Puracé National Park, Colombia

Far away and out-of-the-way, but where else can you see Andean Condor, Noble Snipe, Shining Sunbeam, Glowing Puffleg, and the White-rimmed Brush-Finch?

Steven L. Hilty and James R. Silliman

Location: The southern end of the Central Andes in Colombia.

Description: Puracé National Park is an 80,000 ha region of rugged mountains ranging from about 2500 to 4700 m elevation. The nucleus of the park is a chain of seven volcanos including the still active Volcán Puracé. These volcanos are surrounded by a vast wilderness area composed mostly of dense wet mountain forest that gives way to rolling paramo at higher elevations. The park is drained by a series of mountain torrents that form the headwaters of three of Colombia's most important rivers, the Cauca, Magdalena, and Caquetá. Many hot sulphur springs are scattered throughout the park.

Climate and vegetation communities: Puracé's climate is characteristically cold and wet. Sunny mornings can change to driving mist, fog or rain in minutes, and snow and sleet commonly fall on the summits and upper slopes of the volcanos. The drier periods are January-March and June-August although weather is unpredictable and visitors should expect rain at any time of the year. Frequently the conditions are such that it may be raining on one side of the Andean divide in the park while remaining clear on the other. Daytime high temperatures typically vary from the 60s°F at the lowest elevation to the 40s in the paramo, and nighttime lows are often below freezing at higher elevations.

The dominant vegetation community is upper montane wet forest (temperate forest) characterized by rather short trees with gnarled and twisted branches and a dense foliage of small waxy leaves. Bromeliads, mosses and other epiphytes crowd most available surfaces. At progressively higher elevations the forest shrinks in stature, culminating in a 3–4 m high elfin forest on exposed ridges and slopes near treeline. In this cold, damp world where winter comes each night, Lilliputian trees with their sculptured canopies conceal a dark understory of tangled, mossy branches and a treacherous floor of fallen trunks and accumulated debris. In wetter regions above 2900– 3000 m the dwarf broadleaf forest is mixed with bamboo (*Chusquea*), Wax Palms (*Ceroxylon*), giant grasses and other tall monocots.

Above 3200–3500 m there is a gradual transition to paramo, a tropical alpine zone of mixed grasses and shrubs. The paramo is a spongy, soggy land of quaking bogs, wet meadows and cold lakes lying beneath leaden skies. The vegetation is dominated by tussock grasses, cushion plants, spiny ground bromeliads, various species of Ericaceae, Eriocaulaceae, Saxifragaceae, and a peculiar rosette-shrub, *Espeletia*, of the composite family. Indeed, the paramo owes its remarkable, almost extraterrestrial appear-

ance in large part to various species of *Espeletia* whose nearest ecological counterparts are the giant *Senecio* and *Lobelia* of African volcanos.

General information: Puracé Park was established in 1968 and is administered by INDERENA, the natural resources agency of the Colombian government Direct responsibility for the park is taken by the National Park Division of the INDERENA office in Popayán. Camping is permitted in the park and overnight accommodations in stone chalets with beds and fireplaces are available at the park headquarters in Pilimbalá. For information about accommodations or park conditions, contact the INDERENA office in Popaván (Calle 4, #4-38) or write to: Director, Parque Nacionales, INDER-ENA, Popayán, Colombia.

As the climate is generally cold, wet and windy, visitors should dress warmly, preferably with several layers of wool, a heavy jacket and gloves; raingear is es-

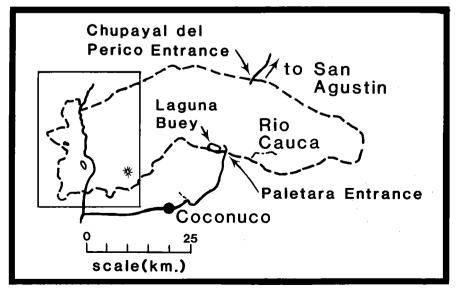


Fig. 1. Puracé National Park, Colombia. Detail of boxed area is shown in Fig. 3.



Fig. 2. Puracé National Park headquarters at Pilimbalá (3300m). The wooded ravines in the center and left harbor many species typical of the upper temperate zone in the Colombian Andes.

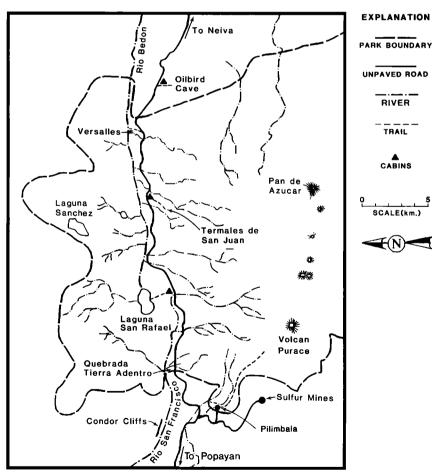


Fig. 3. Northern sector of Puracé National Park.

sential. Surfaced walkways are maintained near the headquarters at Pilimbalá, and at the Termales de San Juan, but elsewhere trails are wet and muddy. Tall rubber boots are advised for hiking in the paramo.

Access: The nearest international airport is at Cali. Rental cars are available at the Cali airport or at better hotels and are recommended although the northern section of the park can be reached by bus or taxi from Popayán. Most visitors to the park will stay in Popayán at the charming Hotel Monasterio; second choice is the Hotel Balcones, both now under repairs and reopening in December. Alternates include the Hotel Yalconia near San Agustin, and the Hotel de Turismo in Coconuco.

Access to the park is most convenient from the Popayán-Neiva road that crosses the park's northern end (map). The drive from Popayán to the western park boundary, a distance of 45 km, requires about one and one-half hours. There are also two other access points, neither served by public transportation. One at the southwest boundary is reached via the terminus of the road going through Coconuco and is called Paletará. The other, on the southeastern flank, can only be reached by road from San Agustín and Isnos in the Magdalena Valley and is called Chupayal del Perico. There are INDERENA inspectors at both points but no overnight accommodations. A trail connects these latter two roads.

Birders with limited time should concentrate their attention either on the northern end of the park, where a day's visit should include a stop at Pilimbalá and a drive across the park to the Termales de San Juan, or they should plan a one day visit to the more heavily forested Paletará region. The Chupayal del Perico area should only be attempted by visitors staying in San Agustuń as driving time from Popayán is two days.

Birding: About 190 species of birds are presently known from the park, including a remarkable number of unusual and relatively little-known species. Unfortunately many are inconspicuous or confined to relatively specialized habitats and as a consequence, first time visitors or those without specific information often see relatively few birds. The following sections treat the major habitats and access points and should aid in locating many of the most interesting species.

THE NORTHERN ENTRANCES

Pilimbalá and the Páramo of Puracé. Approaching the park from Popayán, watch for a prominent rocky cliff face on the left near km 154. The cliff overlooks a large canyon and waterfall, and provides a regular roost for a pair of Andean Condors. The condors can usually be seen by visitors who arrive early.

About a kilometer beyond the condor overlook, take a well-marked right turn and follow the road steeply uphill for about two kilometers, then take a narrow left turn that leads to the recreational area at Pilimbalá (3300 m). Here there is a picnic area, small restaurant (usually open), hot sulphur spring baths, and overnight accommodations (see General Information section). Pilimbalá is situated in the midst of pastureland and potato fields that are broken by a shrub-bordered streams and isolated patches of woodland. In these bushes and trees a number of temperate zone birds can be seen such as Shining Sunbeam, Great Sapphirewing, Golden-breasted Puffleg, Crimson-mantled Woodpecker, Brownbacked Chat-Tyrant, White-throated Tyrannulet, Tufted Tit-Tyrant, Goldenfronted Redstart, Cinereous Conebill, Black Flower-Piercer, Scarlet-bellied Mountain-Tanager, Pale-naped Brush-Finch and Plain-colored Seedeater. Tawny Antpittas often given their distinctive three-note whistle from the edge of nearby fields.



Fig. 5. Panorama of temperate zone forest (Montane Wet Forest) Chupayal del Perico entrance (southwest) above Isnos, 2600m.



Fig. 4. Paramo dominated by Espeletia sp. and tussock grass south of the Popayan-Neiva road and west of Laguna San Rafael. A few temperate shrubs, here growing above the normal treeline, can be seen on the more well-drained slope behind.

From Pilimbalá there is a trail to the top of Volcan Puracé, an ascent of about 1400 m. Round-trip requires about eight hours. The trail is both muddy and rocky but it passes through the páramo of Volcán Puracé, a good place to see páramo birds. Visitors attempting this hike should be in good physical condition and those planning to climb as high as 3900– 4000 m or higher should ask for a guide as the trail can be difficult to find, especially in fog.

Beginning at Pilimbalá, the trail parallels a shrub-lined stream to the southwest and eventually opens into a wet pasture at the base of a steep ridge. Paramo Pipits and Plumbeous Sierra-Finches frequent the pasture. After a scramble up the steep ridge ahead, the trail follows the top of the ridge southeast into fine tussock grass- and Espeletia-dominated páramo and soon passes two ponds. Here at about 3600 m, several páramo birds may be seen or heard including Tawny Antpitta. Andean Tit-Spinetail, Grass (Shortbilled Marsh) Wren and Noble Snipe. Beyond and still higher, thick tussock grass predominates and the Many-striped Canastero is common. Between 3900-4000 m the vegetation becomes sparse and impoverished. In this area, near the upper limit of vegetation, the Bar-winged Cinclodes and Plain-capped Ground-Tyrant are found. One should also be alert for Andean Condor, Black-chested Buzzard-Eagle and Carunculated Caracara, which can be seen anywhere in the Pilimbalá or Volcán Puracé area.



Fig. 6. A view of Volcan Puracé, with bunch grass in the foreground.

Quebrada Tierra Adentro: This tributary of the Río San Francisco flows through the narrow forested canyon just north of the main road below Pilimbalá. Several species rarely seen elsewhere in the park occur in the canyon bottom at 2950 m elevations.

The trail entrance begins on the east side of a small rocky hill on the left of the road about 3 km beyond the main turn leading to Pilimbalá. As the trail is difficult to follow it may be helpful to ask for a guide at Pilimbalá. After descending through cultivated land, the trail drops steeply into the canyon where the sides are covered with forest and thick undergrowth. From here to the bottom watch for Andean Guan, Tyrian and Viridian metaltails, Sword-billed Hummingbird, Golden-plumed Parakeet (rare), Graybreasted Mountain-Toucan (not found elsewhere in the park), Powerful Woodpecker, Rufous Antpitta, Barred Becard, Hooded Mountain-Tanager, Superciliaried Hemispingus and Black-headed Hemispingus. In 1972 the Crescent-faced Antpitta, a species previously known only from Ecuador, was found here (Lehmann, F. C., J. R. Silliman and E. Eisenmann, *Condor* 79:387–388).

Laguna San Rafael. Eastward on the Popaván-Neiva road, a trail by a small INDERENA cabin at km 142 leads north into a broad boggy basin and to the banks of the R1ó Bedón near Laguna San Rafael. In the dwarf forest along the roadside or at the head of the trail Whitebrowed Spinetail and Paramo Seedeater can sometimes be found, and in bushes and tall grass the White-chinned Thistletail. This is the only other known locality for the Crescent-faced Antpitta in the park. In the Espeletia further down the trail Andean Siskins and Plumbeous Sierra-Finches are common, and Grass Wrens sing from sedges. Noble Snipe occasionally flush from the boggy lower end of the trail; Speckled Teal are resident on the lake.

Termales de San Juan. Beyond Laguna San Rafael the Popayán-Neiva road crosses several kilometers of rather bleak páramo and then squeezes through a narrow gorge of the Río Bedón. Whitecapped Dippers can be seen along this section of the river and a pair or more of Torrent Ducks are usually present although easily overlooked. To see the latter, visitors should carefully examine the whitewater rapids and rocks at each bend in the river.

Just ahead at km 132 a small rustic visitors' center and a hotel now under construction mark the trail entrance to the Termales de San Juan. The Termales consist of a remarkable concentration of hot bubbling pools, steaming vents and clear sulphur springs that pock-mark a round basin. Blackened trees suffocated by excessive sulphur fumes ring the basin as if in mute testimony to some former holocaust. It is worth a visit.

A walk along the road in either direction from the cabin or along the bamboolined trail leading to the termales can be rewarding. Mixed flocks, especially active here in misty and foggy weather,



Fig. 7. Rio Bedón, Puracé National Park. Habitat of Torrent Duck and White-capped Dipper.

may contain Agile Tit-Tyrant, Blackcrested Warbler, Golden-fronted Redstart, Blue-backed Conebill, Glossy Flower-piercer, Golden-crowned Tanager, Lacrimose Mountain-Tanager, Black-capped Hemispingus and Slaty Brush-Finch. The Plush-capped Finch, a bird of uncertain taxonomic affinity and often placed in a family of its own, can also be found here regularly. It is almost always seen in bamboo and accompanying mixed flocks. The Buff-winged Starfrontlet and Glowing Puffleg are frequent visitors to roadside shrubbery; the rare Mountain Avocetbill has been seen here as well.

Versalles. On the north side of the road at km 127 a trail beginning at a small farmhouse descends 200 m to the canyon of the Río Bedón, known here as Versalles The valley floor at about 2500 m is the lowest elevation in the park. The sides of the canyon are covered with dense forest and thick undergrowth. Birds of this region, often in mixed flocks, include Pearled Treerunner, Citrine Warbler, Plush-capped Finch, Grass-green Tanager, and White-rimmed Brush-Finch (rare) as well as most species of temperate forest zones. Noisy flocks of 5-20 White-capped Tanagers are occasionally seen or heard on or below the canyon rim.

At the bottom of the trail a small pasture borders the Río Bedón. Visitors staying until dusk can sometimes see Oilbirds flying low over rivulets flowing from hot springs at the west end of the pasture. At the southwestern corner of the pasture a log (corduroy) trail follows the Río San Marcos through river bottom forest for about two km to an abandoned farm. In addition to most species mentioned above, several birds more typical of subtropical elevations occur here. A sampling includes Mountain Velvetbreast, Sword-billed Hummingbird, Green-andblack Fruiteater, Slaty-backed Chat-Ty-



Fig. 8. Dense temperate forest, Chusquea bamboo and treeferns along the roadside at the Paletara entrance to the park.

rant, Rufous-headed Pygmy-Tyrant, Capped Conebill, Beryl-spangled Tanager and Gray-hooded Bush-Tanager.

Cueva de los Guácharos (Puracé Oilbird Cave). Several kilometers beyond the main eastern boundary of the park a small sign by a house on the right (about km 122) announces the trail entrance to the Oilbird cave. Between December and early July a large colony of Oilbirds breed in the cave. At this time a few can normally be seen from the elevated boardwalk that ends just inside the flooded cave entrance. A strong light is helpful. During the latter half of the year most of the Oilbirds migrate to lower elevations.

THE SOUTHWESTERN ENTRANCE

Paletará. This is perhaps the most scenic and spectacular portion of the park. On clear mornings magnificent views of the volcanos and vast páramos are worth the trip alone although the best birding begins near the park entrance at about 2900 m. Here in a misty world of mountain bamboo, giant grasses and epiphyte-encrusted trees, many birds of the temperate zone may be seen. This is a particularly good place to see Buff-breasted Mountain-Tanager and Black-headed Hemispingus. It is a good idea to walk sections of the road about 21/2 km beyond the inspector's cabin to look for mixed flocks. This is perhaps the best region in the park to see groups of Black-backed Bush-Tanagers and the very rare Masked Mountain-Tanager. If time permits the remaining 10 km of the road should also be covered. The road winds through a superb wilderness of wet forest, mossy road banks and deep forested ravines. Near the end of the road a trail on the left leads to Laguna de Buey, a large lake 2 km away.

THE SOUTHEASTERN ENTRANCE

Chupayal del Perico. This is the least visited section of the park and the one most likely to produce new birds for the park list. Driving time from San Agustín, site of Colombia's most famous archeological park, is about 2 hours. The entrance lies in a subtropical-temperate transition zone at 2600 m where an interesting mixture of birds characteristic of higher and lower zones overlap. Beyond the entrance the road climbs to an eleva-



Fig. 9. Heavily forested slopes above the Rio Bedón (3200m) near the Termales de San Juan. A hotel is now being constructed under park jurisdiction near this site.

tion of 2800 m, traverses mostly low stunted and irregular forest dominated in many places by palms, and finally ends about 9 km inside the park.

Most visitors will begin birding near the well-marked park entrance or at the inspector's cabin where fruiting palms often attract groups of Andean Guans. Other fruiting trees in the vicinity may attract Crested Quetzal, Band-tailed Pigeons and occasionally Black-billed Mountain-Toucans. Other birds of the area, often with mixed flocks, include Collared Inca, Black-billed Peppershrike, Black-throated Tody-Tyrant, Mountain Cacique, Grass-green Tanager and the rare White-rimmed Brush-Finch. Swallow-tailed Nightjars roost on road cuts a kilometer or two above and below the park entrance but most visitors are more likely to see this spectacular nightjar at dusk when it sallies from roadsides or low concrete bridge abutments.

The park also protects several interesting and very little known mammals, including the Mountain Tapir, Spectacled Bear (endangered), and diminutive Pudu Deer. All are extremely secretive and rarely seen.

Acknowledgments. We thank Willie A. Cornell for drafting the maps.



Fig. 10. Falls of Rio Bedón at 3200m, Puracé National Park.

The following list includes most birds known from the Park. The species list follows Meyer de Schauensee, R., 1970, *The Birds of South America*. Subtropical, temperate and páramo zone are denoted S, T, and P respectively; c, u, or r denotes common, uncommon or rare, m is a migrant. *Rating:* ****January–March and June–September, ***April–May and October–December. Some tanagers of Colombia. Illustration by permission of Guy Tudor, from *A Guide to the Birds of Colombia* by Steven Hilty and William L. Brown. To be published by Princeton University Press, 1984. © by Princeton University Press. Species marked (P) are found at Purace National Park. Birds are 40% actual size.

Grass-green Tanager Chlorornis r. riefferii (P) Hooded Mountain-Tanager Buthraupis montana cucullata (P) White-capped Tanager Sericossypha albocristata ♂ (P)

Masked Mountain-Tanager Buthraupis wetmorei (P)

Black-chested Mountain-Tanager Buthraupis eximia zimmeri (P)

Buff-breasted Mountain-Tanager *Dubusia t. taeniata* (P)

> Scarlet-bellied Mountain-Tanager Anisognathus igniventris erythrotus (P)

Black-cheeked Mountain-Tanager¹ Anisognathus melanogenys (N Col.)

> Lacrimose Mountain-Tanager Anisognathus lachrymosus palpebrosus (P)

Black-chinned Mountain-Tanager Anisognathus notabilis (SW Col.)

> Blue-winged Mountain-Tanager Anisognathus flavinucha baezae (S Col.)

Purplish-mantled Tanager Iridosornis porphyrocephala (W Col.)

Golden-chested Tanager Bangsia² rothschildi (SW Col.)

Gold-ringed Tanager Bangsia² aureocincta ♂ (W Col.)

Moss-backed Tanager

(SW Col.)

Bangsia² edwardsi

Golden-crowned Tanager Iridosornis rufivertex ignicapillus (P)

Black-and-gold Tanager Bangsia² melanochlamys (W Col.)

¹Considered by some a race of *A. lachrymosus*.

²Considered by some better in genus Buthraupis.



The Purace List

Speckled [Andean] Teal, Anas flavirostris	T(c)
Blue-winged Teal, Anas discors	T(m)
Cinnamon Teal, Anas cyanoptera	T(r)
Torrent Duck, Merganetta armata	ST(u)
Ruddy [Andean] Duck, Oxyura jamaicensis	T(r)
Andean Condor, Vultur gryphus	TP(u)
Black Vulture, Coragyps atratus	STP(c)
Turkey Vulture, Cathartes aura	T(r)
Plumbeous Kite, Ictinia plumbea	STP(m)
Sharp-shinned Hawk, Accipiter striatus	ST(u)
Black-chested Buzzard-Eagle, Geranoaetus melanoleu	<i>ucus</i> T(u)
Broad-winged Hawk, Buteo platypterus	ST(m)
Roadside Hawk, Buteo magnirostris	ST(r)
White-rumped Hawk, Buteo leucorrhous	ST(r)
White-throated Hawk, Buteo albigula	T(r)
Osprey, Pandion haliaetus	T(m)
Carunculated Caracara, Phalcoboenus carunculatus	TP(u)
Peregrine Falcon, Falco peregrinus	T(r)m
American Kestrel, Falco sparverius	ST(u)
Andean Guan, Penelope montagnii	ST(r)
American Coot, Fulica americana	T(c)
Greater Yellowlegs, Tringa flavipes	T(m)
Baird's Sandpiper, Calidris bairdii	T(m)
Pectoral Sandpiper, Calidris melanotos	T(m)
Noble Snipe, Gallinago nobilis	TP(u)
Band-tailed Pigeon, Columba fasciata	S(c)
Eared Dove, Zenaida auriculata	STP(u)
Golden-plumed Parakeet, Leptosittaca branickii	TP(r)
Yellow-eared Parrot [Parakeet]. Ognorhynchus ictered	otis

Yellow-eared Parrot [Parakeet], Ognorhynchus icterotis T(once, 1976, R. Ridgely)

White-capped Parrot, Pionus seniloides			
Yellow-billed Cuckoo, Coccyzus americanus	S(r)		
Squirrel Cuckoo, Piaya cayana	S(r)		
Oilbird, Steatornis caripensis S	T(local)		
Band-winged Nightjar, Caprimulgus longirostris	S(u)		
Swallow-tailed Nightjar, Uropsalis segmentata	ST(u)		
White-collared Swift, Streptoprocne zonaris	ST(c)		
Chestnut-collared Swift, Cypseloides rutilus	ST(r)		
Sparkling Violetear, Colibri coruscans	S(u)		
Speckled Hummingbird, Adelomyia melanogenys	S(c)		
Shining Sunbeam, Aglaeactis cupripennis	T(c)		
Mountain Velvetbreast, Lafresnaya lafresnayi	S(u)		
Great Sapphirewing, Pterophanes cyanopterus	TP(c)		
Collared Inca, Coeligena torquata	S(c)		
Buff-winged Starfrontlet, Coeligena lutetiae	T(u)		
Sword-billed Hummingbird, Ensifera ensifera	ST(r)		
Buff-tailed Coronet, Boissonneaua flavescens	S(u)		
Tourmaline Sunangel, Heliangelus exortis	S(c)		
Glowing Puffleg, Eriocnemis vestitus	T(c)		
Golden-breasted Puffleg, Eriocnemis mosquera	T(c)		
Black-thighed Puffleg, Eriocnemis derbyi	T(r)		
Purple-backed Thornbill, Ramphomicron microrhynch	um ST(u)		
Viridian Metaltail, Metallura williami	T(u)		
Tyrian Metaltail, Metallura tyrianthina	ST(c)		
Rainbow-bearded Thornbill, Chalcostigma herrani	T(r)		
Mountain Avocetbill, Opisthoprora euryptera	T(r)		
Long-tailed Sylph, Aglaiocercus kingi	S(r)		
Crested Quetzal, Pharomachrus antisianus	S(r)		
Gray-breasted Mountain-Toucan, Andigena hypoglaud	ca T(local)		
Black-billed Mountain-Toucan, Andigena nigrirostris	ST(r)		
Crimson-mantled Woodpecker, Piculus rivolii	STP(c)		

American Birds, May-June 1983

Bar-bellied Woodpecker, Veniliornis nigriceps	ST(u)
Powerful Woodpecker, Phloeoceastes pollens	S(r)
Bar-winged Cinclodes, Cinclodes fuscus	P(u)
Andean Tit-Spinetail, Leptasthenura andicola	TP(u)
Elegant [Azara's] Spinetail, Synallaxis azarae	S(u)
Rufous Spinetail, Synallaxis unirufa	ST(c)
White-browed Spinetail, Synallaxis gularis	ST(u)
White-chinned Thistletail, Schizoeaca fuliginosa	TP(u)
Many-striped Canastero, Asthenes flammulata	TP(u)
Pearled Treerunner, Margarornis squamiger	ST(c)
Spotted Barbtail, Premnoplex brunnescens	S(r)
Streaked Tuftedcheek, Pseudocolaptes boissonned	autii ST(c)
Flammulated Treehunter, Thripadectes flammulat	us ST(r)
Barred Antthrush, Chamaeza mollissima S(netted once	e, Versalles)
Rufous Antpitta, Grallaria rufula	ST(c voice)
Tawny Antpitta, Grallaria quitensis	TP(c voice)
Tawny Antpitta, Grallaria quitensis Slate-crowned Antpitta, Grallaricula nana	TP(c voice) T(r)
Slate-crowned Antpitta, Grallaricula nana	T(r)
Slate-crowned Antpitta, Grallaricula nana Crescent-faced Antpitta, Grallaricula lineifrons	T(r) T(r)
Slate-crowned Antpitta, Grallaricula nana Crescent-faced Antpitta, Grallaricula lineifrons Unicolored Tapaculo, Scytalopus unicolor	T(r) T(r) ST(u)
Slate-crowned Antpitta, Grallaricula nana Crescent-faced Antpitta, Grallaricula lineifrons Unicolored Tapaculo, Scytalopus unicolor Red-crested Cotinga, Ampelion rubrocristatus	T(r) T(r) ST(u) ST(u)
Slate-crowned Antpitta, Grallaricula nana Crescent-faced Antpitta, Grallaricula lineifrons Unicolored Tapaculo, Scytalopus unicolor Red-crested Cotinga, Ampelion rubrocristatus Barred Becard, Pachyramphus versicolor	T(r) T(r) ST(u) ST(u) S(r) S(u)
Slate-crowned Antpitta, Grallaricula nana Crescent-faced Antpitta, Grallaricula lineifrons Unicolored Tapaculo, Scytalopus unicolor Red-crested Cotinga, Ampelion rubrocristatus Barred Becard, Pachyramphus versicolor Green-and-black Fruiteater, Pipreola riefferii	T(r) T(r) ST(u) ST(u) S(r) S(u) na P(u)
Slate-crowned Antpitta, Grallaricula nana Crescent-faced Antpitta, Grallaricula lineifrons Unicolored Tapaculo, Scytalopus unicolor Red-crested Cotinga, Ampelion rubrocristatus Barred Becard, Pachyramphus versicolor Green-and-black Fruiteater, Pipreola riefferii Plain-capped Ground-Tyrant, Muscisaxicola alpin	T(r) T(r) ST(u) ST(u) S(r) S(u) na P(u)
Slate-crowned Antpitta, Grallaricula nana Crescent-faced Antpitta, Grallaricula lineifrons Unicolored Tapaculo, Scytalopus unicolor Red-crested Cotinga, Ampelion rubrocristatus Barred Becard, Pachyramphus versicolor Green-and-black Fruiteater, Pipreola riefferii Plain-capped Ground-Tyrant, Muscisaxicola alpin Streak-throated Bush-Tyrant, Myiotheretes striatio	T(r) T(r) ST(u) ST(u) S(r) S(u) aa P(u) collis T(u) S(r)
Slate-crowned Antpitta, Grallaricula nana Crescent-faced Antpitta, Grallaricula lineifrons Unicolored Tapaculo, Scytalopus unicolor Red-crested Cotinga, Ampelion rubrocristatus Barred Becard, Pachyramphus versicolor Green-and-black Fruiteater, Pipreola riefferii Plain-capped Ground-Tyrant, Muscisaxicola alpin Streak-throated Bush-Tyrant, Myiotheretes striation Smoky Bush-Tyrant, Myiotheretes fumigatus	T(r) T(r) ST(u) ST(u) S(r) S(u) aa P(u) collis T(u) S(r) TP(c)
Slate-crowned Antpitta, Grallaricula nana Crescent-faced Antpitta, Grallaricula lineifrons Unicolored Tapaculo, Scytalopus unicolor Red-crested Cotinga, Ampelion rubrocristatus Barred Becard, Pachyramphus versicolor Green-and-black Fruiteater, Pipreola riefferii Plain-capped Ground-Tyrant, Muscisaxicola alpin Streak-throated Bush-Tyrant, Myiotheretes striatic Smoky Bush-Tyrant, Myiotheretes fumigatus Brown-backed Chat-Tyrant, Ochthoeca fumicolor	T(r) $T(r)$ $ST(u)$ $ST(u)$ $S(r)$ $S(u)$ Ra $P(u)$ $Collis$ $T(u)$ $S(r)$ $TP(c)$ $Oralis$ $T(u)$
Slate-crowned Antpitta, Grallaricula nana Crescent-faced Antpitta, Grallaricula lineifrons Unicolored Tapaculo, Scytalopus unicolor Red-crested Cotinga, Ampelion rubrocristatus Barred Becard, Pachyramphus versicolor Green-and-black Fruiteater, Pipreola riefferii Plain-capped Ground-Tyrant, Muscisaxicola alpin Streak-throated Bush-Tyrant, Myiotheretes striation Smoky Bush-Tyrant, Myiotheretes fumigatus Brown-backed Chat-Tyrant, Ochthoeca fumicolor Rufous-breasted Chat-Tyrant, Ochthoeca rufipect	T(r) $T(r)$ $ST(u)$ $ST(u)$ $S(r)$ $S(u)$ Ra $P(u)$ $Collis$ $T(u)$ $S(r)$ $TP(c)$ $Oralis$ $T(u)$
Slate-crowned Antpitta, Grallaricula nana Crescent-faced Antpitta, Grallaricula lineifrons Unicolored Tapaculo, Scytalopus unicolor Red-crested Cotinga, Ampelion rubrocristatus Barred Becard, Pachyramphus versicolor Green-and-black Fruiteater, Pipreola riefferii Plain-capped Ground-Tyrant, Muscisaxicola alpin Streak-throated Bush-Tyrant, Myiotheretes striatio Smoky Bush-Tyrant, Myiotheretes fumigatus Brown-backed Chat-Tyrant, Ochthoeca fumicolor Rufous-breasted Chat-Tyrant, Ochthoeca rufipect Slaty-backed Chat-Tyrant, Ochthoeca cinnamome	T(r) $T(r)$ $ST(u)$ $ST(u)$ $S(r)$ $S(u)$ $P(u)$ $Collis$ $T(u)$ $S(r)$ $TP(c)$ $Coralis$ $T(u)$ $S(u)$
Slate-crowned Antpitta, Grallaricula nana Crescent-faced Antpitta, Grallaricula lineifrons Unicolored Tapaculo, Scytalopus unicolor Red-crested Cotinga, Ampelion rubrocristatus Barred Becard, Pachyramphus versicolor Green-and-black Fruiteater, Pipreola riefferii Plain-capped Ground-Tyrant, Muscisaxicola alpin Streak-throated Bush-Tyrant, Myiotheretes striatio Smoky Bush-Tyrant, Myiotheretes fumigatus Brown-backed Chat-Tyrant, Ochthoeca fumicolor Rufous-breasted Chat-Tyrant, Ochthoeca rufipect Slaty-backed Chat-Tyrant, Ochthoeca frontalis	T(r) $T(r)$ $T(u)$ $ST(u)$ $S(r)$ $S(u)$ $r(u)$ $T(u)$ $T(u)$ $r(u)$

Handsome Flycatcher, Mytophobus pulcher	S(u)
Black-throated Tody-Tyrant, Idioptilon granadense	S(u)
Rufous-headed Pygmy-Tyrant, Pseudotriccus ruficep	os S(u)
Tufted Tit-Tyrant, Anairetes parulus	T(u)
Agile Tit-Tyrant, Uromyias agilis	T(c)
White-throated Tyrannulet, Mecocerculus leucophrys	ST(c)
White-banded Tyrannulet, Mecocerculus stictopterus	T(u)
White-crested Elaenia, Elaenia albiceps T(status un	ncertain)
Mountain Elaenia, Elaenia frantzii	ST(r)
Elaenia sp., Elaenia sp. T(status un	icertain)
Black-capped Tyrannulet, Tyranniscus nigrocapillus	T(c)
Streak-necked Flycatcher, Mionectes striaticollis	S(u)
Blue-and-white Swallow, Notiochelidon cyanoleuca	S(r)
Brown-bellied Swallow, Notiochelidon murina	STP(c)
Rough-winged Swallow, Stelgidopteryx ruficollis	P(once)
White-capped Dipper, Cinclus leucocephalus STP(c rivers)
Rufous Wren, Cinnycerthia unirufa	ST(c)
Grass [Short-billed Marsh] Wren, Cistothorus platen. TP	sis (c local)
Mountain Wren, Troglodytes solstitialis	ST(c)
Gray-breasted Wood-Wren, Henicorhina leucophrys	S(c)
Great Thrush, Turdus fuscater	STP(c)
Glossy-black Thrush, Turdus serranus	S(r)
Paramo Pipit, Anthus bogotensis	P(u)
Black-billed Peppershrike, Cyclarhis nigrirostris	S(u)
Brown-capped [Warbling] Vireo, Vireo gilvus	S(u)
Mountain Cacique, Cacicus leucorhamphus	ST(r)
Blackburnian Warbler, Dendroica fusca	ST(m)
Canada Warbler, Wilsonia canadensis	ST(m)
Golden-fronted Redstart, Myioborus ornatus	ST(c)
Black-crested Warbler, Basileuterus nigrocristatus	ST(c)
Citrine Warbler, Basileuterus luteoviridis	ST(c)

Russet-crowned Warbler, Basileuterus coronatus	S(r)	Short-billed Bush-Tanager, Chlorospingus parvirostru	5 S(u)
Cinereous Conebill, Conirostrum cinereum	T(u)	Black-backed Bush-Tanager, Urothraupis stolzmanni	T(u)
Blue-backed Conebill, Conirostrum sitticolor	T(c)	Gray-hooded Bush-Tanager, Cnemoscopus rubrirostri.	s S(c)
Capped Conebill, Conirostrum albifrons	S(u)	Black-capped Hemispingus, Hemispingus atropileus	ST(c)
Bluish Flower-Piercer, Diglossa caerulescens	S(r)	Superciliaried Hernispingus, Hemispingus superciliaria	
Glossy Flower-Piercer, Diglossa lafresnayii	T(c)	· · · · · · · · · · · · · · · · · · ·	ı local)
Black [formerly Carbonated] Flower-Piercer, Diglossa humeralis	T(c)	Black-headed Hemispingus, Hemispingus verticalis ST(1	ı local)
White-sided Flower-Piercer, Diglossa albilatera	ST(c)	Grass-green Tanager, Chlorornis riefferii	S(u)
Masked Flower-Piercer, Diglossa cyanea	ST(c)	Plush-capped Finch, Catamblyrhynchus diadema	ST(u)
Beryl-spangled Tanager, Tangara nigroviridis	S(u)	Plain-colored Seedeater, Catamenia inornata	TP(c)
Blue-and-black Tanager, Tangara vassorii	S(u)	Paramo Seedeater, Catamenia homochroa	T(u)
•		Plumbeous Sierra-Finch, Phrygilus unicolor	TP(c)
Golden-crowned Tanager, Iridosornis rufivertex	T(c)	Pale-naped Brush-Finch, Atlapetes pallidinucha	T(c)
Scarlet-bellied Mountain-Tanager, Anisognathus igniventris	ST(c)	Slaty Brush-Finch, Atlapetes schistaceus	ST(c)
Lacrimose Mountain-Tanager, Anisognathus lacrymosu	s ST(c)	Stripe-headed Brush-Finch, Atlapetes torquatus	ST(r)
Hooded Mountain-Tanager, Buthraupis montana	ST(c)	White-rimmed Brush-Finch, Atlapetes leucopis S(r local)
Masked Mountain-Tanager, Buthraupis wetmorei	T(r)	Rufous-collared Sparrow, Zonotrichia capensis	ST(c)
Black-chested Mountain-Tanager, Buthraupis eximia	ST(u)	Andean Siskin, Spinus spinescens	TP(c)
Buff-breasted Mountain-Tanager, Dubusia taeniata	ST(u)	Hooded Siskin, Spinus magellanicus	T(r)
White-capped Tanager, Sericossypha albocristata	S(r)	Line Liger marter Center, Office of The Lanas	
Common Bush-Tanager, Chlorospingus ophthalmicus	S(u)	Studies, University of Arizona, 845 North Park, Tucs 85719 (Hilty)	on, AZ

American Birds regrets having to report that the junior author, James R. Silliman, was killed in an automobile accident in Nicaragua a few weeks before this issue went to press. At the time Silliman was teaching at the university in Leon, Nicaragua, and had spent much time at Puracé National Park in gathering information that contributed to this article; American Birds dedicates this issue to his memory.