FIELDIANA

Zoology

NEW SERIES, NO. 65

The Birds of Cerro de la Neblina, Territorio Federal Amazonas, Venezuela

David E. Willard
Mercedes S. Foster
George F. Barrowclough
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Grubb, P. J., J. R. Lloyd, and T. D. Pennington. 1963. A comparison of montane and lowland rain forest in Ecuador. I. The forest structure, physiognomy, and floristics. Journal of Ecology, 51: 567-601.

Langdon, E. J. M. 1979. Yage among the Siona: Cultural patterns in visions, pp. 63-80. *In* Browman, D. L.,and R. A. Schwarz, eds., Spirits, Shamans, and Stars. Mouton Publishers, The Hague, Netherlands.

Murra, J. 1946. The historic tribes of Ecuador, pp. 785-821. In Steward, J. H., ed., Handbook of South American Indians. Vol. 2, The Andean Civilizations. Bulletin 143, Bureau of American Ethnology, Smithsonian Institution, Washington, D.C.

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Abstract

From January through April 1984 and from December 1984 through March 1985, we surveyed the avifauna of Cerro de la Neblina, Territorio Federal Amazonas, Venezuela. We collected and/or observed 310 species of birds from the slopes of the mountain and from the surrounding lowlands. Of these, 61 were found primarily above 750 m. With the addition of four species found on previous expeditions but not on ours, the currently known montane (restricted to 750 m and above) avifauna of Neblina stands at 65 species. The assessment of the lowland avifauna was less complete than at higher elevations. We documented 264 species below 350 m. A number of species in both lowlands and highlands represent range extensions. The lowland species totals fall between those of sites in western and northern Amazonia. The montane fauna is smaller than those of several eastern tepuis, and dramatically smaller than those at similar elevations in the Andes. Analyses of molt and reproductive data indicate a gradual decline in wing and tail molt from December through April in both lowlands and highlands; reproductive activity declined over the same period in the highlands, while remaining fairly constant in the lowlands.

Abstracto

Se hizo un estudio de la avifauna del Cerro de la Neblina, Territorio Federal Amazonas, Venezuela, durante los meses de enero hasta abril de 1984 y desde diciembre 1984 hasta marzo 1985. Se colectaron y/o se observaron 310 especies de aves en las laderas de las montañas y en las tierras bajas cercanas. De estas, 61 fueron encontradas a más de 750 m de altura. Con otras cuatro especies que fueron encontradas en un expedición anterior pero no en la nuestra, el número de aves conocidas (restringidas a más de 750 m de altura) de la montaña de Neblina cuenta con 65 especies. La estimación de la avifauna de las tierras bajas fue más incompleta que en la de la elevación más alta. Se documentaron 264 especies debajo de 350 m. Algunas especies que se encuentran en la parte baja y en la montañosa representan extensiones de su distribución. El total de las especies de la zona baja caé entre el de la parte occidental y el de la parte norte de Amazonia. La fauna montana es más pequeña que en varios de los tepuis de la parte este, y dramaticamente mucho más baja que en elevaciones similares en los Andes. El análisis de la muda y datos reproductivos indican un declive gradual en la muda de las alas y la cola de diciembre an abril en la zona baja y montañosa; la actividad reproductiva también decaé durante el mismo período en la zona montañosa, mientras que permanece bastante constante en la zona baja.

Introduction

The tableland mountains or tepuis of the Guiana Highlands stretch from the Venezuela/Guyana border across most of Venezuela south of the Río Orinoco. Through this area, more than 30 peaks reach elevations higher than 1000 m. As isolated islands of subtropical forest, these mountains support a flora and fauna rich in endemic forms, and are of particular biogeographical interest. Basic knowledge of this flora and fauna is essential to any understanding of its origin and evolution.

Cerro de la Neblina, Territorio Federal Amazonas, Venezuela, was not discovered until 1953 (Maguire, 1955). It is located on the Venezuela/Brazil border in the southwestern corner of the "Pantepui" (this term was coined by Mayr and Phelps [1967] to encompass the area occupied by the tepuis). Tepuis occur in eastern and western clusters; Cerro de la Neblina is a fairly isolated outlier of the western group (fig. 1). Neblina is a highly eroded massif arising from the surrounding lowlands (fig. 2). Three of its peaks exceed 2500 m, and Pico Phelps at 3045 m is the highest point in South America outside of the Andes. As the highest and one of the most isolated of the tepuis, Cerro de la Neblina has great potential for a unique flora and fauna.

With this potential in mind, the Venezuelan Fundación para el Desarrollo de las Ciencias Físicas, Matemáticas y Naturales sponsored a multidisciplinary study of this tepui. Charles Brewer-Carias (Expedition Leader) from the Fundación, Roy McDiarmid of the U.S. Fish and Wildlife Service, Charles W. Myers of the American Museum of Natural History, and James Luteyn of the New York Botanical Garden organized an expedition to inventory the flora and fauna of Cerro de la Neblina. From January 1984 through March 1985, over 100 scientists studied and collected fungi, plants, snails, insects, reptiles, amphibians, birds, and mammals from the slopes of Neblina and the adjacent lowlands. Eight ornithologists worked at Neblina for varying periods during this time. This paper is a report of our results.

The Mountain

Description

Cerro de la Neblina is a horseshoe-shaped ridge divided by a deep central canyon (fig. 3) that drains most of the mountain. The Neblina massif is approximately 80 km long and 40 km wide at its widest (Maguire and Wurdack, 1959), with the summit encompassing an area of about 600 km^2 (Mayr and Phelps, 1967). Neblina is characterized by extremely sheer cliffs rising from the lowlands. At elevations from 1000 to 2500 m, plateaus and moderate to steep slopes support both forest (figs. 4, 5) and bog vegetation (fig. 6), described by Maguire and Wurdack (1959) as the most diverse found in the tepuis. Above 2500 m, the rocky slopes are so precipitous that they support little substantial vegetation.

Cerro de la Neblina is located at approximately 00°50'N, 66°00'W (Maguire, 1955; Maguire and Wurdack, 1959). To the east, it is connected by a corridor of high elevation (1000 m) to the Sierras Tapirapeco and Curupira along the Brazilian border. This group of peaks is 350 km south of the nearest other major tepui, Cerro Duida.

History of Ornithological Exploration

In 1954, the year after the discovery of Cerro de la Neblina, William H. Phelps, Jr., Kathleen Deery de Phelps, and Ramon Urbano made the first survey of birds on this mountain. From 19 January to 2 February, they worked on the ridge at 1850 to 1900 m on the northeastern edge of Neblina, and on the lower slopes to the northeast. Their collection included about 400 specimens of 57 species, taken from 950 to 1900 m (Phelps and Phelps, 1965).

It was 10 years before there was any further ornithological exploration. In February and March 1965, R. Morales collected 13 specimens of six species from 2300 to 2500 m on the northeast slopes. In February and March 1967, Otacilio Tavares collected 72 specimens of 17 species from

→

FIG. 1. The Pantepui, with Cerro de la Neblina designated with an arrow (from Mayr and Phelps, 1967).

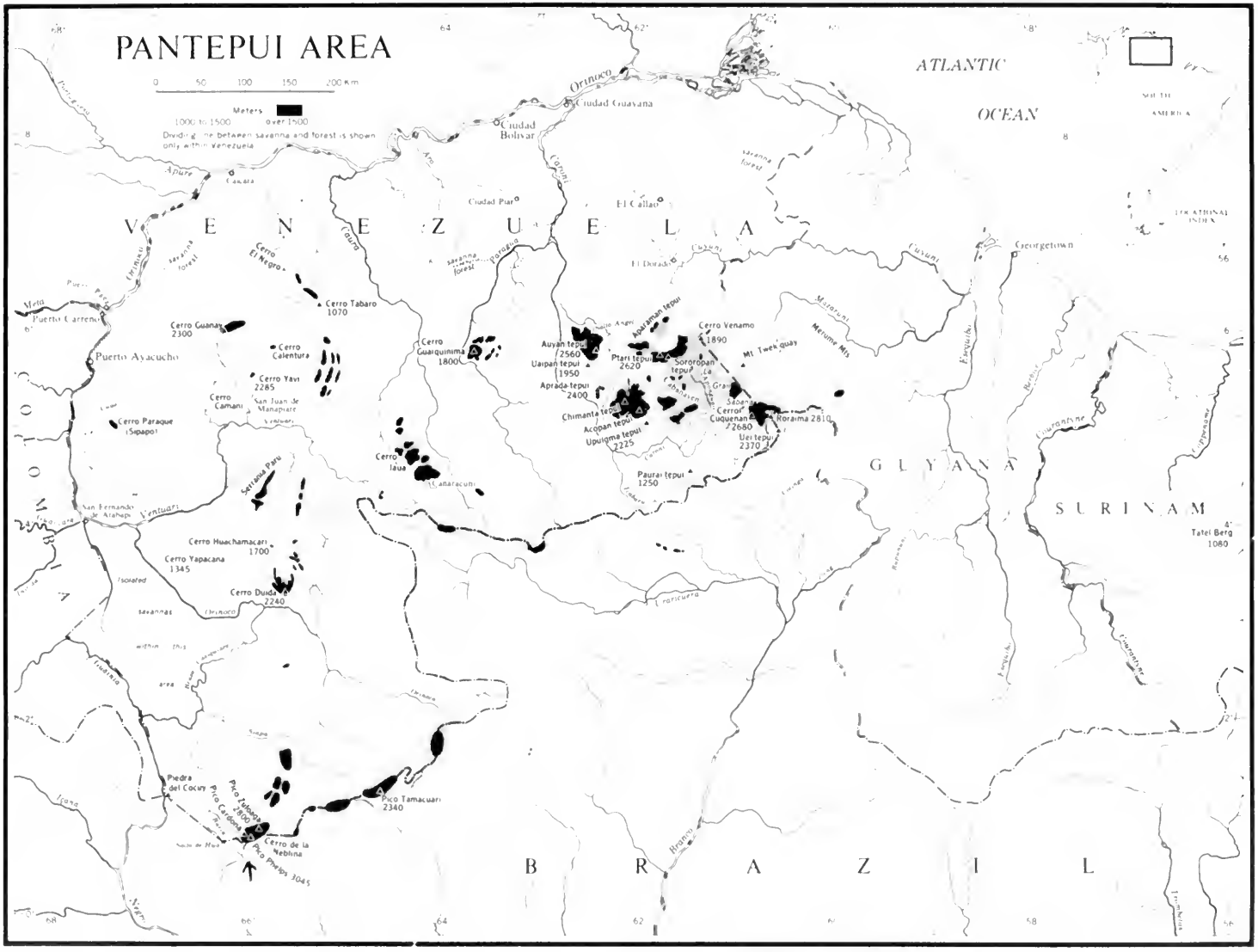
PANTEPUI AREA
0 50 100 150 200 Km
Meters
1000 to 1500
over 1500
Dividing line between savanna and forest is shown only within Venezuela
ATLANTIC
OCEAN
Orinoco
Ciudad Guayana
Ciudad Bolivar
Apure
Cabara
Ciudad Piar
El Callao
V E N E Z U E L A
Cerro El Negro
Cerro Tabaro 1070
Cerro Guanay 2300
Puerto Ayacucho
Cerro Calentura
Cerro Yavi 2285
Cerro Camani
San Juan de Manapiare
Cerro Paraque (Sipapo)
Cerro Guarquinima 1800
Auyan tepui 2560
Uaipan tepui 1950
Aprada tepui 2400
Chimanta tepui
Acopan tepui
Upuigma tepui 2225
Aparaman tepui
Ptari tepui 2620
Sororopan tepui
Cerro Venamo 1890
Mt. Twek-quay
Cerro Cuquenan 2680
Roraima 2810
Ueri tepui 2370
Paurai tepui 1250
Cerro Iaua
Canaracuni
Serrania Parú
San Fernando de Atabapo
Ventuari
Cerro Huachamacari 1700
Cerro Yapacana 1345
Cerro Duida 2240
isolated savannas
within this area
Piedra del Cocuy
Pico Tamacuari 2340
Pico Phelps 3045
Cerro de la Neblina
B R A Z I L
Georgetown
Mazaruni
Merume Mts
Cuyuni
Essequibo
Potaro
Courantyne
Kukenaam
Tafel Berg 1080
G U Y A N A
S U R I N A M
savanna forest
Caura
Paragua
Caroni
Branco
Trombetas
Iça
Içana
Aiarí
Tapirapeco
Marauiá
Tapuruquara
Maroa
Yavita
Solano
Tres Esquinas
Puerto Carreño
Meta
Vichada
Tomo
Inirida
Guainia
Rio Negro
Isana
Uaupes
Tiquie
Querari
Pari-Cachoeira
Iauareté
Cucui
Cucuhy
Tunuhy
Tucano
Ipanoré
Cubate
Cucuhy
Surucucu
Auaris
Parima
Mts
Pacaraima Mts
Kanuku Mts
Rupununi
Takutu
Ireng
Rio Branco
Boa Vista
Caracaraí
Mucajaí
Apiau
Uraricoera
Parima
Catrimani
Demini
Jauaperi
Rio Negro
Manaus
Solimões
Amazonas
Trombetas
Tapajós
Xingu
Araguaia
Tocantins
Belém
Marajó
Maranhão
Piauí
Fortaleza
Natal
João Pessoa
Recife
Maceió
Aracaju
Salvador
Ilhéus
Vitória
Rio de Janeiro
São Paulo
Santos
Curitiba
Florianópolis
Porto Alegre
Pelotas
Rio Grande
Montevideo
Buenos Aires
Rosario
Santa Fe
Paraná
Corrientes
Asunción
Pilcomayo
Bermejo
Salta
Jujuy
Tucumán
Santiago del Estero
Córdoba
San Luis
Mendoza
San Juan
La Rioja
Catamarca
Chaco
Formosa
Misiones
Entre Ríos
Buenos Aires
La Pampa
Neuquén
Río Negro
Chubut
Santa Cruz
Tierra del Fuego
Falkland Islands
Malvinas
Drake Passage
Antarctica
Pacific Ocean
Chile
Argentina
Bolivia
Paraguay
Uruguay
Peru
Ecuador
Colombia
Panama
Costa Rica
Nicaragua
Honduras
El Salvador
Guatemala
Belize
Mexico
Cuba
Haiti
Dominican Republic
Jamaica
Puerto Rico
Trinidad and Tobago
Barbados
Grenada
Saint Lucia
Saint Vincent and the Grenadines
Antigua and Barbuda
Saint Kitts and Nevis
Dominica
Guadeloupe
Martinique
Aruba
Curaçao
Bonaire
Sint Maarten
Saint Martin
Saint Barthélemy
Anguilla
British Virgin Islands
United States Virgin Islands
Cayman Islands
Turks and Caicos Islands
Bahamas
Florida
Georgia
South Carolina
North Carolina
Virginia
Maryland
Delaware
New Jersey
New York
Pennsylvania
Connecticut
Rhode Island
Massachusetts
Vermont
New Hampshire
Maine
Ohio
Indiana
Illinois
Michigan
Wisconsin
Minnesota
Iowa
Missouri
Kentucky
Tennessee
Mississippi
Alabama
Louisiana
Arkansas
Oklahoma
Texas
Kansas
Nebraska
South Dakota
North Dakota
Montana
Wyoming
Colorado
New Mexico
Arizona
Utah
Nevada
California
Oregon
Washington
Idaho
Alaska
Hawaii
Canada
Greenland
Iceland
Europe
Africa
Asia
Australia
New Zealand
Antarctica
Pacific Ocean
Atlantic Ocean
Indian Ocean
Arctic Ocean
Mediterranean Sea
Caribbean Sea
Gulf of Mexico
Hudson Bay
Baffin Bay
Davis Strait
Labrador Sea
Gulf of St. Lawrence
Bay of Fundy
Gulf of Maine
Chesapeake Bay
Delaware Bay
Long Island Sound
Cape Cod
Nantucket
Martha's Vineyard
Block Island
Great Lakes
Lake Superior
Lake Michigan
Lake Huron
Lake Erie
Lake Ontario
Niagara Falls
Mississippi River
Missouri River
Ohio River
Tennessee River
Arkansas River
Red River
Rio Grande
Colorado River
Columbia River
Snake River
Yukon River
Mackenzie River
Hudson River
St. Lawrence River
Susquehanna River
Potomac River
James River
Roanoke River
Pee Dee River
Savannah River
Altamaha River
Suwannee River
Apalachicola River
Alabama River
Tombigbee River
Pearl River
Atchafalaya River
Sabine River
Trinity River
Brazos River
Pecos River
Gila River
Salt River
Verde River
Little Colorado River
San Juan River
Green River
Yampa River
White River
Platte River
Kansas River
Arkansas River
Missouri River
Yellowstone River
Milk River
Saskatchewan River
Athabasca River
Peace River
Fraser River
Thompson River
Columbia River
Snake River
Willamette River
Sacramento River
San Joaquin River
Colorado River
Gila River
Salt River
Verde River
Little Colorado River
San Juan River
Green River
Yampa River
White River
Platte River
Kansas River
Arkansas River
Missouri River
Yellowstone River
Milk River
Saskatchewan River
Athabasca River
Peace River
Fraser River
Thompson River

FIG. 2. Neblina massif rising from surrounding lowlands.

the Brazilian slope of Pico Zuloaga at 1500 m and from 2350 to 2475 m near the summit. G. Perez, in October 1970, worked from 2000 to 2300 m on the north side of Pico Zuloaga. He collected 28 specimens of 11 species. The final ornithological exploration prior to our expedition was in November and December 1970. Francisco Caldas collected 149 specimens of 50 species, a few from 500 to 600 m in the Brazilian lowlands and the rest from 1300 to 2000 m on the Brazilian slopes. Phelps (1972) and Phelps and Aveledo (1966) reported on specimens from these collections that represented new records for Brazil. Otherwise, results of these last collections are unpublished.

The 680 specimens from Neblina collected prior to our expedition are mostly housed in the Colección Ornitológica Phelps in Caracas, with smaller numbers at the American Museum of Natural History and the U.S. National Museum in Washington. They represent 89 species. Of these, 11 from the Caldas collection were collected only below 600 m, leaving 78 species collected from 900 m and above. Six of the latter are migrants from North America that winter broadly across northern South America, and 25 are widespread lowland forms whose ranges extend up the slopes. This leaves a total of 47 primarily montane species (i.e., distributed only above 900 m) recorded from Cerro de la Neblina prior to our expedition.

The 1984–1985 Expedition

From February to early May and late November to early December 1984, and from late January through early March 1985, we surveyed the avifauna of Cerro de la Neblina by observation and through collections made with shotguns and mist nets. Helicopters provided access to camps at upper elevations. A trail system several kilometers in extent provided access to various lowland habitats, including river-edge bamboo, seasonally inundated floodplain forest, upland forest, and both black- and white-water streams. Mist nets were run virtually continually at all camps, but because of scheduling and mechanical problems with helicopters, and differential manpower, coverage was not equal at all camps. Because of this, and because the mist-netting techniques of the various workers differed, we made no attempt to analyze mist-net captures quantitatively.

The following is a description of the areas surveyed and a summary of our itineraries. The localities are mapped in figure 7. The site descriptions are adapted from those provided by R. McDiarmid (in litt.; for more detailed descriptions, see Brewer-Carias, 1988).

Base Camp—140 m; left bank of the Río Baría. Tall seasonal rain forest drained by both black- and white-water streams. From this camp we had walking access up to 350 m.

Barrowclough (GB): 25–28 Nov., 4 Dec. 1984
Cannell (PC): 25–28 Nov., 4 Dec. 1984
Coats (SC): 7–15 Feb., 18 Feb.–12 Mar. 1984
Cracraft (JC): 10–11 Apr., 15 Apr., 19 Apr.–9 May 1984

FIG. 3. Central canyon (Cañon Grande) of Neblina.

FIG. 4. Stream-edge forest, 1730 m, Camp VII.

Dickerman (RD): 20–21 Mar., 25 Mar.–10 Apr. 1984
Foster (MF): 5–16 Feb., 26 Feb.–12 Mar. 1984
O'Neill (JO): 25–28 Jan., 14–25 Feb. 1985
Willard (DW): 14 Mar., 21 Mar.–10 Apr., 15–18 Apr. 1984; 25–28 Jan., 14–25 Feb. 1985

Camp IV—740 m; left bank of the Río Baría in the Cañon Grande, bisecting Cerro de la Neblina. Steep slopes in narrow canyon. Trees short and sapling-like with few greater than 10 m high, probably owing to the steep drainage.

Willard: 16–20 Mar. 1984

Camp V—1250 m; at base of Pico Maguire. A hanging valley in dense cloud forest with moderately tall trees, and rocky forest floor covered with thick moss.

Dickerman: 22–24 Mar. 1984
Willard: 23–24 Mar., 11–14 Apr. 1984
Cracraft: 11–14 Apr. 1984

Camp XI—1390–1515 m; 6.2 km NNE Pico Phelps. *Tyleria-Brocchinia* (a terrestrial bromeliad) scrub forest on ridges; dense cloud forest in lower elevations and valleys.

O'Neill, Willard: 26 Feb.–1 Mar. 1985

Day Trip—1600 m; 6.5 km SSW Base Camp.

Dickerman, Cracraft: 18 Apr. 1984

Camp VII—1730–1850 m; 5 km NE Pico Phelps. Cloud forest along stream edge, climbing steeply to dense stands of terrestrial bromeliads (*Brocchinia*) on rock outcrops.

Barrowclough, Cannell: 29 Nov.–3 Dec. 1984
O'Neill, Willard: 30 Jan.–13 Feb. 1985

Camp I—1820–1880 m; on northwest plateau. Pitcher plant (*Heliamphora*) savannas, and ridges supporting an endemic small tree (*Neblinaria*).

Coats: 16–18 Feb. 1984

Camp VI—2000 m; near Brazil border, 3.5 km NE Pico Zuloaga. Wet shrubby savanna and

FIG. 5. Forest on ridge, 1515 m, Camp XI.

FIG. 6. Bog vegetation at 2100 m, Camp II.

dwarf cloud forest dominated by a small shrubby tree (*Bonnetia*).

Dickerman: 14–17 Apr. 1984

Camp II—2085–2100 m; 3 km NE Pico Phelps. Pitcher plant (*Heliamphora*) bogs; gallery forest along small stream and slopes of shrubby *Bonnetia* forest.

Foster: 17–25 Feb. 1984
Dickerman: 16–20 Mar. 1984
Cracraft: 15–17 Apr. 1984
O'Neill: 1 Feb. 1985

Santa Lucia and San Carlos—120 m; small settlements along the Río Negro. Dominated by second growth and cultivated land, but tall forest on sandy soil on the outskirts of San Carlos.

Coats (Santa Lucia): 4–5 Feb. 1984
Dickerman, Willard (San Carlos): 5–12 Mar. 1984
Cracraft (San Carlos): 12 May 1984

We collected a total of 2,150 specimens representing 259 species. These collections, along with our observations, document a total of 310 species from the slopes of Cerro de la Neblina and the surrounding lowlands. Eighty-two of these species were encountered above 750 m. Five of these are migrants from North America or the West Indies, and an additional 19 have widespread lowland ranges that extend up the slopes of the tepuis. Thus, we found a total of 58 species that were primarily montane, defined as having lower elevational limits at 750 m or above.

Species Accounts

Conventions

In the species accounts, the following conventions are adopted:

1. An asterisk (*) signifies a species considered primarily montane, i.e., occurring primarily above 750 m.
2. Gonadal development is defined as:

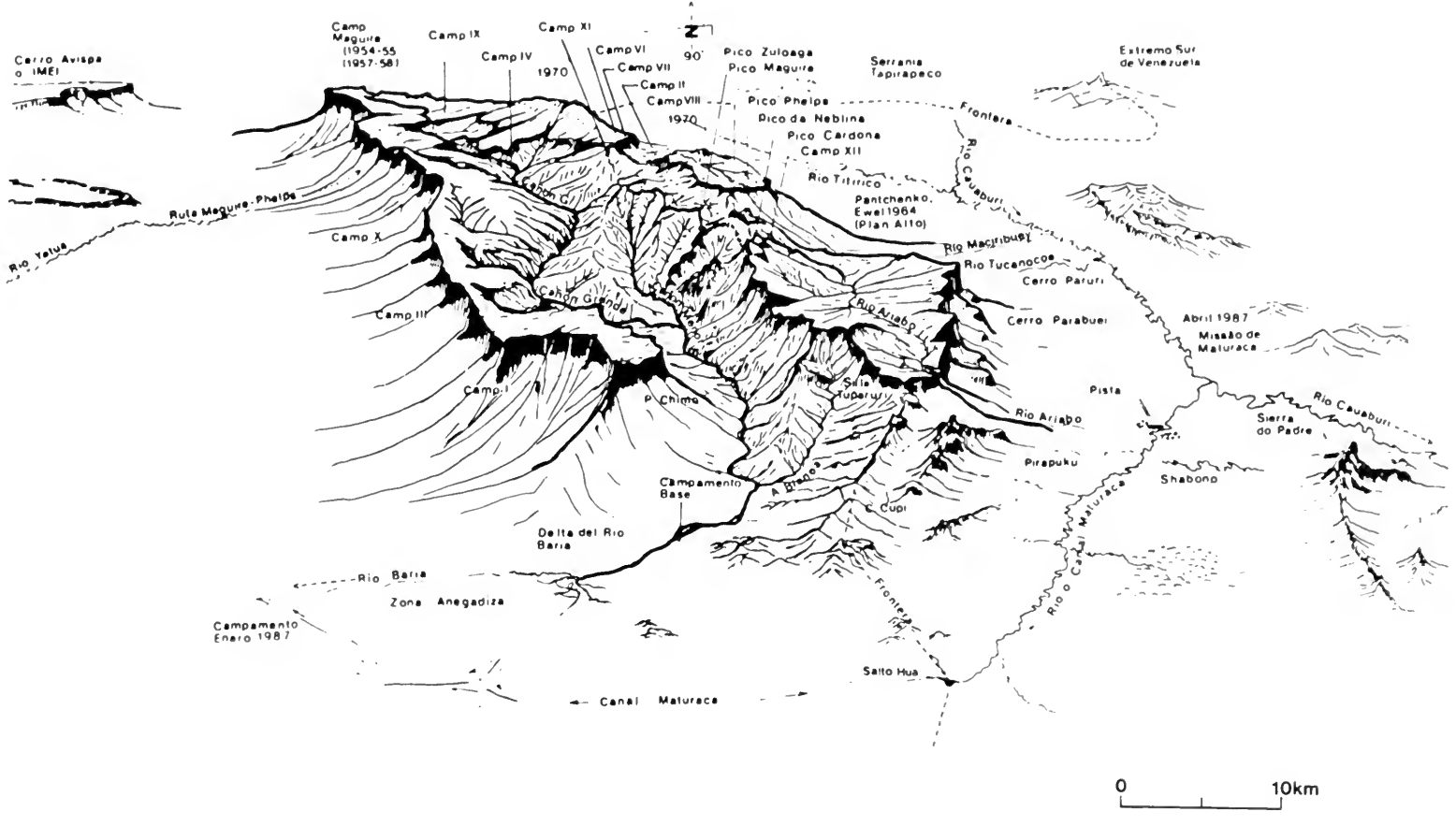

FIG. 7. Topography of Cerro de la Neblina, with location of camps (from Brewer-Carias, 1988).

♀♀, Largest ovum:

< 1 × 1 mm = small
1 × 1 mm = moderate
> 1 × 1 mm = large

♂♂, Testes:

Under 10 g:

≤ 1 × 1 mm = small
2 × 1 mm = moderate
≥ 2 × 2 mm = large

10–50 g:

≤ 2 × 2 mm = small
< 2 × 2 to 4 × 4 mm = moderate
> 4 × 4 mm = large

50–100 g:

≤ 3 × 3 mm = small
4 × 3 to 7 × 4 mm = moderate
≥ 7 × 4 mm = large

> 100 g:

≤ 6 × 4 mm = small
> 6 × 4 to 8 × 5 mm = moderate
> 8 × 5 mm = large

3. Weights are split by sex if the sample sizes are large or if the sexes appear to be decidedly different; when we have significant numbers of unsexed specimens (many of the fluid specimens), or when the weights of one sex bracket those of the other, we have combined the sexes and we list a single mean weight for the species.
4. Abundance: "regular," "infrequent," or "occasional" is used when we are aware of a few individuals of a species, but lack information on absolute abundance; "common," "fairly common," or "uncommon" is used for species with more evidence of actual abundance from mist-net samples or more thorough census information.
5. Specimens from the current expedition are listed by elevation. We include information on specimens from previous expeditions if they represent records from elevations above or below those recorded on the current trip. We also include species that we did not encounter that were collected on those expeditions. Detailed summaries of all specimens collected at Neblina on this and previous expeditions, and of those collected at San Carlos and Santa Lucia on the current expedition, are presented in Appendices 1 and 2, respectively. Caldas, Tavares, and Perez specimens are part of the Phelps collection.
6. General range information for southern Amazonas is taken from Phelps and Phelps (1958, 1963), Meyer de Schauensee and Phelps (1978), and Schwartz and Rivero (1979).
7. Nomenclature and species order follow Morony et al. (1975) except for the Furnariidae, which follows Meyer de Schauensee (1970), and the Tyrannidae, Pipridae, and Cotingidae, which follow Traylor (1979).
8. Sight records and observations of some specific stomach contents are followed by the initials of the observer.

Accounts

Tinamus major
Great Tinamou

SPECIMENS—2 (140 m).
WEIGHT—670 g (1 ♂).
IRIS—Dark brown.
BILL—Maxilla dusky; mandible pink with dusky tip.
TARSUS—Medium gray.
GONADS—Large—Feb. (1 ♂).
MOLT—Heavy body molt in mid-Feb. specimen.
FOOD—Fruit and seeds in one stomach.

Regularly heard in river-edge forest at 140 m. Chicks and eggs brought in by camp assistants in mid-Feb. (not collected).

Tinamus guttatus
White-throated Tinamou

SPECIMENS—1 (140 m).
WEIGHT—570 g (1 ♂).
IRIS—Brown.
BILL—Maxilla brown; mandible cream.
TARSUS—Gray-green.
GONADS—Moderate—Feb. (1 ♂).
MOLT—None in early Feb. specimen.
FOOD—Fruit, seeds, and grit in one stomach.

Regularly heard in forest from 140 to 750 m. Specimen was taken while it was roosting in a tree at night.

Crypturellus soui
Little Tinamou

Vocal records only (DW). Calling in Feb. from forest at about 1300 m below Camp XI.

Podilymbus podiceps
Pied-billed Grebe

SPECIMENS—1 (140 m).
WEIGHT—420 g (1 ♂).
IRIS—Dark brown, flecked with gray.
ORBITAL SKIN—Pale yellow.
BILL—Maxilla dark brown; mandible flesh.
TARSUS—Gray-brown.
GONADS—Small—Feb. (1 ♂).

Specimen, taken 25 Feb. 1985 from a backwater of Río Baría, constitutes our only record; this is the first record for the territory of Amazonas.

Phalacrocorax olivaceus
Neotropic Cormorant

Sight records only (GB, SC, JC, RD, MF, JO, DW). Small numbers regularly along Río Baría at 140 m.

Anhinga anhinga
Anhinga

Sight records only (MF, JO, DW). Single individuals present along backwaters of Río Baría at 140 m in Feb. of both 1984 and 1985.

***Tigrisoma (fasciatum) (species ?)**
Fasciated Tiger-Heron

One sight record only (DW). An immature flushed from rocks of fast-flowing stream at 1800 m in Feb. 1985. The habitat and elevation are more typical of *fasciatum* than of *lineatum*, but neither species is known from southern Amazonas.

Nycticorax violaceus
Yellow-crowned Night Heron

SPECIMENS—1 (140 m).
WEIGHT—445 g (1 ♀).
IRIS—Orange.
BILL—Black.
TARSUS—Yellow-green.
GONADS—Small—Jan. (1 ♀).

Occasionally observed feeding at night in shallow rocky rapids of Río Baría from late Jan. through Feb. In Amazonas, previously recorded only at Puerto Ayacucho.

Cochlearius cochlearius
Boat-billed Heron

Sight records only (RD, MF, DW). Regularly heard calling at night along Río Baría, Feb. through Apr. 1984.

Butorides striatus
Green-backed Heron

SPECIMENS—1 (140 m).
GONADS—Small—Apr. (1 ♂).

Specimen taken along backwaters of Río Baría, and one sight record from the same area (MF).

Hydranassa caerulea
Little Blue Heron

Sight record only (JC, RD). Not previously recorded in Amazonas.

Agamia agami
Chestnut-bellied Heron

SPECIMENS—2 (140 m).
WEIGHT—630 g (1 ♂); 545 g (1 unsexed).
IRIS—Orange-red to amber.
BILL—Maxilla black; mandible pale straw to flesh.
TARSUS—Gray-brown.
GONADS—Small—Feb. (1 ♂).
MOLT—Light body and tail molt in early Mar. specimen.
FOOD—Small fish and shrimp in one stomach.

The two specimens, taken from edge of Río Baría, constitute our only records. The early Mar. specimen was in immature plumage.

Mesembrinibis cayennensis
Green Ibis

Sight records only (SC, JC, RD, JO, DW). Single individuals frequently observed flying along Río Baría. Records in Mar. and Apr. 1984 and Feb. and Mar. 1985.

Eudocimus ruber
Scarlet Ibis

Sight records only (MF). Flocks of five and of two observed from helicopter about two-thirds

of the way between Santa Lucia and the Base Camp, over 140-m lowlands, on 4 Feb. 1984. They were clearly recognized by their bright scarlet plumage and their slender, down-curved bills. The species has not previously been recorded from Amazonas.

Cathartes melambrotus
Greater Yellow-headed Vulture

Sight records only (SC, RD, JO, DW). Regularly flying overhead at Base Camp.

Sarcoramphus papa
King Vulture

Sight record only (JC). Vicinity of Base Camp.

Leptodon cayanensis
Gray-headed Kite

Sight record only (DW). Immature observed soaring over lowland forest near Base Camp at 140 m, Apr. 1984. Identified by size, black crown patch on otherwise white head, and pale lores, separating it from the black-lored Black and White Hawk-Eagle, *Spizastur melanoleucus*. Previous records for Amazonas only along Ríos Ventuari and Orinoco at Las Carmelitas and the vicinity of Cerro Yapacana, but M. Lentino (pers. comm.) observed it twice in 1987 at 1350 m on Cerro Aracamuni, about 125 km north of Neblina.

Elanoides forficatus
Swallow-tailed Kite

Sight records only, at 140 m in Mar. 1984 (MF) and at 1600 m in Apr. 1984 (JC, RD). These records are the first for Amazonas.

Leucopternis albicollis
White Hawk

Not recorded on the current trip, but collected by Caldas (unpubl.) at 400 m on the Brazilian side in Jan. 1971.

***Harpyhaliaetus solitarius**
Solitary Eagle

Sight records only. One individual observed from helicopter over forest near Base Camp in Feb. 1984 (SC); a second observed flying above forest in main river canyon above 750 m, Mar. 1984 (DW). Identified by large size, uniformly black plumage, and proportionately broad wings and short tail with central white tail band. Species was previously known in Venezuela only from the Coastal Range in Aragua and Carabobo. M. Lentino (pers. comm.) reports that it is also regularly seen at Colonia Tovar in Distrito Federal, Guatapo in Miranda, and in the Gran Sabana of Bolívar.

***Geranoaetus melanoleucus**
Black-chested Buzzard-Eagle

Sight record only (DW). One adult observed soaring high overhead from about 1900 m, Feb. 1985, in area bounded by high sheer cliffs. Identified by large size, dark chest contrasting with gray underparts, and very short wedge-shaped tail. Previously known in Venezuela only from the Andes of Merida.

Buteo platypterus
Broad-winged Hawk

SPECIMENS—1 (1800 m).

Migrant from North America, seen regularly at 1400 m and 1800 m, Dec. through Feb., soaring overhead (JO, DW).

Buteo brachyurus
Short-tailed Hawk

Sight records only (JO). Light-phase individuals observed several times at 1400 and 1850 m soaring over open vegetation. These and the single specimen collected on the Phelps 1954 expedition (Phelps and Phelps, 1965) constitute the only records for Amazonas.

Spizaetus ornatus
Ornate Hawk-Eagle

Sight record only (JC). Single individual startled while feeding on a tinamou on a trail at 140 m. Previously known only south to central Amazonas in Venezuela.

Daptrius americanus
Red-throated Caracara

SPECIMENS—2 (140 m).
WEIGHT—665 g (1 ♀); 390 g (1 unsexed).
IRIS—Red.
FACIAL SKIN AND BARE THROAT—Red.
BILL—Yellow with blue base.
TARSUS—Orange-red.
GONADS—Moderate—Mar. (1 ♀).
MOLT—None on early Mar. specimen.
FOOD—Fruit and insects, including ants (SC) in one stomach.

Regularly seen and heard calling in lowland forest up to 350 m.

Micrastur gilvicollis
Lined Forest-Falcon

SPECIMENS—1 (140 m).
WEIGHT—231 g (1 ♀).
IRIS—White.
ORBITAL SKIN—Orange.
BILL—Black.
CERE—Orange.
TARSUS—Yellow.
GONADS—Moderate—Apr. (1 ♀).

Specimen, taken in forest, constitutes the only record.

Falco rufigularis
Bat Falcon

Sight records only (JO, DW). Observed occasionally at dusk over river and heliport clearing at 140 m, Jan.–Feb. 1985.

Penelope jacquacu
Spix's Guan

SPECIMENS—1 (140 m); 1 (1800 m).
WEIGHT—1,100 g (1 ♂).
IRIS—Brown.
GULAR PATCH—Orange-red.
FACIAL SKIN—Slate.
TARSUS—Rose-red.
GONADS—Large—Feb. (1 ♂).

Heard and seen regularly in forest at 1800 m; either rare or very inconspicuous in lowlands, where the specimen constitutes the only record.

Aburria pipile
Blue-throated Piping-Guan

SPECIMENS—13 (140 m).
WEIGHT—2 ♂♂, $\bar{x}$ = 1,325 g (1,300, 1,350 g); 6 ♀♀, $\bar{x}$ = 1,159 g (SD = 117.0; range 970–1,270 g).
IRIS—Reddish brown.
BILL—Black with pinkish base, blue around nares.
FACIAL SKIN—Bluish white.
GULAR PATCH—Slaty purple.
TARSUS—Rose.
GONADS—Large—Feb. (5 ♀♀), Apr. (1 ♀); moderate—Jan. (1 ♂).
MOLT—Wing and body molt in one late Feb. specimen.
FOOD—Snails in four stomachs; palm fruits in three; figs in one.

Common in treetops of forest at 140 m; usually in groups of five or six both at river edge and in upland forest.

Crax tomentosa
Lesser Razor-billed Curassow

SPECIMENS—12 (140 m).
WEIGHT—4 ♂♂, $\bar{x}$ = 2,875 g (SD = 193.6; range 2,600–3,050 g); 4 ♀♀, $\bar{x}$ = 2,250 g (SD = 195.8; range 2,000–2,450 g).
IRIS—Dark brown.
BILL—Red; some individuals with whitish tip.
TARSUS—Orange-yellow to dull orange.
GONADS—Large—Feb. (1 ♀, 4 ♂♂), Mar. (1 ♂), Apr. (1 ♀).
MOLT—Wing and tail molt noted in single specimens from late Nov., mid-Feb., and early Mar.; general body molt in one additional mid-Feb. specimen.

Regularly seen alone or in pairs at 140 m on the ground in forest in the vicinity of Base Camp.

Crax alector
Black Curassow

SPECIMENS—5 (140 m); for two of the five, only crops were saved.
WEIGHT—$\bar{x}$ = 2,788.0 g (N = 5; SD = 435.6; range 2,440–3,400 g).
IRIS—Dark brown to reddish brown.
BILL—Pale blue.
CERE—Bright yellow.

TARSUS—Gray-blue.
GONADS—Large—Feb. (1 ♂).
MOLT—Wing and tail molt, body molt, and no molt in three late Feb. specimens; no molt in one early Dec. specimen.
FOOD—Seeds in one crop.

Occasionally seen, usually in groups of five or six individuals, on the ground and in lower branches of trees. Ranged to at least 350 m in elevation. Apparently much less common than *tomentosa*. The 1954 Phelps expedition collected one at 900 m (Phelps and Phelps, 1965).

Odontophorus gujanensis
Marbled Wood-Quail

Vocal record only (DW). Heard calling from forest below 1400-m camp in Feb. 1985. The 1954 Phelps expedition collected one at 1500 m (Phelps and Phelps, 1965).

Opisthocomus hoazin
Hoatzin

Sight record only (MF). Group of four or five in forest canopy near Río Baría at Base Camp, 11 Feb. 1984. Identified by large size and distinctive silhouette with irregular, wispy crest. The species has been recorded previously south through much of Amazonas, but not along the Brazilian border.

Psophia crepitans
Gray-winged Trumpeter

SPECIMENS—5 (140 m).
WEIGHT—$\bar{x}$ = 1,023.6 g (N = 5; SD = 63.3; range 965–1,100 g); 1 ♂, 1,045 g; 1 ♀, 999 g; 3 unsexed.
IRIS—Dark brown.
BILL—Black with green gonys to totally apple green.
TARSUS—Green to greenish white.
GONADS—Large—Feb. (1 ♀, 1 ♂).
MOLT—Body molt noted in two specimens from late Feb. and early Mar.

Single individuals and groups up to eight in forest of lowlands, particularly in floodplain forest.

Actitis macularia
Spotted Sandpiper

SPECIMENS—5 (140 m).
WEIGHT—41.2 g (1 ♀); 39.9 g (1 ♂).
IRIS—Dark brown.
BILL—Dark to medium brown.
TARSUS—Brownish yellow.
GONADS—Small—Feb. (1 ♂), Apr. (1 ♀).
MOLT—Body molt in early Apr. specimen.

Migrant from North America, common along Río Baría up to 750 m, Jan.–Apr.

***Columba fasciata**
Band-tailed Pigeon

Sight records only (GB, JO, DW). One flock observed at 1250 m in Apr.; regularly seen in late Nov. and Feb. at 1800 m in trees and in large flocks overhead. Not recorded previously in Amazonas south of Cerro Duida.

Columba subvinacea
Ruddy Pigeon

SPECIMENS—1 (140 m).
WEIGHT—103 g (1 juv.).
IRIS—Olive-brown.
ORBITAL SKIN—Dark brownish gray.
BILL—Black.
TARSUS—Gray with red undertones.
MOLT—Wing and body molt in the single early Mar. juvenile.

Regularly heard calling in forest to 350 m. The single specimen was a juvenile.

Leptotila rufaxilla
Gray-fronted Dove

SPECIMENS—4 (140 m).
WEIGHT—$\bar{x}$ = 171 g (N = 4; SD = 13.64; range 159–188 g).
IRIS—Yellow-brown.
BILL—Black.
TARSUS—Rose-red.
GONADS—Large—Apr. (1 ♂).
FOOD—Seeds 2 cm long in one stomach.

Fairly common in bamboo at edge of Río Baría. The 1954 Phelps expedition collected one at 1450 m (Phelps and Phelps, 1965).

Geotrygon montana
Ruddy Quail-Dove

SPECIMENS—8 (140 m); 1 (1250 m).
WEIGHT—$\bar{x}$ = 105.5 g (N = 6; SD = 8.9; range 89–114 g).
IRIS—Amber.
ORBITAL SKIN—Rose.
BILL—Red with pink tip.
TARSUS—Rose.
GONADS—Large—Jan. (1 ♂), Apr. (1 ♀).

Common, particularly in floodplain forest, in lowlands at 140 m. The specimen at 1250 m constituted the only record at upper elevations.

Ara ararauna
Blue-and-yellow Macaw

Sight records only (SC, JC, DW). Occasionally observed flying overhead at 140 m; several times from helicopter on trip between Santa Lucia and Base Camp. Previously recorded quite locally in Amazonas; the closest records are from the headwaters of the Río Siapa to the east, where M. Lentino (pers. comm.) reports it as common.

Ara macao
Scarlet Macaw

Sight records only (DW). Occasionally observed at 140 m flying overhead.

Ara chloroptera
Red-and-green Macaw

SPECIMENS—2 (140 m).
WEIGHT—$\bar{x}$ = 1,300 g (N = 2; identical weights).
IRIS—Straw yellow.
BILL—Ivory-white and black.
TARSUS—Black.
GONADS—Large—Feb. (1 ♂).

Observed regularly from 140 to 1800 m flying overhead. Additional sight record at 2100 m (MF).

Pyrrhura melanura
Maroon-tailed Parakeet

SPECIMENS—5 (140 m).
WEIGHT—$\bar{x}$ = 67.9 g (N = 5; SD = 1.9; range 66.0–70.5 g).
IRIS—Brown.
ORBITAL SKIN—White.
BILL—Pale horn to gray; some individuals with white centrally on mandible.
TARSUS—Black to dark gray.
GONADS—Large—Mar. (1 ♀, 1 ♂); small—Feb. (1 ♂).
MOLT—Wing and tail molt noted in three specimens from late Feb. and early Mar.; body molt in four of five specimens from this period.
FOOD—Ground seeds of *Coussapoa* (Moraceae) in one stomach (MF).

Fairly common in flocks in floodplain and upland forest of the lowlands (SC).

***Nannopsittaca panychlora**
Tepui Parrotlet

SPECIMENS—6 (140 m).
WEIGHT—$\bar{x}$ = 44.4 g (N = 6; SD = 2.1; range 42.0–46.5 g).
IRIS—Brown.
BILL—Gray; mandible with pale base.
TARSUS—Flesh.
GONADS—Large—Mar. (1 ♀, 2 ♂♂).
MOLT—Heavy wing, tail, and body molt in one and light body molt in a second early Mar. specimen; no molt, but extremely worn plumage in the remaining specimens, all also collected in early Mar.

All specimens and sightings from 4 Mar. 1984 in a fruiting tree. Previously known in Amazonas only from vicinities of Cerros Marahuaca and Duida. Although it is usually found at mid- to upper elevations in the tepuis and is considered a Pantepui endemic by Mayr and Phelps (1967), lowland sightings of the species are not uncommon (C. Parrish, pers. comm.).

Pionites melanocephala
Black-headed Parrot

SPECIMENS—3 (140 m).
WEIGHT—$\bar{x}$ = 150 g (N = 3; SD = 8.0; range 142–158 g).
IRIS—Brown to yellow to orange.
BILL—Black.
TARSUS—Black.
MOLT—Wing, tail, and body; wing and body;

and heavy body molt noted on the three early Mar. specimens.

Regularly heard, less frequently seen throughout lowland forest at 140 m.

Pionus menstruus
Blue-headed Parrot

Sight records only (JO, DW). Regularly seen at Base Camp at 140 m flying overhead.

Amazona ochrocephala
Yellow-headed Parrot

Sight records only (JO). Heard occasionally from forest in vicinity of Base Camp. Not previously recorded in southern Amazonas.

Amazona amazonica
Orange-winged Parrot

Sight records only (DW). Occasional sightings near Base Camp at 140 m.

Deroptyus accipitrinus
Red-fan Parrot

Not recorded on the current trip, but collected by Caldas in Dec. 1970 at 550 m on the Brazilian side (unpubl.).

Piaya cayana
Squirrel Cuckoo

Sight records only (JC, MF, DW). Seen infrequently in forest from 140 to 1250 m.

Piaya melanogaster
Black-bellied Cuckoo

SPECIMENS—2 (140 m); 1 (Santa Lucia); 1 (San Carlos).
WEIGHT—$\bar{x}$ = 97.4 g (N = 3; SD = 4.9; range 92.3–102.0 g).
IRIS—Dark brown.
ORBITAL SKIN—Yellow, bordered bluish below.
BILL—Dark red.
TARSUS—Black.
GONADS—Moderate—Feb. (1 ♂).
FOOD—Large katydids and caterpillars in one stomach.

Fairly common in subcanopy of lowland forest.

***Otus guatemalae**
Vermiculated Screech-Owl

Not recorded on the current trip, but collected in forest at 1800 m in 1954 (Phelps and Phelps, 1965).

***Otus choliba**
Tropical Screech-Owl

SPECIMENS—3 (1800 m); 1 (2100 m).
WEIGHT—$\bar{x}$ = 111.0 g (N = 3; SD = 5.6; range 106–117 g).
IRIS—Golden yellow.
BILL—Grayish green.
TARSUS—Grayish flesh.
GONADS—Small—Feb. (2 ♂♂).
MOLT—Body molt in single specimens from early Feb. and mid-Mar.
FOOD—Insect parts in two stomachs, identified as roaches in one.

Heard calling commonly from about 1500 up to 2100 m, Dec.–Mar., from dense forest to *Brocchinia*/bamboo scrub to the high-elevation pitcher plant swamps. Song generally similar to that of lowland *choliba* (tapes on deposit at American Museum of Natural History [AMNH], Louisiana State University Museum of Natural Science [LSUMZ], and Field Museum of Natural History [FMNH]), but distinguishable (T. A. Parker III, pers. comm.). Lowland form heard calling from Base Camp at 140 m in early Feb. (SC, MF).

Otus watsonii
Tawny-bellied Screech-Owl

SPECIMENS—1 (140 m); 1 (San Carlos).
WEIGHT—114 g (1 ♂); 136 g (1 unsexed).
IRIS—Amber.
BILL—Medium brown.
TARSUS—Pinkish white.
GONADS—Small—Nov. (1 ♂).
FOOD—Insect parts in one stomach.

Heard calling infrequently in lowland forest around Base Camp, particularly near the river at 140 m, Feb.–Apr.

Pulsatrix perspicillata
Spectacled Owl

Vocal records only (SC, JO, DW). In Feb. and Mar. 1984 heard calling nightly in river-edge forest, where a pair had a territory that included Base Camp. Occasionally heard calling through same months in 1985 (tape on deposit at LSUMZ).

***Glaucidium brasilianum**
Ferruginous Pygmy-Owl

Vocal records only (JC, DW). Heard from open forest below camp at 1400 m in Mar. 1985. Although this species is widespread through much of lowland Amazonia, in the tepuis it appears to be restricted to midelevations.

***Aegolius harrisii**
Buff-fronted Owl

SPECIMENS—2 (1800 m).
WEIGHT—2 ♀♀, $\bar{x}$ = 136.0 g (124, 148 g).
IRIS—Greenish yellow to amber.
BILL—Maxilla blackish with gray-green to pinkish culmen; mandible gray-green to pinkish.
TARSUS—Yellowish pink to fleshy white.
GONADS—Large—Feb. (1 ♀); small—Feb. (1 ♀).
MOLT—Moderate body molt in early Feb. specimen.
FOOD—Rodent hair in one stomach.

Two were mist-netted in tall forest at 1800 m, and as many as five could be heard at one time up the slopes toward 2000 m in Feb. 1985. The call was a relatively high-pitched, evenly spaced series of five or six notes repeated over and over with short pauses separating the series. There are no published records for this species in Venezuela outside the Mérida Andes.

***Steatornis caripensis**
Oilbird

SPECIMENS—1 (140 m); 3 (1800 m).
WEIGHT—2 ♂♂, $\bar{x}$ = 390.0 g (360, 420 g); 2 ♀♀, $\bar{x}$ = 360.0 g (345, 375 g).
IRIS—Dark brown.
BILL—Reddish brown.
TARSUS—Pinkish flesh.
GONADS—Large—Feb. (1 ♀, 1 ♂), Dec. (1 ♀); small—Apr. (1 ♂).
MOLT—Wing molt in early Dec. specimen; body molt in early Apr. specimen.

Three mist-netted over stream at 1800 m, one netted over Río Baría at 140 m, all at night. Caves that could supply potential nesting sites were noted in the cliff faces above the 1800-m camp. The closest published records are from Cerro Duida (Bosque, 1986). M. Lentino (pers. comm.) collected it on Cerro Aracamuni, 125 km to the north of Neblina. Our specimens represent the southernmost records in South America outside of the Andes. Oilbirds have also been recorded from the eastern Cerros Roraima, Sarisariñama, and Urutani (Dickerman and Phelps, 1982).

Nyctibius griseus
Common Potoo

SPECIMENS—1 (140 m).
WEIGHT—132 g (1 unsexed).
IRIS—Red-brown.
BILL—Black with brown base.
TARSUS—Whitish gray.
MOLT—Moderate body molt in the one Feb. specimen.

Specimen was taken from a tree branch over water on Río Baría; species was heard calling occasionally from lowland forest in Feb. and Mar. 1984 (SC, MF).

***Caprimulgus longirostris**
Band-winged Nightjar

SPECIMENS—1 (1800 m); 1 (2000 m).
WEIGHT—54.0 g (1 ♀).
IRIS—Dark brown.
BILL—Black.
TARSUS—Dusky brown.
GONADS—Moderate—Feb. (1 ♀); small—Apr. (1 ♂).
MOLT—Body on Apr. specimen; none on Feb. individual.

The two specimens, from a stream edge at 1800 m and from over a bog at 2000 m, constitute our only records.

Caprimulgus nigrescens
Blackish Nightjar

SPECIMENS—12 (140 m); 1 (Santa Lucia).
WEIGHT—7 ♂♂, $\bar{x}$ = 35.9 g (SD = 2.0; range

32.5–39.0 g); 5 ♀♀, $\bar{x}$ = 35.4 g (SD = 2.6; range 32.0–39.0 g).

IRIS—Brown.

BILL—Black.

TARSUS—Black.

GONADS—Large—Feb. (3 ♀♀, 1 ♂); moderate—Feb. (3 ♂♂); small—Feb. (1 ♂).

MOLT—Wing and/or tail molt in five specimens taken throughout Feb.; body molt on nine specimens from the same period.

FOOD—Insects, predominantly beetles and moths, were noted in six stomachs.

Commonly observed on rocks at edge of Río Baría and in trees at the edges of forest clearings.

*Cypseloides phelpsi
Tepui Swift

SPECIMENS—3 (1400 m); 3 (1600 m).

WEIGHT—2 ♂♂, $\bar{x}$ = 23.6 g (22.9, 24.3 g); 3 ♀♀, $\bar{x}$ = 20.8 g (SD = 3.06; range 17.9–24.0 g); 1 unsexed, 25.0 g.

IRIS—Dark brown.

BILL—Black.

TARSUS—Pinkish brown to black.

GONADS—Large—Feb. (1 ♂), Apr. (1 ♂).

FOOD—Winged ants, small dipterans, and one homopteran, all in one stomach.

Occasionally seen in small numbers mixed in large upper-elevation *Streptoprocne* flocks. Three were collected at 1600 m while foraging low over open vegetation; three additional specimens, along with a fresh nest with no eggs (on deposit at LSUMZ), were collected at 1400 m by hand by R. Cocroft in a rock grotto at the edge of a small stream. With previous records in Amazonas only from Cerros Yapacana and Duida, and the Sierra Parima, these records constitute the southernmost for the species.

Streptoprocne zonaris
White-collared Swift

Sight records only (JO, DW). Regularly seen overhead from all elevations, in large swirling flocks.

Chaetura brachyura
Short-tailed Swift

Sight records only (JO). Occasionally seen over heliport at Base Camp, 140 m.

*Aeronautes montivagus
White-tipped Swift

SPECIMENS—2 (1600 m).

WEIGHT—23.0 g (1 ♀); 21.1 g (1 ♂).

TARSUS—Dark brown.

BILL—Black.

TARSUS—Black to dark brown.

GONADS—Large—Apr. (1 ♂).

FOOD—Winged ants in one stomach.

Commonly seen overhead, usually in single-species flocks, from 750 to 2000 m. Previously recorded from Amazonas only from Cerros Duida and Yapacana, and the headwaters of Río Siapa in the Sierra Curupira.

Tachornis squamata
Fork-tailed Palm-Swift

Sight records only (JO, DW). Occasionally seen in mixed-species swift flocks over the heliport clearing at 140 m.

*Doryfera johannae
Blue-fronted Lancebill

SPECIMENS—4 (140 m); 9 (750 m); 1 (2000 m).

WEIGHT—4 ♂♂, $\bar{x}$ = 3.8 g (SD = 0.10; range 3.7–3.9 g); 5 ♀♀, $\bar{x}$ = 3.6 g (SD = 0.24; range 3.3–3.9 g).

IRIS—Dark brown.

BILL—Black.

TARSUS—Black.

GONADS—Large—Mar. (3 ♂♂); small—Jan. (1 ♀), Mar. (5 ♀♀), Apr. (1 ♂).

MOLT—Six of nine Mar. specimens from 750 m were in moderate to heavy body molt; two of these also were molting wing and tail; a late Jan. specimen from 140 m was not molting.

FOOD—Tiny insects in four stomachs, identified as dipterans in one.

The most common bird in mist nets at 750 m. It was also collected in small numbers in the 140-m lowlands near Río Baría, and one was collected over an open bog at 2000 m, giving it the widest elevational range of any bird in this study except for *Streptoprocne* and *Otus choliba*.

Glaucis hirsuta
Rufous-breasted Hermit

SPECIMENS—1 (140 m).

WEIGHT—7.0 g (1 unsexed).
IRIS—Dark brown.
BILL—Maxilla black; mandible yellow with black tip.
TARSUS—Orangish flesh.

The specimen, collected in forest with little understory, constitutes the only record. The species has not been recorded previously in Amazonas south of Cerro Duida.

Threnetes leucurus
Pale-tailed Barbthroat

SPECIMENS—9 (140 m).
WEIGHT—3 ♂♂, $\bar{x}$ = 5.1 g (SD = 0.20; range 4.9–5.3 g); 5 ♀♀, $\bar{x}$ = 4.9 g (SD = 0.37; range 4.3–5.2 g); 1 unsexed, 6 g.
IRIS—Dark brown.
BILL—Maxilla black; mandible pinkish silver with black tip.
TARSUS—Pink.
GONADS—Large—Feb. (2 ♂♂); small—Feb. (1 ♂), Mar. (1 ♀), Apr. (1 ♀), Nov. (1 ♀).
MOLT—Heavy body and wing molt noted on one early Apr. specimen; no molt on one late Nov. specimen.

Fairly common in floodplain forest near Río Baría at 140 m; apparently diminishing somewhat farther away from the river. This species has a very local distribution in Amazonas, with the previous southernmost record from the vicinity of Cerro Duida.

Phaethornis superciliosus
Long-tailed Hermit

SPECIMENS—18 (140 m); 1 (350 m); 4 (1250 m); 1 (1400 m); 2 (san Carlos).
WEIGHT—4 ♂♂, $\bar{x}$ = 5.6 g (SD = 0.37; range 5.1–6.0 g); 7 ♀♀, $\bar{x}$ = 5.2 g (SD = 0.17; range 5.0–5.4 g).
IRIS—Dark brown.
BILL—Maxilla black; mandible reddish orange to pinkish with black tip.
TARSUS—Pink.
GONADS—Large—Feb. (1 ♂), Mar. (1 ♂), Apr. (3 ♂♂); moderate—Mar. (1 ♀), Apr. (1 ♀); small—Feb. (1 ♀, 2 ♂♂), Mar. (1 ♂), Apr. (2 ♀♀), May (1 ♀).
MOLT—Wing and/or tail molt noted on three specimens from late Feb., early Mar., and early Apr.; these specimens, along with one from mid-Feb., had heavy body molt. No molt on one late Nov. specimen.
FOOD—Spiders in two stomachs.

Fairly commonly encountered in lowland forest, becoming less common in forest at midelevations.

Phaethornis bourcieri
Straight-billed Hermit

SPECIMENS—22 (140 m); 4 (San Carlos).
WEIGHT—$\bar{x}$ = 4.3 g (N = 21; SD = 0.47; range 3.4–5.5 g).
IRIS—Dark brown.
BILL—Maxilla black; mandible yellow to orange with black tip.
TARSUS—Pinkish.
GONADS—Large—Jan. (1 ♂), Feb. (1 ♂), Apr. (1 ♂); moderate—Mar. (1 ♂), Apr. (1 ♀); small—Jan. (1 ♂), Mar. (1 ♂), Apr. (1 ♂).
MOLT—Primaries molting on one early Feb. specimen; body molt ranging from light to heavy on six early Feb. specimens, as well as on one early Apr. bird; no molt noted on single specimens from late Nov., late Feb., and early Mar.
FOOD—Insect in one stomach.

Common in lowland forest at 140 m.

Phaethornis ruber
Reddish Hermit

SPECIMENS—1 (140 m); 1 (San Carlos).
WEIGHT—2 ♂♂, $\bar{x}$ = 1.6 g (1.5, 1.6 g).
IRIS—Dark brown.
BILL—Maxilla black to dark brown; mandible orange to orange-yellow.
TARSUS—Yellow.
GONADS—Small—Mar. (1 ♂), Dec. (1 ♂).
MOLT—Light body molt noted on early Dec. specimen.
FOOD—Tiny spiders in one stomach.

Observed regularly along Río Baría at 140 m.

***Phaethornis griseogularis**
Gray-chinned Hermit

SPECIMENS—2 (1250 m).
WEIGHT—1.8 g (1 ♀); 1.9 g (1 ♂).
IRIS—Dark brown.
BILL—Maxilla black; mandible yellow with black tip.

TARSUS—Pink.
GONADS—Large—Mar. (1 ♂); moderate—Apr. (1 ♀).

Observed regularly in forest from 750 to 1400 m. The 1954 Phelps expedition collected a specimen at 1800 m (Phelps and Phelps, 1965).

Campylopterus largipennis
Gray-breasted Sabrewing

SPECIMENS—15 (140 m).
WEIGHT—4 ♂♂, $\bar{x}$ = 9.4 g (SD = 0.37; range 8.9–9.8 g); 2 ♀♀, $\bar{x}$ = 7.6 g (7.5, 7.6 g).
IRIS—Dark brown.
BILL—Black.
TARSUS—Black.
GONADS—Large—Feb. (1 ♂), Mar. (2 ♂♂), Apr. (3 ♂♂); moderate—Apr. (1 ♀), Nov. (1 ♀).
MOLT—Body molt noted on one late Mar. individual; none noted on an additional late Mar. bird and on one late Nov. individual.
FOOD—Spiders in two stomachs, with one also containing tiny beetles; the other with tiny dipterans.

Common in lowland forest at 140 m.

***Campylopterus duidae**
Buff-breasted Sabrewing

SPECIMENS—1 (1250 m); 4 (1400 m); 57 (1800 m); 18 (2000 m); 7 (2100 m).
WEIGHT—35 ♂♂, $\bar{x}$ = 6.8 g (SD = 0.76; range 5.0–8.0 g); 22 ♀♀, $\bar{x}$ = 5.4 g (SD = 0.67; range 4.7–7.8 g).
IRIS—Dark brown.
BILL—Black; some individuals with pinkish base of mandible.
TARSUS—Pinkish to dark gray.
GONADS—Large—Feb. (6 ♂♂), Mar. (1 ♂), Apr. (7 ♂♂), Dec. (2 ♂♂); moderate—Feb. (1 ♀, 4 ♂♂), Apr. (1 ♀), Nov. (1 ♀); small—Jan. (1 ♀), Feb. (11 ♀♀, 15 ♂♂), Apr. (1 ♂).
MOLT—Body molt noted on scattered specimens collected in all months from Dec. through Apr.; wing and/or tail molt on three specimens spanning Feb.; no molt noted on one late Nov. specimen.
FOOD—Two stomachs with tiny unidentified insects; one with tiny spiders.

From 1800 m up, this was one of the most common birds in all habitats, found abundantly in tall mossy forest, *Brocchinia* scrub, high-elevation *Bonnetia* forest, and pitcher plant bogs. In late Jan. and early Feb., juveniles were numerous. Morales collected a specimen (unpubl.) at 2400 m in Apr. 1965.

Florisuga mellivora
White-necked Jacobin

SPECIMENS—10 (140 m).
WEIGHT—3 ♂♂, $\bar{x}$ = 6.1 g (SD = 0.96; range 5.4–7.2 g); 2 ♀♀, $\bar{x}$ = 5.6 g (5.5, 5.6 g); 1 unsexed, 7.8 g.
IRIS—Dark brown.
BILL—Black.
TARSUS—Black.
GONADS—Large—Feb. (1 ♂), Mar. (1 ♂); moderate—Apr. (1 ♀); small—Apr. (1 ♂).
MOLT—Three Mar. and one Apr. specimens were noted as molting.
FOOD—Four specimens collected feeding at Marcgraviaceae flowers (MF).

Observed regularly at flowering trees along Río Baría at 140 m, with several mist-netted in floodplain forest.

***Colibri delphinae**
Brown Violetear

Not recorded on the current trip, but there are three 1954 Phelps specimens from 1400 and 1800 m (Phelps and Phelps, 1965) and three Caldas specimens (unpubl.) from 1500 m on the Brazilian slopes.

***Colibri coruscans**
Sparkling Violetear

SPECIMENS—1 (2000 m).
WEIGHT—8.8 g (1 ♀).
IRIS—Dark brown.
BILL—Black.
TARSUS—Black.
GONADS—Moderate—Apr. (1 ♀).

Specimen, collected in open scrub, constitutes our only record. There were previously no published accounts of this species from the tepuis south of Cerro Duida, although a specimen (unpubl.) was collected on Neblina by Caldas at 2000 m in Nov. 1970.

Thalurania furcata
Fork-tailed Woodnymph

SPECIMENS—38 (140 m); 1 (350 m); 1 (San Carlos).

WEIGHT—20 ♂♂, $\bar{x}$ = 4.8 g (SD = 0.47; range 4.2–5.5 g); 6 ♀♀, $\bar{x}$ = 4.1 g (SD = 0.28; range 3.5–4.2 g).

IRIS—Dark brown.

BILL—Black.

TARSUS—Black.

GONADS—Large—Feb. (1 ♀, 3 ♂♂), Mar. (1 ♂), Apr. (1 ♀, 2 ♂♂), May (1 ♂), Dec. (1 ♂); moderate—Mar. (1 ♂); small—Jan. (1 ♂), Feb. (3 ♀♀, 1 ♂), Mar. (1 ♀, 1 ♂), Apr. (2 ♂♂).

MOLT—Wing and/or tail molt on four specimens from early Feb., late Mar., and early Apr.; body molt on specimens taken from early Feb. to early Apr., with nonmolting specimens present through the same period.

Common in forest in lowlands. Single Caldas specimens (unpubl.) were taken at 500, 550, and 1500 m in Dec. 1970.

Amazilia versicolor
Versicolored Emerald

SPECIMENS—6 (140 m).

WEIGHT—3 ♂♂, $\bar{x}$ = 3.2 g (SD = 0.29; range 3.0–3.5 g).

IRIS—Dark brown.

BILL—Black; mandible with red base.

TARSUS—Black.

GONADS—Moderate—Mar. (1 ♀), Apr. (1 ♀); small—Apr. (2 ♂♂), May (1 ♂).

Infrequently encountered in lowland forest at 140 m.

***Amazilia viridigaster**
Green-bellied Hummingbird

SPECIMENS—3 (750 m); 1 (1400 m); 1 (1800 m).

WEIGHT—2 ♂♂, $\bar{x}$ = 4.0 g (3.9, 4.1 g); 3 ♀♀, $\bar{x}$ = 3.5 g (SD = 0.12; range 3.4–3.6 g).

IRIS—Dark brown.

BILL—Maxilla black; mandible pink with black tip.

TARSUS—Black.

GONADS—Large—Mar. (1 ♂); moderate—Mar. (1 ♂); small—Feb. (2 ♀♀), Apr. (1 ♂).

MOLT—Body molt noted on one Mar. specimen.

FOOD—Tiny dipterans and spiders in one stomach.

At 750 m it was one of the most common birds, whereas only single individuals were encountered at 1250, 1400, and 1800 m. In all cases, it was found in forest, often gleaning insects from bromeliads. This species has a very limited range in the tepuis and was previously recorded in Amazonas only from Cerro Duida. Novaes (1965) reported it from the Brazilian border in the Sierra Parima, from a locality that Phelps (1972) argued is actually in Venezuela.

Polyplancta aurescens
Gould's Jewelfront

SPECIMENS—3 (140 m).

WEIGHT—$\bar{x}$ = 6.0 g (N = 2; 5.8, 6.2 g).

IRIS—Dark brown.

BILL—Black.

TARSUS—Black.

GONADS—Moderate—Apr. (1 ♀); small—Feb. (1 ♂).

MOLT—No molt in one mid-Mar. specimen.

Three specimens from lowland forest constitute the only records.

***Heliodoxa xanthogonys**
Velvet-browed Brilliant

SPECIMENS—1 (1250 m); 1 (1400 m); 7 (1800 m); 2 (2000 m).

WEIGHT—4 ♂♂, $\bar{x}$ = 6.9 g (SD = 0.26; range 6.5–7.1 g); 5 ♀♀, $\bar{x}$ = 6.7 g (SD = 0.60; range 5.9–7.5 g).

IRIS—Dark brown.

BILL—Maxilla black; mandible orange with black tip.

TARSUS—Pinkish to dusky brown.

GONADS—Large—Feb. (1 ♂), Mar. (1 ♂), Dec. (1 ♀, with yolking egg); moderate—Feb. (1 ♀), Mar. (1 ♀); small—Feb. (2 ♀♀, 2 ♂♂), Apr. (1 ♂).

MOLT—Body molt noted on one mid-Apr. and two Feb. specimens.

FOOD—Tiny dipterans in one stomach.

Encountered in forest and open scrub from 1250 to 2000 m, most commonly around 1800 m.

Topaza pyra
Fiery Topaz

SPECIMENS—5 (140 m).
WEIGHT—2 ♂♂, $\bar{x}$ = 12.8 g (12.0, 13.5 g); 3 ♀♀, $\bar{x}$ = 10.7 g (SD = 0.46; range 10.2–11.0 g).
IRIS—Dark brown.
BILL—Black.
TARSUS—Grayish pink.
GONADS—Large—Feb. (1 ♂), Apr. (1 ♂); moderate—Feb. (1 ♀).
MOLT—None noted in one mid-Feb. specimen.

Infrequently encountered in high canopy of 140-m forest.

Heliothryx aurita
Black-eared Fairy

SPECIMENS—4 (140 m).
WEIGHT—2 ♂♂, $\bar{x}$ = 4.7 g (4.4, 5.0 g).
IRIS—Dark brown.
BILL—Black.
TARSUS—Black.
GONADS—Large—Feb. (1 ♂), Apr. (1 ♂).
MOLT—Heavy body molt noted on one Apr. specimen.

Infrequently encountered along stream courses and in canopy of lowland forest.

Trogon melanurus
Black-tailed Trogon

SPECIMENS—1 (140 m).
WEIGHT—103 g (1 ♂).
IRIS—Brown.
ORBITAL SKIN—Orange.
BILL—Yellow.
TARSUS—Grayish tan.
MOLT—Tail molt on single Mar. specimen.

Regularly heard in floodplain forest.

Trogon viridis
White-tailed Trogon

SPECIMENS—7 (140 m).
WEIGHT—3 ♂♂, $\bar{x}$ = 83.8 g (SD = 4.01; range 80.0–88.0 g); 2 ♀♀, $\bar{x}$ = 78.0 g (74.0, 82.0 g).
IRIS—Brown.
BILL—Silvery blue with whitish tip.
TARSUS—Gray.
GONADS—Large—Mar. (1 ♀); moderate—Jan. (1 ♂); small—Mar. (1 ♂).
MOLT—Body molt noted on one Mar. specimen.
FOOD—Fruit in one stomach.

Regularly heard calling from subcanopy of forest at 140 m.

***Trogon personatus**
Masked Trogon

SPECIMENS—2 (1400 m).
WEIGHT—65.0 g (1 ♂).
IRIS—Brown.
ORBITAL SKIN—Orange.
BILL—Chrome yellow.
TARSUS—Brownish yellow.
GONADS—Small—Feb. (1 ♂).

Regularly observed in subcanopy of tall forest from 1400 to 1800 m. A Caldas specimen was collected from 1500 m on the Brazilian slope (Phelps, 1972), and Phelps collected specimens up to 1850 m (Phelps and Phelps, 1965).

Trogon violaceus
Violaceous Trogon

SPECIMENS—3 (140 m).
WEIGHT—45.0 g (1 ♂); 38.0 g (1 ♀).
IRIS—Brown.
ORBITAL SKIN—Blackish.
BILL—Ivory to pale grayish green.
TARSUS—Medium gray.
GONADS—Large—Feb. (1 ♀); moderate—Feb. (1 ♂).

Regularly seen in canopy of forest at 140 m.

Ceryle torquata
Ringed Kingfisher

SPECIMENS—4 (140 m).
WEIGHT—$\bar{x}$ = 301.8 g (N = 4; SD = 30.0; range 272–340 g).
IRIS—Dark brown.
BILL—Black with whitish to olive base.
TARSUS—Ivory to olive.
GONADS—Small—Feb. (1 ♀), Apr. (1 ♂).
MOLT—Light body molt on one late Feb. individual.
FOOD—Fish remains in two stomachs.

Regularly seen along Río Baría at 140 m.

Chloroceryle amazona
Amazon Kingfisher

SPECIMENS—1 (140 m).
WEIGHT—116.0 g (1 ♂).
IRIS—Brown.
BILL—Black.
TARSUS—Black.
GONADS—Small—Feb. (1 ♂).
MOLT—Wing, tail, and scattered body molt on single Feb. specimen.
FOOD—Shrimp in the single stomach.

Regularly seen along Río Baría at 140 m.

Chloroceryle americana
Green Kingfisher

SPECIMENS—4 (140 m).
WEIGHT—$\bar{x}$ = 28.1 g (N = 2; 28.0, 28.2 g).
IRIS—Dark brown.
BILL—Black.
TARSUS—Dark brown.
GONADS—Moderate—Apr. (1 ♀).
MOLT—No molt noted on one early Apr. specimen.

Regularly seen along Río Baría at 140 m, Mar.–May 1984. Species was not evident Jan.–Feb. 1985.

Chloroceryle inda
Green-and-rufous Kingfisher

SPECIMENS—5 (140 m).
WEIGHT—4 ♂♂, $\bar{x}$ = 52.0 g (SD = 5.52; range 47.1–58.8 g); 1 ♀, 52.1 g.
IRIS—Dark brown.
BILL—Black; mandible with flesh base.
TARSUS—Brown.
GONADS—Large—Feb. (1 ♂); moderate—Feb. (1 ♀, 2 ♂♂); small—Feb. (1 ♂).
FOOD—Fish remains in one stomach.

Regularly seen along heavily forested streams in the lowlands.

Chloroceryle aenea
American Pygmy Kingfisher

SPECIMENS—3 (140 m); 1 (San Carlos).
WEIGHT—3 ♀♀, $\bar{x}$ = 13.3 g (SD = 2.90; range 11.2–16.6 g).
IRIS—Dark brown.
BILL—Black; mandible with flesh base.
TARSUS—Pinkish olive.
GONADS—Moderate—Feb. (1 ♀); small—Feb. (1 ♀).

Regularly seen along heavily forested streams in the lowlands.

Momotus momota
Blue-crowned Motmot

SPECIMENS—12 (140 m).
WEIGHT—5 ♂♂, $\bar{x}$ = 137.2 g (SD = 8.96; range 126.0–147.0 g); 2 ♀♀, $\bar{x}$ = 124.0 g (120.0, 128.0 g).
IRIS—Crimson.
BILL—Black.
TARSUS—Blackish to brownish gray.
GONADS—Large—Feb. (1 ♂), Mar. (1 ♀); moderate—Feb. (2 ♂♂), Mar. (1 ♀); small—Feb. (1 ♂), Mar. (1 ♂), Apr. (1 ♂).
MOLT—Wing and tail molt on an early Dec. specimen and body molt on an early Apr. specimen; no molt noted on two specimens taken in late Feb. and early Mar.
FOOD—Beetle fragments in two stomachs; a cicada in one; and a scorpion, tenebrionid larva, and frog (*Osteocephalus*) in a fourth.

Common in forest at 140 m.

Brachygalba lugubris
Brown Jacamar

SPECIMENS—4 (140 m).
WEIGHT—1 ♂, 14.5 g; 2 ♀♀, $\bar{x}$ = 17.6 g (17.3, 17.8 g).
IRIS—1 ♂ with dark brown, 2 ♀♀ with white to pale blue.
BILL—Black.
TARSUS—Three specimens black, one specimen white.
GONADS—Moderate—Mar. (1 ♀); small—Mar. (1 ♀), Apr. (1 ♂), May (1 ♂).
MOLT—Wing molt on one Mar. specimen; none on one early Apr. specimen.
FOOD—Insects in three stomachs, identified as beetles in one and ants (SC) in a second.

In forest near river edge at 140 m, particularly in bamboo.

Galbula albirostris
Yellow-billed Jacamar

SPECIMENS—8 (140 m); 1 (350 m).
WEIGHT—4 ♂♂, $\bar{x}$ = 19.6 g (SD = 2.56; range 16.9–22.9 g); 2 ♀♀, $\bar{x}$ = 20.3 g (19.0, 21.5 g).
IRIS—Dark brown.
BILL—Maxilla black with yellow base; mandible yellow.
TARSUS—Yellow.
GONADS—Moderate—Feb. (1 ♂), Mar. (2 ♂♂), Apr. (1 ♂); small—Mar. (1 ♀).
MOLT—Heavy wing and body molt noted on one late Mar. specimen, whereas an early Apr. specimen was not molting.
FOOD—Three stomachs contained insects, identified as beetles in one and as a roach in another.

Regularly encountered in forest understory from 140 to 350 m.

Galbula leucogastra
Bronzy Jacamar

SPECIMENS—1 (140 m).
WEIGHT—15.0 g (1 ♀).
IRIS—Brown.
BILL—Black.
TARSUS—Black.
GONADS—Small—Mar. (1 ♀).
MOLT—Body molt noted on single Mar. specimen.

Specimen, taken from perch about 4 m up in forest, constitutes our only record.

Galbula dea
Paradise Jacamar

SPECIMENS—1 (140 m).
WEIGHT—32.0 g (1 unsexed).
IRIS—Brown.
BILL—Black.
TARSUS—Black.
MOLT—Wing, tail, and body molt in single early Mar. specimen.

Specimen, collected in open lowland forest, constitutes our only record.

Jacamerops aurea
Great Jacamar

SPECIMENS—1 (140 m); 1 (240 m).
WEIGHT—66.0 g (1 ♂).
IRIS—Brown.
BILL—Black.
TARSUS—Green.
GONADS—Moderate—Mar. (1 ♂); small—Apr. (1 ♂).
MOLT—General molt noted in the Mar. specimen.
FOOD—One stomach contained hemipterans (RD).

Occasionally seen in forest canopy at 140 m.

Notharchus macrorhynchus
White-necked Puffbird

Sight record only (RD, DW). One individual seen at nest in termite mound about 3 m up in a tree at 140 m, 25 Mar. 1984.

Notharchus ordii
Brown-banded Puffbird

SPECIMENS—1 (140 m).
WEIGHT—51.5 g (1 ♂).
IRIS—Dark brown.
BILL—Black.
TARSUS—Dark gray.
GONADS—Large—Feb. (1 ♂).

A single specimen, collected 15 m up at the edge of a forest clearing, constitutes our only record.

Bucco macrodactylus
Chestnut-capped Puffbird

SPECIMENS—2 (140 m).
WEIGHT—25.3 g (1 ♂).
IRIS—Dark brown.
BILL—Black.
TARSUS—Dark brown.
GONADS—Moderate—Mar. (1 ♂), Apr. (1 ♂).
FOOD—Large roach in one stomach.

Regularly calling from bamboo at river's edge, for about 20 minutes daily at dawn, with as many as six heard at one time in Feb. and Mar. 1985 (JO). This species was previously not recorded in Venezuela south of central Amazonas on the upper Río Ventuari.

Bucco capensis
Collared Puffbird

SPECIMENS—8 (140 m).

WEIGHT—4 ♂♂, $\bar{x}$ = 52.1 g (SD = 6.79; range 45.9–61.6 g); 3 ♀♀, $\bar{x}$ = 50.3 g (SD = 5.51; range 44.0–54.0 g).

IRIS—Pale yellow to deep orange.

ORBITAL SKIN—Pale orange.

MOUTH LINING—Orange.

BILL—Maxilla varying from orange with dusky culmen to dusky with orange only at cutting edge; mandible uniformly orange.

TARSUS—Yellow-green to olive

GONADS—Large—May (1 ♀); small—Feb. (1 ♀, 1 ♂), Apr. (1 ♂), Nov. (1 ♀), Dec. (1 ♂).

MOLT—Wing and/or tail molt noted on two specimens from late Nov. and early Dec. specimens; none on single specimens from mid-Feb. and early Apr.

FOOD—One stomach contained coleopteran and orthopteran parts; a second contained a large cicada.

Dawn song (recording at LSUMZ) heard daily in Feb. at 140 m (JO), both in forest and in bamboo at river's edge. A Caldas specimen (unpubl.) was taken at 1500 m on the Brazilian slope.

Nonnula rubecula
Rusty-breasted Nunlet

SPECIMENS—3 (140 m).

WEIGHT—2 unsexed, $\bar{x}$ = 18.5 g (17.0, 20.0 g).

Three specimens, two from forest and one from bamboo at river's edge, constitute our only records.

Monasa atra
Black Nunbird

SPECIMENS—8 (140 m).

WEIGHT—$\bar{x}$ = 84.9 g (N = 6; SD = 8.2; range 74.0–94.6 g).

IRIS—Red (one individual with dark brown).

BILL—Carmine red.

TARSUS—Black.

GONADS—Moderate—Mar. (1 ♂); small—Feb. (1 ♂), Nov. (1 ♀).

MOLT—Wing and/or tail molt noted for one specimen each from late Nov. and mid-Mar.; body molt on these specimens as well as on one mid-Feb. bird; no molt noted on three specimens from mid- and late Feb.

Very common in forest at 140 m.

Monasa morphoeus
White-fronted Nunbird

SPECIMENS—12 (140 m).

WEIGHT—$\bar{x}$ = 72.9 g (N = 11; SD = 5.60; range 63.4–80.0 g).

IRIS—Dark brown.

BILL—Red.

MOUTH LINING—Red.

TARSUS—Black to blackish gray.

GONADS—Moderate—Feb. (1 ♂); small—Feb. (2 ♀♀).

MOLT—Light body molt noted in one late Feb. specimen; no molt in three from early and late Feb.

FOOD—Two stomachs contained beetles; a third a large mantid; and a fourth a cicada.

Common at edge of river and in forest clearings at 140 m. Known previously in Venezuela only from the southwestern border of Amazonas in the floodplains of Río Negro and Río Guainía. Two Caldas specimens (unpubl.) were taken at 500 m on the Brazilian slopes.

Capito niger
Black-spotted Barbet

SPECIMENS—11 (140 m).

WEIGHT—6 ♂♂, $\bar{x}$ = 60.6 g (SD = 5.00; range 55.0–69.0 g); 2 ♀♀, $\bar{x}$ = 65.2 g (63.0, 67.4 g).

IRIS—Red.

BILL—Maxilla black with gray base; mandible gray with black tip.

TARSUS—Gray to grayish green.

GONADS—Large—Feb. (2 ♂♂), Mar. (1 ♀, 2 ♂♂); moderate—Mar. (1 ♂), Apr. (1 ♂), May (1 ♂).

MOLT—None noted in four individuals from late Feb. and early Mar.

FOOD—Observed feeding on fruit of *Pagamea plicata* (Rubiaceae) in Mar. (MF).

Regularly seen and heard in forest canopy at 140 m.

***Aulacorhynchus derbianus**
Chestnut-tipped Toucanet

SPECIMENS—3 (1250 m); 7 (1400 m).

WEIGHT—6 ♂♂, $\bar{x}$ = 142.5 g (SD = 16.10; range 117–160 g); 1 ♀, 150 g.

IRIS—Dark brown.

BILL—Maxilla red with black tomium; mandible black with red base; both maxilla and mandible outlined white at base.

TARSUS—Grayish olive.

GONADS—Large—Feb. (1 ♀, 1 ♂), Apr. (1 ♂); moderate—Feb. (3 ♂♂); small—Feb. (1 ♂), Mar. (1 ♀).

MOLT—Body molt noted in a single late Feb. specimen.

FOOD—Fruit in two stomachs; one of these also contained an orthopteran.

Regularly seen in small groups in forest from 1250 to 1400 m. Phelps specimens were collected as high as 1800 m (Phelps and Phelps, 1965).

Pteroglossus flavirostris
Ivory-billed Aracari

SPECIMENS—8 (140 m).

WEIGHT—3 ♂♂, $\bar{x}$ = 136.0 g (SD = 18.1; range 117.0–153.0 g).

IRIS—Red.

BILL—Ivory-yellow, with black "tooth" markings on tomia of maxilla; mandible with golden brown wash near center, with base outlined in yellow.

FACIAL SKIN—Gray, becoming dull to bright red in orbital area.

TARSUS—Olive.

GONADS—Large—Feb. (2 ♂♂); moderate—Apr. (1 ♂); small—Apr. (1 ♂).

MOLT—Wing molt noted in single specimen from early Mar.; this bird and an early Apr. individual showed body molt.

FOOD—Fruit, including *Pagamea plicata* (Rubiaceae), in one stomach (MF).

Regularly seen flying over the river and in fruiting trees and in bamboo at river's edge. Usually in small groups.

Selenidera nattereri
Tawny-tufted Toucanet

SPECIMENS—2 (350 m); 2 (San Carlos).

WEIGHT—2 ♂♂, $\bar{x}$ = 164.5 g (164, 165 g); 2 ♀♀, $\bar{x}$ = 153.0 g (150, 156 g).

IRIS—Dark brown.

BILL—Maxilla deep brownish red with a lime-green culmen becoming broad near base; base of culmen blue; "teeth" all greenish; square patch of bright sky blue completely bordered with red near base of maxilla directly in front of the eye; mandible deep brownish red with lime-green tip; irregular gray-blue patch near base, just below patch on maxilla; five wavy white vertical lines, originating near teeth of maxilla, traversing about ¾ of the mandible. **Note**—This is not at all like the bills illustrated in field guides for this species; soon after collection the bills began to fade, and within several months they closely resembled those in the guides.

TARSUS—Olive-brown.

GONADS—Large—Mar. (2 ♀♀); moderate—Mar. (2 ♂♂).

MOLT—None in two late Mar. specimens.

FOOD—Fruit pulp and small seeds in all four stomachs.

Specimens, taken in somewhat open and scrubby forest, plus one sight record at 140 m (MF) constitute our only records.

Ramphastos vitellinus
Yellow-ridged Toucan

SPECIMENS—1 (140 m).

WEIGHT—315 g (1 ♂).

IRIS—Dark brown.

BILL—Black, base blue, bordered black; culmen and tip of mandible yellow.

TARSUS—Dark gray.

GONADS—Large—Feb. (1 ♂).

Regularly seen and heard in forest at 140 m.

Ramphastos tucanus
Red-billed Toucan

SPECIMENS—4 (140 m).

WEIGHT—1 ♂, 700 g; 3 ♀♀, $\bar{x}$ = 533 g (SD = 20.4; range 515–555 g [includes two unsexed probable ♀♀]).

IRIS—Brown.

ORBITAL SKIN—Purplish blue, fading to turquoise at edges.

BILL—Black; maxilla with yellow-green culmen and base, bordered black; mandible blue at base, also bordered black.

MOUTH LINING—Orange-red.

TARSUS—Sky blue to purplish blue.

GONADS—Small—Feb. (1 ♂), Mar. (1 ♀).

MOLT—Wing and/or tail molt in two speci-

mens from late Feb. and early Mar.; body molt only and no molt in two additional early Mar. specimens.

FOOD—Fruit pulp and small seeds (possibly including *Cecropia* [SC]) in two stomachs.

Regularly heard calling in forest from 140 to 350 m; particularly common in floodplain and river-edge forest.

Picumnus exilis
Golden-spangled Piculet

SPECIMENS—5 (140 m).
WEIGHT—9.2 g (1 ♂); 9.4 g (1 ♀).
IRIS—Dark brown.
BILL—Maxilla black; mandible silver with black tip.
TARSUS—Grayish olive.
GONADS—Moderate—Apr. (1 ♀, 2 ♂♂); small—Apr. (1 ♂).
MOLT—No molt in one and body molt in two early Apr. specimens.
FOOD—Ants in one stomach.

Inconspicuous in bamboo at river's edge at 140 m.

Melanerpes cruentatus
Yellow-tufted Woodpecker

SPECIMENS—1 (140 m).
WEIGHT—68.0 g (1 ♂).
IRIS—Yellow.
BILL—Black.
TARSUS—Gray.
MOLT—No molt in single early Mar. specimen.

Regularly seen along river edge and in forest clearings.

Veniliornis affinis
Red-stained Woodpecker

SPECIMENS—6 (140 m).
WEIGHT—3 ♂♂, $\bar{x}$ = 33.0 g (SD = 1.00; range 32.0–34.0 g); 2 ♀♀, $\bar{x}$ = 34.3 g (34.0, 34.5 g); 1 unsexed, 43.5 g.
IRIS—Brown.
BILL—Maxilla black; mandible silvery gray with black tip.
TARSUS—Greenish gray.
GONADS—Large—Mar. (1 ♀), Apr. (1 ♂); small—Mar. (1 ♀), Apr. (1 ♂).
MOLT—All four specimens taken in early Mar. had wing and/or tail molt.
FOOD—Unidentified insects in one stomach.

Regularly seen in forest at 140 m.

Piculus flavigula
Yellow-throated Woodpecker

SPECIMENS—5 (140 m).
WEIGHT—1 ♂, 54.0 g; 4 ♀♀, $\bar{x}$ = 53.3 g (SD = 3.60; range 50.0–58.0 g).
IRIS—Brown.
BILL—Maxilla black; mandible gray with black tip.
TARSUS—Greenish gray.
GONADS—Large—Nov. (1 ♀); small—Feb. (1 ♀).
MOLT—Wing, tail, and body molt noted in single specimens from early and late Feb.; no molt in one late Nov. specimen.
FOOD—Ants in one stomach (MF).

Fairly common in subcanopy of lowland forest.

Piculus chrysochloros
Golden-green Woodpecker

SPECIMENS—3 (140 m).
WEIGHT—3 ♀♀, $\bar{x}$ = 76.4 g (SD = 1.7; range 75.0–78.3 g).
IRIS—Gray to bluish white.
BILL—Black.
TARSUS—Greenish gray.
GONADS—Small—Feb. (1 ♀).
MOLT—Wing and tail molt in single mid-Mar. specimen.

Infrequently encountered in subcanopy of lowland forest.

***Piculus rubiginosus**
Golden-olive Woodpecker

SPECIMENS—1 (2100 m).
GONADS—Small—Mar. (1 ♀).
MOLT—General molt in single mid-Mar. individual.

Specimen from 2100 m constitutes the only record at that elevation; an additional individ-

ual was seen at the edge of a forest clearing at 1250 m (JC, DW). Caldas specimens (unpubl.) from 1500 and 2000 m and three from 1800 m (Phelps and Phelps, 1965) fill in some of the intervening elevations. D. Stotz (pers. comm.) has found it at 900 m in Roraima, Brazil.

Celeus grammicus
Scale-breasted Woodpecker

SPECIMENS—5 (140 m).
WEIGHT—3 ♂♂, $\bar{x}$ = 70.3 g (SD = 4.2; range 67.0–75.0 g); 2 ♀♀, $\bar{x}$ = 64.0 g (63.0, 65.0 g).
IRIS—Red.
BILL—Ivory.
TARSUS—Dark gray to greenish gray.
GONADS—Large—Feb. (1 ♀), Mar. (2 ♂♂); small—Nov. (1 ♂).
MOLT—No molt noted in three specimens from late Feb. and early Apr.
FOOD—Fruit in two stomachs.

Fairly common in subcanopy of lowland forest.

Celeus elegans
Chestnut Woodpecker

SPECIMENS—6 (140 m); 1 (San Carlos).
WEIGHT—3 ♂♂, $\bar{x}$ = 129.0 g (SD = 16.1; range 114.0–146.0 g); 3 ♀♀, $\bar{x}$ = 124.3 g (SD = 11.6; range 112.0–135.0 g).
IRIS—Chestnut.
BILL—Greenish ivory; bluish at base of mandible.
TARSUS—Gray to greenish gray.
GONADS—Large—Jan. (1 ♀), Feb. (1 ♀, 1 ♂), Mar. (1 ♂); moderate—Jan. (1 ♂), Mar. (1 ♂).
MOLT—None noted in two early Mar. specimens.
FOOD—Dipteran larvae in one stomach (DW); fruit with tiny seeds in a second.

Fairly common in understory to subcanopy of lowland forest.

Celeus torquatus
Ringed Woodpecker

SPECIMENS—1 (140 m).
WEIGHT—122 g (1 ♂).
IRIS—Dark brown.
BILL—Maxilla dark brown; mandible pale brown.
TARSUS—Gray-brown.
GONADS—Small—Apr. (1 ♂).
MOLT—None in single early Apr. specimen.
FOOD—Stomach full of 4-mm seeds.

Specimen, taken from tree in forest clearing near river, constitutes the only record.

Dryocopus lineatus
Lineated Woodpecker

SPECIMENS—1 (140 m).
WEIGHT—198 g (1 ♀).
IRIS—Brown.
BILL—Maxilla blackish gray; mandible pale gray.
TARSUS—Gray.
MOLT—Tail and body molt in single early Mar. specimen.

Specimen, taken in open forest, as well as one sighting at 300 m (SC) constitute our only records. In Amazonas, known only from the very northern border.

Campephilus melanoleucos
Crimson-crested Woodpecker

SPECIMENS—3 (140 m).
WEIGHT—2 ♂♂, $\bar{x}$ = 242.5 g (240, 245 g); 1 ♀, 240 g.
IRIS—Red in ♀, yellow in ♂♂.
BILL—White.
TARSUS—Pale green in ♀; gray-green in ♂♂.
GONADS—Small—Feb. (1 ♂).
MOLT—Wing and tail molting in one late Feb. specimen; all three specimens had heavy body molt.
FOOD—Tiny yellow seeds and insects in one stomach.

Regularly observed in forest at 140 m.

Campephilus rubricollis
Red-necked Woodpecker

SPECIMENS—2 (140 m); 1 (1800 m).
WEIGHT—2 ♂♂, $\bar{x}$ = 220.0 g (211, 229 g).
IRIS—Yellow.
FACIAL SKIN—Gray.
BILL—Yellowish white.
TARSUS—Olive.
GONADS—Small—Nov. (1 ♂).

MOLT—Wing and tail molt in late Nov. specimen.

FOOD—Large beetle larvae in one stomach.

Regularly seen in forest at 140 m; two observed in tall trees at 1800 m. Four Caldas specimens (unpubl.) came from 600 and 1500 m on the Brazilian side.

Dendrocincla fuliginosa
Plain-brown Woodcreeper

SPECIMENS—15 (140 m); 1 (350 m); 1 (San Carlos).

WEIGHT—9 ♂♂, $\bar{x}$ = 43.5 g (SD = 1.91; range 40.0–47.0 g); 4 ♀♀, $\bar{x}$ = 41.2 g (SD = 4.06; range 36.8–46.3 g).

IRIS—Gray-brown to dark brown.

BILL—Maxilla black to dark brown; mandible pale gray to pale brown.

TARSUS—Gray to blue-gray.

GONADS—Large—Feb. (5 ♂♂), Mar. (2 ♀♀, both with yolking eggs; 1 ♂), Apr. (1 ♂); small—Feb. (1 ♀, 1 ♂), Mar. (1 ♂), Apr. (1 ♀).

MOLT—Light molt noted on one young bird in early Apr.; no molt noted on 10 additional individuals collected Feb.–Apr.

FOOD—Insects noted in 10 stomachs, identified as beetles in three and as a roach and a cicada in two others.

Commonly encountered in lowland forest, particularly in association with army ant swarms.

Dendrocincla merula
White-chinned Woodcreeper

SPECIMENS—6 (140 m); 3 (San Carlos).

WEIGHT—4 ♂♂, $\bar{x}$ = 44.6 g (SD = 4.43; range 40.9–50.8 g); 1 ♀, 42.7 g.

IRIS—Gray-blue.

BILL—Maxilla black; mandible pale olive.

TARSUS—Dark gray.

GONADS—Large—Mar. (1 ♂), Apr. (3 ♂♂); moderate—Apr. (1 ♀); small—Mar. (1 ♂).

FOOD—Beetles in one stomach.

Infrequently encountered in lowland forest.

Deconychura longicauda
Long-tailed Woodcreeper

SPECIMENS—3 (140 m); 1 (San Carlos).

WEIGHT—$\bar{x}$ = 27.2 g (N = 4; SD = 1.0; range 26.3–28.2 g).

IRIS—Dark brown.

BILL—Maxilla dark brown; mandible gray.

TARSUS—Gray-brown.

GONADS—Large—Feb. (1 ♂); small—Mar. (1 ♀, 1 ♂).

MOLT—No molt noted in one Mar. specimen.

FOOD—Large roach noted in one stomach.

Infrequently encountered in lowland forest.

Deconychura stictolaema
Spot-throated Woodcreeper

SPECIMENS—6 (140 m); 2 (350 m).

WEIGHT—4 ♂♂, $\bar{x}$ = 17.6 g (SD = 3.17; range 13.9–21.0 g); 2 ♀♀, $\bar{x}$ = 13.6 g (13.2, 13.9 g); 1 unsexed, 22.0 g.

IRIS—Dark brown.

BILL—Maxilla dark brown; mandible silvery to dusky.

TARSUS—Brownish gray.

GONADS—Large—Feb. (1 ♂), Mar. (1 ♀); moderate—Feb. (1 ♂), May (1 ♂); small—Mar. (1 ♀, 1 ♂).

Infrequently encountered in mixed-species flocks in both floodplain and upland forest.

Sittasomus griseicapillus
Olivaceous Woodcreeper

SPECIMENS—1 (190 m); 1 (350 m); 1 (1400 m).

WEIGHT—16.0 g (1 ♂); 11.8 g (1 ♀).

IRIS—Dark brown.

BILL—Maxilla dusky; mandible dark gray.

TARSUS—Dark gray.

GONADS—Small—Feb. (1 ♂), Mar. (1 ♀), Apr. (1 ♀).

MOLT—Body molt in Feb. specimen.

Regularly found in forest in middle to upper canopy. Sight records only at 140 m.

Glyphorhynchus spirurus
Wedge-billed Woodcreeper

SPECIMENS—52 (140 m); 1 (190 m); 3 (350 m); 1 (1250 m); 15 (San Carlos).

WEIGHT—25 ♂♂, $\bar{x}$ = 13.3 g (SD = 1.1; range 11.2–16.0 g); 15 ♀♀, $\bar{x}$ = 12.4 g (SD = 1.5; range 10.5–16.0 g).

IRIS—Dark brown.

BILL—Maxilla black; mandible smokey gray.

TARSUS—Dusky brown.

GONADS—Large—Jan. (1 ♂), Feb. (2 ♀♀, one with yolking egg; 9 ♂♂), Mar. (5 ♂♂), Apr. (1 ♂); moderate—Feb. (3 ♂♂), Mar. (1 ♀, 6 ♂♂), Apr. (1 ♀), Dec. (1 ♂); small—Feb. (5 ♀♀, 2 ♂♂), Mar. (3 ♀♀, 3 ♂♂), Apr. (1 ♀, 1 ♂), Nov. (1 ♂), Dec. (1 ♀, 1 ♂).

MOLT—Wing and/or tail molt in two specimens from mid-Feb.; light body molt noted in some individuals in all months Dec. to Apr., with nonmolting individuals present through the same period.

FOOD—Insects in 10 stomachs, including small larvae in one.

Common in subcanopy of tall forest. The single specimen collected in 1954 was described as an endemic subspecies, *coronobscurus* (Phelps and Phelps, 1955).

*Xiphocolaptes promeropirhynchus
Strong-billed Woodcreeper

Sight record only on the current trip (DW). One individual observed foraging in tall forest at 1250 m, Mar. 1984. A single Phelps specimen was taken at 1800 m (Phelps and Phelps, 1965) and described as the endemic subspecies *neblinae* (Phelps and Phelps, 1955). Although the species is widespread in Amazonian lowlands, montane forms are usually subspecifically distinct.

Dendrocolaptes certhia
Barred Woodcreeper

SPECIMENS—12 (140 m); 1 (190 m).

WEIGHT—2 ♂♂, $\bar{x}$ = 69.0 g (66.0, 72.0 g); 4 ♀♀, $\bar{x}$ = 62.2 g (SD = 2.08; range 60.0–65.0 g).

IRIS—Dark brown.

BILL—Dark brown; mandible pale at base.

TARSUS—Gray.

GONADS—Large—Apr. (2 ♂♂); moderate—Feb. (1 ♀), Mar. (1 ♂); small—Feb. (1 ♀), Mar. (1 ♀).

MOLT—Wing and tail molt in single specimens from late Feb. and early Mar.; body molt present in single specimens from early and late Mar.; an additional five specimens from early Feb. to late Mar. were not molting.

FOOD—Insects in five stomachs, identified as tettigonids in one (MF).

Fairly common in lowland forest, often in association with army ant swarms. A Caldas specimen (unpubl.) was collected at 500 m on the Brazilian side in Nov. 1970.

Dendrocolaptes picumnus
Black-banded Woodcreeper

SPECIMENS—1 (1250 m).

GONADS—Small—Mar. (1 ♀).

MOLT—Light general molt in the one Mar. specimen.

The single specimen, collected in forest, constitutes the only record. Previously known in Amazonas only from the northwest corner along the Río Cataniapo.

Xiphorhynchus obsoletus
Striped Woodcreeper

SPECIMENS—5 (140 m); 2 (San Carlos).

WEIGHT—3 ♂♂, $\bar{x}$ = 31.4 g (SD = 2.22; range 29.0–33.4 g); 1 ♀, 25.8 g.

IRIS—Dark brown.

BILL—Maxilla medium brown; mandible pale brown.

TARSUS—Dark brown.

GONADS—Large—Mar. (1 ♂); moderate—Mar. (1 ♂), Apr. (1 ♀); small—Feb. (1 ♂).

FOOD—Beetles in one stomach.

Fairly common in understory of lowland forest.

Xiphorhynchus pardalotus
Chestnut-rumped Woodcreeper

SPECIMENS—20 (140 m); 1 (190 m); 5 (San Carlos).

WEIGHT—12 ♂♂, $\bar{x}$ = 37.0 g (SD = 2.5; range 32.0–41.0 g); 6 ♀♀, $\bar{x}$ = 32.3 g (SD = 3.0; range 26.8–36.0 g).

IRIS—Dark brown.

BILL—Maxilla dark brown; mandible pale brown to pale gray.

TARSUS—Bluish gray.

GONADS—Large—Feb. (1 ♂), Mar. (3 ♂♂), Apr. (3 ♂♂), May (1 ♂); moderate—Jan. (1 ♂), Feb. (1 ♀); small—Feb. (1 ♀, 1 ♂), Mar. (3 ♀♀), Apr. (2 ♂♂).

MOLT—Wing molt in two late Feb. specimens; no molt noted in one late Nov. and two early Apr. specimens.

FOOD—Insects in seven stomachs, identified as beetles in most; 2-cm scorpion found in one.

Common in understory of lowland forest. Caldas collected specimens (unpubl.) at 500 and 550 m on the Brazilian side in Dec. 1970.

Xiphorhynchus guttatus
Buff-throated Woodcreeper

SPECIMENS—7 (140 m); 1 (1250 m); 1 (San Carlos).
WEIGHT—$\bar{x}$ = 64.3 g (N = 8; SD = 2.48; range 56.5–68.0 g).
IRIS—Dark brown.
BILL—Maxilla pale gray to dusky black; mandible bluish gray to light brown.
TARSUS—Bluish gray.
GONADS—Large—Mar. (1 ♂), Apr. (1 ♂), May (1 ♂); moderate—Feb. (1 ♀); small—Feb. (1 ♂), Apr. (1 ♂).
FOOD—Insects in three stomachs, identified as "large grubs" in one.

Regularly heard and seen in lowland forest, often associated with mixed-species feeding flocks. The specimen from 1250 m constitutes our only upper-elevation record.

Lepidocolaptes albolineatus
Lineated Woodcreeper

SPECIMENS—1 (140 m).
WEIGHT—24.0 g (1 ♂).
IRIS—Brown.
BILL—Maxilla light brown; mandible flesh.
TARSUS—Greenish gray.
GONADS—Moderate—Apr. (1 ♂).

Infrequently encountered in canopy of lowland forest. Previously known in Amazonas south only to the vicinity of Cerro Duida and Yavita-Pimichin.

Campylorhamphus procurvoides
Curve-billed Scythebill

SPECIMENS—2 (140 m).
WEIGHT—$\bar{x}$ = 30.0 g (N = 2; 29.9, 30.0 g).
IRIS—Dark brown.
BILL—Brown.
TARSUS—Brown.
GONADS—Small—Feb. (1 ♂).
FOOD—Beetle parts in one stomach.

Uncommon in floodplain forest.

***Synallaxis cabanisi**
Cabanis' Spinetail

Not recorded on the current trip. A Caldas specimen (Phelps, 1972) taken at 1500 m on the Brazilian side in Dec. 1970 is the only Neblina record. In the tepuis, this species is a montane form and is not found in the surrounding lowlands.

***Cranioleuca demissa**
Tepui Spinetail

SPECIMENS—1 (1400 m); 12 (1800 m); 2 (2100 m).
WEIGHT—7 ♂♂, $\bar{x}$ = 15.1 g (SD = 0.92; range 14.0–16.8 g); 3 ♀♀, $\bar{x}$ = 15.3 g (SD = 1.04; range 14.5–16.5 g).
IRIS—Chestnut.
BILL—Maxilla dusky brown to black; mandible flesh with dark tip.
TARSUS—Olive-yellow to olive-brown.
GONADS—Large—Feb. (4 ♂♂); moderate—Feb. (1 ♀, 1 ♂), Mar. (1 ♀); small—Feb. (2 ♀♀, 2 ♂♂).
MOLT—Body molt noted in one Mar. specimen; none noted on specimens from Dec. and Feb.

Common member of mixed-species flocks in forest at upper elvations. Juveniles present in early Feb. at 1800 m.

Hyloctistes subulatus
Striped Woodhaunter

SPECIMENS—6 (140 m).
WEIGHT—$\bar{x}$ = 26.2 g (N = 6; SD = 0.99; range 24.2–27.1 g).
IRIS—Dark brown.
BILL—Pale brown to dusky brown.
TARSUS—Olive.
GONADS—Large—Apr. (1 ♂); small—Feb. (2 ♀♀), Nov. (1 ♀).
FOOD—Two stomachs contained orthopterans, identified as crickets in one.

Uncommon in lowland forest.

[Philydor hylobius]
Neblina Foliage-gleaner

Described by Wetmore and Phelps (1956), this was the only endemic species of bird known from Neblina. Dickerman et al. (1986) determined that the two specimens used to describe this species represent an abnormal and a juvenile *Automolus roraimae*. We therefore remove *Philydor hylobius* from the Neblina list.

Philydor pyrrhodes
Cinnamon-rumped Foliage-gleaner

SPECIMENS—4 (140 m); 1 (San Carlos).
WEIGHT—2 ♂♂, $\bar{x}$ = 26.3 g (24.0, 28.5 g); 2 ♀♀, $\bar{x}$ = 27.8 g (26.3, 29.0 g).
IRIS—Dark brown to reddish brown.
BILL—Maxilla dusky gray; mandible pale gray with dark tip.
TARSUS—Olive.
GONADS—Large—Feb. (1 ♂); moderate—Feb. (1 ♀); small—Mar. (1 ♀).
FOOD—Medium-sized roach in one stomach.

Uncommon in lowland forest.

Automolus infuscatus
Olive-backed Foliage-gleaner

SPECIMENS—15 (140 m); 3 (San Carlos).
WEIGHT—7 ♂♂, $\bar{x}$ = 32.0 g (SD = 2.70; range 30.3–36.8 g); 4 ♀♀, $\bar{x}$ = 30.1 g (SD = 2.40; range 26.9–32.5 g).
IRIS—Dark brown.
BILL—Maxilla dark brown; mandible pale brown to greenish cream.
TARSUS—Grayish green to olive.
GONADS—Large—Feb. (3 ♂♂), Mar. (1 ♂), Apr. (1 ♂); moderate—Feb. (1 ♂); small—Feb. (2 ♀♀), Mar. (3 ♀♀, 1 ♂), Apr. (1 ♀).
MOLT—Wing and/or tail molt in single specimens from late Feb. and early Mar.; body molt in birds from mid-Feb. to early Apr.; nonmolting individuals noted from late Feb. to mid-Mar.
FOOD—Insects in four stomachs, identified as a cicada in one.

Fairly common in understory of lowland forest, frequently moving with mixed-species flocks.

Automolus ochrolaemus
Buff-throated Foliage-gleaner

SPECIMENS—4 (140 m).
WEIGHT—32.0 g (1 ♂).
GONADS—Moderate—Apr. (1 ♀); small—Apr. (1 ♀).

Specimens, taken in lowland forest with shrubby undergrowth, constitute our only records. Apparently uncommon.

***Automolus roraimae**
White-throated Foliage-gleaner

SPECIMENS—2 (1250 m); 2 (1400 m); 22 (1800 m); 2 (2000 m); 1 (2100 m).
WEIGHT—13 ♂♂, $\bar{x}$ = 27.0 g (SD = 2.53; range 22.0–31.8 g); 8 ♀♀, $\bar{x}$ = 28.1 g (SD = 1.05; range 26.5–29.0 g).
IRIS—Dark brown.
BILL—Maxilla black; mandible pinkish gray to silver.
TARSUS—Olive-yellow to olive-gray.
GONADS—Large—Feb. (3 ♂♂), Apr. (1 ♂), Nov. (1 ♂), Dec. (1 ♂); moderate—Feb. (2 ♂♂), Mar. (1 ♂); small—Jan. (1 ♂), Feb. (6 ♀♀, 2 ♂♂), Apr. (1 ♀, 1 ♂), Nov. (1 ♂).
MOLT—Wing and/or tail molt in single individuals from late Nov. and early and mid-Feb.; body molt noted in specimens from late Nov., and mid-Feb. to mid-Apr.; no molt noted in additional specimens throughout this period.
FOOD—Insects noted in three stomachs, identified as beetles in one and as an orthopteran in a second.

Common in mixed-species flocks in forest from middle to upper elevations. Fed primarily by probing in medium to large arboreal bromeliads. Juveniles numerous at 1800 m in early Feb. Morales specimens were collected at elevations up to 2475 m on the Brazilian side (Phelps, 1972).

Automolus rufipileatus
Chestnut-crowned Foliage-gleaner

SPECIMENS—15 (140 m).
WEIGHT—$\bar{x}$ = 33.9 g (N = 7; SD = 2.72; range 31.4–38.0 g).
IRIS—Bright orange.
BILL—Maxilla dusky brown; mandible medium brown.
TARSUS—Olive.
GONADS—Large—Feb. (1 ♂), Mar. (3 ♂♂), Apr. (2 ♂♂); small—Mar. (1 ♀).
MOLT—One specimen with body molt and one with no molt in early Apr.
FOOD—Beetles noted in one stomach.

Fairly common in river-edge forest, particularly in bamboo stands. Previously recorded in Amazonas only in the vicinity of Cerro Duida and along the Río Casiquiare.

Xenops minutus
Plain Xenops

SPECIMENS—12 (140 m); 2 (San Carlos).
WEIGHT—5 ♂♂, $\bar{x}$ = 12.4 g (SD = 0.85; range

11.4–13.5 g); 5 ♀♀, $\bar{x}$ = 11.2 g (SD = 0.91; range 10.0–12.0 g).

IRIS—Dark brown.

BILL—Maxilla black; mandible black with white to pink base.

TARSUS—Dark gray.

GONADS—Large—Feb. (1 ♂), Mar. (1 ♂), Apr. (1 ♂); moderate—Feb. (1 ♂); small—Jan. (1 ♂), Feb. (3 ♀♀), Mar. (3 ♀♀).

MOLT—Wing and/or tail molt in two specimens from mid-Feb. and one from mid-Mar.; body molt in two specimens from early and mid-Feb.; no molt noted in one mid-Feb. specimen.

FOOD—Insects in two stomachs, identified as ants in one (SC).

Fairly common in understory to midcanopy of lowland forest.

Sclerurus rufigularis
Short-billed Leafscraper

SPECIMENS—10 (140 m); 2 (San Carlos).

WEIGHT—$\bar{x}$ = 21.1 g (N = 9; SD = 1.90; range 19.0–24.7 g).

IRIS—Dark brown.

BILL—Maxilla black; mandible grayish with black tip.

TARSUS—Black in six specimens, gray in one.

GONADS—Large—Mar. (2 ♂♂); moderate—Feb. (1 ♂), Apr. (1 ♀); small—Feb. (1 ♀), Mar. (1 ♀), May (1 ♀).

MOLT—Wing molt in one early Apr. specimen and body molt in one from late Mar.; none in three additional specimens from late Feb. and late Mar.

Infrequently encountered in understory of lowland forest.

***Lochmias nematura**
Sharp-tailed Streamcreeper

SPECIMENS—2 (1250 m); 9 (1800 m).

WEIGHT—5 ♂♂, $\bar{x}$ = 24.0 g (SD = 1.40; range 23.0–26.0 g); 4 ♀♀, $\bar{x}$ = 21.8 g (SD = 1.12; range 20.4–23.0 g).

IRIS—Dark brown.

BILL—Maxilla dusky brown; mandible dusky with pinkish base.

TARSUS—Dark brown.

GONADS—Large—Feb. (1 ♂); moderate—Feb. (2 ♀♀, 1 ♂), Mar. (1 ♂); small—Feb. (1 ♂), Apr. (1 ♂), Nov. (1 ♂).

MOLT—Wing and tail molt in specimens from late Nov. and early Dec.; heavy body molt on one late Nov. specimen, and light body molt on one late Mar. specimen; no molt in specimens from late Nov. and early Feb.

FOOD—Tiny insects noted in two stomachs.

Common along rocks in rushing streams at upper elevations.

Cymbilaimus lineatus
Fasciated Antshrike

SPECIMENS—4 (140 m); 1 (San Carlos).

WEIGHT—$\bar{x}$ = 36.5 g (N = 4; SD = 2.38; range 35.0–40.0 g).

IRIS—Red.

BILL—Maxilla black; mandible blue-gray.

TARSUS—Blue-gray.

GONADS—Small—May (1 ♂), Nov. (1 ♀).

MOLT—Light body molt noted in one late Nov. specimen; no molt noted in Feb. specimen.

FOOD—One specimen had a caterpillar in its mouth when collected.

Apparently uncommon in lowland forest, usually in vine tangles in the lower canopy.

Taraba major
Great Antshrike

SPECIMENS—14 (140 m).

WEIGHT—3 ♂♂, $\bar{x}$ = 56.6 g (SD = 4.46; range 52.0–60.9 g); 2 ♀♀, $\bar{x}$ = 55.3 g (51.4, 59.2 g).

IRIS—Orange-red to blood red.

BILL—Black.

TARSUS—Bluish gray.

GONADS—Moderate—Feb. (2 ♀♀, 1 ♂), Apr. (1 ♂); small—Feb. (1 ♂), Mar. (1 ♀), Apr. (3 ♀♀, 1 ♂), Nov. (1 ♂).

MOLT—Body molt in one early Apr. and one late Nov. specimen; no molt in two additional early Apr. birds.

FOOD—Two stomachs with insects, both including ants (SC, DW), and one with small beetles.

Common in bamboo stands at river edge.

Thamnophilus aethiops
White-shouldered Antshrike

SPECIMENS—13 (140 m); 1 (190 m); 4 (San Carlos).

WEIGHT—8 ♂♂, $\bar{x}$ = 25.6 g (SD = 2.27; range 22.0–27.5 g); 6 ♀♀, $\bar{x}$ = 25.9 g (SD = 2.18; range 23.5–29.5 g).

IRIS—Dark brown to chestnut.

BILL—All black in ♂♂; mandible silvery gray in ♀♀.

TARSUS—Bluish gray.

GONADS—Large—Feb. (2 ♀♀), Mar. (1 ♂); moderate—Feb. (2 ♂♂), Apr. (1 ♂); small—Feb. (1 ♀, 1 ♂), Mar. (2 ♀♀, 1 ♂), Apr. (1 ♂).

MOLT—Wing and/or tail molt noted in single specimens from early Feb. and early Mar.; body molt in two early Mar. specimens; no molt noted in two late Feb. specimens.

FOOD—Insects noted in seven stomachs, identified as beetles in four.

Infrequently encountered in lowland forest.

Thamnophilus murinus
Mouse-colored Antshrike

SPECIMENS—9 (140 m); 1 (190 m); 5 (San Carlos).

WEIGHT—7 ♂♂, $\bar{x}$ = 17.9 g (SD = 1.26; range 16.4–20.0 g); 4 ♀♀, $\bar{x}$ = 18.5 g (SD = 1.45; range 16.9–20.0 g).

IRIS—Gray.

BILL—Maxilla black; mandible silver.

TARSUS—Dark gray.

GONADS—Large—Mar. (1 ♀); moderate—Mar. (1 ♀, 1 ♂), Apr. (1 ♀); small—Mar. (1 ♀, 2 ♂♂), May (1 ♂).

MOLT—One Mar. specimen noted with none.

FOOD—Insects in three stomachs, identified as a caterpillar in one and as tiny wasps, beetles, and beetle larvae in a second (SC).

Fairly common in middle levels of lowland forest.

Thamnophilus amazonicus
Amazonian Antshrike

SPECIMENS—4 (140 m).

WEIGHT—3 ♂♂, $\bar{x}$ = 17.3 g (SD = 0.25; range 17.0–17.5 g); 1 ♀, 15.5 g.

IRIS—Dark brown.

BILL—Maxilla black; ♂ mandible black with gray base, ♀ mandible pale gray.

TARSUS—Bluish gray.

GONADS—Moderate—Mar. (1 ♂), May (1 ♂); small—Feb. (1 ♀, 1 ♂).

MOLT—Heavy body molt noted on one late Feb. specimen; none noted on early Mar. individual.

FOOD—Insects in three stomachs, identified as a grasshopper in one and as beetles in the others.

Spotty distribution in forest with moderate understory. Intense ♂/♂ vocal interaction noted in early Mar. (MF).

*Thamnophilus insignis
Streaked-backed Antshrike

SPECIMENS—5 (1400 m); 3 (1800 m).

WEIGHT—6 ♂♂, $\bar{x}$ = 26.3 g (SD = 1.98; range 24.1–30.0 g); 2 ♀♀, $\bar{x}$ = 23.5 g (22.0, 25.0 g).

IRIS—Dark brown.

BILL—Black.

TARSUS—Medium gray.

GONADS—Large—Feb. (1 ♂), Mar. (1 ♂), Apr. (1 ♀, 3 ♂♂).

MOLT—Light body molt noted in two and not present in one early Feb. specimen.

FOOD—Insects in two stomachs, identified as beetles in one.

Encountered regularly, usually in small single-species groups, in upper-elevation bamboo and *Brocchinia* scrub.

Pygiptila stellaris
Spot-winged Antshrike

SPECIMENS—13 (140 m).

WEIGHT—5 ♂♂, $\bar{x}$ = 22.1 g (SD = 1.55; range 19.9–24.0 g); 3 ♀♀, $\bar{x}$ = 23.5 g (SD = 2.16; range 21.0–25.0 g).

IRIS—Dark brown.

BILL—Maxilla black; mandible bluish gray.

TARSUS—Bluish gray.

GONADS—Large—Feb. (1 ♂), Mar. (1 ♂), Apr. (1 ♂); moderate—Mar. (1 ♂), Apr. (1 ♀, 1 ♂); small—Feb. (1 ♀, 1 ♂), Apr. (1 ♀).

MOLT—Wing and/or tail molt in single specimens from late Feb. and early Mar.; no molt in three specimens from early and mid-Mar. and early Apr.

FOOD—Three stomachs with unidentified insects, incluing a caterpillar in one.

Common in bamboo and river-edge lowlands, often in mixed-species flocks from middle to upper canopy.

***Dysithamnus mentalis**
Plain Antvireo

SPECIMENS—9 (1250 m); 2 (1400 m).
WEIGHT—1 ♂, 15.0 g; 4 ♀♀, $\bar{x}$ = 14.9 g (SD = 0.75; range 13.8–15.5 g).
IRIS—Dark brown.
BILL—Maxilla black; mandible gray.
TARSUS—Bluish gray.
GONADS—Moderate—Apr. (1 ♂); small—Mar. (1 ♀, 1 ♂), Apr. (2 ♀♀).
MOLT—Light body molt in two late Mar. specimens; none noted in two from mid-Apr.
FOOD—Insects in three stomachs, identified as beetles in one; a spider in one stomach.

Fairly common in understory of middle-elevation forest, apparently diminishing at elevations above 1400 m. Collected on the 1954 Phelps expedition up to 1850 m (Phelps and Phelps, 1965).

Thamnomanes ardesiacus
Dusky-throated Antshrike

SPECIMENS—22 (140 m); 1 (San Carlos).
WEIGHT—11 ♂♂, $\bar{x}$ = 16.6 g (SD = 0.85; range 14.5–17.6 g); 5 ♀♀, $\bar{x}$ = 16.9 g (SD = 1.37; range 14.9–18.5 g).
IRIS—Dark brown.
BILL—All black in most ♂♂; mandible silvery gray in ♀♀ and one ♂ specimen.
TARSUS—Bluish gray.
GONADS—Moderate—Feb. (1 ♂), Mar. (2 ♂♂), Apr. (1 ♀); small—Feb. (1 ♀, 2 ♂♂), Mar. (2 ♂♂), Apr. (1 ♀, 2 ♂♂), May (1 ♀).
MOLT—Wing and tail molt in one late Feb. individual; no molt in eight additional specimens from mid-Feb. to early Apr.
FOOD—Insects in five stomachs, identified as beetles in three and as a roach in one.

Common in mixed-species understory flocks of lowland forest.

Thamnomanes caesius
Cinereous Antshrike

SPECIMENS—30 (140 m); 3 (San Carlos).
WEIGHT—15 ♂♂, $\bar{x}$ = 15.8 g (SD = 1.29; range 12.8–18.0 g); 11 ♀♀, $\bar{x}$ = 15.6 g (SD = 1.53; range 13.0–18.0 g).
IRIS—Dark brown.
BILL—All black in ♂♂; mandible pale gray in ♀♀.
TARSUS—Dark gray to black.
GONADS—Large—Feb. (1 ♀, with yolking egg); moderate—Feb. (2 ♂♂), Mar. (1 ♂), Apr. (1 ♂); small—Feb. (3 ♀♀, 3 ♂♂), Mar. (2 ♀♀), Apr. (3 ♂♂).
MOLT—Wing and/or tail molt in three specimens from late Feb. and early Mar.; body molt noted in specimens from mid-Feb. to early Mar. and in one early Apr. specimen; no molt in three specimens from late Feb. and early Mar.
FOOD—Insects in seven stomachs, identified as beetles in one.

Common member of mixed-species flocks in the lowland understory. Collected at 550 and 1500 m by Caldas on the Brazilian slope in Dec. 1970 (unpubl.).

Myrmotherula ambigua
Yellow-throated Antwren

SPECIMENS—2 (140 m).
WEIGHT—6.0 g (1 ♀).
IRIS—Dark brown.
BILL—Maxilla black; mandible flesh.
TARSUS—Greenish.
GONADS—Moderate—Apr. (1 ♀).

Infrequently encountered in canopy of lowland forest.

Myrmotherula surinamensis
Streaked Antwren

SPECIMENS—23 (140 m).
WEIGHT—4 ♀♀, $\bar{x}$ = 8.4 g (SD = 0.32; range 8.0–8.7 g); 2 ♂♂, $\bar{x}$ = 8.5 g (8.3, 8.6 g).
IRIS—Dark brown.
BILL—Maxilla black; mandible pale gray.
TARSUS—Bluish gray.
GONADS—Large—Apr. (3 ♂♂); moderate—Apr. (5 ♀♀); small—Apr. (3 ♀♀).
MOLT—None noted on three early Apr. specimens.
FOOD—Unidentified insects in one stomach.

Very common in bamboo at river edge in lowlands.

Myrmotherula guttata
Rufous-bellied Antwren

SPECIMENS—6 (140 m); 1 (San Carlos).
WEIGHT—$\bar{x}$ = 9.7 g (N = 6; SD = 0.58; range 8.8–10.3 g).

IRIS—Dark brown.

BILL—Maxilla black; mandible pale gray.

TARSUS—Gray.

GONADS—Moderate—Mar. (1 ♂); small—Feb. (3 ♂♂), Apr. (1 ♀).

MOLT—No molt noted in three late Feb. and early Mar. specimens.

FOOD—Unidentified insects in one stomach.

Infrequently encountered in understory of lowland forest.

Myrmotherula haematonota
Stipple-throated Antwren

SPECIMENS—15 (140 m); 1 (350 m); 2 (San Carlos).

WEIGHT—7 ♂♂, $\bar{x}$ = 8.7 g (SD = 0.71; range 8.0–10.0 g); 6 ♀♀, $\bar{x}$ = 8.9 g (SD = 0.86; range 8.0–10.2 g).

IRIS—Sandy buff.

BILL—Black with silver tomium.

TARSUS—Bluish gray.

GONADS—Large—Mar. (2 ♀♀, one with yolking egg), Apr. (2 ♂♂); moderate—Feb. (1 ♀, 2 ♂♂), Apr. (1 ♂); small—Mar. (1 ♀), Apr. (1 ♂).

MOLT—Body molt noted in five specimens, early Feb. to early Apr.; none noted in one additional late Mar. specimen.

FOOD—Unidentified insects in four stomachs.

Fairly common in understory of lowland forest.

Myrmotherula axillaris
White-flanked Antwren

SPECIMENS—33 (140 m); 3 (350 m).

WEIGHT—16 ♂♂, $\bar{x}$ = 8.0 g (SD = 0.91; range 6.8–10.6 g); 10 ♀♀, $\bar{x}$ = 8.3 g (SD = 0.68; range 7.0–9.5 g).

IRIS—Dark brown.

BILL—All black in ♂♂; mandible silvery gray in ♀♀.

TARSUS—Bluish gray.

GONADS—Large—Feb. (4 ♂♂), Mar. (2 ♂♂), Apr. (1 ♂); moderate—Feb. (2 ♂♂), Mar. (1 ♂), Apr. (1 ♀, 1 ♂); small—Jan. (1 ♂), Feb. (2 ♀♀, 3 ♂♂), Mar. (3 ♀♀), Apr. (1 ♀).

MOLT—Body and tail molt in one late Feb. specimen; body molt only in one from early Apr.; none noted in six additional Feb. and Mar. specimens.

FOOD—Insects in seven stomachs, identified as beetles, beetle larvae, and ants (SC) in three.

Very common member of mixed-species understory flocks in lowlands.

Myrmotherula longipennis
Long-winged Antwren

SPECIMENS—22 (140 m); 1 (San Carlos).

WEIGHT—8 ♂♂, $\bar{x}$ = 9.0 g (SD = 0.60; range 8.2–10.0 g); 8 ♀♀, $\bar{x}$ = 8.5 g (SD = 0.38; range 8.0–9.0 g).

IRIS—Dark brown.

BILL—All black in ♂♂; mandible pale gray in ♀♀.

TARSUS—Bluish gray.

GONADS—Large—Mar. (1 ♂), Apr. (2 ♂♂), May (1 ♂); moderate—Feb. (1 ♂), Mar. (1 ♀); small—Feb. (3 ♀♀), Mar. (3 ♀♀), Apr. (3 ♀♀, 1 ♂).

MOLT—Light body molt on three specimens from early to late Mar.; none noted on five additional specimens from mid-Feb. to early Apr.

FOOD—Insects in four stomachs, identified as beetles in one.

Common member of understory flocks in lowland forest; more common away from the floodplain.

*Myrmotherula behni
Plain-winged Antwren

SPECIMENS—1 (1800 m).

WEIGHT—7.9 g (1 ♀).

IRIS—Dark brown.

BILL—Black; mandible with silver tomium (1 ♀).

TARSUS—Bluish gray.

GONADS—Small—Feb. (1 ♀).

FOOD—Unidentified insects in the one stomach.

Infrequently encountered in mixed-species flocks 1800–1850 m. Most Phelps specimens were taken at 1800 m. A Caldas spcimen from 1500 m on the Brazilian side (Phelps, 1972) and a Phelps specimen from 1400 m (Phelps and Phelps, 1965) define the lower limit of the elevational range on Neblina.

Myrmotherula menetriesii
Gray Antwren

SPECIMENS—10 (140 m).

WEIGHT—$\bar{x}$ = 8.9 g (N = 8; SD = 0.45; range 8.2–9.5 g).

IRIS—Dark brown.
BILL—Maxilla black; mandible silvery gray with black tip.
TARSUS—Bluish gray.
GONADS—Large—Mar. (1 ♂), Apr. (1 ♂), May (1 ♂); moderate—Feb. (1 ♀), Apr. (1 ♀); small—Mar. (1 ♂).
MOLT—Wing molt in two early Mar. specimens, and body molt only in two mid-Feb. specimens; no molt noted in one late Feb. individual.
FOOD—Unidentified insects in one stomach.

Fairly common at midlevels of lowland forest.

Herpsilochmus dorsimaculatus
Spot-backed Antwren

SPECIMENS—3 (140 m).
WEIGHT—2 ♂♂, $\bar{x}$ = 9.5 (identical weights).
IRIS—Dark brown.
BILL—Maxilla black; mandible gray.
TARSUS—Pale gray.
GONADS—Large—Apr. (1 ♂).
MOLT—None on two mid-Mar. specimens.
FOOD—Unidentified insects in one stomach.

Regular member of mixed-species canopy flocks in lowland forest.

Terenura spodioptila
Ash-winged Antwren

SPECIMENS—1 (140 m).
WEIGHT—6.5 g (1 ♀).
IRIS—Brown.
BILL—Maxilla black; mandible gray.
TARSUS—Gray.
GONADS—Small—Mar. (1 ♀).
FOOD—Unidentified insects in the sole stomach.

Specimen, taken from mixed-species flock in lowland forest canopy, constitutes our only record.

Cercomacra cinerascens
Gray Antbird

SPECIMENS—1 (140 m).
WEIGHT—18.5 g (1 ♀).
IRIS—Dark brown.
BILL—Maxilla dark brown; mandible light gray.
TARSUS—Gray.
GONADS—Large—May (1 ♀).

Regularly heard calling from canopy of lowland forest, particularly in the floodplain.

Myrmoborus myotherinus
Black-faced Antbird

SPECIMENS—5 (140 m).
WEIGHT—$\bar{x}$ = 21.5 g (N = 5; SD = 1.62; range 20.3–24.2 g).
IRIS—Dark brown.
BILL—All black in ♂♂; mandible silvery gray in ♀♀.
TARSUS—Dark gray.
GONADS—Large—Feb. (2 ♀♀, one with yolking egg); moderate—Feb. (2 ♂♂), Apr. (1 ♂).
MOLT—Light body molt noted in mid-Apr. specimen.
FOOD—Insects in four stomachs, identified as beetles in two and as ants (DW) in one.

Infrequently encountered, with all records coming from floodplain forest along Río Baría.

Hypocnemis cantator
Warbling Antbird

SPECIMENS—13 (140 m); 1 (190 m); 3 (350 m); 2 (750 m); 6 (San Carlos).
WEIGHT—8 ♂♂, $\bar{x}$ = 13.2 g (SD = 0.52; range 12.4–14.0 g); 10 ♀♀, $\bar{x}$ = 12.2 g (SD = 0.65; range 11.1–13.5 g).
IRIS—Dark brown.
BILL—Maxilla black; mandible pale silvery gray.
TARSUS—Yellowish brown.
GONADS—Large—Mar. (1 ♀), Apr. (1 ♀); moderate—Feb. (1 ♀), Mar. (2 ♀♀, 1 ♂), Nov. (1 ♀); small—Feb. (1 ♂), Mar. (4 ♀♀, 4 ♂♂).
MOLT—Body molt noted on single Nov., Feb., and Apr. individuals, and on two Mar. specimens; absent from one Mar. specimen.
FOOD—Insects in five stomachs, identified as beetles in three and as beetle larvae in one.

Common in forest up to at least 750 m.

Percnostola rufifrons
Black-headed Antbird

SPECIMENS—8 (San Carlos).
WEIGHT—4 ♂♂, $\bar{x}$ = 25.0 g (SD = 1.51; range

23.7–26.7 g); 3 ♀♀, $\bar{x}$ = 24.0 g (SD = 1.79; range 22.5–26.0 g); 1 unsexed, 29.0 g.

IRIS—Gray.

BILL—Black; mandible silvery gray in ♀♀.

TARSUS—Medium to dark gray.

GONADS—Large—Mar. (1 ♂); moderate—Mar. (1 ♂); small—Mar. (2 ♂♂, 1 ♀).

MOLT—Body molt in two early Mar. specimens.

Although we found this species commonly along the Río Negro at San Carlos, we did not encounter it in the lowlands around Neblina. Caldas collected one specimen (unpubl.) at 550 m on the Brazilian side.

Percnostola leucostigma
Spot-winged Antbird

SPECIMENS—9 (140 m).

WEIGHT—5 ♂♂, $\bar{x}$ = 22.3 g (SD = 2.11; range 20.3–25.6 g); 2 ♀♀, $\bar{x}$ = 24.1 g (24.0, 24.2 g).

IRIS—Grayish brown.

BILL—Maxilla black; mandible pale gray.

TARSUS—Pearl.

GONADS—Large—Feb. (1 ♀); moderate—Feb. (1 ♂), Apr. (1 ♂); small—Feb. (1 ♀, 1 ♂), Mar. (1 ♂), Apr. (1 ♂), Nov. (1 ♂).

MOLT—Body molt in five specimens from early Mar. to mid-Apr.; specimens with traces of immature plumage collected in late Nov. and mid-Feb.

FOOD—Insects in three stomachs, identified as beetles in two; tail of a small lizard and large spiders found in one (DW).

Infrequently encountered in understory of lowland forest.

Percnostola caurensis
Caura Antbird

SPECIMENS—1 (1250 m).

WEIGHT—39.4 g (1 ♂).

IRIS—Reddish brown.

BILL—Black.

TARSUS—Lead gray.

GONADS—Small—Apr. (1 ♂).

MOLT—Absent from single Apr. specimen.

FOOD—Small beetles in the stomach.

The one specimen and a ♀ that was moving with it through the forest understory constitute the only records.

Sclateria naevia
Silvered Antbird

SPECIMENS—1 (140 m).

WEIGHT—19.1 g (1 ♂).

IRIS—Dark brown.

BILL—Black.

TARSUS—Pinkish white.

GONADS—Small—Feb. (1 ♂).

The one specimen, collected near a stream in floodplain forest, constitutes the only record.

Myrmeciza disjuncta
Yapacana Antbird

SPECIMENS—1 (140 m).

WEIGHT—15.0 g (1 ♀).

IRIS—Brown.

BILL—Maxilla black; mandible white (1 ♀).

TARSUS—Pinkish gray.

GONADS—Small—Feb. (1 ♀).

MOLT—No molt in late Feb. specimen.

FOOD—Unidentified insects.

Specimen constitutes the only record. Previously known only from the region of Cerro Yapacaná in central Amazonas, and from one record from Guainía in Colombia near the Venezuelan border (Hilty and Brown, 1986).

Myrmeciza pelzelni
Gray-bellied Antbird

SPECIMENS—2 (140 m).

WEIGHT—46.0 g (1 ♀).

IRIS—Dark brown.

BILL—Maxilla black; mandible black with gray base in ♂, blue-gray in ♀.

TARSUS—Pinkish gray.

GONADS—Moderate—Feb. (1 ♂); small—Feb. (1 ♀).

FOOD—Unidentified insects and a spider in one stomach.

Specimens constitute the only records; they were taken in forest with sapling-sized trees and dense undergrowth.

Myrmeciza atrothorax
Black-throated Antbird

SPECIMENS—8 (140 m).

WEIGHT—2 ♂♂, $\bar{x}$ = 16.4 g (15.9, 16.8 g); 1 ♀, 15.5 g.

IRIS—Dark brown.

BILL—All black in ♂♂; mandible silver in ♀.

TARSUS—Brown to dark gray.

GONADS—Large—Apr. (1 ♀); moderate—Feb. (1 ♂), Mar. (1 ♀), Apr. (1 ♀); small—Apr. (1 ♂).

MOLT—Light body molt noted in three late Mar. and early Apr. specimens; absent from one early Apr. individual.

Common in river-edge vegetation, particularly in bamboo.

Pithys albifrons
White-plumed Antbird

SPECIMENS—23 (140 m); 2 (190 m); 6 (San Carlos).

WEIGHT—10 ♂♂, $\bar{x}$ = 20.6 g (SD = 1.20; range 18.1–22.4 g); 12 ♀♀, $\bar{x}$ = 20.6 g (SD = 1.65; range 18.5–24.0 g).

IRIS—Dark brown.

BILL—Black, occasionally with pale tip.

TARSUS—Bright orange in most adults, somewhat duller in juveniles.

GONADS—Large—Mar. (1 ♂), Apr. (1 ♀); moderate—Feb. (5 ♂♂), Mar.(1 ♀, 1 ♂), Apr. (1 ♀, 1 ♂); small—Jan. (2 ♀♀), Feb. (2 ♀♀), Mar. (1 ♀), Apr. (2 ♀♀, 1 ♂).

MOLT—Wing and/or tail molt on three specimens from mid- and late Feb.; body molt on specimens from late Feb. and early Apr.; nonmolting individuals recorded in mid- and late Feb., late Mar., and early Apr.

FOOD—Insects in five stomachs, identified as ants in one (DW).

Common in lowland forest understory, particularly in association with army ant swarms. Recently fledged juveniles collected in early Apr. A Caldas specimen (unpubl.) was taken at 1500 m on the Brazilian side.

Gymnopithys rufigula
Rufous-throated Antbird

SPECIMENS—9 (140 m); 2 (San Carlos).

WEIGHT—4 ♂♂, $\bar{x}$ = 27.5 g (SD = 2.41; range 23.9–29.0 g); 4 ♀♀, $\bar{x}$ = 26.9 g (SD = 0.60; range 26.0–27.4 g).

IRIS—Reddish brown.

ORBITAL SKIN—Light blue.

BILL—Maxilla black; mandible black with silvery white tip.

TARSUS—Pinkish white.

GONADS—Large—Feb. (1 ♂), Apr. (2 ♂♂); moderate—Feb. (1 ♀, 1 ♂); small—Feb. (1 ♀).

MOLT—Wing and/or tail molt on two early Apr. specimens; body molt only on one additional bird from early Apr.

FOOD—Unidentified insects in one stomach.

Infrequently encountered in lowland forest, almost always in association with army ant swarms.

Hylophylax naevia
Spot-backed Antbird

SPECIMENS—11 (140 m); 10 (San Carlos).

WEIGHT—9 ♂♂, $\bar{x}$ = 12.0 g (SD = 0.81; range 10.5–13.1 g); 6 ♀♀, $\bar{x}$ = 13.2 g (SD = 1.05; range 11.9–14.4 g).

IRIS—Dark brown.

BILL—Black.

TARSUS—Pinkish white.

GONADS—Large—Mar. (1 ♀, with yolking egg); moderate—Apr. (1 ♀); small—Mar. (2 ♀♀, 2 ♂♂), Apr. (1 ♀).

MOLT—Light body molt on one early Mar. specimen.

FOOD—Insects in two stomachs, identified as beetles in one.

Common in understory of lowland forest.

Hylophylax poecilinota
Scale-backed Antbird

SPECIMENS—28 (140 m); 7 (350 m); 2 (750 m); 13 (San Carlos).

WEIGHT—26 ♂♂, $\bar{x}$ = 18.3 g (SD = 1.05; range 15.8–20.1 g); 17 ♀♀, $\bar{x}$ = 18.6 g (SD = 0.94; range 17.1–20.5 g).

IRIS—Dark brown.

BILL—Black.

TARSUS—Gray.

GONADS—Large—Feb. (3 ♀♀), Mar. (5 ♀♀); moderate—Feb. (1 ♀, 3 ♂♂), Mar. (2 ♀♀, 8 ♂♂), Apr. (3 ♂♂); small—Feb. (2 ♀♀, 3 ♂♂), Mar. (2 ♀♀, 4 ♂♂).

MOLT—Three Mar. specimens molting from immature to adult plumage; molt absent from 14 specimens collected from early Feb. to early Apr.

FOOD—Insects in 18 stomachs, identified as beetles in three, as roaches in two, and as ants in four (DW).

Extremely common in understory of forest at least to 750 m. Juveniles present from late Feb. to late Mar.

Phlegopsis erythroptera
Reddish-winged Bare-eye

SPECIMENS—4 (140 m); 1 (190 m); 4 (San Carlos).
WEIGHT—1 ♂, 52.0 g; 4 ♀♀, $\bar{x}$ = 48.4 g (SD = 5.35; range 44.0–54.9 g); 1 unsexed, 61.0 g.
IRIS—Brown to grayish brown.
ORBITAL SKIN—Red in adults, brown in juvenile.
BILL—Black.
TARSUS—Black to dark gray.
GONADS—Moderate—Apr. (1 ♂); small—Mar. (2 ♀♀), Apr. (1 ♀).
MOLT—Body molt noted on late Apr. juvenile; molt absent from one late Feb. specimen.

Specimens from lowland forest constitute the only records.

Formicarius colma
Rufous-capped Antthrush

SPECIMENS—14 (140 m).
WEIGHT—9 ♂♂, $\bar{x}$ = 47.1 g (SD = 4.08; range 42.0–53.0 g); 3 ♀♀, $\bar{x}$ = 46.6 g (SD = 0.93; range 45.5–47.2 g).
IRIS—Dark brown.
BILL—Black.
TARSUS—Dark brown to dark gray.
GONADS—Large—Feb. (3 ♂♂), Mar. (1 ♂), Apr. (1 ♀, 4 ♂♂); small—Feb. (1 ♀).
MOLT—Wing and tail molt noted on a single individual from late Feb.; molt absent from six additional specimens from late Feb. to early Apr.
FOOD—Insects in five stomachs, identified as ants in one (MF) and as a roach in a second; a 5-mm seed in one stomach (DW).

Fairly common on ground of lowland forest in floodplain and uplands.

***Chamaeza campanisona**
Short-tailed Antthrush

Not recorded on current trip, but two specimens collected at 1800 m in 1954 (Phelps and Phelps, 1965).

Myrmornis torquata
Wing-banded Antbird

SPECIMENS—2 (140 m).
WEIGHT—46.0 g (1 ♂).
IRIS—Dark brown.
BILL—Black.
TARSUS—Pale gray.
GONADS—Small—Feb. (1 ♂).
MOLT—Wing molt on one late Feb. specimen; no molt on a second.
FOOD—Unidentified insects.

Specimens taken in lowland forest constitute our only records. Very locally recorded in Amazonas, with previous records south to the Río Yatúa.

Grallaria varia
Variegated Antpitta

SPECIMENS—2 (140 m).
WEIGHT—113.0 g (1 ♂); 122.0 g (1 ♀).
IRIS—Dark brown.
BILL—Maxilla dark gray; mandible gray with pink base.
TARSUS—Grayish pink.
GONADS—Large—Mar. (1 ♀); small—Feb. (1 ♂).

The specimens, taken in floodplain forest, constitute the only records.

Myrmothera campanisona
Thrush-like Antpitta

SPECIMENS—1 (140 m).
WEIGHT—46.0 g (1 ♀).
IRIS—Dark brown.
BILL—Black; mandible with pink base.
TARSUS—Pale gray.
GONADS—Large—Feb. (1 ♀).
FOOD—Small beetles in the single stomach.

The single specimen, taken in floodplain forest, constitutes the only record.

***Myrmothera simplex**
Brown-breasted Antpitta

SPECIMENS—1 (1250 m); 1 (1400 m); 4 (1800 m).
WEIGHT—3 ♂♂, $\bar{x}$ = 52.6 g (SD = 0.69; range 51.8–53.0 g); 2 ♀♀, $\bar{x}$ = 55.0 g (49.0, 61.0 g).

IRIS—Dark brown.
BILL—Black; mandible with pinkish base.
TARSUS—Medium gray.
GONADS—Large—Jan. (1 ♀, 1 ♂), Feb. (1 ♂), Mar. (1 ♂), Dec. (1 ♂); moderate—Feb. (1 ♀).
MOLT—Body molt on single individuals from late Jan., early Feb. (♀ in breeding condition), and late Mar.

Found in understory of tall forest and bamboo stands of mid- and upper elevations, where individuals were heard calling regularly. Perez collected a specimen (unpubl.) at 2290 m.

***Elaenia pallatangae**
Sierran Elaenia

SPECIMENS—14 (1800 m); 2 (2000 m).
WEIGHT—12 ♂♂, $\bar{x}$ = 18.2 g (SD = 1.08; range 16.5–20.0 g); 2 ♀♀, $\bar{x}$ = 15.3 g (14.9, 15.7 g).
IRIS—Dark brown.
BILL—Black; mandible with flesh base.
TARSUS—Black.
GONADS—Large—Jan. (1 ♂), Feb. (3 ♂♂), Apr. (2 ♂♂), Dec. (2 ♂♂); moderate—Feb. (4 ♂♂); small—Feb. (2 ♀♀, 1 ♂).
MOLT—Wing molt on one mid-Feb. specimen; body molt on specimens from early Dec. and early Feb.; nonmolting individuals recorded in early Dec. and mid-Apr.
FOOD—Fruit and insects in one stomach.

Common in upper-elevation forest and *Brocchinia* scrub. These are the first records of the species from Neblina; it was previously known from the northern tepuis of Amazonas south to Cerro Duida. Its absence from the earlier Neblina collections is mystifying given its abundance on the current expedition. Dickerman and Phelps (1987) described the Neblina population as an endemic subspecies, *davidwillardi*.

***Mecocerculus leucophrys**
White-throated Tyrannulet

SPECIMENS—14 (1800 m); 2 (2000 m); 6 (2100 m).
WEIGHT—12 ♂♂, $\bar{x}$ = 10.5 g (SD = 0.79; range 9.0–11.5 g); 2 ♀♀, $\bar{x}$ = 9.7 g (9.4, 10.0 g).
IRIS—Dark brown.
BILL—Black.
MOUTH LINING—Bright orange.
TARSUS—Black.
GONADS—Large—Feb. (3 ♂♂); moderate—Feb. (1 ♀, 2 ♂♂); small—Feb. (5 ♂♂), Mar. (2 ♀♀), Apr. (1 ♂), Nov. (1 ♂).
MOLT—Body molt on nine individuals collected from mid-Feb. to mid-Apr.; absent from two early Feb. specimens.
FOOD—Unidentified insects in one stomach.

Common in upper-elevation forest and *Brocchinia* scrub. Tavares and Morales specimens (unpubl.) in the Colección Phelps were taken as high as 2475 m.

Mionectes oleagineus
Ochre-bellied Flycatcher

SPECIMENS—13 (140 m); 1 (350 m); 2 (San Carlos).
WEIGHT—8 ♂♂, $\bar{x}$ = 10.7 g (SD = 1.06; range 8.4–12.0 g); 1 ♀, 9.5 g.
IRIS—Dark brown.
BILL—Black; mandible with base ranging from flesh to orange to tan.
TARSUS—Medium gray.
GONADS—Large—Mar. (1 ♂), Apr. (1 ♀, with yolking egg); moderate—Feb. (1 ♂), Mar. (4 ♂♂), Apr. (2 ♂♂).
MOLT—Light body molt on two individuals from early and late Mar.; absent from five individuals from late Feb., early Mar., and early Apr.
FOOD—Fruit in five stomachs, identified as *Perouma* (Moraceae) in one (MF).

Fairly common in understory of lowland forest.

***Mionectes macconnelli**
McConnell's Flycatcher

SPECIMENS—1 (1250 m); 1 (1400 m).
WEIGHT—13.0 g (1 ♀).
IRIS—Dark brown.
BILL—Black.
TARSUS—Medium gray.
GONADS—Large—Feb. (1 ♀); moderate—Mar. (1 ♀).
MOLT—Absent from one late Mar. specimen.

Apparently scarce in forests of midelevations. This species, which is widespread in Amazonian lowlands, is only found at midelevations in the Pantepui (generally subspecies *roraimae*). Dickerman and Phelps (1987) described the Neblina population as an endemic subspecies, *mercedesfosterae*.

***Leptopogon amaurocephalus**
Sepia-capped Flycatcher

SPECIMENS—2 (1250 m).
GONADS—Large—Mar. (1 ♀); moderate—Mar. (1 ♂).
MOLT—Absent from one late Mar. specimen.

Specimens constitute our only records. Previously not recorded in Amazonas south of Cerro Duida. Although there are lowland forms of this species in western Amazonia, the species' range in southern Venezuela is coincident with the tepuis. Our specimens were taken at elevations higher than those recorded for lowland forms; because lowland records in this area appear to be very scarce, we have included the species among our montane forms.

***Phylloscartes chapmani**
Chapman's Tyrannulet

SPECIMENS—1 (1250 m); 4 (1400 m); 15 (1800 m).
WEIGHT—13 ♂♂, $\bar{x}$ = 8.8 g (SD = 0.56; range 8.0–9.5 g); 3 ♀♀, $\bar{x}$ = 7.3 g (SD = 0.27; range 7.0–7.5 g).
IRIS—Dark brown.
BILL—Black; mandible with pink base.
TARSUS—Medium gray.
GONADS—Large—Jan. (1 ♂), Feb. (3 ♂♂), Mar. (1 ♂); moderate—Feb. (2 ♂♂), Nov. (1 ♂); small—Jan. (1 ♀), Feb. (2 ♀♀, 1 ♂), Dec. (1 ♂).
MOLT—Tail molt on one late Nov. specimen; body molt on one late Nov. and one early Apr. specimen; molt absent from five specimens from early Dec., late Jan., and mid- to late Feb.
FOOD—Tiny insects in two stomachs; 1-mm seeds in a third.

Common in forest; not encountered in high-elevation scrub. Recently fledged juveniles present at 1800 m in late Jan. to mid-Feb.

Capsiempis flaveola
Yellow Tyrannulet

SPECIMENS—7 (140 m).
WEIGHT—$\bar{x}$ = 7.5 g (N = 5; SD = 0.39; range 7.1–8.1 g).
IRIS—Dark brown.
BILL—Black; mandible with flesh base.
TARSUS—Dark gray to black.
GONADS—Large—Apr. (4 ♂♂); moderate—Apr. (1 ♀, 1 ♂).
MOLT—Light body molt noted on two and absent from two early Apr. specimens.

Fairly common in bamboo stands in lowlands along Río Baría. Previously known in Amazonas from along Río Orinoco near Cerro Duida, and along Río Ventuari.

Corythopis torquata
Ringed Antpipit

SPECIMENS—12 (140 m).
WEIGHT—7 ♂♂, $\bar{x}$ = 14.2 g (SD = 1.05; range 12.3–15.0 g); 2 ♀♀, $\bar{x}$ = 14.0 g (13.2, 14.8 g); 1 unsexed, 15.5 g.
IRIS—Brown to gray-brown.
BILL—Maxilla black; mandible pinkish white to pinkish yellow.
MOUTH LINING—Orange.
TARSUS—Pinkish gray.
GONADS—Large—Feb. (1 ♂), Apr. (2 ♂♂), May (2 ♂♂); moderate—Apr. (1 ♀); small—Feb. (1 ♀, 1 ♂), Mar. (1 ♀, 1♂).
MOLT—Light body molt in one individual from late Feb.; absent from four specimens from mid-Feb., early Mar., and early Apr.

Fairly common in lowland forest.

Myiornis ecaudatus
Short-tailed Pygmy-Tyrant

SPECIMENS—2 (140 m).
WEIGHT—3.8 g (1 ♂); 4.5 g (1 ♀).
IRIS—Dark brown.
BILL—Black.
TARSUS—Pinkish gray.
GONADS—Large—Apr. (1 ♀).

Infrequently encountered in forest up to 350 m; the pair collected came from the Base Camp clearing.

Lophotriccus galeatus
Helmeted Pygmy-Tyrant

SPECIMENS—8 (140 m); 1 (190 m); 3 (San Carlos).
WEIGHT—2 ♂♂, $\bar{x}$ = 7.3 g (7.1, 7.5 g); 2 ♀♀, $\bar{x}$ = 5.8 g (5.5, 6.0 g).
IRIS—White to buffy yellow.

BILL—Black; occasionally with pinkish base of mandible.

TARSUS—Pinkish gray.

GONADS—Large—Apr. (3 ♂♂), May (1 ♂); moderate—Mar. (2 ♂♂); small—Feb. (1 ♀), Apr. (1 ♂).

MOLT—No molt noted on one mid-Feb. specimen.

Regularly encountered in bamboo stands at edge of Río Baría in lowlands, usually 8–10 m up in vegetation (JO).

Hemitriccus zosterops
White-eyed Tody-Tyrant

SPECIMENS—5 (140 m).

WEIGHT—3 ♂♂, $\bar{x}$ = 9.3 g (SD = 0.29; range 9.0–9.5 g); 1 ♀, 7.5 g.

IRIS—Grayish white.

BILL—Black; mandible with brownish base.

TARSUS—Gray.

GONADS—Large—Apr. (2 ♂♂); moderate—Mar. (1 ♂); small—Mar. (1 ♀).

MOLT—No molt noted on three mid- and late Mar. specimens.

FOOD—Unidentified insects in two stomachs.

Infrequently encountered in lowland forest understory. A Caldas specimen (unpubl.) was taken at 1500 m on the Brazilian side in early Dec. 1970.

Ramphotrigon ruficauda
Rufous-tailed Flatbill

SPECIMENS—4 (140 m).

GONADS—Moderate—Apr. (1 ♂).

Specimens taken in bamboo and one individual heard in bamboo (JO) constitute the only records. A juvenile was collected in late Mar.

Tolomomyias assimilis
Yellow-margined Flycatcher

SPECIMENS—6 (140 m).

WEIGHT—$\bar{x}$ = 14.5 g (N = 6; SD = 0.43; range 14.0–15.2 g).

IRIS—Brown to sandy gray.

BILL—Maxilla black; mandible silvery gray.

TARSUS—Gray.

GONADS—Moderate—Feb. (1 ♂); small—Feb. (1 ♀), Mar. (1 ♂).

MOLT—Molt on all four early Mar. specimens: wing and/or tail on two, body on two.

FOOD—Tiny beetles in one stomach.

Regular member of mixed-species canopy flocks in lowland forest.

Platyrinchus saturatus
Cinnamon-crested Spadebill

SPECIMENS—5 (140 m); 1 (San Carlos).

WEIGHT—$\bar{x}$ = 10.8 g (N = 6; SD = 0.76; range 9.5–11.8 g).

IRIS—Dark brown.

BILL—Black; mandible with grayish white tip.

TARSUS—Pinkish gray.

GONADS—Small—Feb. (1 ♀, 4 ♂♂), Apr. (1 ♂).

MOLT—Light body molt on one mid-Feb. specimen; none noted on two late Feb. specimens.

FOOD—Unidentified insects in one stomach.

The specimens, all taken in lowland forest, constitute our only records. One was collected while foraging in vegetation about 1 m off the ground. Previously not recorded in Amazonas south of the Yavita-Pimichin Trail.

***Platyrinchus mystaceus**
White-throated Spadebill

SPECIMENS—2 (1250 m); 2 (1400 m); 1 (1800 m).

WEIGHT—2 ♂♂, $\bar{x}$ = 8.8 g (8.3, 9.3 g); 3 ♀♀, $\bar{x}$ = 8.5 g (SD = 1.25; range 7.5–9.9 g).

IRIS—Dark brown.

BILL—Black; mandible with pinkish tip.

TARSUS—Pink.

GONADS—Large—Mar. (1 ♂); moderate—Mar. (1 ♂); small—Feb. (2 ♀♀), Apr. (1 ♀).

Infrequently encountered in the understory of tall upper-elevation forests; apparently does not occur in the high-elevation scrub. Phelps and Phelps (1955) described the Neblina population as the endemic subspecies *ventralis*.

Platyrinchus coronatus
Golden-crowned Spadebill

SPECIMENS—18 (140 m); 1 (190 m); 1 (220 m); 2 (San Carlos).

WEIGHT—11 ♂♂, $\bar{x}$ = 8.8 g (SD = 0.50; range

7.9–9.5 g); 6 ♀♀, $\bar{x}$ = 8.2 g (SD = 0.66; range 7.6–9.5 g).

IRIS—Dark brown.

BILL—Maxilla black; mandible grayish flesh.

TARSUS—Pinkish gray.

GONADS—Large—Feb. (1 ♂), Mar. (1 ♂), Apr. (4 ♂♂); moderate—Feb. (1 ♂), Mar. (3 ♂♂), Apr. (2 ♀♀); small—Feb. (1 ♂), Mar. (1 ♀), Apr. (1 ♀).

MOLT—None on five mid-Feb. to early Mar. specimens; wing molt on one mid-Feb. specimen.

FOOD—Unidentified insects in three stomachs.

Common in understory of lowland forest.

Platyrinchus platyrhynchos
White-crested Spadebill

SPECIMENS—2 (140 m).

WEIGHT—14.0 g (1 ♂); 11.5 g (1 ♀).

IRIS—Brown.

BILL—Maxilla black; mandible black mottled gray in ♂, white in ♀.

TARSUS—Yellowish tan in ♂, light orange in ♀.

GONADS—Small—Feb. (1 ♀, 1 ♂).

MOLT—Body molt on one; none on second mid-Feb. specimen.

FOOD—Unidentified insects in one stomach.

Specimens constitute our only records. Collected from understory of forest, where they were foraging 1–5 m above the ground in saplings. Previously not recorded south of the Río Guainía in Amazonas.

Onychorhynchus coronatus
Royal Flycatcher

SPECIMENS—7 (140 m); 1 (350 m).

WEIGHT—2 ♂♂, $\bar{x}$ = 14.5 g (14.0, 15.0 g); 4 ♀♀, $\bar{x}$ = 12.2 g (SD = 1.22; range 11.0–13.5 g).

IRIS—Dark brown.

BILL—Maxilla dark brown to black; mandible yellow to orange.

MOUTH LINING—Bright orange.

TARSUS—Yellowish orange.

GONADS—Small—Mar. (4 ♂♂), Apr. (1 ♀), Nov. (1 ♂).

MOLT—Wing and tail molt on a single specimen from late Nov.; body molt on one from late Mar.; none noted on two early Mar. specimens.

FOOD—Unidentified insects in one stomach.

Specimens, taken in lowland forest, constitute the only records.

Terenotriccus erythrurus
Ruddy-tailed Flycatcher

SPECIMENS—5 (140 m); 2 (San Carlos).

WEIGHT—6 ♂♂, $\bar{x}$ = 6.6 g (SD = 0.36; range 6.2–7.2 g); 1 ♀, 5.8 g.

IRIS—Brown.

BILL—Black; mandible with flesh-colored base.

TARSUS—Brownish yellow.

GONADS—Large—Mar. (3 ♂♂), Apr. (1 ♂); moderate—Feb. (1 ♂); small—Apr. (1 ♀, 1♂).

MOLT—None noted in one late Feb. specimen.

FOOD—Unidentified insects in three stomachs.

Infrequently encountered in understory of lowland forest.

Myiobius barbatus
Sulphur-rumped Flycatcher

SPECIMENS—2 (140 m); 3 (San Carlos).

WEIGHT—$\bar{x}$ = 9.9 g (N = 5; SD = 0.98; range 8.8–11.0 g).

IRIS—Dark brown.

BILL—Black; mandible with flesh base.

TARSUS—Brownish gray.

GONADS—Moderate—Feb. (1 ♂); small—Feb. (2 ♀♀).

FOOD—Unidentified insects in one stomach.

Specimens, taken in tall forest, constitute the only records.

*Myiophobus roraimae
Roraiman Flycatcher

SPECIMENS—4 (1250 m); 4 (1400 m).

WEIGHT—4 ♂♂, $\bar{x}$ = 13.6 g (SD = 0.92; range 12.2–14.2 g); 3 ♀♀, $\bar{x}$ = 12.7 g (SD = 0.47; range 12.4–13.2 g).

IRIS—Dark brown.

BILL—Maxilla black; mandible yellow to pinkish orange.

TARSUS—Grayish brown.

GONADS—Large—Feb. (1 ♂), Mar. (1 ♂), Apr. (1 ♂); small—Feb. (1 ♂), Mar. (1 ♀), Apr. (1 ♀).

MOLT—None noted on one late Mar. specimen.

Fairly common in understory of tall upper-elevation forests; not encountered in high-elevation scrub. A Caldas specimen (Phelps, 1972) was taken at 550 m on the Brazilian side. Dickerman and Phelps (1987) described the Neblina population as an endemic subspecies, *sadiecoatsae*.

***Knipolegus poecilurus**
Rufous-tailed Tyrant

Sight record only (DW). One individual observed foraging in *Brocchinia* scrub at 1450 m. Previously recorded in Amazonas only on Cerros Paraque, Yapacana, and Duida. M. Lentino (pers. comm.) collected the species in Nov. 1987 on Cerro Aracamuni, about 175 km north of Neblina.

Colonia colonus
Long-tailed Tyrant

SPECIMENS—2 (140 m).

Specimens, taken together at the edge of a forest clearing by R. McDiarmid in Mar. 1985, constitute the only record; these are the first records for Amazonas.

Attila citriniventris
Citron-bellied Attila

SPECIMENS—1 (140 m).
WEIGHT—35.3 g (1 ♂).
IRIS—Grayish white.
BILL—Maxilla brown; mandible gray.
TARSUS—Gray.
GONADS—Large—Mar. (1 ♂).
FOOD—Fruit in the one stomach.

Specimen constitutes the only record.

Attila spadiceus
Bright-rumped Attila

SPECIMENS—1 (San Carlos).
WEIGHT—31.3 g (1 unsexed).
IRIS—Medium brown.
BILL—Maxilla dark brown; mandible flesh.
TARSUS—Dark gray.

Sight records only from Neblina, where encountered regularly in lowland forest.

Rhytipterna simplex
Grayish Mourner

SPECIMENS—4 (140 m).
WEIGHT—$\bar{x}$ = 33.3 g (N = 3; SD = 1.60; range 31.5–34.5 g).
IRIS—Light brown.
BILL—Black.
TARSUS—Blackish gray.
GONADS—Small—Mar. (1 ♂).
MOLT—Wing and tail molt on two mid-Mar. specimens.
FOOD—Beetles in one stomach.

Specimens, taken in forest, constitute the only records.

Laniocera hypopyrra
Cinereous Mourner

SPECIMENS—5 (140 m).
WEIGHT—1 ♂, 43.0 g; 2 ♀♀, $\bar{x}$ = 47.8 g (47.0, 48.5 g); 1 unsexed, 36.0 g.
IRIS—Dark brown.
BILL—Black with grayish base on both maxilla and mandible.
TARSUS—Gray.
GONADS—Moderate—Mar. (1 ♂); small—Mar. (1 ♀).
MOLT—Tail molt in one mid-Mar. specimen; none noted in single late Feb. and late Mar. specimens.
FOOD—Unidentified insects in one stomach.

Specimens, taken in lowland forest, constitute the only records.

Myiozetetes granadensis
Gray-capped Flycatcher

SPECIMENS—1 (140 m).
WEIGHT—25.9 g (1 ♀).
IRIS—Sandy.
BILL—Black.
TARSUS—Black.
GONADS—Large—Apr. (1 ♀).

Found regularly in open vegetation along edge of Río Baría. In Amazonas, the species previously was not recorded south of Río Cunucunuma near Cerro Duida.

Myiodynastes maculatus
Streaked Flycatcher

Sight record only (DW). Seen only once, in mid-Apr., in vegetation at edge of river at 140 m.

Legatus leucophaius
Piratic Flycatcher

Sight records only (JO, DW). Regularly seen and heard calling in open vegetation at edge of river at 140 m, Feb. and Mar. 1985.

Pachyramphus marginatus
Black-capped Becard

SPECIMENS—1 (140 m).
WEIGHT—17.5 g (1 ♂).
GONADS—Moderate—Nov. (1 ♂).

Specimen, collected in lowland forest, constitutes our only record.

Pachyramphus minor
Pink-throated Becard

SPECIMENS—1 (140 m).
WEIGHT—36.5 g (1 ♂).
IRIS—Dark brown.
BILL—Maxilla black; mandible gray with black tomium.
TARSUS—Gray.
GONADS—Large—Mar. (1 ♂).
MOLT—None noted on one early Mar. specimen.
FOOD—Unidentified insects in one stomach.

Specimen, taken from forest canopy, constitutes our only record.

Tityra cayana
Black-tailed Tityra

Not recorded on current trip, but collected at 550 m by Caldas on the Brazilian side in Jan. 1971 (unpubl.).

Schiffornis major
Greater Manakin

SPECIMENS—3 (140 m).
WEIGHT—29.1 g (1 ♂).
IRIS—Dark brown.
BILL—Black; mandible with flesh-colored base.
TARSUS—Dark gray.
GONADS—Large—Feb. (1 ♂), Mar. (1 ♂).

Specimens, all taken in bamboo at edge of Río Baría, constitute the only records.

Schiffornis turdinus
Thrush-like Manakin

SPECIMENS—17 (140 m); 1 (350 m); 1 (San Carlos).
WEIGHT—7 ♂♂, $\bar{x}$ = 29.4 g (SD = 0.77; range 28.3–30.3 g); 3 ♀♀, $\bar{x}$ = 30.7 g (SD = 1.57; range 29.5–32.5 g); 2 unsexed (33.0, 34.0 g).
IRIS—Dark brown to grayish brown.
BILL—Dark brown; mandible occasionally with flesh-colored base.
TARSUS—Gray-brown.
GONADS—Large—Apr. (1 ♂); moderate—Feb. (1 ♀, 2 ♂♂), Mar. (1 ♂); small—Feb. (1 ♀, 1 ♂), Mar. (1 ♂), Apr. (1 ♀).
MOLT—Wing and tail molt noted on two late Feb. specimens, with none noted on two others from the same period; body molt on one early Mar. specimen.
FOOD—Unidentified insects in one stomach; plant material consisting of fruit pulp and small seeds found in four additional stomachs.

Heard regularly in lowland forest.

Piprites chloris
Wing-barred Manakin

Sight records only (DW). Regularly heard calling in floodplain forest at 140 m.

Neopipo cinnamomea
Cinnamon Manakin

SPECIMENS—6 (140 m); 2 (San Carlos).
WEIGHT—3 ♂♂, $\bar{x}$ = 7.5 g (SD = 0.42; range 7.2–8.0 g); 2 ♀♀, $\bar{x}$ = 6.4 g (6.3, 6.5 g).
IRIS—Dark brown.
BILL—Black; mandible with pale brown base.
TARSUS—Grayish brown.
GONADS—Large—May (1 ♂); moderate—Feb. (1 ♂), Apr. (1 ♂); small—Feb. (1 ♀), Mar. (1 ♀, 1 ♂).
MOLT—None noted in four specimens from early and mid-Feb. and early Mar.

FOOD—Fruit pulp and small seeds in four stomachs.

Infrequently encountered in lowland forest. One pair observed moving through thicket of saplings in large treefall, giving a single high-pitched whistle—"psseet" (MF).

Tyranneutes stolzmanni
Dwarf Tyrant-Manakin

SPECIMENS—6 (140 m); 1 (San Carlos).

WEIGHT—$\bar{x}$ = 7.2 g (N = 6; SD = 0.27; range 6.9–7.5 g).

IRIS—Sandy gray to white.

BILL—Maxilla black; mandible grayish with black tip.

TARSUS—Dark gray.

GONADS—Large—Mar. (1 ♀, 2 ♂♂), Apr. (1 ♂), May (1 ♂).

MOLT—Noted on one early Mar. and absent from two additional early Mar. specimens.

FOOD—Fruit, including *Pouruma* (Moraceae [MF]), in two stomachs; insects in one.

Heard regularly in forest up to 250 m, 6–10 m up in trees. Solitary and widely dispersed.

Neopelma chrysocephalum
Saffron-crested Tyrant-Manakin

SPECIMENS—4 (140 m).

WEIGHT—$\bar{x}$ = 15.6 g (N = 4; SD = 0.96; range 14.8–17.0 g).

IRIS—Orangish white.

BILL—Maxilla black; mandible white with grayish brown tip.

TARSUS—Pinkish gray.

GONADS—Large—Feb. (1 ♂), Mar. (2 ♂♂).

MOLT—Light body molt in two early Mar. specimens; none in one late Feb. specimen.

FOOD—Unidentified insects in one stomach; fruit in two stomachs, identified as *Pagamea plicata* (Rubiaceae [MF]) in one.

In forest understory, usually alone, where heard calling loudly in Mar. (MF).

Heterocercus flavivertex
Yellow-crowned Manakin

SPECIMENS—13 (140 m); 1 (San Carlos).

WEIGHT—5 ♂♂, $\bar{x}$ = 21.5 g (SD = 1.92; range 19.0–24.0 g); 3 ♀♀, $\bar{x}$ = 21.7 g (SD = 1.27; range 21.0–23.2 g).

IRIS—Brown.

BILL—Black; mandible with grayish base.

TARSUS—Blackish gray.

GONADS—Large—Feb. (2 ♂♂), Mar. (1 ♂), Apr. (1 ♀); moderate—Mar. (1 ♂), Apr. (1 ♀); small—Feb. (1 ♀).

MOLT—Tail and body molt noted in one late Feb. specimen, whereas none was noted in four additional late Feb. and early Mar. specimens.

FOOD—Fruit in two stomachs; one specimen with empty stomach had apparently been feeding in *Pagamea plicata* (Rubiaceae [MF]).

Observed singly in understory of lowland forest.

Pipra pipra
White-crowned Manakin

SPECIMENS—15 (140 m); 3 (San Carlos).

WEIGHT—4 ♂♂, $\bar{x}$ = 10.5 g (identical weights for all four); 8 ♀♀, $\bar{x}$ = 12.6 g (SD = 2.28; range 9.6–17.0 g).

IRIS—Reddish orange in ♂♂; dark brown to reddish orange in ♀♀.

BILL—Maxilla black; mandible pale gray.

TARSUS—Dark gray to black.

GONADS—Large—Mar. (1 ♀, with yolking egg), Apr. (1 ♀, with yolking egg; 1 ♂); moderate—Feb. (1 ♀), Mar. (2 ♀♀, 1 ♂), Apr. (1 ♀); small—Jan. (1 ♀), Feb. (1 ♀, 2 ♂♂).

MOLT—Light body molt noted in one late Feb. specimen; none in four specimens from mid- and late Feb. and early Mar.

FOOD—Fruit, including *Pagamea plicata* (Rubiaceae [MF]), in three stomachs.

Fairly common in understory of lowland forest. Caldas collected one individual (unpubl.) at 1500 m on the Brazilian side.

Pipra coronata
Blue-crowned Manakin

SPECIMENS—26 (140 m); 2 (350 m); 26 (San Carlos).

WEIGHT—27 ♂♂, $\bar{x}$ = 8.9 g (SD = 0.81; range 7.5–10.5 g); 11 ♀♀, $\bar{x}$ = 10.5 g (SD = 1.28; range 8.8–13.0 g).

IRIS—Dark brown to reddish brown.

BILL—Maxilla black; mandible pale gray.

TARSUS—Blackish gray.

GONADS—Large—Feb. (5 ♂♂), Mar. (11 ♂♂), Apr. (3 ♀♀, one with yolking egg); moderate—

Feb. (1 ♀, 1 ♂), Mar. (3 ♀♀, 3 ♂♂); small—Feb. (2 ♀♀), Mar. (1 ♀), Apr. (2 ♂♂).

MOLT—Heavy wing and body molt noted on six specimens from early and late Feb., mid- and late Mar., and early Apr.; heavy body molt on two from early and mid-Mar., with light body molt on one late Jan., three late Feb., and one early Mar. specimens; no molt noted on seven specimens from mid-Feb. to early Mar.; much of molt noted was in subadult ♂♂.

FOOD—Fruit, including *Ficus* sp. (Moraceae [MF]), found in 10 stomachs.

Common in understory of lowland forest. Males occupying display arenas in Feb. and Mar. (MF).

*Pipra serena
White-fronted Manakin

SPECIMENS—2 (750 m); 12 (1250 m); 1 (1400 m).

WEIGHT—4 ♂♂, $\bar{x}$ = 10.4 g (SD = 0.34; range 10.0–10.8 g); 3 ♀♀, $\bar{x}$ = 11.0 g (SD = 0.68; range 10.2–11.5 g).

IRIS—Dark brown.

BILL—Black.

TARSUS—Black to blackish brown.

GONADS—Large—Mar. (1 ♂); moderate—Mar. (2 ♀♀, 1 ♂), Apr. (1 ♂); small—Apr. (1 ♀, 2 ♂♂).

MOLT—General molt noted on three late Mar. specimens.

FOOD—Fruit in one stomach.

Fairly common in understory of tall forests at midelevations. Caldas and Tavares specimens (unpubl.) were collected as high as 1500 m on the Brazilian side.

Pipra erythrocephala
Golden-headed Manakin

SPECIMENS—51 (140 m); 1 (1800 m); 10 (San Carlos).

WEIGHT—42 ♂♂, $\bar{x}$ = 12.0 g (SD = 0.89; range 10.2–13.8 g); 9 ♀♀, $\bar{x}$ = 13.3 g (SD = 1.64; range 11.8–17.0 g).

IRIS—White in ♂♂, dark brown in ♀♀.

BILL—Maxilla dark to pale brown; mandible pale brown to white.

TARSUS—Pinkish brown.

GONADS—Large—Jan. (1 ♂), Feb. (2 ♀♀, one with yolking egg; 5 ♂♂), Mar. (2 ♀♀, both yolking; 13 ♂♂), Dec. (2 ♂♂); moderate—Feb. (2 ♀♀, 4 ♂♂), Mar. (1 ♀, 4 ♂♂), Dec. (8 ♂♂); small—Mar. (2 ♀♀).

MOLT—Wing molt on one and body molt on two additional specimens from early Mar.; absent from 19 additional specimens taken from early Feb. to late Mar.; four males molting from immature to adult plumage taken from lek in mid-Feb. after adult males were collected in Dec.

FOOD—Fruit in 19 stomachs, some with seeds up to 9 mm, identified as *Pagamea plicata* (Rubiaceae) and *Ficus* sp. (Moraceae) in several stomachs (MF).

Common throughout lowland forest. Active display by males at one lek in all months Dec. to Apr.

*Pipra cornuta
Scarlet-horned Manakin

SPECIMENS—3 (1400 m).

WEIGHT—3 ♀♀, $\bar{x}$ = 25.3 g (SD = 3.55; range 21.5–28.5 g).

IRIS—Creamy white in two, dark brown in one (all ♀♀).

BILL—Dusky brown.

TARSUS—Yellowish flesh.

GONADS—Large—Feb. (3 ♀♀, one with yolking egg).

MOLT—None noted on one late Feb. specimen.

Specimens, taken in understory of tall forest, constitute our only records. There are no previous published records for the species from Neblina, but Caldas collected seven (unpubl.) at 1500 m in Dec. 1970.

Phoenicircus nigricollis
Black-necked Red-Cotinga

SPECIMENS—4 (140 m).

WEIGHT—1 ♂, 90.0 g; 3 ♀♀, 103.3 g (SD = 4.04; range 99.0–107.0 g).

IRIS—Red.

BILL—Tan.

TARSUS—Tan.

GONADS—Large—Mar. (1 ♂); moderate—Mar. (1 ♀); small—Mar. (1 ♀).

MOLT—Wing molt on one early Mar. specimen; none on single specimens from late Feb. and mid-Mar.

FOOD—Fruit, including *Pagamea plicata* (Rubiaceae [MF]), in three stomachs.

Seen and heard regularly in lowland forest near river (SC). In Amazonas, previously known only from along Río Negro at El Carmen.

Iodopleura isabellae
White-browed Purple-tuft

Sight record only (DW). A single individual, perched in treetop at edge of heliport clearing at Base Camp, constitutes our only record.

Lipaugus vociferans
Screaming Piha

SPECIMENS—1 (140 m); 1 (San Carlos).
WEIGHT—$\bar{x}$ = 76.5 g (74.9, 78.0 g).
IRIS—Grayish brown.
BILL—Dark brown.
TARSUS—Dark brown to dark gray.

Commonly heard calling in areas of richer forest, up to 350 m. Collected up to 500 m by Caldas in Dec. 1970 on the Brazilian side (unpubl.).

Cotinga cayana
Spangled Cotinga

SPECIMENS—4 (140 m).
WEIGHT—2 ♂♂, $\bar{x}$ = 64.0 g (63.0, 65.0 g); 2 ♀♀, $\bar{x}$ = 67.0 g (65.0, 69.0 g).
IRIS—Brown.
BILL—Maxilla black; mandible gray with black tip.
TARSUS—Black to dark gray.
GONADS—Large—Mar. (1 ♀); moderate—Mar. (2 ♂♂); small—Mar. (1 ♀).
MOLT—Light body molt in three of four early/mid-Mar. specimens.
FOOD—Fruit in four stomachs, identified as *Pagamea plicata* (Rubiaceae) in three (MF).

Several small flocks of three to six individuals in fruiting trees constitute our only records (MF).

Xipholena punicea
Pompadour Cotinga

SPECIMENS—2 (140 m).
WEIGHT—65.0 g (1 ♂); 63.0 g (1 ♀).
IRIS—Grayish white in immature ♂, yellowish white in ♀.
BILL—Grayish brown.
TARSUS—Black.
GONADS—Large—Feb. (1 ♀); small—Mar. (1 ♂).
MOLT—Body molt on both specimens, mid-Feb. and early Mar.
FOOD—*Pagamea plicata* (Rubiaceae) fruit in one stomach (MF).

Specimens, taken from fruiting trees, constitute our only records.

Haematoderus militaris
Crimson Fruitcrow

Sight record only (MF). A single female in forest at 140 m on 13 Feb. 1984, recognized by combination of red head and underparts, and brownish black back and wings, and separated from the similar *Phoenicircus nigricollis* by its much larger size. It perched on an open dead branch under the canopy. This is the first record of the species for Venezuela. The closest records are from Manaus, Brazil (Snow, 1982).

***Rupicola rupicola**
Guianan Cock-of-the-rock

SPECIMENS—2 (140 m); 1 (190 m); 1 (1250 m); 4 (1400 m); 1 (San Carlos).
WEIGHT—2 ♂♂, $\bar{x}$ = 206.5 g (188, 225 g); 4 ♀♀, $\bar{x}$ = 181.0 g (SD = 13.61; range 181–198 g).
IRIS—Orange in both sexes.
BILL—Reddish orange in ♂♂; in ♀♀ dark brown with yellow culmen and yellow tip to mandible.
TARSUS—Reddish orange in ♂♂, brownish yellow in ♀♀.
GONADS—Large—Feb. (1 ♀); moderate—Mar. (1 ♀), Apr. (1 ♀); small—Feb. (2 ♂♂), Mar. (1 ♀).
MOLT—Light body molt on one late Feb. specimen.

Females and immature males encountered frequently in tall forest at middle elevations; only one adult ♂ observed (JO). Caldas collected the species at 1500 m on the Brazilian side in Dec. 1970 (unpubl.).

***Notiochelidon cyanoleuca**
Blue-and-white Swallow

SPECIMENS—2 (1800 m).
WEIGHT—10.0 g (1 ♂); 7.5 g (1 ♀).
IRIS—Dark brown.
BILL—Black.

TARSUS—Dusky brown.
GONADS—Large—Feb. (1 ♂); small—Feb. (1 ♀).
MOLT—Moderate body molt on juvenile from early Feb.; none on adult.
FOOD—Unidentified tiny insects in one stomach.

The two specimens were taken along a stream. Individuals and small loose flocks were commonly observed from 1400 to 2000 m. The female was recently fledged.

Atticora fasciata
White-banded Swallow

SPECIMENS—9 (140 m).
WEIGHT—$\bar{x}$ = 12.8 g (N = 8; SD = 1.13; range 10.5–14.0 g).
IRIS—Dark brown.
BILL—Black.
TARSUS—Dark gray to black.
GONADS—Small—Feb. (1 ♀), Mar. (1 ♀), Nov. (1 ♀).
MOLT—Wing and tail molt on three individuals from late Feb. and late Mar.; no molt on one late Nov. specimen.
FOOD—Unidentified insects in one stomach.

Commonly observed foraging over Río Baría.

Neochelidon tibialis
White-thighed Swallow

SPECIMENS—1 (140 m).
WEIGHT—10.5 g (1 ♀).
IRIS—Dark brown.
BILL—Black.
TARSUS—Black.
GONADS—Small—Feb. (1 ♀).

The single specimen, taken over the heliport clearing at the Base Camp, constitutes our only record. The species was previously recorded in Amazonas only east of Cerro Duida and along the upper Orinoco.

Stelgidopteryx ruficollis
Southern Rough-winged Swallow

Sight record only (DW). One individual seen along Río Baría in Apr. 1984. In Amazonas, not recorded previously south of Yavita-Pimichin and the vicinity of Cerro Duida.

Riparia riparia
Bank Swallow

Migrant from North America, not recorded on current trip, but collected at 2000 m by Perez in Oct. 1970 (unpubl.).

Hirundo rustica
Barn Swallow

SPECIMENS—1 (140 m).
WEIGHT—14.0 g (1 ♀).
GONADS—Small—Nov. (1 ♀).

Migrant from North America. Specimen, collected 26 Nov. 1984, constitutes our only record. Caldas and Perez collected five specimens (unpubl.) from 2000 to 2300 m in Oct. and Nov. 1970.

Thryothorus coraya
Coraya Wren

SPECIMENS—14 (140 m); 1 (1250 m); 7 (San Carlos).
WEIGHT—7 ♂♂, $\bar{x}$ = 17.2 g (SD = 1.09; range 15.3–18.2 g); 4 ♀♀, $\bar{x}$ = 15.7 g (SD = 0.88; range 15.0–16.9 g); 1 unsexed, 20.3 g.
IRIS—Dark brown.
BILL—Maxilla black; mandible silver.
TARSUS—Blackish brown.
GONADS—Large—Mar. (1 ♂), Apr. (1 ♀, with yolking egg; 1 ♂); moderate—Feb. (1 ♂), Mar. (2 ♀♀, 1 ♂), Apr. (2 ♂♂), Dec. (1 ♂); small—Feb. (1 ♂), Mar. (1 ♀), Apr. (1 ♀, 1 ♂).
MOLT—Heavy body molt on one early Mar. specimen; none on three specimens from early Dec. and early and mid-Apr.
FOOD—Insects in four stomachs, identified as beetles in two and as ants in one (DW).

Common in bamboo at river's edge in lowlands; the specimen from 1250 m was taken in a tree blow down. Recently fledged juveniles were present in mid-Feb. and early Mar.

Thryothorus leucotis
Buff-breasted Wren

SPECIMENS—1 (140 m).
WEIGHT—17.8 g (1 ♀).
IRIS—Dark brown.
BILL—Maxilla black; mandible silver.

TARSUS—Bluish gray.
GONADS—Moderate—Feb. (1 ♀).

The single specimen, collected at the edge of the Río Baría, constitutes the only record. In Amazonas, the species was previously not recorded south of the Caño Casiquiare.

***Troglodytes rufulus**
Tepui Wren

SPECIMENS—4 (1800 m); 3 (2100 m).
WEIGHT—3 ♂♂, $\bar{x}$ = 15.5 g (SD = 1.32; range 14.0–16.5 g); 3 ♀♀, $\bar{x}$ = 16.7 g (SD = 2.80; range 13.9–19.5 g).
IRIS—Dark brown.
BILL—Dusky brown; mandible with silvery gray base.
TARSUS—Brownish gray.
GONADS—Moderate—Jan. (1 ♂), Feb. (2 ♂♂), Mar. (1 ♂); small—Feb. (3 ♀♀).
MOLT—Body molt on one late Feb. specimen; none on single specimens from late Jan. and early Feb.
FOOD—Insects in three stomachs, identified as beetles and as lepidopteran larva in one.

Fairly common in understory of middle- to upper-elevation forest, particularly in bamboo stands. Sight record at 1250 m (JC). Usually found about 2–4 m above the ground, gleaning from small vines and mossy limbs (JO). Collected as high as 2350 m by Perez in Oct. 1970 and Tavares in Feb. and Mar. 1965 (both unpubl.). Phelps and Phelps (1955) described the Neblina population as the endemic subspecies *wetmorei*.

Henicorhina leucosticta
White-breasted Wood-Wren

SPECIMENS— (140 m).
WEIGHT—$\bar{x}$ = 13.6 g (N = 3; SD = 0.47; range 13.2–14.1 g).
IRIS—Dark brown.
BILL—Black; mandible pink in a juvenile specimen.
TARSUS—Dark gray-brown to pinkish gray.
GONADS—Moderate—Apr. (1 ♂); small—Apr. (1 ♀).
MOLT—General body molt in the Apr. juvenile; none in the adult.
FOOD—Unidentified insects in one stomach.

Specimens, taken in forest, constitute the only records. The April ♀ was a recently fledged juvenile. A Caldas specimen (unpubl.) was taken at 1500 m on the Brazilian side, and seven were taken at 1800 m on the Phelps 1954 expedition (Phelps and Phelps, 1965).

***Microcerculus ustulatus**
Flutist Wren

SPECIMENS—2 (1250 m); 2 (1400 m); 3 (1800 m).
WEIGHT—6 ♂♂, $\bar{x}$ = 22.6 g (SD = 0.74; range 21.8–23.5 g); 1 ♀, 18.7 g.
IRIS—Dark brown.
BILL—Maxilla blackish brown; mandible dusky brown to pinkish flesh.
TARSUS—Blackish.
GONADS—Large—Feb. (1 ♂), Mar. (2 ♂♂); moderate—Jan. (1 ♂), Feb. (1 ♂); small—Feb. (1 ♂).
MOLT—Light body molt on one late Feb. specimen.
FOOD—Small insects in three stomachs, identified as beetles in one.

Commonly heard singing from mossy floor of tall forest and bamboo at middle and upper elevations. Some late Jan. and early Feb. specimens appeared to be recently fledged juveniles. One individual collected at 1850 m on the Phelps 1954 expedition (Phelps and Phelps, 1965) represents the highest elevational record for Neblina.

Microcerculus bambla
Wing-banded Wren

SPECIMENS—11 (140 m).
WEIGHT—5 ♂♂, $\bar{x}$ = 19.6 g (SD = 1.63; range 17.0–21.5 g); 3 ♀♀, $\bar{x}$ = 18.5 g (SD = 0.50; range 18.0–19.0 g).
IRIS—Dark brown.
BILL—Black; mandible with yellowish to pinkish base.
TARSUS—Dusky brown.
GONADS—Large—Feb. (1 ♂); moderate—Feb. (2 ♂♂), Apr. (1 ♀, 1 ♂); small—Feb. (2 ♀♀, 1 ♂), Apr. (1 ♂).
MOLT—Heavy body molt on one early Feb. specimen; none noted on two additional specimens from mid-Feb. and early Apr.
FOOD—Unidentified insects in two stomachs; small spiders in one.

Occasionally heard singing in understory of lowland forest. Some specimens from late Feb through Apr. were recently fledged juveniles. A Caldas specimen (unpubl.) was taken at 1500 m in Dec. 1970.

Catharus fuscescens
Veery

SPECIMENS—1 (140 m).
WEIGHT—31.4 g (1 ♂).
IRIS—Dark brown.
BILL—Maxilla dark brown; mandible flesh with dark tip.
TARSUS—Medium brown.
GONADS—Small—Apr. (1 ♂).
MOLT—None on single Apr. specimen.

Migrant from North America. Specimen, taken in lowland forest, constitutes our only record.

Catharus minimus
Gray-cheeked Thrush

SPECIMENS—9 (140 m); 2 (350 m); 2 (San Carlos).
WEIGHT—$\bar{x}$ = 28.2 g (N = 10; SD = 3.52; range 25.4–38.0 g).
IRIS—Dark brown.
BILL—Maxilla blackish brown; mandible yellowish with dark tip.
TARSUS—Pinkish brown.
GONADS—Small—Feb. (1 ♀, 2 ♂♂), Mar. (2 ♀♀, 2 ♂♂).
MOLT—None on six specimens taken from mid-Feb. to late Mar.
FOOD—Beetles in one stomach; fruit in two others.

Migrant from North America. Common in understory of lowland forest from Nov. to late Mar.; not seen after early Apr.

*Platycichla leucops
Pale-eyed Thrush

SPECIMENS—1 (2100 m).
WEIGHT—67.0 g (1 ♀).
IRIS—Gray.
BILL—Brown.
MOUTH LINING—Orange.
TARSUS—Brownish orange.
GONADS—Moderate—Feb. (1 ♀).
MOLT—Body molt in single specimen.

Specimen, taken in *Brocchinia* scrub, constitutes the only record. The species is very local in Amazonas, with records from Cerros Paraque and Paru in the north, and from the Sierra Tapirapeco, just northeast of Neblina, where it was previously unrecorded.

*Turdus olivater
Black-hooded Thrush

SPECIMENS—2 (1250 m); 2 (1400 m); 80 (1800 m); 3 (2000 m); 6 (2100 m).
WEIGHT—51 ♂♂, $\bar{x}$ = 84.8 g (SD = 4.99; range 70.0–94.8 g); 24 ♀♀, $\bar{x}$ = 88.5 g (SD = 7.33; range 76.8–104.0 g); 1 unsexed, 66.6 g.
IRIS—Dark brown.
ORBITAL SKIN—Yellow-orange in adults.
MOUTH LINING—Yellow-orange.
BILL—Chrome yellow in adult ♂♂, brownish yellow to chrome yellow in adult ♀♀; brown, often with pale tip, in juveniles..
TARSUS—Mustard yellow in adults, pinkish olive in juveniles.
GONADS—Large—Jan. (1 ♂), Feb. (2 ♀♀, 10 ♂♂), Mar. (2 ♂♂), Apr. (1 ♂), Nov. (1 ♀, 1 ♂), Dec. (1 ♂); moderate—Jan. (2 ♂♂), Feb. (7 ♂♂); small—Jan. (3 ♀♀, 7 ♂♂), Feb. 10 ♀♀, 14 ♂♂).
MOLT—Wing and tail molt noted on single individuals from late Jan. and early Feb.; body molt noted on 11 specimens from late Jan. to mid-Feb.; no molt on five specimens from late Nov. and early Dec.
FOOD—Nine stomachs contained fruit with seeds (MF), including *Drymis roraimensis* (Winteraceae), *Graffenrieda reticulata* (Melastomaceae), and *Clusia melchiori* (Guttiferae); two of these stomachs also contained unidentified insects.

Extremely common in forest and open scrub at upper elevations. At 1800 m in late Jan. and early Feb., there were many recently fledged juveniles. Brood patch present in an early Dec. ♀. A Morales specimen was taken at 2450 m in Mar. 1965, and a Caldas specimen from Dec. 1970 was collected at 500 m (both unpubl.), providing elevational extremes. Phelps and Phelps (1955) described the Neblina population as the endemic subspecies *kemptoni*.

***Turdus ignoblis**
Black-billed Thrush

Sight records only (DW). Small groups present in forest of main canyon of Río Baría at 750 m. In Amazonas, known from several northern tepuis and from both upper and lower slopes of Cerro Duida; previously not recorded on Neblina. In the Pantepui, there are lowland and highland subspecies; as we did not encounter the species in the lowlands, we assume the Neblina population represents the highland form.

Turdus lawrencii
Lawrence's Thrush

SPECIMENS—1 ♂ (140 m).
IRIS—Dark brown.
ORBITAL SKIN—Yellow.
BILL—Yellow.
TARSUS—Tan.
GONADS—Moderate—Mar. (1 ♂).
MOLT—None on Mar. specimen.
FOOD—*Pagamea plicata* (Rubiaceae [MF]) in one stomach.

Regularly heard singing from canopy of lowland forest. In Amazonas, previously recorded only along Río Negro near El Carmen.

Turdus albicollis
White-necked Thrush

SPECIMENS—15 (140 m); 2 (San Carlos).
WEIGHT—5 ♂♂, 45.8 g (SD = 2.95; range 42.0–48.9 g); 5 ♀♀, 52.4 g (SD = 7.97; range 40.3–61.8 g).
IRIS—Dark brown.
BILL—Maxilla dark brown; mandible dark to pale brown.
TARSUS—Medium to dark brown.
GONADS—Large—Feb. (2 ♂♂), Mar. (2 ♂♂), Apr. (1 ♀, with yolking egg; 1 ♂), May (1 ♀); moderate—Mar. (1 ♀); small—Feb. (1 ♀).
MOLT—None noted on three individuals from late Feb., early Mar., and early Apr.
FOOD—Fruit with 3-mm soft seeds in one stomach.

Common in understory of lowland forest. Specimen in juvenile plumage in mid-Feb.

Microbates collaris
Collared Gnatwren

SPECIMENS—7 (140 m); 2 (190 m); 1 (San Carlos).
WEIGHT—$\bar{x}$ = 9.9 g (N = 7; SD = 0.72; range 9.0–11.0 g).
IRIS—Dark brown.
BILL—Maxilla black; mandible pearly gray.
TARSUS—Gray.
GONADS—Large—Apr. (1 ♂); moderate—Apr. (1 ♀); small—Mar. (2 ♂♂), Apr. (1 ♂).
MOLT—Wing molt on one late Feb. specimen; body molt on three specimens from early Mar. and early Apr.; no molt noted on additional early Mar. specimen.
FOOD—Insects in three stomachs, with ants making up part of the contents of one (DW).

Infrequently encountered in understory of lowland forest.

Ramphocaenus melanurus
Long-billed Gnatwren

SPECIMENS—2 (140 m).
WEIGHT—$\bar{x}$ = 9.9 g (9.8, 10.0 g).
IRIS—Medium brown.
BILL—Maxilla brown; mandible grayish tan.
TARSUS—Gray.
GONADS—Moderate—Mar. (1 ♂).
MOLT—None on either early Mar. specimen.

Infrequently observed in forest, usually in midlevel mixed-species flocks, up to 350 m.

Polioptila guianensis
Guianan Gnatcatcher

SPECIMENS—1 (140 m).
MOLT—General molt in the one late Mar. specimen.

Regular member of mixed-species canopy flocks in lowland forest.

***Zonotrichia capensis**
Rufous-collared Sparrow

SPECIMENS—2 (1850 m); 2 (2000 m); 1 (2100 m).
WEIGHT—$\bar{x}$ = 23.5 g (N = 4; SD = 1.23; range 22.0–24.5 g).
IRIS—Dark brown.

BILL—Maxilla black; mandible gray with black tip.

TARSUS—Brown.

GONADS—Moderate—Feb. (1 ♀); small—Feb. (1 ♀), Apr. (1 ♂).

MOLT—Extensive body molt on one mid-Feb. specimen.

FOOD—Tiny seeds in two stomachs.

Apparently restricted to open *Bonnetia* scrub on high plateaus, where it is moderately common. Juvenile with accompanying adult collected mid-Apr. 1984. Collected as high as 2475 m by Tavares in Feb. and Mar. 1965 (Phelps, 1972). Phelps and Phelps (1965) described the Neblina population as the endemic subspecies *inaccessibilis*.

*Haplospiza rustica
Slaty Finch

SPECIMENS—1 (1800 m).

WEIGHT—15.5 g (1 ♀).

IRIS—Dark brown.

BILL—Dusky brown.

TARSUS—Dark brown.

GONADS—Small—Feb. (1 ♀).

Specimen, taken in understory of tall cloud forest, constitutes the only record. The species was previously not recorded in Amazonas; Venezuelan records are restricted to Sierra de Perija, the coastal range, and to Chimanta-tepui in Bolivar. Parker (1982) considered this species to be a bamboo specialist, and bamboo was common where our specimen was collected.

*Catamenia homochroa
Paramo Seedeater

SPECIMENS—1 (1800 m); 5 (2100 m).

WEIGHT—(4 ♀♀, $\bar{x}$ = 14.4 g (SD = 0.94; range 13.0–15.0 g).

IRIS—Dark brown.

BILL—Maxilla brown with orangish base in adult, dusky brown in juvenile; mandible brown with cream base in adult, pink with dusky tip in juvenile.

TARSUS—Brown.

GONADS—Small—Feb. (4 ♀♀), Mar. (1 ♂).

MOLT—Body molt on four specimens from mid-Feb. and mid-Mar.; no molt on juvenile taken mid-Feb.

FOOD—Plant material in three stomachs.

Moderately common in *Brocchinia* scrub at upper elevations. Specimen in juvenile plumage taken in mid-Feb. at 1800 m. Specimens taken as high as 2475 m by Tavares in Mar. 1965 (unpubl.).

Arremon taciturnus
Pectoral Sparrow

SPECIMENS—18 (140 m); 14 (San Carlos).

WEIGHT—15 ♂♂, $\bar{x}$ = 24.6 g (SD = 1.32; range 22.7–26.8 g); 8 ♀♀, $\bar{x}$ = 24.3 g (SD = 1.26; range 22.0–25.9 g).

IRIS—Brown.

BILL—Black.

TARSUS—Pinkish gray.

GONADS—Large—Feb. (2 ♂♂), Mar. (1 ♀, 7 ♂♂), Apr. (3 ♂♂); moderate—Mar. (1 ♂), Dec. (1 ♂); small—Mar. (1 ♀).

MOLT—Body molt noted on three specimens from mid-Feb. to mid-Mar.; no molt on single early Dec. specimen.

FOOD—Seeds and fruit fiber in one stomach.

Common in understory of lowland forest. Specimens taken at 1300 m on the Phelps 1954 expedition (Phelps and Phelps, 1965) and from 1500 m by Caldas in Dec. 1970 (unpubl.).

*Atlapetes personatus
Tepui Brush-Finch

SPECIMENS—6 (750 m); 4 (1250 m); 4 (1400 m); 19 (1800 m); 4 (2000 m); 5 (2100 m).

WEIGHT—18 ♂♂, $\bar{x}$ = 33.8 g (SD = 2.20; range 30.0–37.0 g); 8 ♀♀, $\bar{x}$ = 31.6 g (SD = 1.84; range 29.2–33.7 g).

IRIS—Chestnut.

BILL—Dark brown to black.

TARSUS—Blackish brown.

GONADS—Large—Jan. (1 ♂), Feb. (2 ♀♀, 6 ♂♂), Mar. (1 ♀, 2 ♂♂), Apr. (1 ♂), Nov. (1 ♀); moderate—Feb. (1 ♀, 4 ♂♂), Apr. (1 ♂); small—Feb. (1 ♀), Mar. (3 ♀♀), Apr. (1 ♀, 1 ♂), Nov. (1 ♂), Dec. (1 ♂).

MOLT—Tail molt noted on one early Dec. juvenile; body molt noted on 11 specimens from late Nov. through mid-Mar., with nonmolting individuals through the same period, as well as in early Dec.

FOOD—Small seeds only, in four stomachs; insects only, in six stomachs; a combination of insects including tiny beetles and seeds in three; seeds and fruit pulp in two stomachs were iden-

tified as *Graffendria reticulata* (Melastomaceae [MF]).

Common, usually in small groups near the ground, in brushy habitats at middle and upper elevations, often in or near bamboo. Juveniles present in late Nov., early Dec., and mid-Feb.; brood patches present on single late Nov. and early Dec. specimens. Collected as high as 2450 m by Morales in Mar. 1965 (unpubl.). The Neblina population has been described as the endemic subspecies *jugularis* (Phelps and Phelps, 1955).

Caryothraustes canadensis
Yellow-green Grosbeak

Sight records only (DW). Conspicuous and common member of one flock at 350 m, late Mar. 1984.

Pitylus grossus
Slate-colored Grosbeak

SPECIMENS—12 (140 m); 1 (San Carlos).

WEIGHT—6 ♂♂, $\bar{x}$ = 46.2 g (SD = 3.6; range 43.5—53.0 g); 4 ♀♀, $\bar{x}$ = 43.3 g (SD = 2.6; range 41.0–47.0 g).

IRIS—Dark brown.

BILL—Red.

TARSUS—Blackish gray.

GONADS—Large—Feb. (1 ♀, 1 ♂), Mar. (3 ♂♂); moderate—Feb. (1 ♀); small—Jan. (1 ♂), Feb. (2 ♀♀).

MOLT—Wing molt on one early Mar. specimen; no molt noted on five specimens from mid-Feb. to early Mar.

FOOD—A combination of insects and fruit in five stomachs; insects, identified as ants, in two (SC).

Common in lowland forest, ranging from understory to canopy.

Saltator maximus
Buff-fronted Saltator

SPECIMENS—12 (140 m); 1 (San Carlos).

WEIGHT—4 ♂♂, $\bar{x}$ = 39.9 g (SD = 4.22; range 34.0–43.9 g); 3 ♀♀, $\bar{x}$ = 42.9 g (SD = 3.76; range 38.7–46.0 g).

IRIS—Dark brown.

BILL—Black; mandible with silver base.

TARSUS—Dark brown.

GONADS—Large—Mar. (3 ♂♂), Apr. (1 ♀, 1 ♂); moderate—Feb. (1 ♀, 1 ♂), Mar. (1 ♀), Apr. (1 ♀); small—Apr. (1 ♂).

MOLT—Body molt noted on four specimens from late Feb., mid-Mar., and early Apr.; no molt noted on late Nov. individual.

FOOD—One stomach with combination of seeds and unidentified insects.

Common at edge of river in lowlands, primarily in bamboo.

Passerina cyanoides
Blue-black Grosbeak

SPECIMENS—4 (140 m); 7 (San Carlos).

WEIGHT—6 ♂♂, $\bar{x}$ = 24.2 g (SD = 1.26; range 23.0–26.2 g); 4 ♀♀, $\bar{x}$ = 23.9 g (SD = 1.34; range 22.1–25.0 g).

IRIS—Dark brown.

BILL—Black; mandible with silver base in ♂♂.

TARSUS—Black.

GONADS—Large—Feb. (1 ♂), Mar. (1 ♀, 1 ♂); moderate—Feb. (1 ♂), Mar. (1 ♀); small—Mar. (1 ♀).

MOLT—None noted on two specimens from mid- and late Feb.

FOOD—Fruit in one stomach.

Infrequently encountered in lowland forest.

Hemithraupis flavicollis
Yellow-backed Tanager

SPECIMENS—9 (140 m).

WEIGHT—3 ♂♂, $\bar{x}$ = 12.9 g (SD = 0.53; range 12.5–13.5 g); 3 ♀♀, $\bar{x}$ = 12.2 g (SD = 1.16; range 11.5–13.5 g).

IRIS—Brown.

BILL—Maxilla black; mandible yellow.

TARSUS—Bluish gray.

GONADS—Large—Mar. (1 ♂); moderate—Apr. (1 ♀); small—Feb. (1 ♀), Mar. (1 ♂), May (1 ♀).

MOLT—Wing and tail molt noted on four specimens from late Feb. and early Mar.; none noted on one additional early Mar. specimen.

FOOD—Fruit pulp with seeds in four stomachs.

Regular member of canopy flocks in lowland forest.

Lanio fulvus
Fulvous Shrike-Tanager

Sight records only on current trip (DW); single male and female seen on separate days in canopy of forest at 750 m, mid-Mar. 1984. Caldas collected a specimen (unpubl.) at 1500 m in Dec. 1970 on the Brazilian side.

Tachyphonus cristatus
Flame-crested Tanager

SPECIMENS—9 (140 m).
WEIGHT—5 ♂♂, $\bar{x}$ = 18.8 g (SD = 1.30; range 18.0–21.0 g); 2 ♀♀, $\bar{x}$ = 18.3 g (18.0, 18.5 g).
IRIS—Dark brown.
BILL—Maxilla black; mandible with silvery gray base in ♂♂, uniformly gray in ♀♀.
TARSUS—Black in ♂♂, gray in ♀♀.
GONADS—Moderate—Apr. (1 ♂); small—Mar. (1 ♂), May (1 ♂).
MOLT—Wing molt on three specimens from late Feb. and early Mar.; none on one additional early Mar. specimen.

Fairly common in mixed-species canopy flocks in lowland forest.

Tachyphonus surinamus
Fulvous-crested Tanager

SPECIMENS—6 (San Carlos).
WEIGHT—$\bar{x}$ = 19.7 g (N = 6; SD = 0.89; range 18.5–21.0 g).
IRIS—Dark brown.
BILL—Black; mandible silver in ♀♀.
TARSUS—Dark gray in ♀♀, black in ♂♂.
GONADS—Large—Mar. (2 ♂♂); moderate—Mar. (1 ♀).
FOOD—Purple fruit in one stomach.

Although we encountered this species moderately often in the San Carlos area, we did not encounter it in the Neblina lowlands. Caldas collected one (unpubl.) at 1500 m on the Brazilian side.

***Piranga flava**
Hepatic Tanager

Sight records only on current trip (JC, DW). Male and female with mixed-species flock at heliport clearing at 1250 m. The Phelps 1954 expedition collected two at 1800 m (Phelps and Phelps, 1965).

Piranga rubra
Summer Tanager

Sight record only on current trip, late Jan. 1985 (JO). One bird in female plumage seen and tape recorded at 1850 m. The bird was in the canopy of a small tree in the forest. Three specimens of this North American migrant were collected on the 1954 Phelps expedition at 1800 m (Phelps and Phelps, 1965).

Ramphocelus carbo
Silver-beaked Tanager

SPECIMENS—11 (140 m); 6 (San Carlos).
WEIGHT—$\bar{x}$ = 24.9 g (N = 5; SD = 2.35; range 22.0–28.0 g).
IRIS—Dark brown.
BILL—Maxilla black; mandible silvery white with black tip.
TARSUS—Black.
GONADS—Large—Feb. (1 ♂), Mar. (1 ♀, 1 ♂), Nov. (1 ♂); small—Feb. (1 ♂), Mar. (1 ♂), Apr. (1 ♀, 1 ♂).
MOLT—Wing molt on one late Feb. specimen; no molt on late Nov. specimen.
FOOD—Fruit pulp with seeds in one stomach.

Common at river edge.

Euphonia plumbea
Plumbeous Euphonia

SPECIMENS—1 (140 m).
WEIGHT—9.0 g (1 ♂).
IRIS—Dark brown.
BILL—Black with gray base.
TARSUS—Blackish gray.
MOLT—None in the one early Mar. specimen.

Specimen, taken from fruiting tree in lowland forest, constitutes our only record. Feeding with other *Euphonia* species, as well as *Mionectes, Tangara,* and *Cyanerpes.*

Euphonia chlorotica
Purple-throated Euphonia

SPECIMENS—1 (140 m).
WEIGHT—13.5 g (1 ♂).

IRIS—Dark brown.
BILL—Maxilla black; mandible blue-gray.
TARSUS—Dark gray.
GONADS—Large—Feb. (1 ♂).
MOLT—Tail molt in late Feb. specimen.

Specimen, taken from fruiting tree in lowland forest, constitutes our only record. In Amazonas, previously recorded only in the north in the vicinity of Caño Cataniapo.

Euphonia chrysopasta
Golden-bellied Euphonia

SPECIMENS— 2 (140 m).
WEIGHT—13.0 g (1 ♂); 13.4 g (1 ♀).
IRIS—Dark brown.
BILL—Gray; maxilla with black tomium.
TARSUS—Bluish gray.
GONADS—Large—Mar. (1 ♀, with yolking egg).
MOLT—Light body molt in both early Mar. specimens.

Specimens, taken from fruiting tree in lowland forest, constitute our only records.

Euphonia minuta
White-vented Euphonia

SPECIMENS—1 (140 m).
WEIGHT—7.5 g (1 ♀).
IRIS—Brown.
BILL—Maxilla black; mandible gray.
TARSUS—Blackish gray.
MOLT—None in single late Feb. specimen.

Specimen, taken from fruiting tree in lowland forest, constitutes our only record. In Amazonas, the species was not previously recorded south of Cerro Duida.

Euphonia xanthogaster
Orange-bellied Euphonia

SPECIMENS—3 (140 m); 4 (1250 m).
WEIGHT—3 ♂♂, $\bar{x}$ = 13.9 g (SD = 0.32; range 13.5–14.1 g); 3 ♀♀, $\bar{x}$ = 12.9 g (SD = 0.90; range 12.0–13.8 g).
IRIS—Dark brown.
BILL—Maxilla black; mandible silvery gray with black tip.
TARSUS—Dark gray.
GONADS—Large—Mar. (1 ♀), Apr. (2 ♂♂), May (1 ♂).
MOLT—None noted on one early Mar. specimen.

Fairly common in canopy and occasionally in understory of lowland to midelevation forest. Collected as high as 1450 m by Caldas in Dec. 1970 (unpubl.).

Tangara mexicana
Turquoise Tanager

Not recorded on current trip. The single Neblina record is a specimen collected by Caldas in 1970 (unpubl.), taken at the surprisingly high elevation of 2000 m.

Tangara chilensis
Paradise Tanager

SPECIMENS—4 (140 m).
WEIGHT—$\bar{x}$ = 20.4 g (N = 4; SD = 0.89; range 19.4–21.5 g).
IRIS—Dark brown.
BILL—Black.
TARSUS—Blackish gray.
GONADS—Large—Feb. (1 ♀); moderate—Feb. (2 ♀♀).
MOLT—Wing molt on two late Feb. specimens; one of these as well as a third showed body molt; a fourth was not molting.
FOOD—Fruit pulp with tiny seeds in three stomachs.

Common member of mixed-species canopy flocks in lowlands.

Tangara schrankii
Green-and-gold Tanager

SPECIMENS—4 (140 m).
WEIGHT—$\bar{x}$ = 19.5 g (N = 2; identical weights).
IRIS—Dark brown.
BILL—Black.
TARSUS—Gray.
GONADS—Large—Mar. (1 ♂); moderate—Apr. (1 ♀).
MOLT—Body molt on single specimens from early and late Mar.; none on an additional early Mar. specimen.
FOOD—Fruit pulp and small seeds combined with unidentified insects in one stomach.

A regular component of mixed-species canopy flocks in lowland forest. In Amazonas, pre-

viously recorded south only to Río Ventuari and the region east of Cerro Duida.

*Tangara xanthogastra
Yellow-bellied Tanager

SPECIMENS—7 (140 m); 7 (1800 m).

WEIGHT—140 m, $\bar{x}$ = 14.1 g (N = 7; SD = 0.75; range 13.0–15.0 g); 1800 m, $\bar{x}$ = 17.9 g (N = 7; SD = 1.21; range 16.9–20.0 g).

IRIS—Dark brown.

BILL—Maxilla black; mandible silvery gray with black tip.

TARSUS—Gray.

GONADS—Large—Feb. (1 ♀, 3 ♂♂); moderate—Mar. (1 ♂), Dec. (1 ♂); small—Feb. (2 ♀♀, 4 ♂♂).

MOLT—Wing and tail molt noted on single late Feb. and early Mar. specimens, with none on five additional late Feb. birds; body molt on two early Feb., two late Feb., and one early Mar. specimens.

FOOD—Fruit pulp and small seeds in five stomachs, combined with unidentified insects in one.

Fairly common in mixed-species flocks, both in lowland forest and at high elevations. Numerous juveniles were present in late Jan. and early Feb. at 1800 m. Two disjunct populations seem to be involved, with the species absent from middle elevations. Zimmer (1943) named the upper-elevation form *T. x. phelpsi,* separating it from the nominate lowland form. A specimen of *phelpsi* taken at 1400 m (Phelps and Phelps, 1965) is the lowest Neblina record for the montane form.

*Tangara punctata
Spotted Tanager

Sight record only (DW). One pair seen foraging in forest at 750 m, mid-Mar. 1984. Not previously recorded on Neblina, but records from as close as the Sierra Curupira at the headwaters of the Río Siapa.

*Tangara guttata
Speckled Tanager

Sight record only on current trip (DW). Small group in mixed-species flock at heliport clearing at 1250 m, mid-Apr. 1984. One specimen collected on 1954 Phelps expedition at 1800 m (Phelps and Phelps, 1965).

Tangara gyrola
Bay-headed Tanager

SPECIMENS—5 (140 m).

WEIGHT—$\bar{x}$ = 18.2 g (N = 5; SD = 1.26; range 17.0–20.0 g).

IRIS—Dark brown.

BILL—Black.

TARSUS—Bluish gray.

GONADS—Large—May (1 ♂); small—May (2 ♀♀).

MOLT—Wing molt on one late Feb. specimen.

Infrequently encountered in mixed-species canopy flocks up to 350 m. The species has been recorded along Río Negro south to El Carmen, and in northeastern Amazonas.

*Tangara cyanoptera
Black-headed Tanager

SPECIMENS—34 (1800 m); 6 (2100 m).

WEIGHT—19 ♂♂, $\bar{x}$ = 20.7 g (SD = 1.66; range 17.1–24.5 g); 19 ♀♀, $\bar{x}$ = 22.4 g (SD = 2.24; range 18.0–27.5 g).

IRIS—Dark brown.

BILL—Maxilla black; mandible flesh with black tip.

TARSUS—Medium gray.

GONADS—Large—Jan. (1 ♂), Feb. (2 ♀♀, one with yolking egg; 2 ♂♂); moderate—Dec. (1 ♀), Feb. (1 ♂); small—Jan. (2 ♀♀), Feb. (9 ♀♀, 13 ♂♂).

MOLT—Wing and tail molt on many adult specimens from early Dec. and late Jan. to late Feb.; body molt with adult feathers coming in on many of the early Feb. juveniles.

FOOD—Seven stomachs with fruit (MF), including *Drymis roraimensis* (Winteraceae), *Graffendria reticulata* (Melastomaceae), and *Clusia melchiori* (Guttiferae).

Very common member of mixed-species flocks in forest and open scrub at upper elevations. Juveniles far outnumbered adults in late Jan. and early Feb. at 1800 m. A specimen taken at 2200 m by Perez in Oct. 1970 (unpubl.) is the upper elevational extreme for Neblina.

Tangara velia
Opal-rumped Tanager

SPECIMENS—3 (140 m); 2 (San Carlos).

WEIGHT—$\bar{x}$ = 20.3 g (N = 3; SD = 2.15; range 18.2–22.5 g).

IRIS—Dark brown.
BILL—Black.
TARSUS—Dark gray.
MOLT—Heavy wing and tail molt on two late Feb. specimens.

Infrequently encountered in mixed-species flocks in canopy up to 350 m elevation.

Dacnis cayana
Blue Dacnis

SPECIMENS—9 (140 m).
WEIGHT—3 ♂♂, $\bar{x}$ = 13.9 g (SD = 0.85; range 13.0–14.7 g); 5 ♀♀, $\bar{x}$ = 13.1 g (SD = 1.17; range 12.2–15.0 g).
IRIS—Red.
BILL—Maxilla blackish; mandible gray with dusky tip.
TARSUS—Dull pink.
GONADS—Large—Feb. (2 ♀♀, 2 ♂♂); moderate—Feb. (2 ♀♀); small—Apr. (1 ♀), May (1 ♂).
MOLT—Wing and tail molt on two late Feb. specimens, but none on a third from the same period and one in early Mar.; general molt in two early Apr. specimens.
FOOD—Fruit with small seeds in four stomachs; seeds described as arillate in one (MF).

Regular member of mixed-species canopy flocks in lowland forest.

Chlorophanes spiza
Green Honeycreeper

SPECIMENS—8 (140 m).
WEIGHT—3 ♂♂, $\bar{x}$ = 16.7 g (SD = 0.42; range 16.2–17.0 g); 5 ♀♀, $\bar{x}$ = 15.9 g (SD = 2.08; range 13.5–19.0 g).
IRIS—Red.
BILL—Maxilla black; mandible yellow.
TARSUS—Grayish green.
GONADS—Large—Feb. (1 ♂), Apr. (1 ♀, with yolking egg); moderate—Feb. (3 ♀♀); small—Mar. (1 ♀).
MOLT—Wing molt on one early Mar. specimen; body molt on one late Feb. specimen; no molt on four additional specimens from same period.
FOOD—Fruit with small seeds in three stomachs, combined with unidentified insects in one; one additional stomach full of ants (MF).

Infrequently encountered, usually in fruiting trees. Collected at 1500 m by Caldas in Dec. 1970 on the Brazilian slope (unpubl.).

Cyanerpes caeruleus
Purple Honeycreeper

SPECIMENS—7 (140 m); 1 (190 m).
WEIGHT—5 ♂♂, $\bar{x}$ = 9.9 g (SD = 0.34; range 9.3–10.0 g); 3 ♀♀, $\bar{x}$ = 11.2 g (SD = 2.00; range 10.0–13.5 g).
IRIS—Dark brown.
BILL—Black.
TARSUS—Bright yellow in ♂♂, green in ♀♀.
GONADS—Large—Feb. (2 ♂♂); Mar. (1 ♀, 1 ♂).
MOLT—Body molt on two early Mar. specimens; none on one late Feb. specimen.
FOOD—Fruit with small seeds in two stomachs; one collected (MF) while foraging in *Pagamea plicata* (Rubiaceae).

Regular component of mixed-species canopy flocks in lowland forest. One specimen collected at 1500 m by Caldas in Dec. 1970 on the Brazilian slope (unpubl.).

Cyanerpes cyaneus
Red-legged Honeycreeper

SPECIMENS—5 (140 m).
WEIGHT—3 ♂♂, $\bar{x}$ = 12.7 g (SD = 0.29; range 12.5–13.0 g); 2 ♀♀, $\bar{x}$ = 14.3 g (13.8, 14.8 g).
IRIS—Dark brown.
BILL—Black.
TARSUS—Salmon red.
GONADS—Large—Feb. (1 ♀), Mar. (1 ♀, 3 ♂♂).
MOLT—Body molt present in one and absent from three early Mar. specimens.
FOOD—Unidentified insects in three stomachs; individual observed feeding on nectar in Marcgraviaceae vine (MF).

Infrequently encountered in mixed-species canopy flocks in lowland forest.

***Diglossa duidae**
Scaled Flower-piercer

SPECIMENS—3 (1400 cm) 6 (1600 m); 17 (1800 m); 4 (2000 m); 15 (2100 m); 1 (2200 m).
WEIGHT—20 ♂♂, $\bar{x}$ = 15.4 g (SD = 1.70; range 11.9–18.5 g); 12 ♀♀, $\bar{x}$ = 14.3 g (SD = 0.77; range 12.9–16.0 g).
IRIS—Dark brown.

BILL—Maxilla black; mandible gray with black tip.

TARSUS—Blackish brown.

GONADS—Large—Feb. (3 ♂♂), Mar. (1 ♂); moderate—Feb. (1 ♀, 7 ♂♂), Mar. (1 ♂), Apr. (1 ♂), Nov. (1 ♂); small—Jan. (1 ♀), Feb. (3 ♀♀, 8 ♂♂), Apr. (1 ♂), Dec. (1 ♂).

MOLT—Heavy body molt in most specimens taken at 2100 m in late Feb.; wing and tail molt noted in specimens at 1800 m in late Nov., early Dec., and late Jan.; specimens from early Feb. showed only body molt.

FOOD—Insects in two stomachs; commonly observed (MF) taking nectar through a hole pierced in the base of the corolla tube of *Psittacanthus* sp. (Loranthaceae) and feeding on the fruit of *Drymis roraimensis* (Winteraceae).

Extremely common, usually alone or in pairs, in open middle- to high-elevation scrub, with small numbers in tall forest as well. This and *Campylopterus duidae* are the two most common species above 1800 m. Juveniles were present at 1600 m in mid-Apr. and at 1800 m in late Jan. and early Feb. Morales collected specimens (unpubl.) as high as 2500 m in Mar. 1965. Dickerman (1987) described the Neblina population as an endemic subspecies, *georgebarrowcloughi*.

*Parula pitiayumi
Tropical Parula

Sight records only on current trip (JC, JO, DW). Regular member of flocks in tall forest from 1250 to 1800 m. Two each were collected at 1500 and 1800 m on the 1954 Phelps expedition (Phelps and Phelps, 1965).

Dendroica petechia
Yellow Warbler

Sight record only (JC). Migrant from North America, previously recorded south in Amazonas to Las Carmelitas on Río Ventuari. There are specimens from Taparacuara on upper Río Negro in Brazil, in the Museu de Zoologia, Universidad São Paolo (D. Stotz, pers. comm.).

Dendroica striata
Blackpoll Warbler

SPECIMENS—4 (140 m).

WEIGHT—$\bar{x}$ = 12.0 g (N = 4; SD = 0.83; range 11.0–13.0 g).

IRIS—Dark brown.

BILL—Maxilla black; mandible pinkish gray to greenish gray.

TARSUS—Yellowish olive.

GONADS—Small—Apr. (1 ♂), Nov. (1 ♀).

MOLT—Heavy body molt on one early Mar. specimen; none on late Nov. specimen.

FOOD—Tiny beetles in one stomach.

Migrant from North America. Regular member of mixed-species canopy flocks in lowland forest. One specimen was collected at 1500 m on the Phelps 1954 expedition (Phelps and Phelps, 1965).

Dendroica fusca
Blackburnian Warbler

SPECIMENS—1 (140 m); 1 (1400 m).

WEIGHT—13.0 g (1 ♂); 7.7 g (1 ♀).

IRIS—Dark brown.

BILL—Maxilla black; mandible yellow with gray tip.

TARSUS—Light yellow.

GONADS—Small—Mar. (1 ♀, 1 ♂).

MOLT—None on one early Mar. specimen.

FOOD—Unidentified tiny insects in one stomach.

Migrant from North America. Infrequently seen in mixed-species flocks in tall forest at 1400 m. A specimen (Phelps and Phelps, 1965) from 1800 m is the uppermost Neblina record. The specimen from 140 m was the only record from the lowlands, where winter records in South America are unusual, although D. Stotz (pers. comm.) has seen the species in the lowlands around Manaus, Brazil.

Setophaga ruticilla
American Redstart

SPECIMENS—2 (1400 m).

WEIGHT—8.8 g (1 ♂); 6.9 g (1 ♀).

IRIS—Dark brown.

BILL—Black.

TARSUS—Dark brown.

GONADS—Small—Feb. (1 ♂).

Migrant from North America. Fairly common flock member in tall forest at 1400 m; also seen in flocks at 350 m and 780 m (DW). Spec-

imens collected at 1500 and 1800 m (Phelps and Phelps, 1965) are the uppermost records for Neblina.

***Myioborus miniatus**
Slate-throated Redstart

SPECIMENS—2 (1250 m); 1 (1400 m).
WEIGHT—$\bar{x}$ = 9.4 g (N = 3; SD = 0.85; range 8.6–10.3 g).
IRIS—Dark brown.
BILL—Black.
TARSUS—Black.
GONADS—Large—Mar. (1 ♂); small—Feb. (1 ♀).

Fairly common in tall mossy forest, usually in canopy, at middle elevations. Twenty specimens collected at 1800 m (Phelps and Phelps, 1965) are the uppermost records for Neblina.

***Myioborus brunniceps**
Brown-capped Redstart

SPECIMENS—4 (1400 m); 21 (1800 m); 1 (2000 m); 2 (2100 m).
WEIGHT—10 ♂♂, $\bar{x}$ = 11.6 g (SD = 0.44; range 10.8–12.0 g); 13 ♀♀, $\bar{x}$ = 10.6 g (SD = 0.86; range 8.9–12.0 g).
IRIS—Dark brown.
BILL—Black.
TARSUS—Black.
GONADS—Large—Feb. (1 ♂), Apr. (1 ♂); moderate—Feb. (1 ♀, 1 ♂), Mar. (1 ♀), Dec. (1 ♂); small—Feb. (10 ♀♀, 5 ♂♂), Nov. (1 ♂).
MOLT—Light to moderate body molt noted on two specimens from early and mid-Feb.; none noted on two additional specimens from the same period, as well as from late Nov. and mid-Apr.
FOOD—Unidentified tiny insects in five stomachs.

Very common in tall forest and in *Brocchinia/Bonnetia* scrub at upper elevations. This species and *Myioborus miniatus* appear to be elevational replacements, changing over at about 1400 m in the areas we worked. On the Phelps 1954 expedition, *miniatus* was common at 1800 m, and *brunniceps* was collected only from there and above. Whether this reflects an elevational shift in the 30 years between expeditions, habitat differences between the slopes studied, or some other variable remains to be determined. Phelps and Phelps (1961) described the Neblina population as an endemic subspecies *maguirei*.

***Basileuterus bivittatus**
Two-banded Warbler

SPECIMENS—2 (1250 m); 2 (1400 m).
WEIGHT—14.5 g (1 ♂); 13.9 g (1 ♀).
IRIS—Dark brown.
BILL—Blackish brown; mandible brown with flesh base.
TARSUS—Yellowish brown.
GONADS—Moderate—Feb. (1 ♂); small—Feb. (1 ♀), Mar. (1 ♀).

Fairly common in understory of tall forest at middle elevations. Collected as low as 500 m by Caldas on the Brazilian slope (unpubl.).

Phaeothlypis rivularis
River Warbler

SPECIMENS—9 (140 m).
WEIGHT—4 ♂♂, $\bar{x}$ = 13.1 g (SD = 1.48; range 11.3–14.9 g); 2 ♀♀, $\bar{x}$ = 12.1 g (11.8, 12.4 g).
IRIS—Dark brown.
BILL—Black.
TARSUS—Yellowish olive.
GONADS—Large—Feb. (1 ♂); moderate—Feb. (1 ♂), Mar. (1 ♂); small—Feb. (1 ♀).
MOLT—None noted on one late Feb. specimen.

Fairly common at edge of Río Baría and along stream courses in lowland forest. In Amazonas, previously known only from the far north and from the headwaters of Río Siapa.

Granatellus pelzelni
Rose-breasted Chat

SPECIMENS—2 (140 m).
WEIGHT—2 ♂♂, $\bar{x}$ = 11.3 g (10.0, 12.5 g).
IRIS—Dark brown.
BILL—Maxilla black; mandible silvery gray.
TARSUS—Medium gray.
GONADS—Large—Feb. (1 ♂); small—Jan. (1 ♂).

Apparently rare in lowlands. One netted at edge of Base Camp clearing, and a second tape recorded and shot from about 8 m up in vine tangle at edge of Río Baría (JO).

Coereba flaveola
Bananaquit

Sight records only on current trip (DW). Common member of mixed-species flocks in forest at 750 m. Collected at 1500 m by Caldas in Dec. 1970 on the Brazilian slope (unpubl.).

Vireo olivaceus
Red-eyed Vireo

SPECIMENS—5 (140 m).
WEIGHT—$\bar{x}$ = 17.3 g (N = 5; SD = 1.50; range 15.5–19.0 g).
IRIS—Red to reddish brown.
BILL—Maxilla blackish gray to black; mandible pale gray.
TARSUS—Bluish gray.
GONADS—Small—Nov. (1 ♀).
MOLT—Wing and tail molt on two late Feb. specimens; none on one additional specimen from same period and one from Nov.
FOOD—Fruit and insects combined in two stomachs.

Common in canopy of lowland forest.

Vireo altiloquus
Black-whiskered Vireo

SPECIMENS—1 (2100 m).
GONADS—Small—Mar. (1 ♂).
MOLT—Light general molt.

Migrant from the West Indies. Specimen constitutes our only record. Previous records for Amazonas were confined to the lowlands near Cerro Duida; the high elevation appears unusual, as most Venezuelan records are from lowlands.

Hylophilus muscicapinus
Buff-chested Greenlet

SPECIMENS—2 (140 m).
WEIGHT—11.2 g (1 ♂).
IRIS—Dark brown.
BILL—Maxilla dark brown; mandible pale brown.
TARSUS—Bluish gray.
GONADS—Small—Apr. (1 ♂).
MOLT—None in one late Mar. specimen.
FOOD—Ants and tiny beetles (DW) in one stomach.

Regular member of mixed-species canopy flocks in lowland forest. In Venezuela, previously not recorded south of central Amazonas.

***Hylophilus sclateri**
Tepui Greenlet

Sight record only on current trip (JO). One seen in mixed-species flock with *Myioborus miniatus*, in tall, bromeliad-filled cloud forest at 1400 m. Two collected at 1800 m on the Phelps 1954 expedition (Phelps and Phelps, 1965).

Hylophilus brunneiceps
Brown-headed Greenlet

SPECIMENS—1 (140 m).
WEIGHT—11.5 g (1 ♀).
IRIS—Dark brown.
BILL—Brown; mandible with pale brown base.
TARSUS—Pinkish gray.
GONADS—Small—Mar. (1 ♀).
MOLT—Scattered body molt on mid-Mar. specimen.
FOOD—Unidentified insects in the one stomach.

Specimen, taken from midlevel mixed-species flock in lowland forest, constitutes our only record. Previously recorded in Amazonas south only to the Caño Casiquiare.

Hylophilus ochraceiceps
Tawny-crowned Greenlet

SPECIMENS—10 (140 m); 3 (San Carlos).
WEIGHT—$\bar{x}$ = 10.6 g (N = 12; SD = 1.00; range 9.5–13.5 g).
IRIS—Grayish white.
BILL—Maxilla black; mandible grayish white.
TARSUS—Light gray.
GONADS—Large—Mar. (2 ♂♂), Apr. (1 ♂); moderate—Feb. (1 ♂), Apr. (1 ♂); small—Feb. (1 ♀, 1 ♂).
MOLT—Heavy wing and body molt on three early Feb. specimens, with none on three additional specimens from the same period.
FOOD—Insects in two stomachs, including a large caterpillar in one.

Common in forest from midstory to canopy, often in mixed-species flocks.

Psaracolius viridis
Green Oropendola

Sight records only on current trip (JC, DW). Occasionally observed flying over Base Camp at 140 m, but apparently scarce. Caldas collected two specimens (unpubl.) at 1500 m on the Brazilian slope.

Psaracolius yuracares
Olive Oropendola

Sight record only (DW). One group of three individuals flying over Base Camp heliport once.

Cacicus cela
Yellow-rumped Cacique

SPECIMENS—7 (140 m).
WEIGHT—$\bar{x}$ = 103.0 g (N = 5; SD = 24.67; range 62.5–123.0 g).
IRIS—Light blue.
BILL—Greenish ivory.
TARSUS—Black.
GONADS—Large—Feb. (1 ♀, 1 ♂), Apr. (1 ♂); small—Feb. (1 ♀).
MOLT—None in three specimens from early Feb. and early Mar.
FOOD—Fruit pulp with seeds in one stomach.

Common along edge of Río Baría, where there were several nesting colonies; also regularly found in interior of lowland forest.

Icterus cayanensis
Moriche Oriole

SPECIMENS—2 (140 m).
WEIGHT—38.0 g (1 ♂); 40.5 g (1 ♀).
IRIS—Dark brown.
BILL—Black.
TARSUS—Medium gray in ♂, black in ♀.
GONADS—Moderate—Mar. (1 ♀); small—Feb. (1 ♂).
MOLT—Primary molt on Mar. specimen; body molt on both.
FOOD—Unidentified insects and caterpillar in one stomach.

Occasionally encountered in broken canopy at edge of Río Baría.

Discussion

Molt

Approximately 900 specimens representing 212 species were examined for molt. Interpreting seasonal molt patterns is complicated by small sample sizes. Many species are represented by only one or two individuals, whereas others are commonly represented. We do not know the molt status of individuals not examined and we have no data from mid-May through most of November. Analysis of those specimens we did examine, however, shows several trends.

At low elevations (140 m up to 750 m), 30–45% of the species collected and checked for molt had at least one individual with wing and/or tail molt from late November to March (fig. 8). From mid-March through early May, molt dropped sharply, coincident with the approach of the rainy season (Brewer-Carias, 1988). More species had more individuals molting body plumage than wing and tail at any given time, and body molt did not show the same decrease, but rather occurred at an essentially constant level through all months of our sample.

At upper elevations (≥ 750 m), the pattern was similar. Wing and tail molt were most common somewhat earlier, in late November and early December, and showed a steady decrease through April and early May, when we found virtually no individuals of any species molting these feathers. As in the lowlands, incidence of body molt was higher than that of wing and tail molt; body molt occurred at a fairly constant level throughout our sample, even while wing and tail molt decreased.

Gonadal Data

Miller (1954), in a study of 10 species near the Equator in Colombia, found that eight had individuals in "physiological readiness" for breeding throughout the year, whereas two showed highly cyclical breeding activity, one in primarily dry periods (*Stelgidopteryx*) and one in wetter periods (*Coryphospingus*). The gonadal sample sizes for most of the species we collected were too small to permit detailed analysis of individual species' breeding seasons by Miller's method. Our gonadal sample (1,500 specimens of 235 species), however, can be used to show some probable reproductive trends for the period of our study, November to May.

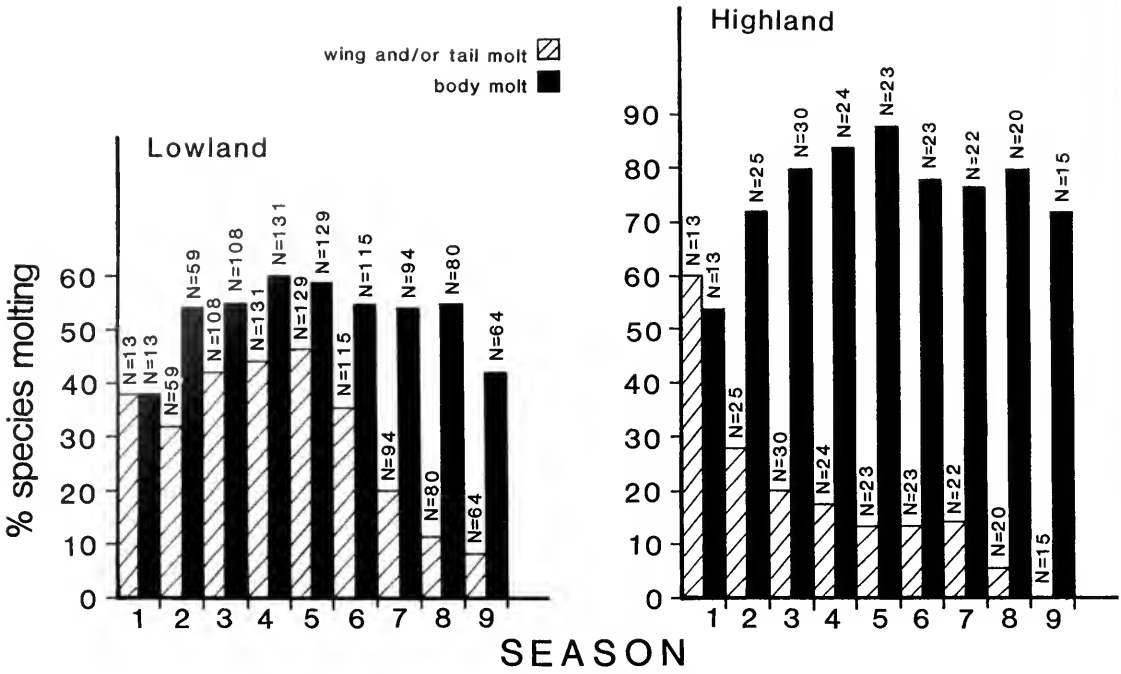

FIG. 8. Thirty-day (by 10-day interval) running percentages of species with at least one individual showing wing and/or tail and body molt. 1 = late Nov.–early Dec.; 2 = late Jan.–mid-Feb.; 3 = early Feb.–late Feb.; 4 = mid-Feb.–early Mar.; 5 = late Feb.–mid-Mar.; 6 = early Mar.–late Mar.; 7 = late Mar.–mid-Apr.; 8 = early Apr.–late Apr.; 9 =mid-Apr.–early May.

We consider large testes to be an indication of readiness to breed in males. Foster (1987) has shown that active sperm can exist in small testes, so our assessments of males' readiness to breed, based on enlarged testes, probably represent minimum values. Enlarged ova in females probably reflect actual breeding; females incubating or feeding young may have small ova, so again our estimates of numbers of birds breeding may be low. Gonadal size classes are defined at the beginning of the species accounts.

At low elevations, the percentage of species with some males with enlarged testes was always higher than the percentage with females in breeding condition (fig. 9). Both male and female values gradually increased from late November to mid-February, when samples of over 40% of the species included females in breeding condition and over 50% included males with enlarged gonads. The percentage of species with males in breeding condition remained constant to the end of our study. Females with enlarged ova declined slightly in mid-March, but over 30% of the species collected had females with enlarged ova through early May.

In contrast, at upper elevations, incidence of large gonads in females was high through mid-February, but then dropped sharply, with no breeding females of any species found from late March on. The presence of juveniles of many upper-elevation species in late January and early February must reflect some December and early January breeding. A higher percentage of species had males in breeding condition than in the lowlands; this may simply reflect that sample sizes per species tended to be higher at upper elevations, giving a greater probability of encountering a breeding individual. As in the lowlands, many species continued to have males in apparent breeding condition through the sharp decline in breeding females.

If enlarged ova in females are taken as a better indication of actual breeding than are enlarged testes in males, breeding season at upper elevations is much better defined than in lowlands, at least during the months covered by our expedition. The upper-elevation breeding season is coincident with the dry season. The seemingly less seasonal nature of lowland breeding in our combined samples

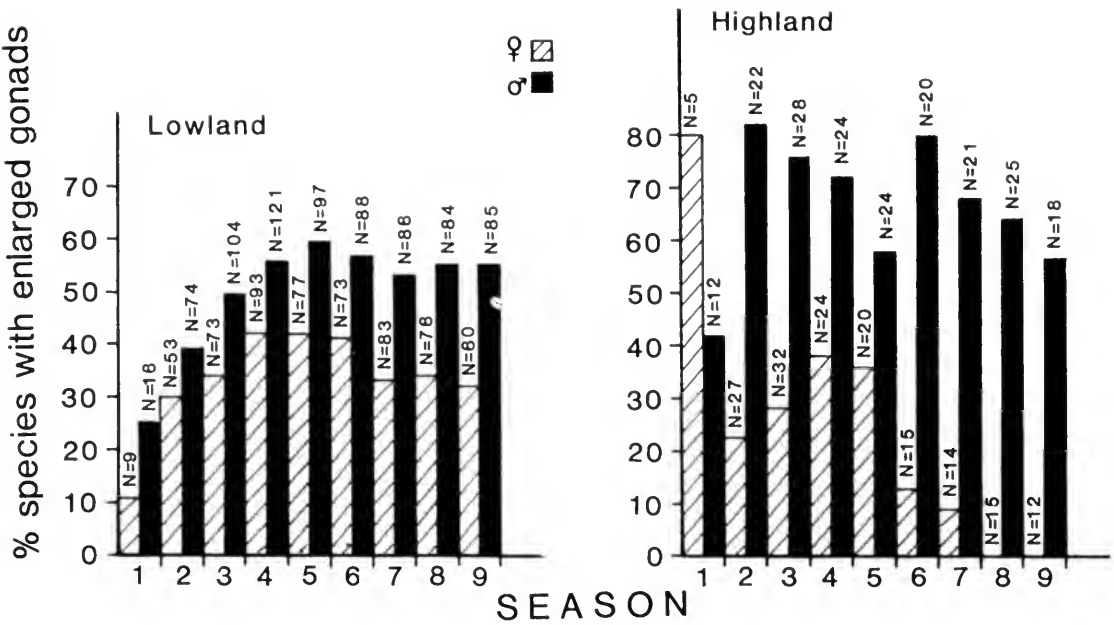

FIG. 9. Thirty-day (by 10-day interval) running percentages of species with one or more individuals with enlarged gonads. 1 = late Nov.–early Dec.; 2 = late Jan.–mid-Feb.; 3 = early Feb.–late Feb.; 4 = mid-Feb.–early Mar.; 5 = late Feb.–mid-Mar.; 6 = early Mar.–late Mar.; 7 = late Mar.–mid-Apr.; 8 = early Apr.–late Apr.; 9 =mid-Apr.–early May.

probably reflects both longer breeding seasons and the incorporation of species that breed primarily in the wet season.

Range Extensions

LOWLANDS—Forty species found in the lowlands surrounding Cerro de la Neblina represent range extensions within Venezuela. Sixteen of these (table 1) previously have been found fairly close to the Venezuelan border in northern Brazil or are widespread in northern Brazil (Pinto, 1938, 1944). Their occurrence at the base of Neblina was expected.

A second set of 18 species (table 2), encompassing the bulk of the remaining Venezuelan range extensions, consists of birds previously known either along the Río Solimoes or Río Branco. The lack of previous records for these species in southern Venezuela and northern Brazil reflects lack of previous major collecting effort in the lowlands between Cerro Duida and the Río Solimoes. Our lowland Neblina records fill in gaps and make the ranges of these species less artificially disjunct. We suspect that these species have essentially continuous distributions in proper habitat across the northern Amazon basin.

Six species represent true range extensions:

1. *Podilymbus podiceps* is known in Venezuela only along the northern coast and in Brazil primarily from the coastal states. It is essentially absent from Amazonia. Its presence at Neblina (N = 1) is surprising and may be accidental.
2. The two small groups of *Eudocimus ruber* observed flying over lowland forest (MF) may likewise represent an accidental occurrence. The species is known in Brazil from the mouth of the Amazon and in Venezuela from the llanos 400 km to the north. We saw no appropriate habitat in the vicinity of Neblina, and the species' presence is extremely surprising.
3. *Myrmeciza disjuncta* was known from an extremely restricted range in the vicinity of Cerro Yapacana in central Amazonas, Venezuela, and adjacent Colombia. Its occurrence in the Neblina lowlands represents a 350-km extension to the south.
4. The closest Venezuelan records for *Colonia colonus* are along the upper Río Paragua in Bolívar, and no published records exist from Brazil any closer than on the upper Río Purús,

TABLE 1. Widespread species previously unrecorded from Neblina lowlands.

Nyctanassa violacea	*Monasa morphoeus*	*Stelgidopteryx ruficollis*
Mesembrinibis cayennensis	*Dryocopus lineatus*	*Tangara gyrola*
Elanoides forficatus	*Myrmornis torquata*	*Vireo altiloquus*
Spizaetus ornatus	*Platyrinchus saturatus*	*Hylophilus brunneiceps*
Opisthocomus hoazin	*Platyrinchus platyrhynchos*	
Ara ararauna	*Phoenicircus nigricollis*	

although D. Stotz (pers. comm.) has found it in Roraima. The closest Colombian records are far to the west, along the base of the Andes (Hilty and Brown, 1986). The species is generally found along the base of the Andes and at the edges of Amazonia.

5. *Haematoderus militaris* was not previously known from Venezuela. The closest records are from Manaus, Brazil, which are themselves far removed from the primarily Guianan range. The single Neblina sight record (MF) represents a range extension of about 1,000 km. The Neblina lowlands are close to the Río Negro, and it may be that this species' range is more extensive in the Río Negro drainage than previously thought. D. Stotz (pers. comm.) has recently collected this species on the Río Jiparana in Rondonia in southwestern Brazil, even farther from the previously defined range. It is clear that there is much to be determined regarding the overall range of this rare fruitcrow.
6. *Neochelidon tibialis* has not been recorded previously in Venezuela south of Cerro Duida. The closest published records in Brazil are from 80 km north of Manaus (Stotz and Bierregaard, 1989), and after that, from far to the southwest on the upper Río Juruá. However, the species is common at Manaus (D. Stotz, pers. comm.) and lack of records probably reflects the difficulty of observing and collecting this forest-dwelling swallow. The species may be more appropriately included in the previous category of new records.

HIGHLANDS—Nineteen montane species represent additions to known avifauna of the upper slopes of Cerro de la Neblina. Fourteen of these (table 3) are well known from the western tepuis and are not particularly surprising additions. Two of these, *Steatornis* and *Knipolegus,* have now also been collected nearby on Cerro Aracamuni (M. Lentino, pers. comm.).

Another species, *Haplospiza rustica,* is known in the tepuis only on the eastern Chimanta-tepui, from which Wetmore and Phelps (1949) described an endemic subspecies from a unique type. This species' occurrence is normally associated with bamboo (Parker, 1982), and perhaps it has been overlooked on other tepuis because of the difficulty of working in bamboo and the rarity of flowering stands. The remaining four species have not been encountered previously in the tepuis. All have primarily Andean ranges, with two extending to the coastal range of northern Venezuela. *Aegolius harrisii* and *Geranoaetus melanoleucus* were known in Venezuela only from the western Andes, where all records are from at least 1000 m higher than ours at Neblina. The habitat above 1800 m at Neblina strongly resembles the Andean habitats where these species occur, suggesting that habitat is more important than elevation in the determination of their ranges.

Harpyhaliaetus solitarius and *Tigrisoma fasciatum* are both midelevation species in the Andes and are found in areas similar to those where we encountered them at Neblina. Unfortunately, without a specimen, the specific identity of the *Tigrisoma* remains unconfirmed, although *linea-*

TABLE 2. Lowland species filling artificial range gaps.

Hydranassa caerulea	*Lepidocolaptes albolineatus*	*Euphonia chlorotica*
Leptodon cayanensis	*Automolus rufipileatus*	*Euphonia minuta*
Amazona ochrocephala	*Capsiempis flaveola*	*Tangara schrankii*
Glaucis hirsuta	*Thryothorus leucotis*	*Dendroica petechia*
Threnetes leucurus	*Turdus lawrencii*	*Phaeothlypis rivularis*
Bucco macrodactylus	*Lanio fulvus*	*Hylophilus muscicapinus*

TABLE 3. Western tepui species new to Neblina, with closest previously published locality.

Columba fasciata (Duida)	*Knipolegus poecilurus* (Duida)
Nannopsittaca panychlora (Duida)	*Elaenia pallatangae* (Duida)
Steatornis caripensis (Duida)	*Leptopogon amaurocephalus* (Duida)
Cypseloides phelpsi (Duida)	*Pipra cornuta* (Duida)
Aeronautes montivagus (Duida)	*Platycichla leucops* (Curupira)
Colibri coruscans (Duida)	*Turdus ignobilis* (Duida)
Amazilia viridigaster (Duida)	*Tangara punctata* (Curupira)

tum at 1800 m along a fast-moving stream would be very unusual. In light of recent records of *Harpyhaliaetus* (M. Lentino, pers. comm.), including some in the mountains of the Gran Sabana, it appears that this species has a more widespread Venezuelan range than was previously known.

Comparisons with Other Avifaunas

LOWLANDS—Our collections and observations in the lowlands surrounding Neblina, combined with those of Caldas, documented a preliminary list of 264 species, with 213 of these restricted to forest. Further work surely will yield many additions, given that we still regularly added to the list even at the end of our expedition. Few single-locality lists are available for comparison with lowland sites anywhere near Neblina. Gilliard (1941) found 247 species in the lowlands around Auyan-tepui during 3½ months of fieldwork. His lowland site had much more varied habitat than does ours, and the list includes many water birds for which there is no appropriate habitat near the base of Neblina. He reported many fewer rain forest species (172), reflecting a decline in forest species richness toward the northern edge of the Amazonian basin. At Isla Maracá in Roraima, Brazil, Moskovits et al. (1985) found 386 species. This locality is situated on the forest/campo ecotone, and the list includes many species from grassland. River edge and upland forest species numbered 214 species, almost identical to our forest total, although the list is possibly more complete than ours. Perhaps the best comparison is with the forest sites around Manaus, Brazil, which have been surveyed extensively by personnel from the Minimum Critical Size of Ecosystems Project of the World Wildlife Fund and Instituto Nacional de Pesquisa da Amazonia. The habitat is generally similar to that around Neblina, and the total list is about 350 species, 254 of which are found in forest (Stotz and Bierregaard, 1989). We anticipate that the lowland avifauna of Neblina, when more fully known, will number somewhere in the vicinity of the Manaus figure. All of these eastern Amazonian sites have avifaunas much reduced from those of the rich western Amazonian areas, such as eastern Peru, where 515 total species were recorded on the Río Tambopata (Parker, 1982) and 526 on the Río Manu, where 362 were found in forest (Terborgh et al., 1984). The decline in forest species richness from southwestern through northeastern Amazonia is found to some extent in most families, but is accentuated among suboscines in the Dendrocolaptidae, Furnariidae, and Formicariidae (table 4). Species in these families tend to be exclusively insectivorous and are found mostly in the understory and subcanopy. It would be interesting to know if the decline in species richness is matched by a decline in insect productivity in these same forest regions.

HIGHLANDS—Most of the major tepuis have been explored to some extent, but comparison of their avifaunas is complicated because the collecting and observational efforts have been extremely varied. Collection sizes range from under 100 specimens on Cerros Yapacana and Sarisariñama to over 3,000 on Mt. Roraima (Mayr and Phelps, 1967). We know that the species lists have grown as additional elevations and habitats were sampled on single peaks, and it is safe to say that our knowledge of even the best-known tepuis is incomplete. Even with these limitations, however, some general comparisons are possible.

The currently known montane avifauna (species restricted to 750 m and above) of Cerro de la Neblina stands at 65 species. The two largest tepui avifaunas are recorded from the extensively studied Roraima, with 84 species, and Ptari-tepui, with 71 (Apendix 3). These are both very high peaks in the massive cluster of eastern tepuis (see fig. 1). In the west, where most of the peaks are much more isolated from one another, the only known avifauna as diverse as that of Neblina is on Cerro Duida, which has 64 montane species (species to-

TABLE 4. Forest species totals by family or subfamily for five lowland Amazonian sites.

	Manu	Manaus	Neblina	Maraca	Auyantepui
Tinamidae	8	4	3	7	3
Ardeidae	—	—	—	1	—
Cathartidae	3	3	2	3	2
Accipitridae	12	11	4	10	4
Falconidae	7	7	3	6	3
Cracidae	4	4	4	4	3
Phasianidae	2	1	1	1	1
Psophiidae	1	1	1	1	1
Rallidae	1	2	—	1	1
Columbidae	4	4	3	3	4
Psittacidae	17	13	10	14	8
Cuculidae	4	4	2	5	2
Strigidae	7	5	2	6	2
Caprimulgidae	2	3	1	1	1
Nyctibiidae	2	4	1	3	1
Trochilidae	19	6	12	7	13
Alcedinidae	2	2	2	2	—
Momotidae	3	1	1	2	1
Galbulidae	2	3	5	3	1
Bucconidae	9	7	7	2	3
Capitonidae	3	1	1	1	1
Ramphastidae	8	4	4	6	4
Picidae	15	11	11	11	7
Dendrocolaptidae	16	7	13	12	5
Furnariidae	24	11	7	3	7
Formicariidae	50	34	35	18	16
Rhinocryptidae	1	—	—	—	—
Tyrannidae	53	35	24	29	27
Pipridae	8	9	10	6	6
Cotingidae	7	8	6	5	5
Hirundinidae	—	1	1	—	1
Troglodytidae	5	4	4	3	3
Turdinae	6	1	2	4	2
Polioptilinae	2	3	3	2	1
Emberizinae	2	1	1	1	1
Cardinalinae	4	3	4	2	3
Thraupinae	28	21	19	15	15
Parulidae	3	3	3	1	2
Icteridae	7	4	4	6	3
Vireonidae	6	8	4	4	5

tals based on Mayr and Phelps [1967] and compilations from Phelps and Phelps [1958, 1963]). In general, western tepuis have less diverse avifaunas than do those in the east (Mayr and Phelps, 1967; also see Appendix 3). The relatively greater isolation of peaks to the west probably accounts for their lower diversity. The main set of eastern tepuis forms a massive, almost oval, area of continuous high elevation, where, if a form goes extinct locally, potential exists for recolonization from several directions. In contrast, the western tepuis tend to be more isolated from one another, with no high-elevation connections, probably making for both greater extinction rates and lower colonization rates among peaks. Smaller faunas result.

The eastern tepuis have a suite of endemic species not found in the west (Appendix 3). While the western mountains share a number of tepui endemics with the east, they have only two species restricted to the region: *Campylopterus duidae,* which forms a superspecies with the eastern *C. hyperythrus,* and *Diglossa duidae,* which may not be most closely related to the eastern *D. major* (Chapman, 1931; Vuilleumier, 1969). In other cases where the western tepuis have species not recorded in the east, such as *Aegolius, Geranoaetus,* and *Harpyhaliaetus,* all either are species also found in the Andes or represent upper-elevation populations of species also found in the lowlands. The eastern tepuis also have Andean species still unknown in the west (*Grallericula nana, Myadestes leucogenys,* and *Piranga leucoptera*). All of these patterns are consistent with the hypothesis that the tepuis once harbored a broad Andean fauna in which subsequent speciation and differential extinctions took place between the eastern and western mountains.

Cerro Duida is the western tepui most similar to Neblina, in both known avifauna and size. It has 14 highland species not yet recorded on Neblina (table 5). For *Emberizoides,* appropriate habitat appears to be lacking on Neblina. For the others, abundant appropriate habitat exists and only further exploration will determine whether they are truly absent from Neblina. Because most of our additions to the high-elevation fauna of Neblina also have been found on Duida, we expect that most further additions will come from this list. *Lophornis pavonina* has been collected recently on Cerro Aracamuni (M. Lentino, pers. comm.).

TABLE 5. Mt. Duida highland species not recorded from Neblina.

Lophornis pavonina	*Elaenia dayi*	*Chloropipo uniformis*
Polytmus milleri	*Hemitriccus margaritaceiventer*	*Emberizoides herbicola*
Margarornis adusta	*Phylloscartes nigrifrons*	*Chlorophonia cyanea*
Taraba major	*Hirundinea ferruginea*	*Macroagelaius imthurmi*
Herpsilochmus roraimae	*Contopus fumigatus*	

The tepui avifauna in general and the Neblina avifauna in particular are highly depauperate compared to the faunas at similar elevations in the Andes. Weske (1972) recorded over 200 primarily montane species between 1000 and 2500 m in the Cordillera Vilcabamba in central Peru, and Fitzpatrick, Willard, and Stotz (unpubl.) recorded about 250 montane species between the same elevations in the Cosnipata Valley of southeastern Peru. Species diversity declines with elevation in both the Andes (e.g., Robbins et al., 1987) and the tepuis, but the number of species found over 2000 m in the Andes is about equivalent to the number found at 1000 m at Neblina (fig. 10). In the Andes, generally finer elevational segregation exists, with frequent occurrences of two to three congeners replacing one another between 750 and 2500 m. Whether this is a result of increased competition between congeners (Terborgh and Weske, 1975), higher speciation rates in the Andes (Graves, 1985), or other factors is still being argued.

In contrast to the Andes, some lowland tepui species (e.g., *Campephilus rubricollis* and *Henicorhina leucosticta*) range from the lowlands well into the mountains, with no congeners or similar species replacing them at upper elevations. The combination of (1) unproductive white-sand soils and black-water rivers that may not be able to support more complex communities, (2) the isolation of the tepuis from other high-elevation faunas that could be sources of colonizers, and (3) the smaller areas of the tepuis compared to the Andes seems a plausible explanation for the much-reduced avifaunas of the tepuis.

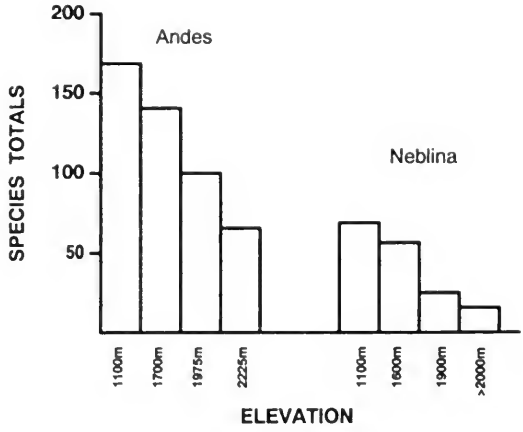

FIG. 10. Comparison of Andean and Neblina avifaunas by elevation (Andean figures based on Robbins et al., 1987).

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APPENDIX 1. Collections of birds from Cerro de la Neblina.*

	AMNH			USNM			FMNH			PHELPS
	Skin	Skel.	Alc.	Skin	Skel.	Alc.	Skin	Skel.	Alc.	Skin
Tinamus major	—	—	—	—	—	—	1	—	1	—
Tinamus guttatus	—	—	—	—	1	—	—	—	—	—
Podilymbus podiceps	—	—	—	—	—	—	1	—	—	—
Nycticorax violaceus	—	—	—	—	—	—	1	—	—	—
Butorides striatus	1	—	—	—	—	—	—	—	—	—
Agamia agami	—	—	1	—	—	—	1	—	—	—
Leucopternis albicollis	—	—	—	—	—	—	—	—	—	1
Buteo platypterus	—	—	1	—	—	—	—	—	—	—
Buteo brachyurus	—	—	—	—	—	—	—	—	—	1
Daptrius americanus	—	1	1	—	—	—	—	—	—	—
Micrastur gilvicollis	—	—	—	—	—	—	1	—	—	—
Penelope jacquacu	—	—	—	—	—	—	2†	—	—	1
Aburria pipile	1	—	1	—	1	—	3†	2†	5†	—
Crax tomentosa	1	2	2	—	—	—	2	3†	2†	—
Crax alector	—	1	2	—	—	—	—	—	—	1
Odontophorus gujanensis	—	—	—	—	—	—	—	—	—	1
Psophia crepitans	—	1‡	1	—	—	—	2	—	1	—
Actitis macularia	—	—	2	—	—	—	2	—	1	—
Columba subvinacea	—	—	1	—	—	—	—	—	—	—
Leptotila rufaxilla	—	—	—	—	—	—	2	2	—	1
Geotrygon montana	1	—	2	—	—	—	1	3	2	—
Ara chloroptera	—	—	—	—	—	—	1	—	1	—
Pyrrhura melanura	—	2‡	2	1	—	—	—	—	—	—
Nannopsittaca panychlora	—	3‡	3	—	—	—	—	—	—	—
Pionites melanocephala	—	1	2	—	—	—	—	—	—	—
Deroptyus accipitrinus	—	—	—	—	—	—	—	—	—	1
Piaya melanogaster	—	—	—	—	—	—	1	1	—	—
Otus guatemalae	—	—	—	—	—	—	—	—	—	1
Otus choliba	1§	—	1	—	—	—	2	—	—	4
Otus watsonii	—	1	—	—	—	—	—	—	—	—
Aegolius harrisii	—	—	—	—	—	—	2	—	—	—
Steatornis caripensis	—	1	—	—	—	—	2	1	—	—

APPENDIX 1. Continued.

	AMNH			USNM			FMNH			PHELPS
	Skin	Skel.	Alc.	Skin	Skel.	Alc.	Skin	Skel.	Alc.	Skin
Nyctibius griseus	—	—	1	—	—	—	—	—	—	—
Caprimulgus longirostris	1	—	—	—	—	—	1	—	—	3
Caprimulgus nigrescens	—	3	3	1	2	—	1	1	1	—
Cypseloides phelpsi	—	—	—	—	—	—	4	1	1	—
Aeronautes montivagus	—	—	—	—	—	—	2	—	—	—
Doryfera johannae	1	—	1	—	—	—	10	—	2	5
Glaucis hirsuta	—	—	1	—	—	—	—	—	—	—
Threnetes leucurus	—	1	1	—	—	—	5	2	—	—
Phaethornis superciliosus	5	2	4	—	2	1	6	2	2	—
Phaethornis bourcieri	2	2	3	—	3	3	5	4	—	—
Phaethornis ruber	—	1	—	—	—	—	—	—	—	—
Phaethornis griseogularis	—	—	—	—	—	—	2	—	—	1
Campylopterus largipennis	2	2	3	—	—	—	3	2	3	—
Campylopterus duidae	4	8	8	1	1	1	28	29	7	20
Florisuga mellivora	1	—	1	—	1	3	3	1	—	—
Colibri delphinae	—	—	—	—	—	—	—	—	—	3
Colibri coruscans	—	—	—	—	—	—	1	—	—	1
Thalurania furcata	5	6	5	—	3	3	7	7	3	3
Amazilia versicolor	2	—	1	—	—	—	2	1	—	—
Amazilia viridgaster	—	—	—	—	—	—	5	—	—	—
Polyplancta aurescens	1	—	—	—	—	1	1	—	—	—
Heliodoxa xanthogonys	3	—	—	—	—	—	7	1	—	27
Topaza pyra	—	—	—	—	—	—	4	1	—	—
Heliothryx aurita	1	1	—	—	—	—	2	—	—	—
Trogon melanurus	—	—	1	—	—	—	—	—	—	—
Trogon viridis	1	1	2	—	—	—	1	1	1	—
Trogon personatus	—	—	—	—	—	—	2	—	—	9
Trogon violaceus	—	—	1	—	—	—	2	—	—	—
Ceryle torquata	—	1	1	—	—	—	1	—	1	—
Chloroceryle amazona	—	—	—	—	1	—	—	—	—	—
Chloroceryle americana	2	—	—	—	—	—	1	—	1	—
Chloroceryle inda	—	—	—	—	—	—	4	1	—	—
Chloroceryle aenea	—	—	—	—	—	—	2	1	—	—
Momotus momota	2	2	2	—	1	—	3	1	1	—
Brachygalba lugubris	1§	1	—	—	1	—	1	—	—	—
Galbula albirostris	—	1	1	—	—	—	3	2	2	—
Galbula leucogastra	—	—	—	—	1	—	—	—	—	—
Galbula dea	—	—	1	—	—	—	—	—	—	—
Jacamerops aurea	—	1‡	—	—	—	—	1	—	—	—
Notharchus ordii	—	—	—	—	—	—	1	—	—	—
Bucco macrodactylus	1	—	—	—	—	—	1	—	—	—
Bucco capensis	—	2	1	—	—	—	4	1	—	1
Nonnula rubecula	1	—	2	—	—	—	—	—	—	—
Monasa atra	1	3	3	—	—	—	1	—	—	—
Monasa morphoeus	—	1	6	—	1	—	2	1	1	2
Capito niger	1	2‡	2	—	1	1	4	—	—	—
Aulacorhynchus derbianus	1	—	1	—	—	—	8	—	—	6
Pteroglossus flavirostris	2	1	2	—	1	—	2	—	—	—
Selenidera nattereri	—	—	—	—	—	—	2	—	—	—
Ramphastos vitellinus	—	—	—	—	—	—	1	—	—	—
Ramphastos tucanus	—	1‡	2	—	1	—	—	—	—	—
Picumnus exilis	3§	—	—	—	—	—	2	—	—	—
Melanerpes cruentatus	—	—	1	—	—	—	—	—	—	—

APPENDIX 1. Continued.

	AMNH			USNM			FMNH			PHELPS
	Skin	Skel.	Alc.	Skin	Skel.	Alc.	Skin	Skel.	Alc.	Skin
Veniliornis affinis	—	1	2	—	1	—	2	—	—	—
Piculus flavigula	—	1	1	—	1	—	1	1	—	—
Piculus chrysochloros	—	—	1	—	—	—	2	—	—	—
Piculus rubiginosus	1	—	—	—	—	—	—	—	—	5
Celeus grammicus	—	1	—	—	2	1	1	—	—	—
Celeus elegans	—	1	1	—	—	—	3	1	—	—
Celeus torquatus	—	—	—	—	—	—	1	—	—	—
Dryocopus lineatus	—	—	1	—	—	—	—	—	—	—
Campephilus melanoleucos	—	1	2	—	—	—	—	—	—	—
Campephilus rubricollis	—	1‡	—	—	—	—	1	1	—	4
Dendrocincla fuliginosa	2	4‡	2	—	2	—	2	3	1	—
Dendrocincla merula	—	—	—	—	—	—	3	2	1	1
Deconychura longicauda	—	1‡	1	—	—	—	1	—	—	—
Deconychura stictolaema	—	—	—	—	2	—	4	1	1	—
Sittasomus griseicapillus	—	—	—	—	—	—	2	1	—	1
Glyphorhynchus spirurus	5	16	9	—	3	1	7	11	5	4
Xiphocolaptes promeropirhynchus	—	—	—	—	—	—	—	—	—	1
Dendrocolaptes certhia	1	2	5	—	2	—	2	1	—	1
Dendrocolaptes picumnus	1	—	—	—	—	—	—	—	—	—
Xiphorhynchus obsoletus	1	1‡	1	—	—	—	2	—	—	—
Xiphorhynchus pardalotus	1	2‡	4	—	2	—	7	4	1	—
Xiphorhynchus guttatus	1	2‡	1	—	—	—	2	2	—	—
Lepidocolaptes albolineatus	—	—	—	—	—	—	1	—	—	—
Campylorhamphus procurvoides	—	—	1	—	—	—	1	—	—	—
Synallaxis cabanisi	—	—	—	—	—	—	—	—	—	1
Cranioleuca demissa	1	—	2	1	—	—	8	2	1	4
Hylocistes subulatus	—	2‡	—	—	—	—	3	1	—	—
Philydor pyrrhodes	—	—	—	—	—	—	4	—	—	—
Automolus infuscatus	2	2‡	2	—	1	1	5	1	1	—
Automolus ochrolaemus	1	2	1	—	—	—	—	—	—	—
Automolus roraimae	3	2	3	1	—	—	17	2	1	20
Automolus rufipileatus	3	2	5	—	—	—	3	1	1	—
Xenops minutus	1	2	—	—	2	1	3	2	1	—
Sclerurus rufigularis	2	1‡	1	1	—	—	4	—	1	—
Lochmias nematura	1§	2	1	—	—	—	7	—	—	3
Cymbilaimus lineatus	—	1‡	1	—	—	—	—	1	1	—
Taraba major	6	3‡	1	—	—	—	4	—	—	—
Thamnophilus aethiops	1	1	3	1	1	1	4	1	1	—
Thamnophilus murinus	2§	1	2	—	—	—	—	3	2	—
Thamnophilus amazonicus	—	1	—	—	1	1	1	—	—	—
Thamnophilus insignis	—	—	—	—	—	—	7	1	—	2
Pygiptila stellaris	3	2	2	2	1	—	2	1	—	—
Dysithamnus mentalis	3§	—	1	—	—	—	6	1	—	42
Thamnomanes ardesiacus	1§	1‡	6	—	2	—	6	4	2	—
Thamnomanes caesius	1	5‡	4	2	1	—	7	8	2	1
Myrmotherula ambigua	1§	—	—	—	—	—	1	—	—	—
Myrmotherula surinamensis	7§	3	5	—	—	—	5	1	2	—
Myrmotherula guttata	—	—	1	—	2	1	1	—	1	—
Myrmotherula haematonota	2§	1	2	—	1	—	6	2	2	2
Myrmotherula axillaris	2§	6‡	7	2	2	1	8	6	2	—
Myrmotherula longipennis	3§	1	4	2	—	—	6	4	2	—
Myrmotherula behni	—	—	—	—	—	—	1	—	—	13
Myrmotherula menetriesii	2	1	1	—	2	—	—	1	3	—
Herpsilochmus dorsimaculatus	1	—	1	—	1	—	—	—	—	—
Terenura spodioptila	—	—	—	1	—	—	—	—	—	—
Cercomacra cinerascens	—	—	—	—	—	—	1	—	—	—
Myrmoborus myotherinus	—	—	—	—	—	—	5	—	—	—

APPENDIX 1. Continued.

	AMNH			USNM			FMNH			PHELPS
	Skin	Skel.	Alc.	Skin	Skel.	Alc.	Skin	Skel.	Alc.	Skin
Hypocnemis cantator	2§	3	2	—	—	—	8	3	1	—
Percnostola rufifrons	—	—	—	—	—	—	—	—	—	1
Percnostola leucostigma	2	1‡	—	—	—	—	6	—	—	—
Percnostola caurensis	—	—	—	—	—	—	1	—	—	—
Sclateria naevia	—	—	—	—	—	—	1	—	—	—
Myrmeciza disjuncta	—	—	—	1	—	—	—	—	—	—
Myrmeciza pelzelni	—	—	—	—	—	—	2	—	—	—
Myrmeciza atrothorax	3	1	1	—	—	—	2	1	—	—
Pithys albifrons	1	4	3	1	1	—	9	3	3	2
Gymnopithys rufigula	—	—	—	—	1	1	4	2	1	—
Hylophylax naevia	1§	—	2	—	—	—	—	5	3	—
Hylophylax poecilinota	—	6	6	—	5	1	9	9	1	—
Phlegopsis erythroptera	—	—	1	—	—	—	3	—	1	—
Formicarius colma	—	2	1	—	1	1	3	5	1	—
Chamaeza campanisona	—	—	—	—	—	—	—	—	—	2
Myrmornis torquata	—	1	—	—	—	1	—	—	—	—
Grallaria varia	1§	—	—	—	—	—	1	—	—	—
Myrmothera campanisona	—	—	—	—	—	—	1	—	—	—
Myrmothera simplex	1§	1‡	—	—	—	—	4	—	—	15
Elaenia pallatangae	2	1	1	—	—	—	12	—	—	—
Mecocerculus leucophrys	3	2‡	1	3	—	—	12	1	—	33
Mionectes oleagineus	1	2	4	—	2	1	2	2	—	—
Mionectes macconnelli	1§	—	—	—	—	—	1	—	—	6
Leptopogon amaurocephalus	2§	—	—	—	—	—	—	—	—	—
Capsiempis flaveola	—	3‡	2	—	—	—	11	3	1	9
Phylloscartes flaveolus	2	—	—	—	—	—	4	—	1	—
Corythopis torquata	1§	—	1	2	1	1	3	2	1	—
Myiornis ecaudatus	—	—	—	—	—	—	1	—	1	—
Lophotriccus galeatus	1§	1	1	—	—	—	4	1	1	—
Hemitriccus zosterops	1	—	—	1	1	—	2	—	—	1
Ramphotrigon ruficauda	2§	—	2	—	—	—	—	—	-	—
Tolmomyias assimilis	—	2	2	—	—	—	2	—		—
Platyrinchus saturatus	—	—	1	—	2	1	1	—		—
Platyrinchus mystaceus	—	—	—	—	—	—	5	—		11
Platyrinchus coronatus	—	2	2	—	3	—	4	4	-	—
Platyrinchus platyrhynchos	—	—	—	—	1	1	—	—	—	—
Onychorhynchus coronatus	1§	2‡	2	—	1	—	1	1	—	—
Terenotriccus erythrurus	—	—	—	1	1	—	1	2	—	—
Myiobius barbatus	—	—	—	—	—	—	1	—	1	—
Myiophobus roraimae	1	—	—	—	—	—	6	1	—	14
Colonia colonus	—	—	—	—	—	—	—	—	2	—
Attila citriniventris	—	—	—	1	—	—	—	—	—	—
Rhytipterna simplex	—	1	3	—	—	—	—	—	—	—
Laniocera hypopyrrha	1§	2	2	—	—	—	—	—	—	—
Myiozetetes granadensis	—	—	—	—	—	—	1	—	—	—
Pachyramphus marginatus	—	1‡	—	—	—	—	—	—	—	—
Pachyramphus minor	—	—	—	—	1	—	—	—	—	—
Tityra cayana	—	—	—	—	—	—	—	—	—	1
Schiffornis major	1	—	1	—	—	—	1	—	—	—
Schiffornis turdinus	—	1‡	3	1	1	—	6	4	2	—
Neopipo cinnamomea	1§	—	1	1	1	1	—	1	—	—
Tyranneutes stolzmanni	—	—	—	2	—	1	—	2	1	—
Neopelma chrysocephalum	—	—	—	1	1	1	—	—	1	—
Heterocercus flavivertex	2	2	2	1	1	1	—	3	1	—
Pipra pipra	1§	—	1	4	1‡	—	4	3	1	1
Pipra coronata	2§	5	4	5	—	—	7	4	1	—
Pipra serena	3§	1	2	—	—	—	5	1	3	39

APPENDIX 1. Continued.

	AMNH			USNM			FMNH			PHELPS
	Skin	Skel.	Alc.	Skin	Skel.	Alc.	Skin	Skel.	Alc.	Skin
Pipra erythrocephala	1§	12	6	14	1‡	2	13	—	3	1
Pipra cornuta	—	—	—	—	—	—	3	—	—	7
Phoenicircus nigricollis	—	—	1	1	1	1	—	—	—	—
Lipaugus vociferans	—	—	—	—	—	—	—	1	—	1
Cotinga cayana	—	—	—	1	2	1	—	—	—	—
Xipholena punicea	—	—	—	—	—	1	1	—	—	—
Rupicola rupicola	2	—	1	—	—	—	4	—	1	—
Notiochelidon cyanoleuca	—	—	—	—	—	—	2	—	—	1
Atticora fasciata	1	3	3	—	—	—	1	—	1	—
Neochelidon tibialis	—	—	—	—	—	—	1	—	—	—
Riparia riparia	—	—	—	—	—	—	—	—	—	1
Hirundo rustica	—	1	—	—	—	—	—	—	—	5
Thryothorus coraya	4	2‡	2	—	—	—	6	—	1	—
Thryothorus leucotis	—	—	—	—	—	—	1	—	—	—
Troglodytes rufulus	1	—	—	2	—	—	4	—	—	13
Henicorhina leucosticta	—	—	—	—	—	—	2	—	1	8
Microcerculus ustulatus	1	—	—	—	—	—	5	1	—	17
Microcerculus bambla	2	1	1	—	1	1	4	1	—	1
Catharus fuscescens	—	—	—	—	—	—	1	—	—	—
Catharus minimus	—	2	5	—	1	—	3	—	—	—
Platycichla leucops	—	—	—	1	—	—	—	—	—	—
Turdus olivater	3	4	6	4	—	—	41	32	3	41
Turdus lawrencii	—	—	—	1	—	—	—	—	—	—
Turdus albicollis	1	—	2	—	—	—	5	4	3	—
Microbates collaris	1	2	2	—	1	—	2	1	—	—
Ramphocaenus melanurus	—	1	1	—	—	—	—	—	—	—
Polioptila guianensis	1	—	—	—	—	—	—	—	—	—
Zonotrichia capensis	1	1	1	1	—	—	1	—	—	36
Haplospiza rustica	—	—	—	—	—	—	1	—	—	—
Catamenia homochroa	2	—	—	3	—	—	1	—	—	6
Arremon taciturnus	1	3	—	—	—	—	6	6	2	4
Atlapetes personatus	6	3	6	2	1	1	19	2	2	26
Pitylus grossus	1	4	3	—	1	1	1	1	—	1
Saltator maximus	3	3	2	—	—	—	2	2	—	—
Passerina cyanoides	—	—	—	—	—	—	2	1	1	—
Hemithraupis flavicollis	1	2	2	—	1	—	2	—	1	1
Lanio fulvus	—	—	—	—	—	—	—	—	—	1
Tachyphonus cristatus	1	—	4	—	—	—	3	1	—	—
Tachyphonus surinamus	—	—	—	—	—	—	—	—	—	1
Piranga flava	—	—	—	—	—	—	—	—	—	2
Piranga rubra	—	—	—	—	—	—	—	—	—	3
Ramphocelus carbo	2	2	5	—	—	—	1	1	—	—
Euphonia plumbea	—	—	1	—	—	—	—	—	—	—
Euphonia chlorotica	—	1	—	—	—	—	—	—	—	—
Euphonia chrysopasta	—	1	1	—	—	—	—	—	—	—
Euphonia minuta	—	—	1	—	—	—	—	—	—	—
Euphonia xanthogaster	—	—	1	—	—	—	5	1	—	—
Tangara mexicana	—	—	—	—	—	—	—	—	—	1
Tangara chilensis	—	3	1	—	—	—	—	—	—	—
Tangara schrankii	2	1	1	—	—	—	—	—	—	—
Tangara xanthogastra	—	5	2	—	1	—	6	—	—	12
Tangara guttata	—	—	—	—	—	—	—	—	—	1
Tangara gyrola	—	—	1	—	—	—	4	—	—	—
Tangara cyanoptera	—	1	1	6	—	—	28	2	2	4
Tangara velia	—	—	2	—	—	—	—	1	—	—

APPENDIX 1. Continued.

	AMNH			USNM			FMNH			PHELPS
	Skin	Skel.	Alc.	Skin	Skel.	Alc.	Skin	Skel.	Alc.	Skin
Dacnis cayana	1	3	1	—	1	—	2	1	—	—
Chlorophanes spiza	—	3	2	—	1	—	2	—	—	1
Cyanerpes caeruleus	—	—	1	—	1	—	3	1	2	1
Cyanerpes cyaneus	—	—	—	—	3	1	1	—	—	—
Diglossa duidae	3	3	3	10	3	—	20	2	2	70
Parula pitiayumi	—	—	—	—	—	—	—	—	—	4
Dendroica striata	1	—	1	—	—	—	2	—	—	2
Dendroica fusca	—	1	—	—	—	—	1	—	—	1
Setophaga ruticilla	—	—	—	—	—	—	1	1	—	3
Myioborus miniatus	—	—	—	—	—	—	2	1	—	26
Myioborus brunniceps	3	2	1	—	—	—	19	2	1	13
Basileuterus bivittatus	1	—	—	—	—	—	3	—	—	30
Phaeothlypis rivularis	1	—	1	—	—	—	5	1	1	—
Granatellus pelzelni	—	—	—	—	—	—	1	1	—	—
Coereba flaveola	—	—	—	—	—	—	—	—	—	1
Vireo olivaceus	1	4	—	—	—	—	—	—	—	—
Vireo altiloquus	1	—	—	—	—	—	—	—	—	—
Hylophilus muscicapinus	1	—	—	—	—	—	1	—	—	—
Hylophilus sclateri	—	—	—	—	—	—	—	—	—	2
Hylophilus brunneiceps	—	—	—	—	1	—	—	—	—	—
Hylophilus ochraceiceps	1	—	1	—	2	2	2	1	1	—
Psarocolius viridis	—	—	—	—	—	—	—	—	—	2
Cacicus cela	1	1	3	—	—	—	2	—	—	—
Icterus cayanensis	—	—	—	—	1	—	1	—	—	—

* AMNH, American Museum of Natural History, New York; USNM, National Museum of Natural History, Washington, D.C.; FMNH, Field Museum of Natural History, Chicago; PHELPS, Colección Ornitológica Phelps, Caracas. A portion of the 1984–1985 collections will ultimately be housed in the collections of Universidad Central, Caracas.

† Includes some heads and skulls only.

‡ Total includes skeletons with flat skins.

§ Includes skin with body preserved in alcohol.

APPENDIX 2. San Carlos de Río Negro and Santa Lucia* specimens taken on the current expedition.†

	AMNH			FMNH		
	Skin	Skel.	Alc.	Skin	Skel.	Alc.
Leucopternis melanops	—	1	—	1	—	—
Charadrius collaris	—	—	1	—	—	—
Columbina passerina	—	—	—	1	—	—
Brotogeris cyanoptera	1	—	1	—	1	1
Piaya melanogaster	—	—	1,1*	—	—	—
Otus watsonii	—	—	—	—	—	1
Chordeiles pusillus	1	—	—	—	—	—
Chordeiles acutipennis	1	—	2*	—	—	—
Nyctidromus albicollis	2	1	—	—	2	1
Caprimulgus nigrescens	—	—	1*	—	—	—
Hydropsalis climacocerca	2	2	1	—	—	—
Phaethornis superciliosus	—	—	—	2	—	—
Phaethornis bourcieri	—	—	1	1	1	1
Phaethornis ruber	—	—	—	1	—	—
Thalurania furcata	—	—	—	1	—	—
Chloroceryle aenea	—	—	1	—	—	—
Selenidera nattereri	—	—	—	2	—	—
Celeus elegans	—	1‡	—	—	—	—
Dendrocincla fuliginosa	—	—	—	—	1	—
Dendrocincla merula	1	—	—	—	1	1
Deconychura longicauda	—	—	—	1	—	—
Glyphorhynchus spirurus	2	4	4	2	2	1
Xiphorhynchus obsoletus	—	—	1	1	—	—
Xiphorhynchus pardalotus	—	1	—	3	—	1
Xiphorhynchus guttatus	—	—	—	—	—	1
Philydor pyrrhodes	—	—	1	—	—	—
Automolus infuscatus	—	1	1	1	—	—
Xenops minutus	—	—	—	—	—	2
Sclerurus rufigularis	—	—	2	—	—	—
Cymbilaimus lineatus	—	—	1	—	—	—
Thamnophilus aethiops	—	—	1	3	—	—
Thamnophilus murinus	—	—	—	2	2	—
Thamnomanes ardesiacus	—	—	1	—	—	—
Thamnomanes caesius	—	—	2	—	—	1
Myrmotherula guttata	—	—	—	—	1	—
Myrmotherula haematonota	—	—	2	—	—	—
Myrmotherula longipennis	—	—	1	—	—	—
Hypocnemis cantator	1	—	—	4	1	—
Percnostola rufifrons	—	1	1	4	1	1
Pithys albifrons	—	1	1	2	1	1
Gymnopithys rufigula	—	—	2	—	—	—
Hylophylax naevia	1	3	2	1	2	1
Hylophylax poecilinota	1	3	2	4	2	1
Phlegopsis erythroptera	—	—	2	1	1	—
Mionectes oleagineus	—	—	—	1	—	1
Lophotriccus galeatus	—	2	1	—	—	—
Platyrinchus saturatus	—	—	—	—	—	1
Platyrinchus coronatus	—	—	—	1	1	—
Terenotriccus erythrurus	—	—	1	1	—	—
Myiobius barbatus	—	—	2	—	1	—
Attila spadiceus	—	—	—	—	—	1
Tyrannus savanna	1	—	3	—	—	—

APPENDIX 2. Continued.

	AMNH			FMNH		
	Skin	**Skel.**	**Alc.**	**Skin**	**Skel.**	**Alc.**
Schiffornis turdinus	1	—	—	—	—	—
Neopipo cinnamomea	—	—	—	1	—	1
Tyranneutes stolzmanni	—	—	1	—	—	—
Heterocercus flavivertex	—	1‡	—	—	—	—
Pipra pipra	—	—	—	—	—	3
Pipra coronata	1	3	1	5	4	12
Pipra erythrocephala	1	2	2	2	—	3
Lipaugus vociferans	—	—	—	—	—	1
Rupicola rupicola	—	—	—	1	—	—
Thryothorus coraya	—	1	1	3	1	1
Catharus minimus	1	—	—	1	—	—
Turdus albicollis	1	—	1	—	—	—
Microbates collaris	—	—	—	—	—	1
Ammodramus aurifrons	—	—	1	—	—	—
Oryzoborus angolensis	—	—	—	—	—	1
Arremon taciturnus	1	3	1	3	3	3
Pitylus grossus	—	—	—	—	—	1
Saltator maximus	1	—	—	—	—	—
Passerina cyanoides	—	1	1	2	2	1
Tachyphonus surinamus	1	—	2	1	1	1
Ramphocelus carbo	1	2	3	—	—	—
Tangara velia	—	—	2	—	—	—
Hylophilus ochraceiceps	2	—	1	—	—	—

† AMNH, American Museum of Natural History, New York; FMNH, Field Museum of Natural History, Chicago.
‡ Skeleton with flat skin.

APPENDIX 3. Major Tepui Montane Avifaunas: Ro, Roraima; Ue, Uei-tepui; So, Sororopan; Pt, Ptari-tepui; Au, Auyan-tepui; Ua, Uaipan-tepui; Ap, Aprada-tepui; Ch, Chimanta-tepui; Gu, Guaiquinima; Ur, Urutani; Ya, Yavi; Pq, Paraque; Pr, Paru; Du, Duida; Ne, Neblina.

	Eastern								Central		Western				
	Ro	Ue	So	Pt	Au	Ua	Ap	Ch	Gu	Ur	Ya	Pq	Pr	Du	Ne
Crypturellus ptaritepui	—	—	—	x	—	—	—	—	—	—	—	—	—	—	—
Tigrisoma (fasciatum)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	x
Harpyhaliaetus solitarius	—	—	—	—	—	—	—	—	—	—	—	—	—	—	x
Geranoaetus melanoleucus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	x
Columba fasciata	x	x	—	—	x	x	x	x	x	x	—	x	x	x	x
Pyrrhura egregia	x	x	—	x	x	—	x	x	—	—	—	—	—	—	—
Nannopsittaca panychlora	x	—	—	x	x	—	—	x	—	—	—	x	x	x	x
Otus guatemalae	x	—	—	—	—	—	—	—	—	x	—	—	—	x	x
*Otus choliba**	—	—	—	—	—	—	—	—	—	—	—	—	—	x	x
*Glaucidium brasilianum**	x	—	—	x	x	x	x	—	x	—	x	x	—	x	x
Aegolius harrisii	—	—	—	—	—	—	—	—	—	—	—	—	—	—	x
Steatornis caripensis	x	—	—	—	—	—	—	—	—	x	—	—	—	x	x
Caprimulgus longirostris	x	x	x	x	x	x	—	—	—	—	—	—	—	x	x
Caprimulgus whitelyi	x	—	—	x	—	—	—	—	—	x	—	—	—	—	—
Cypseloides phelpsi	—	x	—	—	x	—	—	—	x	x	—	—	—	x	x
Chaetura cinereiventris	x	—	—	x	x	—	—	—	x	—	—	—	—	—	—
Aeronautes montivagus	—	—	—	—	x	—	—	—	—	x	—	—	—	x	x
Doryfera johannae	x	—	—	x	x	—	x	x	—	x	x	x	x	x	x
*Phaethornis bourcieri**	x	x	—	x	—	—	x	x	x	x	—	—	x	—	—
Phaethornis augusti	x	—	—	—	x	x	—	—	—	—	—	—	—	—	—
Phaethornis griseogularis	x	—	—	—	—	—	—	—	—	—	—	—	—	—	x
Campylopterus duidae	—	—	—	—	—	—	—	—	x	—	x	—	x	x	x
Campylopterus hyperythrus	x	x	x	x	x	x	x	x	—	—	—	—	—	—	—
Colibri delphinae	—	—	—	x	—	x	—	—	x	x	—	x	x	x	x
Colibri coruscans	x	—	x	x	x	x	—	—	x	—	x	—	—	x	x
Lophornis pavonina	x	—	—	x	—	—	—	x	x	x	x	x	—	x	—
Polytmus milleri	x	—	—	x	x	—	—	—	—	—	—	—	—	x	—
Amazilia viridigaster	x	x	—	x	—	—	—	—	—	—	x	x	x	x	x
Heliodoxa xanthogonys	x	x	x	x	—	x	x	x	x	—	x	x	x	x	x
Trogon personatus	x	x	—	x	x	x	x	x	x	—	x	x	x	x	x
Aulacorhynchus derbianus	x	x	—	x	x	x	x	x	x	—	x	x	x	x	x
*Veniliornis kirkii**	x	x	—	—	—	—	—	—	—	—	—	—	—	—	—
Piculus rubiginosus	x	—	—	x	x	x	x	x	x	x	x	x	x	x	x
*Xiphocolaptes promerop.**	x	—	—	—	—	—	—	x	—	—	—	—	—	—	x
Synallaxis cabanisi	x	x	—	x	—	—	—	—	—	—	x	—	—	—	x
Cranioleuca demissa	x	x	—	x	—	x	x	x	x	x	—	—	x	x	x
Margarornis adusta	x	x	—	x	x	x	x	x	—	x	—	x	x	x	—
Automolus roraimae	x	x	x	x	x	x	x	x	—	x	x	x	x	x	x
Lochmias nematura	x	x	x	—	x	x	x	x	—	—	—	—	—	—	x
*Taraba major**	—	—	—	—	—	—	—	—	—	—	—	—	—	x	—
Thamnophilus insignis	x	x	—	x	x	—	—	x	—	—	—	x	x	x	x
Dysithamnus mentalis	x	x	x	x	x	x	x	x	x	—	—	—	—	—	x
Myrmotherula behni	x	—	—	—	—	—	—	—	—	x	x	—	x	x	x
Herpsilochmus roraimae	x	x	—	—	—	—	x	x	x	x	—	—	x	x	—
*Percnostola leucostigma**	x	x	x	x	—	x	x	x	—	—	—	—	—	—	—
Chamaeza campanisona	x	—	x	x	x	—	x	x	x	x	x	—	—	x	x
Myrmothera simplex	x	x	—	x	x	x	x	x	x	x	x	x	—	x	x
Grallericula nana	x	—	x	x	—	—	—	x	—	—	—	—	—	—	—
Grallaria guatimalensis	x	—	—	—	—	—	—	—	—	—	—	x	—	—	—
Elaenia dayi	x	—	—	x	x	—	—	x	—	—	x	—	x	x	—
Elaenia pallatangae	x	x	x	x	x	x	x	x	x	x	x	—	x	x	x
Mecocerculus leucophrys	x	x	x	x	x	x	x	x	x	—	x	—	x	x	x
*Mionectes macconnelli**	x	—	—	x	x	x	x	x	x	x	x	x	x	x	x
*Leptopogon amaurocephalus**	x	—	x	—	—	—	—	x	—	—	x	—	x	x	x
Phylloscartes chapmani	x	—	x	x	—	x	x	x	x	x	—	x	x	x	x
Phylloscartes nigrifrons	x	—	x	x	—	x	x	—	x	x	x	x	x	x	—
*Hemitriccus margaritaceiventer**	—	—	x	—	x	—	—	—	x	—	—	—	—	x	—

APPENDIX 3. Continued.

	Eastern								Central		Western				
	Ro	Ue	So	Pt	Au	Ua	Ap	Ch	Gu	Ur	Ya	Pq	Pr	Du	Ne
Todirostrum russatum	x	x	x	x	x	—	x	x	—	—	—	—	—	—	—
Platyrinchus mystaceus	x	—	x	x	—	—	x	—	—	—	x	—	—	x	x
Myiophobus roraimae	x	—	x	x	x	x	x	x	x	x	x	x	x	x	x
Contopus fumigatus	x	—	x	x	—	—	x	x	x	x	x	x	x	x	—
Knipolegus poecilurus	x	x	x	—	—	—	—	x	—	—	—	x	—	x	x
Hirundinea ferruginea	x	x	x	x	x	x	x	—	x	—	x	x	x	x	—
*Pachyramphus castaneus**	—	—	—	—	—	—	—	—	—	—	—	—	x	—	—
Chloropipo uniformis	x	x	—	x	x	x	x	x	—	x	—	x	—	x	—
*Pipra serena**	x	x	x	x	x	x	x	x	—	—	—	—	—	x	x
Pipra cornuta	x	x	x	x	x	—	x	x	x	x	x	x	x	x	x
Pipreola whitelyi	x	—	x	x	—	x	x	x	—	—	—	—	—	—	—
Lipaugus streptophorus	x	x	—	x	—	—	x	x	—	—	—	—	—	—	—
Rupicola rupicola	x	—	—	x	x	x	x	x	x	—	x	—	—	—	x
Oxyruncus cristatus	x	—	x	x	x	x	—	x	—	x	—	—	—	—	—
Notiochelidon cyanoleuca	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Cistothorus platensis	x	x	—	—	—	—	—	—	—	—	—	—	—	—	—
Troglodytes rufulus	x	x	x	x	x	—	x	x	—	—	x	—	x	x	x
Microcerculus ustulatus	x	x	—	x	—	x	x	x	x	x	x	x	—	x	x
Myadestes leucogenys	x	—	—	x	x	—	x	—	—	—	—	—	—	—	—
Platycichla flavipes	x	x	—	x	x	—	—	x	x	—	—	—	—	—	—
Platycichla leucops	x	—	—	x	x	—	—	—	—	—	—	x	x	—	x
Turdus olivater	x	x	x	x	x	x	x	x	—	—	x	x	x	x	x
*Turdus ignobilis**	x	x	x	x	x	x	—	—	x	x	x	—	x	x	x
Zonotrichia capensis	x	x	x	x	x	x	x	x	x	—	x	—	—	—	x
Haplospiza rustica	—	—	—	—	—	—	—	x	—	—	—	—	—	—	x
*Emberizoides herbicola**	—	—	—	—	—	—	—	—	—	—	—	—	—	x	—
Catamenia homochroa	x	x	x	—	x	—	—	—	—	—	—	—	—	x	x
Atlapetes personatus	x	—	—	x	x	—	x	x	x	x	x	x	x	x	x
Mitrospingus oleagineus	x	x	x	x	—	—	x	x	—	—	—	—	—	—	—
Piranga flava	x	x	—	x	x	x	x	—	x	—	x	—	x	x	x
Piranga leucoptera	x	x	—	x	—	—	x	x	—	—	—	—	—	—	—
Pipraeidea melanota	—	—	—	—	—	—	—	—	—	—	x	—	—	—	—
Chlorophonia cyanea	x	x	x	x	x	x	x	x	x	x	x	x	x	x	—
*Tangara xanthogastra**	x	x	—	x	x	x	x	x	—	—	x	x	—	—	x
Tangara punctata	—	—	—	—	—	—	—	—	—	—	—	x	x	x	x
Tangara guttata	x	x	—	x	x	x	x	x	x	x	x	—	x	—	x
Tangara cyanoptera	x	x	x	x	x	x	x	x	—	x	x	x	x	x	x
Diglossa duidae	—	—	—	—	—	—	—	—	—	—	x	x	x	x	x
Diglossa major	x	x	x	x	x	x	x	x	—	—	—	—	—	—	—
Parula pitiayumi	x	x	x	x	—	—	x	x	—	x	—	x	x	x	x
Myioborus miniatus	x	—	x	x	—	x	x	x	—	x	x	x	x	x	x
Myioborus brunniceps	x	x	x	x	x	x	x	x	—	—	—	—	x	x	x
Myioborus cardonai	—	—	—	—	—	—	—	—	x	—	—	—	—	—	—
Myioborus albifacies	—	—	—	—	—	—	—	—	—	—	x	x	—	—	—
Basileuterus bivittatus	x	x	—	x	x	x	x	x	x	—	x	x	—	x	x
Hylophilus sclateri	x	x	x	x	x	x	x	x	x	x	—	x	x	x	x
Macroagelaius imthurni	x	—	—	x	x	x	x	x	—	—	x	x	—	x	—

* Lowland species with a subspecies restricted to upper elevations.

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