, m, p
<i>Asthenes wyatti sanctaemartae</i> Streak-backed Canastero	u s, t	<i>Myiophobus fasciatus</i> Bran-coloured Flycatcher	u s, m, p
<i>Synallaxis albescens nesiotis</i> Pale-breasted Spinetail	c s, t, m, p	<i>Pyrrhomyias cinnamomea assimilis</i> Cinnamon Flycatcher	c s, t, p
<i>Synallaxis fuscorufa</i> (EBA 36) Rusty-headed Spinetail	f s, t, m, p	<i>Contopus cooperi</i> (Nm) Olive-sided Flycatcher	u s, p
<i>Cranioleuca hellmayri</i> (EBA 36) Streak-capped Spinetail	f s, t, m, p	<i>Contopus virens</i> (Nm) Eastern Wood-pewee	u s, m, p
<i>Premnoplex brunnescens coloratus</i> Spotted Barbtail	u s, t	<i>Contopus cinereus</i> Tropical Pewee	r s, t
<i>Anabacerthia striaticollis anxia</i> Montane Foliage-gleaner	c s, t, m, p	<i>Empidonax virescens</i> (Nm) Acadian Flycatcher	u s, t, m, p
<i>Automolus rubiginosus rufipectus</i> Ruddy Foliage-gleaner	f s, t, m, p	<i>Empidonax traillii</i> (Nm) Willow Flycatcher	r s, m, p
<i>Xenops rutilans phelpsi</i> Streaked Xenops	u s, t, m, p	<i>Empidonax alnorum</i> (Nm) Alder Flycatcher	f s, t, m, p
<i>Xenops minutus</i> Plain Xenops	f s, t, m, p	<i>Sayornis nigricans</i> Black Phoebe	f s
<i>Sclerurus albigularis propinquus</i> Grey-throated Leafscraper	u s, t, m, p	<i>Attila spadiceus</i> Bright-rumped Attila	f s, t, m, p
<i>Dryophila caudata</i> Long-tailed Antbird	c s, t, m, p	<i>Myiarchus tuberculifer</i> Dusky-capped Flycatcher	c s, t, m, p
<i>Thamnophilus punctatus</i> Western Slaty-antshrike	f s, t, m, p	<i>Pitangus sulphuratus</i> Great Kiskadee	c s, t, m, p
<i>Myrmotherula schisticolor sanctaemartae</i> Slaty Antwren	u s, m, p	<i>Megarhynchus pitangua</i> Boat-billed Flycatcher	u s, t, m, p
<i>Grallaria bangsi</i> (EBA 36) Santa Marta Antpitta	u s, t, m, p	<i>Myiozetetes cayanensis</i> Rusty-margined Flycatcher	f s, t
<i>Grallaria guatemalensis</i> Scaled Antpitta	u s, t	<i>Myiozetetes similis</i> Social Flycatcher	c s, t, m, p
<i>Grallaria rufula spatiator</i> Rufous Antpitta	u s, t	<i>Myiodynastes maculatus</i> Streaked Flycatcher	c s, t, m, p
<i>Grallaricula ferruginepectus ferruginepectus</i> Rusty-breasted Antpitta	f s, t, m, p	<i>Myiodynastes chrysocephalus cinerascens</i> Golden-crowned Flycatcher	c s, t
<i>Scytalopus sanctaemartae</i> (EBA 36) Santa Marta Tapaculo	f s, t, m, p	<i>Myiotheretes pernix</i> (EBA 36) Santa Marta Flycatcher	u s, t, p
<i>Scytalopus latebricola</i> (EBA 036) Brown-rumped Tapaculo	f s, t	<i>Ochthoeca rufipectoralis</i> Rufous-breasted Chat-tyrant	f s, t
<i>Manacus manacus</i> White-bearded Manakin	f s, t, m, p	<i>Ochthoeca diadema jesupi</i> Yellow-bellied Chat-tyrant	u s, t
<i>Pipra erythrocephala</i> Golden-headed Manakin	u s, t, m, p	<i>Legatus leucophaeus</i> Piratic Flycatcher	r s
<i>Schiffornis turdinus</i> Thrush-like Schiffornis	f s, t, m, p	<i>Tyrannus tyrannus</i> (Nm) Eastern Kingbird	r s
<i>Ampelion rubrocristatus</i> Red-crested Cotinga	f s, t	<i>Tyrannus melancholicus</i> Tropical Kingbird	c s, t, m, p
<i>Pipreola aureopecta decora</i> Golden-breasted Fruiteater	f s, t, m, p	<i>Progne subis</i> (Nm) Purple Martin	u s
<i>Pachyrhamphus cinnamomeus</i> Cinnamon Becard	f s, t, m, p	<i>Stelgidopteryx ruficollis</i> Southern Rough-winged Swallow	c s, t, m, p
<i>Pachyrhamphus albogriseus</i> Black-and-white Becard	u s	<i>Riparia riparia</i> (Nm) Bank Swallow	u s
<i>Tityra semifasciata</i> Masked Tityra	c s, t, m, p	<i>Hirundo rustica</i> (Nm) Barn Swallow	c s
<i>Phyllomyias nigrocapillus nigrocapillus</i> Black-capped Tyrannulet	u s	<i>Notiochelidon murina</i> Brown-bellied Swallow	f s
<i>Zimmerius villosus</i> Paltry Tyrannulet	u s, t, m, p	<i>Cinclus leucocephalus rivularis</i> White-capped Dipper	u s
<i>Zimmerius chrysops minimus</i> Golden-faced Tyrannulet	c s, t, m, p	<i>Cyanocorax affinis</i> Black-chested Jay	c s, t
<i>Myiopagis gaimardii</i> Forest Elaenia	u s, t, m, p	<i>Campylorhynchus griseus</i> Bicoloured Wren	c s, t, m, p
		<i>Thryothorus rutilus</i> Rufous-breasted Wren	u s, t, m, p
		<i>Thryothorus rufalbus</i> Rufous-and-white Wren	f s, t, m, p
		<i>Troglodytes aedon</i> House Wren	c s, t, m, p
		<i>Troglodytes monticola</i> (EBA 36) Santa Marta Wren	r s, t
		<i>Henicorhina leucophrys bangsi</i> Grey-breasted Wood-wren	c s, t, m, p
		<i>Microcerculus marginatus corrasus</i> Southern Nightingale-wren	f s, t, m, p
		<i>Catharus aurantiirostris sierrae</i> Orange-billed Nightingale-thrush	f s, t

<i>Catharus fuscater sanctamartae</i>				<i>Thraupis palmarum</i> Palm Tanager	u s, t, m, p
Slaty-backed Nightingale-thrush	u	s, t		<i>Thraupis cyanocephala margaritae</i>	
<i>Catharus fuscescens</i> (Nm) Veery	r	s, m, p		Blue-capped Tanager	f s, t, m, p
<i>Catharus minimus</i> (Nm) Grey-cheeked Thrush	u	s, m, p		<i>Thlypopsis fulviceps</i> Fulvous-headed Tanager	u s, p
<i>Catharus ustulatus</i> (Nm) Swainson's Thrush	f	s, m, p		<i>Eucometis penicillata</i> Grey-headed Tanager	u s, t, m, p
<i>Platycichla flavipes</i> Yellow-legged Thrush	c	s, t, m, p		<i>Rhodinocichla rosea</i> Rosy Thrush-tanager	f s, t, m, p
<i>Turdus olivater sanctamartae</i> Black-hooded Thrush	f	s, t, m, p		<i>Ramphocelus dimidiatus</i> Crimson-backed Tanager	c s, t, m, p
<i>Turdus grayi</i> Clay-coloured Thrush	u	s, t		<i>Piranga flava faceta</i> Hepatic Tanager	u s, p
<i>Turdus leucomelas</i> Pale-breasted Thrush	c	s, t, m, p		<i>Piranga rubra</i> (Nm) Summer Tanager	f s, m, p
<i>Turdus albicollis</i> White-necked Thrush	f	s, t, m, p		<i>Piranga olivacea</i> (Nm) Scarlet Tanager	r s, m, p
<i>Turdus fuscater cacozelus</i> Great Thrush	c	s, t, m, p		<i>Tachyphonus luctuosus</i> White-shouldered Tanager	u s, t, m, p
<i>Ramphocaenus melanurus sanctamartae</i>				<i>Tachyphonus rufus</i> White-lined Tanager	c s, t, m, p
Long-billed Gnatwren	u	s, t, m, p		<i>Catamblyrhynchus diadema</i> Plush-capped Finch	u s, t
<i>Vireo flavifrons</i> (Nm) Yellow-throated Vireo	u	s, m, p		<i>Saltator maximus</i> Buff-throated Saltator	c s, t, m, p
<i>Vireo olivaceus</i> (Nm+) Red-eyed Vireo	u	s, t, m, p		<i>Saltator striatipectus</i> Streaked Saltator	c s, t, m, p
<i>Vireo leucophrys</i> Brown-capped Vireo	f	s, t		<i>Pheucticus chrysopleplus laubmanni</i> Yellow Grosbeak	u s, t, m, p
<i>Hylophilus aurantiifrons</i> Golden-fronted Greenlet	f	s, t, m, p		<i>Pheucticus ludovicianus</i> (Nm)	
<i>Molothrus bonariensis</i> Shiny Cowbird	f	s		Rose-breasted Grosbeak	f s, m, p
<i>Scaphidura oryzivora</i> Giant Cowbird	u	s		<i>Cyanocompsa cyanooides</i> Blue-back Grosbeak	f s, m, p
<i>Psarocolius decumanus</i> Crested Oropendola	c	s, t, m, p		<i>Volatinia jacarina</i> Blue-back Grassquit	c s, t, m, p
<i>Amblycercus holosericeus</i> Yellow-billed Cacique	u	s, t		<i>Tiaris fuliginosa</i> Sooty Grassquit	f s, t, m, p
<i>Icterus auricapillus</i> Orange-crowned Oriole	r	s, t		<i>Tiaris obscura</i> Dull-coloured Grassquit	f s, m, p
<i>Icterus galbula</i> (Nm) Baltimore Oriole	u	s		<i>Oryzoborus funereus ochrogyne</i>	
<i>Icterus chrysater</i> Yellow-backed Oriole	c	s, t		Thick-billed Seed-finch	f s, t, m, p
<i>Icterus mesomelas</i> Yellow-tailed Oriole	u	s, t, m, p		<i>Sporophila intermedia</i> Grey Seedeater	u s, m, p
<i>Mniotilta varia</i> (Nm) Black-and-white Warbler	f	s, m, p		<i>Sporophila nigricollis</i> Yellow-bellied Seedeater	c s, t, m, p
<i>Vermivora chrysoptera</i> (Nm)				<i>Emberizoides herbicola</i> Wedge-tailed Grass-finch	u s, t
Golden-winged Warbler	r	s		<i>Phrygilus unicolor</i> Plumbeous Sierra-finch	f s
<i>Vermivora peregrina</i> (Nm) Tennessee Warbler	c	s, m, p		<i>Zonotrichia capensis</i> Rufous-collared Sparrow	c s, t, m, p
<i>Parula pitayumi</i> Tropical Parula	f	s, t, m, p		<i>Atlapetes melanocephalus</i> (EBA 36)	
<i>Dendroica petechia</i> (Nm) Yellow Warbler	r	s, m, p		Santa Marta Brush-finch	c s, t, m, p
<i>Dendroica fusca</i> (Nm) Blackburnian Warbler	f	s		<i>Buarremon torquatus basilicus</i>	
<i>Setophaga ruticilla</i> (Nm) American Redstart	c	s, m, p		Stripe-headed Brush-finch	f s, m, p
<i>Seiurus noveboracensis</i> (Nm) Northern Waterthrush	f	s, m, p		<i>Arremonops conirostris</i> Black-striped Sparrow	f s, t, m, p
<i>Oporornis philadelphia</i> (Nm) Mourning Warbler	r	s, m, p		<i>Arremon schlegeli</i> Golden-winged Sparrow	c s, t, m, p
<i>Myioborus miniatus sanctamartae</i>				<i>Carduelis psaltria</i> Lesser Goldfinch	f s, t
Slate-throated Whitestart	c	s, t, m, p			
<i>Myioborus flavivertex</i> (EBA 36)					
Yellow-crowned Whitestart	f	s, t, m, p			
<i>Basileuterus culicivorus indignus</i>					
Golden-crowned Warbler	f	s, t, m, p			
<i>Basileuterus conspicillatus</i> (EBA 36)					
White-lored Warbler	c	s, t, m, p			
<i>Basileuterus rufifrons</i> Rufous-capped Warbler	c	s, t, m, p			
<i>Basileuterus basilicus</i> (EBA 36) Santa Marta Warbler	u	s, t, m, p			
<i>Coereba flaveola</i> Bananaquit	c	s, t, m, p			
<i>Diglossa albilatera</i> White-sided Flowerpiercer	f	s, t, m, p			
<i>Diglossa humeralis nocticolor</i> Black Flowerpiercer	c	s, t, m, p			
<i>Diglossa sittoides hyperythra</i> Rusty Flowerpiercer	u	s, m, p			
<i>Conirostrum rufum</i> Rufous Conebill	u	s, t			
<i>Cyanerpes caeruleus</i> Purple Honeycreeper	f	s, t, m, p			
<i>Cyanerpes cyaneus</i> Red-legged Honeycreeper	u	s, t, m, p			
<i>Dacnis cayana</i> Blue Dacnis	u	s, m, p			
<i>Tersina viridis</i> Swallow Tanager	c	s, t, m, p			
<i>Chlorophonia cyanea psittacina</i>					
Blue-naped Chlorophonia	c	s, t, m, p			
<i>Euphonia laniirostris</i> Thick-billed Euphonia	c	s, t, m, p			
<i>Tangara gyrola toddi</i> Bay-headed Tanager	c	s, t, m, p			
<i>Tangara heinei</i> Black-capped Tanager	c	s, t			
<i>Tangara cyanoptera</i> Santa Marta Mountain-tanager	f	s, t, m, p			
<i>Thraupis episcopus</i> Blue-grey Tanager	c	s, t, m, p			