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A CONTRIBUTION TO THE ORNITHOLOGY OF
NORTHEASTERN VENEZUELA

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DURING the past few years the United States National Museum has received from the junior author several collections of birds made by him in the states of Monagas and Anzoátegui in northeastern Venezuela. Though not large in total number of specimens, these collections contain more than 240 forms, and almost all are accompanied by full data concerning the condition of the gonads, the colors of the soft parts, and, in many cases, the contents of the gizzard. The field observations also are uncommonly rich, and the description of the terrain and climatic and ecological factors is believed to be far more complete than is usual in such ornithological accounts. In this paper the identifications and the notes on the specimens and the literature are by the senior author; the gathering of the material, the field notes, and the descriptions of the collecting localities are the work of the junior author.

During a period of $3\frac{1}{2}$ years¹ spent in northeastern Venezuela, the junior author attempted to take at least one example of every species of bird seen by him within the limits of the area described below. In his opinion the collections here reported upon may be considered to form a reasonably complete list of the avifauna of that region, although in many instances taxonomic discussion has been hampered by lack of sufficient series.

¹ June-December 1944; January-December 1945; January-May 1946; May-December 1947; and January-December 1948.

If we look at the map of ornithological exploratory work done in Venezuela in Phelps's "Resumen de las Colecciones Ornitológicas Hechas en Venezuela" (Bol. Soc. Venezolana Cienc. Nat. No. 61, 1944, opp. p. 418) we find the area covered by the present collection to be a blank. It is true that Phelps indicates that some birds had been collected at Cantaura, but this locality is not mentioned under the geographical summary of any of the 102 Venezuelan collections listed in his paper. It is obvious, then, that the present data do help materially to fill in many little gaps in our knowledge of the distribution of Venezuelan birds, even though, as might be expected, they are not surprising in most instances. In some cases, as is noted under the proper species, discrete increments to previously known ranges have been made, and two new birds have been described from this material.

Descriptions of the area in general, of the individual collecting stations, and of the various types of habitats they encompassed are here presented by the junior author.

The area of study was limited roughly to the triangle bounded by Caicara (Monagas), San Mateo (Anzoátegui), and El Tigre (Anzoátegui). It lies within 20 miles of the Caribbean Sea at San Mateo, although isolated by the coastal mountain range to the north except at that point.

The great topographical feature of the area is the eastern Venezuelan mesa, a gently rolling, grass-covered plateau ranging in elevation from approximately 750 to 1,500 feet and extending beyond the artificial limits of our area in all directions, except to the northwest. Steep cliffs, up to 100 feet in height, frequently occur along the mesa scarp, as well as along the larger streams wherever erosion has cut through the mesa cap.

The northwest corner of the study area is comprised of dissected, gently hilly country of approximately 375 to 750 feet elevation, covered with sparse woods, which form a broad band roughly paralleling the mesa front and extending some 20 miles west of the western edge of the mesa. The lower land to the north of San Mateo (outside the limits of this report) also supports sparse woods, of a somewhat different composition.

The permanent rivers crossing the area are the Tigre, Guanipa, Tonoro, Amana, and Guarapiche. All are sizable watercourses, being about 30 feet wide and having holes over 8 feet deep even in the dry season. All flow eastward. The Amana and the Guarapiche head in the mountains to the north; the remainder head in the mesa itself. Drainage in the northwest corner of the area is confined to intermittent streams, dry throughout most of the year, although flow is frequently continuous below the surface in the sand of their beds. There are few permanent bodies of water present, and all are relatively small, shallow

ponds. Toward the end of the wet season the mesa is covered with many temporary ponds, some of considerable size. Often these are semipermanent bodies of water, disappearing completely only during the driest years.

In this area conditions are not favorable for the formation of topsoil. Since the surface soil is in effect the essentially unaltered geological outcrop, the vegetation it supports is remarkably distinctive. A map of the exposed strata gives an excellent idea of the extent of the major habitats and of the local distribution of the birds characteristic of these habitats, since the surface soil is relatively unmodified by humus and since the area studied does not vary greatly either in respect to altitude or local weather conditions. Within the area the two outcrops are: (1) Mesa (Quaternary-Pleistocene) composed of pebble, cobble, and boulder gravels, originating mainly from coalescing alluvial fans due to the rapid eroding of Cretaceous and Tertiary rocks of the mountains. The surface of this formation tends to remain intact owing to the presence of resistant iron-oxide-cemented capping layers. (2) Sacacual-Las Piedras (Pliocene), a series of nonmarine claystones, siltstones, sandstones, and some pebbly beds.

The sketch map (fig. 46) shows the approximate extent of the Sacacual-Las Piedras outcrops and of that portion of the mesa formation outcrop forming the Eastern Venezuelan Mesa (200-meter contour line). Actually, the mesa formation outcrop continues eastward to the coast, but the progressively lower altitude and the increase of recent alluvium deposits presumably change the nature of the vegetation enough to effect changes in the avifauna of that region. The limits of the savanna climax, as described in this report, correspond to those of the Eastern Venezuela Mesa.

While not shown on the sketch map, it should be remembered that the Sacacual-Las Piedras formation, with the consequent deciduous seasonal woods, is exposed wherever the rivers have cut through the mesa cap. The soil of this mesa, low in phosphorus and nitrogen content, will hardly support a more profuse vegetation, even in the vicinity of water, unless it be the addition of the moriche palm (*Mauritia flexuosa*).

The extent of the deciduous seasonal woods climax of the Sacacual-Las Piedras formation is somewhat less certain, but from personal observation and careful questioning the junior author believes it continues throughout the extent of the outcrop.

It is apparent, therefore, that the area occupies a central position in respect to habitats studied and that the influence of other life zones on the distribution of the avifauna is minimized. The great exceptions to this are the Amana and Guarapiche Rivers flood plains in the northeast corner of the area. Although these two rivers cut through the mesa to the Sacacual-Las Piedras formation to more or less the

same extent as the Guanipa and Tonoro Rivers, the vegetation of their flood plain is markedly more luxuriant. The profuse vegetation of these two narrow strips of land is apparently at least partially due to the fact that, in draining from the mountains to the north, the Amana and the Guarapiche pass over exposed limestone strata, while the Guanipa and Tonoro drain only the siliceous soil of the Mesa and the relatively poor soil of the Sacacual-Las Piedras formation.



FIGURE 46.—Sketch map of northeastern Venezuela, including area where birds were collected for this study.

The area may be divided into three main types of habitat: Savanna, deciduous seasonal forest, and lowland seasonal forest. To this must be added an important habitat from the point of view of bird distribution, deciduous seasonal forest edge. Although obviously present wherever the woods thin out, this habitat is particularly characteristic of the Sacacual-Las Piedras formation where it is still covered with remnants of the Mesa formation, which gives rise to an orchard-type woods with spaced trees and small clearings, supporting a number of species not to be found on the savanna, nor yet in the woods proper. The ponds and rivers represent another important habitat for many species, while the stands of moriche palm also have several species characteristic to them.

Although further minor divisions can be distinguished, the area is marked by the lack of variety of habitats. It contains no mountains, no seacoast, no extensive marshes or wooded swampland; even the cactus scrub and spiny woods are almost completely lacking within the area.

The savanna is a broad grassland, typically dotted with widely scattered scrubby trees, which at places disappear altogether and at other places become more abundant. The ground cover is composed characteristically of short, rough grasses. Though the occasional presence of clay strata near the surface allows other species to establish themselves locally, the typical trees of the savanna are the small, scrubby *Curatella americana*,² *Byrsonima crassifolia*, and *Bowdichia virgilioides*?, known locally, respectively, as chaparro, chaparro mateca, and alcornoque. In the vicinity of permanent water these species tend to be replaced by stands of the moriche palm. The chaparro often forms thick "chaparrales" in the immediate vicinity of large semipermanent ponds, where the moriche is typically absent, but it appears unable to invade permanently watered land. Also to be found near permanent water is the cashew, or merei (*Anacardium occidentale*). With the probable exception of the alcornoque the fruit of all these plants is eaten by birds of this life zone.

Some characteristic birds of the savanna are:

<i>Theristicus caudatus caudatus</i>	<i>Asio flammeus pallidicaudus</i>
<i>Cathartes urubitinga</i>	<i>Podager nacunda</i>
<i>Buteo albicaudatus colonus</i>	<i>Reinarda squamata squamata</i>
<i>Belonopterus chilensis cayennensis</i>	<i>Anthus lutescens lutescens</i>
<i>Zenaidura auriculata stenura</i>	<i>Sturnella magna praticola</i>
<i>Burhinus bistriatus vocifer</i>	<i>Sicalis luteola luteola</i>
<i>Speotyto cunicularia brachyptera</i>	

The deciduous seasonal forest is composed of trees averaging less than 30 feet in height, with occasional taller trees scattered throughout.

² Botanical identifications, except where stated as by the junior author, are based on specimens named by the Department of Botany, U. S. National Museum.

It is often reduced locally to scrub, at times with bare patches, particularly where the surface soil is altered by the occurrence of pebbly beds. In the vicinity of water the dominant trees attain greater size, but the general appearance of the forest shows little change. Approximately 90 percent of the trees composing this forest are deciduous, being in general leafless throughout the dry season, although many blossom during that time. The forest floor is bare, with the exception of local areas covered with maya (*Bromalia* sp.).

Vines are not abundant, arboreal epiphytes are rare, cacti are typically confined to scattered individuals or small stands, palms and heliconias are absent.

Some of the trees collected as typical of this forest have been identified as follows:

<i>Cochlospermum vitifolium</i>	<i>Pithecelobium</i> sp.
<i>Humboldtiella arborea</i>	<i>Gyrocarpus americanus</i>
<i>Machaerium grandifolium</i>	<i>Ceiba pentandra</i>
<i>Platymiscium pinnatum</i>	<i>Guazuma ulmifolia</i>
<i>Myrospermum frutescens</i>	<i>Senegalia glomerata</i>
<i>Capparis odoratissima</i>	<i>Prosopis juliflora</i>
<i>Erythrina velutina</i>	<i>Tabebuia chrysantha</i>

Some characteristic birds of the deciduous seasonal forest are:

<i>Crypturellus noctivagus erythropus</i>	<i>Pulsatrix perspicillata perspicillata</i>
<i>Buteo magnirostris magnirostris</i>	<i>Nyctidromus albicollis albicollis</i>
<i>Buteo nitidus nitidus</i>	<i>Nyctibius griseus griseus</i>
<i>Hypomorphnus urubitinga urubitinga</i>	<i>Lepidocolaptes souleyetii littoralis</i>
<i>Geranospiza caerulescens</i>	<i>Myiarchus tyrannulus tyrannulus</i>
<i>Leptoptila verreauxi verreauxi</i>	<i>Tolmomyias flaviventris collingwoodi</i>
<i>Amazona ochrocephala ochrocephala</i>	<i>Turdus leucomelas albiventer</i>

For obvious reasons, "edge" habitats are difficult to describe. However, in the present instance the edge formed where for one reason or another the deciduous seasonal forest is broken by openings of greater or lesser extent presents a habitat to an important group of birds rarely to be found in the woods themselves, or on the open savanna. Apparently about one-third of the vegetation of the Sacacual-Las Piedras formation may be considered as deciduous seasonal forest edge.

There exists no extensive savanna edge, because the expanse of savanna is rarely broken by patches of woods and because that zone is generally set off physically from the surrounding countryside by the abrupt cliffs of the mesa scarp. The lowland seasonal forest intrusion into the area is so limited that it is pointless to attempt to distinguish an edge habitat.

The deciduous seasonal forest edge presents itself typically as small semiopen clearings covered with grass or shrubby carcanapire (*Solanum verbascifolium*) and bearing trees characteristic of this habitat. The following trees, collected as typical of this habitat, have been identified:

<i>Senegalia tamarindifolia</i>	<i>Godmania aesculifolia</i>
<i>Pereskia guamacho</i>	<i>Casearia decandra</i>
<i>Fagara caribaea</i>	<i>Lonchocarpus sericeus</i>

Birds characteristic of this habitat are:

<i>Parabuteo unicinctus unicinctus</i>	<i>Sublegatus glaber orinocensis</i>
<i>Gamponyx swainsonii leonae</i>	<i>Polioptila plumbea plumbeiceps</i>
<i>Scardafella squammata ridgwayi</i>	<i>Icterus nigrogularis</i>
<i>Aratinga pertinax margaritensis</i>	<i>Saltator orenocensis</i>
<i>Glaucidium brasilianum phaloenoides</i>	<i>Sporophila intermedia</i>
<i>Caprimulgus cayennensis cayennensis</i>	<i>Coryphospingus pileatus brevicaudus</i>
<i>Centurus rubricapillus rubricapillus</i>	<i>Euscarthmus meloryphus meloryphus</i>

Though the lowland seasonal forest within the area varies considerably, it is generally composed of trees averaging over 50 feet, and in places approaching or perhaps exceeding 100 feet in height. An estimated 35 percent of the trees comprising this forest are non-deciduous. The forest floor is often rather bare, although in places it is covered to such an extent that it becomes necessary to cut trails. Vines are common; arboreal epiphytes common, but not abundant; cactus is absent; heliconias are present locally; palms are apparently confined to chaguaramo (*Roystonea regia*) and corozo (*Acrocomia* sp.).

Some trees typical of this forest are identified (no specimens taken) as follows by the junior author:

Apomate (<i>Tecoma pentaphylla</i>)	Merecure (<i>Couepia guianensis</i>)
Cuajo (<i>Viola venezuelensis</i>)	Muco (<i>Couropita guianensis</i>)
Jabillo (<i>Hura crepitans</i>)	

Birds characteristic of this habitat are:

<i>Chondrohierax uncinatus uncinatus</i>	<i>Trogon strigilatus strigilatus</i>
<i>Ictinea plumbea</i>	<i>Galbula ruficauda ruficauda</i>
<i>Elanoides forficatus yetapa</i>	<i>Ramphastos monilis</i>
<i>Claravis pretiosa</i>	<i>Campylorhampus trochilirostris</i> ^m <i>venezuelensis</i>
<i>Ara ararauna</i>	<i>Chiroxiphia lanceolata</i>
<i>Crotophaga major</i>	<i>Xanthornus decumanus decumanus</i>
<i>Phaethornis anthophilus anthophilus</i>	
<i>Glaucis hirsuta hirsuta</i>	

The climate of the study area is definitely tropical, rather than subtropical, in nature. The temperature varies little from day to day or from year to year. Throughout the year the average daily temperatures as recorded at Guarario (Cantaura), Jusepín (Caicara), and San Tomé range between approximately 70° F. minimum and 90° F. maximum. At Guarario, over an 8-year period, the lowest temperature recorded was 55° F. and the highest was 101° F. At San Tomé, over a 10-year period, the lowest temperature recorded was 62° F. and the highest temperature recorded was 98° F.

Rainfall is light within the area, averaging about 47 inches annually, of which approximately 90 percent occurs during the months of May through November (fig. 47). Although there is very little variation in temperature, the monthly, as well as the total yearly,

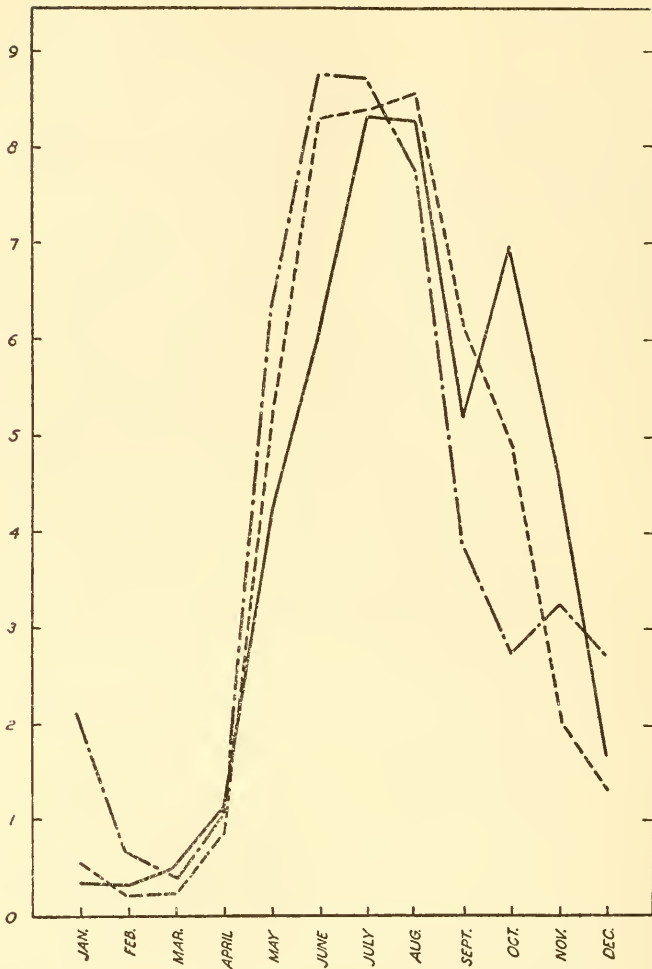


FIGURE 47.—Average (9 years) monthly rainfall for three stations in northeastern Venezuela (in inches): Solid line, Guario; dot-dash line, Jusepín; dash line, San Tomé.

rainfall varies considerably (fig. 48). When the yearly rainfall is approximately 36 inches, as in 1946, serious drought conditions prevail at the termination of the dry season, with the elimination of almost all bodies of surface water within the area.

The prevailing northeasterly wind blows almost continuously throughout the dry season. The savanna is rarely without a fresh breeze at any time, although in the woods the air is often quiet at ground level.

In spite of the uniformity of the climate there is considerable variation in the numbers of some of the birds, for example, the puffbird *Hypnelus b. bicinctus* and the jay *Xanthoura y. caeruleocephala*.



Open savanna near El Tigre in December.

Weather data from records kept at the oil company camps are given in the adjoining figures. The stations are as follows:

SAN TOMÉ: Altitude 869 feet, located on the open savanna at the southern extremity of the study area.

GUARIO: Altitude 560 feet, located in the deciduous seasonal forest about 12 miles north of Cantaura.

JUSEPÍN: Altitude 450 feet, located on the savanna but in close proximity to the lowland seasonal forest, about 10 miles east of Caicara.

The general characteristics of the collecting stations may be summarized as follows:

CANTAURA, ANZOÁTEGUI: This station is situated in the center of the western edge of the Eastern Venezuelan Mesa, approximately midway between the Caribbean Sea and the Orinoco River. The savanna climax extends for some 30 miles to the east, and the deciduous seasonal forest extends approximately the same distance to the west of this station. Its elevation is approximately 815 feet above sea level. A brook, small but with water throughout the year, is located immediately to the south.

CAICARA, MONAGAS: This station is situated at the extreme east of the study area. While the main body of the savanna climax of the mesa lies to the west of this point, it also extends beyond Caicara for

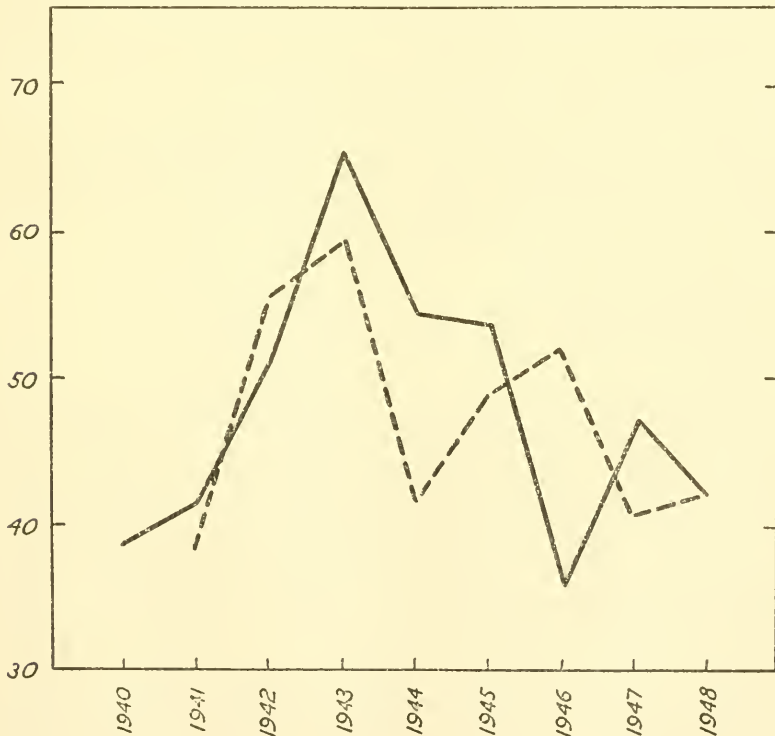


FIGURE 48.—Yearly rainfall for two stations in northeastern Venezuela (in inches): Solid line, Guario, 1940-1948; broken line, Jusepín, 1941-1948.

approximately 10 miles toward the north and for a somewhat greater distance to the east. Although some deciduous seasonal forest is present at this station, the outstanding feature is the intrusion of lowland seasonal forest along the Guarapiche River flood plain. It is also probable that the avifauna at this station is affected by the proximity of the mountain range to the north, although no specific instance can be given. The elevation of this station is approximately 590 feet above sea level.

The other collecting stations are:

KILOMETER 52: A small semipermanent pond in deciduous seasonal woods, approximately 10 miles north of San Mateo, Anzoátegui (1 specimen).

BARCELONA, ANZOÁTEGUI: Sea coast, within 100 yards of the shore (6 specimens).

BOCA DE TIGRE, ANZOÁTEGUI: Wooded swamp, approximately 18 miles north of San Mateo, Anzoátegui (1 specimen).

MUNDO NUEVO, MONAGAS: On the Amana River, in the mountains to the north of Caicara, Monagas; not visited by the junior author, the skins being prepared by Pedro Montes (3 specimens).

ABOUT 10 KM. SOUTH OF URICA, ANZOÁTEGUI; also **SAN RAMÓN, MONAGAS:** Open savanna with semipermanent ponds. Within the study area, approximately midway between Cantaura, Anzoátegui, and Caicara, Monagas (7 specimens).

EL TOCO, ANZOÁTEGUI: Deciduous seasonal woods, approximately 25 miles west of Cantaura, Anzoátegui (1 specimen).

Forming a rough right triangle with two sides some 60 miles long, the study area covers approximately 1,800 square miles. Its relatively low population is confined almost entirely to the oil centers, all of which are located at the borders of the area.

An idea of the distribution of this population may be formed from the results of the registration for the presidential elections of 1947. Approximately 24,000 adults (18 years of age or over) were registered within the area, divided roughly as follows:

700 San Mateo

4,000 Cantaura and vicinity

8,600 El Tigre and vicinity

8,900 Jusepín/Punta de Mata and vicinity (includes Caicara)

1,800 Other

The registrations for Cantaura and Caicara were roughly 1,660 each. Away from the two principal surfaced roads (fig. 46), both inside and outside the artificial limits of the study area, the population density is light, probably less than five individuals per square mile. On the savanna between Cantaura and El Tigre are still to be found pure Amerinds, relatively uninfluenced by the surrounding population.

In general the effect of man on the wildlife of the region is slight. The sparse population and lack of agriculture have left the original vegetation almost untouched. Cattle are not raised in numbers sufficient to overgraze the land. The operations of the only major industry, petroleum production, while of paramount economic importance, have had markedly little effect on the fauna. The roads,

clearings for drilling rigs and pipelines, and the camps constructed are of such restricted extent and nature that the changes they have caused to the habitats are negligible. As firearms and ammunition are scarce and expensive, hunting is confined principally to deer, the limiting factor of which is probably the lack of food during the dry season, rather than the inroads made by men.

Fires in the deciduous seasonal forest rarely attain important size owing to the sparse open nature of the vegetation, while in the lowland seasonal forest fires apparently rarely occur. On the savanna, fires are common and sometimes of considerable extent. It is a striking sight to see the hawks and vultures following immediately behind the flames to feed on the disabled lizards, snakes, and insects. This habit is particularly characteristic of *Polyborus cheriway cheriway* and *Buteo albicaudatus colonus*.

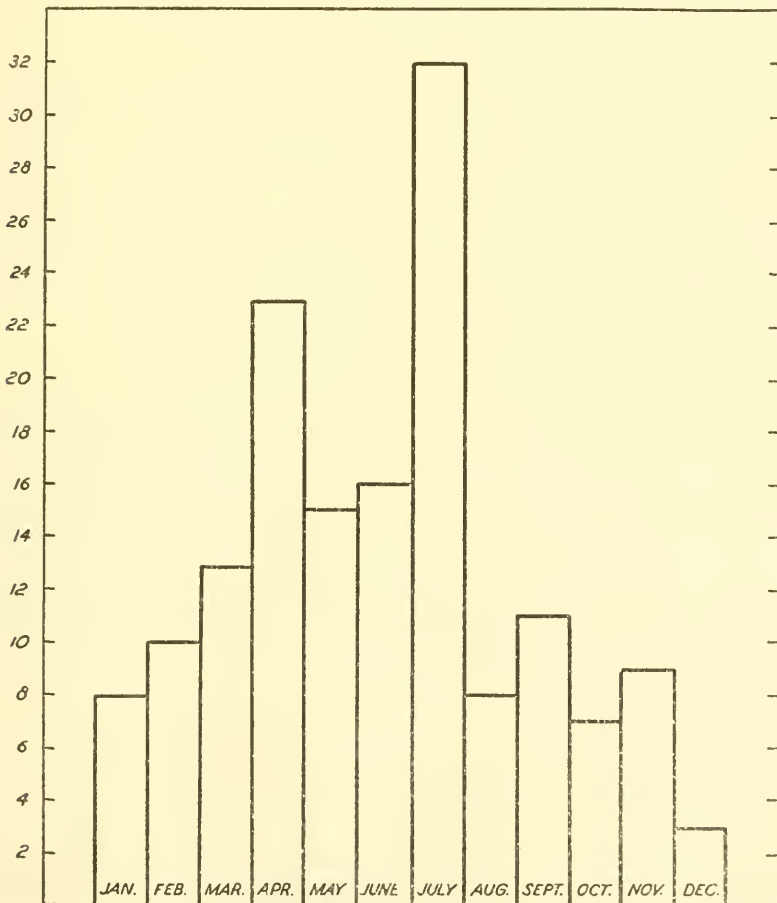


FIGURE 49.—Diagram showing breeding activities of birds in the northeastern Venezuela study area. Figures indicate number of species breeding each month.

Though the principal aim was to establish an accurate checklist of the birds of the region, necessitating the use of all available spare time for the taking of specimens, an attempt was made to take careful notes, particularly regarding breeding data and numbers. This information is given with the notes on each species collected. Nevertheless, a summarization of the breeding data, however incomplete, is of interest. As will be seen from figure 49, April through July are the months in which the greatest number of species were recorded as breeding. Secondary evidence, such as birds with nesting material or feeding young, was considered sufficient. Little evidence of two separate breeding seasons was noted. Nevertheless, the notes on some of the commonest species, with easily located nests, do suggest that possibility (table 1).

TABLE 1.—Breeding activity of some common species of northeastern Venezuelan birds

Species	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>Crypturellus noctivagus</i>				x	x	x	x					
<i>Parabuteo unicinctus</i>	x						x					
<i>Falco sparverius</i>	x	x	x	x								
<i>Belonopterus chilensis</i>					x	x	x					
<i>Zenaidura auriculata</i>				x	x	x	x					
<i>Scardafella squamata</i>	x	x	x	x					x	x	x	
<i>Columbigallina passerina</i>	x	x	x	x	x	x			x	x		
<i>Leptoptila verreauxi</i>				x		x						
<i>Aratinga pertinax</i>		x	x	x								
<i>Amazona ochrocephala</i>			x	x								
<i>Pyrocephalus rubinus</i>				x						x		
<i>Tyrannus melancholicus</i>				x				x				
<i>Mimus gilvus</i>	x	x	x	x	x		x		x			
<i>Holotrisacus lugubris</i>		x	x	x				x				
<i>Icterus nigrogularis</i>				x	x		x		x	x		

The notes on the numbers of birds disclose great seasonal fluctuations in some permanent resident species and seasonal absence from the study area of other relatively common species, in addition to migrants from North America. This marked seasonal fluctuation can be the result only of movement to and from the area, which in some cases appears to be an established migration, to judge from such secondary evidence as deposition of fatty tissue as well as flock formation and other changes in behavior. Attention is directed to the notes on the following species:

Nocorex erythrops olivascens
Zenaidura auriculata stenura
Podager nacunda
Myiodynastes maculatus maculatus
Muscivora tyrannus tyrannus

Vireo virescens vividior
Cyclarhis gujanensis flavipectus
Sporophila bouvronides
Spinus psaltria colombianus

During the months of December 1948 through March 1949 record was kept of the numbers and species of hawks seen from an automobile in the vicinity of Cantaura. Though not so satisfactory as a census taken

in the habitat itself, the results are of sufficient interest to be included here. For example, the high percentage of *Polyborus* and *Milvago* in the deciduous seasonal forest count is due to the road and right-of-way; a count in the woods itself would show a marked decrease in these species. Similarly, *Geranospiza* would show a higher percentage in the woods itself than along the highway where the count was taken. Nevertheless, the counts were carefully made and the results are capable of comparison with similar counts in other areas.

TABLE 2.—Census of hawks observed near Cantaura, Venezuela, from December 1948 to March 1949. (Counts in individuals per 100 miles.)

Species	Deciduous seasonal forest (approximately 225 miles total count)	Deciduous seasonal forest edge (approximately 25 miles total count)	Savanna highway lined with telephone poles (approximately 250 miles total count)	Savanna without telephone poles (approximately 100 miles total count)
<i>Campsonyz swainsonii</i>	2	0	0	0
<i>Heterospizias meridionalis</i>	1	0	0	0
<i>Buteo albicaudatus</i>	3	0	1	0
<i>Buteo albonotatus</i>	2	6	0	0
<i>Buteo magnirostris</i>	10	6	0	0
<i>Buteo nitidus</i>	11	6	0	0
<i>Parabuteo unicinctus</i>	6	12	0	0
<i>Hypomorphnus urubitinga</i>	0.5	0	0	0
<i>Geranospiza caerulescens</i>	0.5	0	0	0
<i>Herpetoheres cachinnans</i>	0.5	0	0	0
<i>Milvago chimachima</i>	10	20	2	0.5
<i>Polyborus cheriway</i>	12	27	4	2
<i>Falco sparverius</i>	0	50	50	0.5

The count of *Falco sparverius* is especially interesting. This little hawk, essentially a bird of the edge habitat, is almost as rare on the open savanna as in the woods. Nevertheless, the addition of a number of poles approximately 25 feet high apparently makes the savanna as acceptable a habitat as the edge itself, even during the breeding season. Poles approximately 6 feet high, such as those of a fence crossing the savanna, are not acceptable to this species and do not tend to increase the count above that of the savanna itself.

Without doubt further collecting would continue to turn up new species, especially in the lowland seasonal forest intrusion at Caicara. However, within the study area there were only 14 species recognized by the junior author that were not collected. With one exception, none of these was recorded more than four times during the four years. These species represent the following families: Ciconiidae (2), Threskiornithidae (1), Anatidae (1), Cathartidae (1), Accipitridae (1), Pandionidae (1), Charadriidae (2), Laridae (1), Psittacidae (1), Hirundinidae (1), Icteridae (1), Fringillidae (1).

Inasmuch as the best descriptions of the area are to be found in geological literature relatively unfamiliar to ornithologists, the following short selected bibliography is here presented:

FUNKHOUSER, H. J., SASS, L. C., and HEDBERG, H. D.

1948. Santa Ana, San Joaquin, Guarío, and Santa Rosa Oil Fields (Anaco Fields), Central Anzoátegui, Venezuela. Bull. Amer. Assoc. Petroleum Geologists, vol. 32, p. 1851.

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1944. Stratigraphy of northeastern Anzoátegui, Venezuela. Bull. Amer. Assoc. Petroleum Geologists, vol. 28, p. 1.

HEDBERG, H. D., SASS, L. C., and FUNKHOUSER, H. J.

1947. Oil fields of Greater Oficina area, Central Anzoátegui, Venezuela. Bull. Amer. Assoc. Petroleum Geologists, vol. 31, p. 2089.

ORAMAS, LUIS.

1947. Los caribes invasores del territorio autóctono Aruaco. Mem. Soc. Cienc. Nat. La Salle (Caracas), año 7, No. 20.

The accounts of the species and subspecies of birds reported on in the body of this paper are all based on specimens collected. In addition, there were five other kinds that were unmistakably observed in the field although no examples were procured; they are:

Jabiru mycteria (Lichtenstein): Jabirus were seen, one at a time, on the open savanna at Cantaura in May and October.

Sacroramphus papa (Linnaeus): In the deciduous lowland forest at Caicara in November and January, five or six king vultures were seen, their striking coloration immediately proclaiming their identity.

Pandion haliaetus carolinensis (Gmelin): One osprey was seen at Cantaura on October 12, 1947.

Squatarola squatarola (Linnaeus): Four or five black-bellied plovers were seen at the seacoast near Barcelona in October.

Charadrius vociferus Linnaeus: A killdeer was seen once in January in the open savanna near Cantaura. Being familiar with this bird in North America, the junior author has no doubt as to its identification. Hellmayr and Conover (Catalogue of the birds of the Americas, pt. 1, 1948, p. 68) give no Venezuelan records for the killdeer, but it has been found in that country prior to this sight record.

This report would have been less complete had it not been for the kindly interest and assistance given the junior author in the field by the local staffs of three oil companies, the Socony-Vacuum Oil Co. of Venezuela (with which the junior author is affiliated), the Mene Grande Oil Co., and the Creole Petroleum Corp. They supplied most of the weather data and other information about the area.

In studying the collections after their arrival in Washington, the senior author was given prompt assistance in the identification of botanical items mentioned in this report by the staff of the department of botany of the United States National Museum. Dr. John T. Zimmer, of the American Museum of Natural History, New York, aided in identifying an obscurely marked immature flycatcher that could not be matched with the collections in Washington.



Deciduous seasonal woods edge near Cantaura in February.



Lowland seasonal forest on the Guarapiche River at Cacara in April.

Family TINAMIDAE: Tinamous

CRYPTURELLUS NOCTIVAGUS ERYTHROPUS (Pelzeln)

Tinamus erythropus PELZELN, Verh. zool.-bot. Ges. Wien, vol. 13, 1863, pp. 1127, 1129 (Barra do Rio Negro=Manáos, Brazil).

SPECIMEN COLLECTED

1 ♀, Caicara, December 21, 1945; gonads enlarged; iris light brown; tarsi and toes coral-red.

This bird was coming into breeding condition, for its ovary showed several "small yolks," although its plumage was not yet abraded as it probably would have been if the bird had been finishing its breeding season.

Together with the specimens of *C. idoneus*, under which a detailed discussion is given, this example shows that the ranges of two closely related species of tinamous of the genus *Crypturellus* overlap in northeastern Venezuela. Compared with a female of *idoneus* from Cantaura, the present bird differs in being very much darker on the upperparts, the mantle dark Vandyke brown with a purplish-slate tinge, and the crown still darker, while in *idoneus* the mantle is between hair brown and benzo brown and the crown is finely barred with Sayal brown; the pale bars on the wings and back are tawny-russet fading posteriorly to pinkish cinnamon in our *erythropus*, while in *idoneus* they are pale ochraceous-buffy to almost white.

The specimen was secured in wet woodlands. The local name "soisola" (I'm alone) is used for both species, which are not distinguished by the local residents, and is an imitation of the bird's clear, low whistle, *soy-so-la*, which may be heard for a considerable distance.

The following observations apply both to this and to the next form, which are very similar in their habits and which were not differentiated in the field:

This tinamou was not abundant even in favorable localities. A shy, retiring bird, it was silent throughout much of the year, but at the end of the dry season it commenced calling, and as many as six scattered individuals might be heard at one time, particularly early in the evening. This calling was continued during the months of April through August and is concurrent with the breeding season. Although the species is presumably present in the area throughout the year, it was recorded only during the months of February through August and in December.

The call of this species consists of three clear whistled notes, the first being higher than the following two, which are the same in pitch. All three notes are of the same duration and all carry well. At times the first note is omitted, and occasionally the third note is given at a slightly lower pitch than the preceding one. The collector was not

able to determine whether both sexes call. During the breeding season the birds decoy readily to an imitation of the call, and it is then that most of the hunting is done. The few birds taken by the collector by this method were all males. However, other hunters have assured him that the females also decoy readily.

Seeds and fruit pulp were found in the gizzards of the three specimens taken.

In the collector's experience this tinamou is strictly terrestrial. He never saw the bird except on the ground, and only once did he see it fly. It flushed like a large quail when it was cornered. When the bird was encountered in the woods it customarily ran rapidly with outspread wings, possibly using them to assist it in zigzagging through the underbrush.

CRYPTURELLUS IDONEUS (Todd)

Crypturus idoneus TODD, Proc. Biol. Soc. Washington, vol. 32, 1919, p. 117 (Bonda, Colombia).

SPECIMENS COLLECTED

1 ♂, Cantaura, May 23, 1946; gonads very much enlarged; iris light brown, tarsi and toes coral-red; gizzard contained seeds and fruit pulp.

1 ♀, Cantaura, June 15, 1948; gonads enlarged; iris tan, feet coral-red, maxilla brown, mandible light brown. Bird found injured beside the road.

These specimens have been compared and found to agree closely with six males and three females from northern Colombia. They extend the known range of *idoneus* eastward a long distance, as the form was previously known only from northern Colombia (northern Magdalena and Santa Marta) and from the state of Zulia in adjacent western Venezuela.

Hellmayr and Conover (Catalogue of the birds of the Americas, pt. 1, No. 1, 1942, p. 65) write that *C. idoneus* differs from Venezuelan examples of *C. n. erythropus* in having the underparts paler, the breast cinnamon-buff to wood brown instead of ochraceous-tawny, and becoming much paler still on the abdomen, and, in female specimens, by having the backs less rufescent with the pale cross markings paler, less ochraceous. This is all borne out by these examples.

These same authors go on to say that further study may show *C. idoneus* and *C. cinnamomeus* to be conspecific with *C. noctivagus erythropus*, but they tentatively keep the three as specific entities. The fact that the present two specimens of *idoneus* were collected in the same general area as one of *C. n. erythropus* indicates that they should be kept as distinct species until more is learned about them, although they are closely similar to each other.

The injured female laid an egg before it died. This egg is similar in size and shape to one of *C. idoneus* from Carraipa, Guajira, Colombia, but paler, very light bluish white, not pale olive-gray as is the Colom-

bian egg. Hellmayr and Conover (loc. cit.) write that *C. noctivagus* is said to lay pale-blue glossless eggs, that the eggs of the race *erythropus* are not known, but that *C. cinnamomeus* and *C. idoneus* lay glossy vinous-brown or cinnamon-brown eggs. They are obviously mistaken about *C. idoneus*, but the egg from our Cantaura bird is fairly close to their description of the egg of the species *C. noctivagus*, glossless and very pale blue. The two species are certainly closely related; in fact, Zimmer (Proc. Biol. Soc. Washington, vol. 51, 1938, pp. 47-52) considers them conspecific, an arrangement it would be advisable to follow were it not for the fact that we now have *idoneus* and *erythropus* from almost the same place. Some time ago the female *erythropus* and the male *idoneus* from Cantaura (the female *idoneus* from there had not then been collected) were sent to Zimmer, who pronounced them both *erythropus*, with the comment that the male was unusually pale. From Zimmer's 1938 paper it appears that he had seen but a single specimen of *idoneus*, and so we do not hesitate to disagree with his allocation of the Cantaura male. This individual was in breeding condition, apparently adult, but has the lower back, rump, upper tail coverts, scapulars, and upper wing coverts distinctly barred with ochraceous-buffy like Colombian *idoneus* and not almost uniform dark rufescent, as in a male cotype of *erythropus*.

There is still one more aspect to the problem raised by these two birds. While undoubtedly the same species as *idoneus* from Colombia, they differ from western birds in having the hind neck, and to a lesser degree the mantle, less tawny, more grayish than typical *idoneus*. They appear to represent a recognizable race and necessitate a new consideration of the identification and the status of *C. cinnamomeus spencei* Brabourne and Chubb (described from northern Venezuela). Zimmer has used the name *spencei* for a northern Venezuelan race of *C. noctivagus*, which he finds to be "intermediate between *idoneus* and *erythropus*, though closer to *erythropus*." On the other hand, Todd (Ann. Carnegie Mus., vol. 29, 1942, pp. 20-21) examined the type and one other specimen of *spencei* in the British Museum and found them to be "the same as *erythropus*, despite the rather prominent buffy bars on the back and wings." The qualification of his conclusion mentioned by Todd is disturbing, as it involves a character certainly present in both sexes of *C. idoneus*. In the two descriptions of *spencei* (Ann. Mag. Nat. Hist., ser. 8, vol. 14, 1914, p. 322, and Bull. Brit. Orn. Club, vol. 38, 1918, p. 29) the mantle is described as "cinnamon brown," which does not fit our Cantaura birds but does suggest *erythropus* as Todd considered it to be. There seem to be two possible explanations, that the brief description of *spencei* is not very accurate and that this name is available for northeastern Venezuelan *idoneus*, or that *spencei* is, as Todd suggests, a synonym of *erythropus* and that

eastern *idoneus* is without a name. Our Cantaura birds do not lend themselves readily to a third possibility, that eastern "*idoneus*" and *erythropus* are all one variable form. Under the circumstances, however, it seems better not to name the Cantaura *idoneus* but merely to present the data, inasmuch as the differences in treatment in the literature are less divergent factually than their nomenclatorial results might seem to indicate.

In size the Cantaura birds agree with northern Colombian *idoneus*. Aside from the noticeably grayer hind neck the Venezuelan birds differ from the Colombian ones in having the abdomen paler.

It is always a cause for wonder when two apparently very similar forms with similar habits occur together. The junior author is of the opinion that the woods at Caicara are sufficiently isolated (for a sedentary bird like a tinamou) from the forests at Cantaura by the intervening savanna to allow the two species to be separated in reality although geographically near each other. The Caicara forest where *Crypturellus noctivagus erythropus* was collected was somewhat heavier than the deciduous seasonal woods, as described in the introduction, and was not quite the same as the lowland seasonal forest there described.

Family COLYMBIDAE: Grebes

COLYMBUS DOMINICUS SPECIOSUS (Lynch Arribalza)

Podiceps speciosus FELIX LYNCH ARRIBALZAGA, La Ley, Buenos Aires, July 2, 1877, p. 1 (Baradero, Buenos Aires, Argentina).

SPECIMEN COLLECTED

1 ♂, Caicara, June 12, 1948; gonads somewhat enlarged; iris yellow, bill blackish, feet dark blue-gray; gizzard contained remains of what seemed to be tadpoles; plumage slightly worn.

This specimen agrees with others from Venezuela and from farther south.

This small grebe was recorded on many of the savanna ponds during the months of May through September, up to 10 individuals being seen at one time. It was commoner around Caicara, where the semipermanent ponds are larger and more numerous than at Cantaura.

A floating nest of this bird was found on one of these ponds during the third week of June. It contained three white eggs, two stained brown by the decaying vegetation, the other apparently freshly laid.

Local name, "patico zambullidor," little diving duck.

PODILYMBUS PODICEPS ANTARCTICUS (Lesson)

Podiceps antarcticus LESSON, Rev. Zool., 1842, p. 209 (Valparaiso, Chile).

SPECIMEN COLLECTED

1 ♂, Caicara, June 20, 1948; gonads enlarged; iris brown, bill gray with black bar; gizzard contained dragonfly larvae and a large beetle.

The pied-billed grebe was recorded on savanna ponds during April, June, July, and August, generally as singles or pairs.

Family PHALACROCORACIDAE: Cormorants

PHALACROCORAX OLIVACEUS OLIVACEUS (Humboldt)

Pelecanus olivaceus HUMBOLDT, in Humboldt and Bonpland, Recueil d'observations de zoologie et d'anatomie comparée, 1805, p. 6 (banks of Magdalena River, lat. 8°55' N., Colombia).

SPECIMEN COLLECTED

1 ♀, Caicara, March 25, 1948; gonads small; iris blue-gray, bill gray, facial skin yellow, feet black; gizzard contained fish; plumage worn.

The vigua cormorant is widely distributed over the coasts and waterways of Central and South America. In the study area it was encountered along the Guarapiche River (Caicara), along the Guanipa River (near Cantaura), and, more rarely, on the savanna ponds. The species was recorded during the months of January through August; up to five individuals could be encountered in an hour's walk along either of the two rivers from February through July. Although a special effort was made to record the species within the area during November and December, not one bird was found. Movement was particularly pronounced during February and March, when flocks of 5 to 12 birds were seen repeatedly flying due south over Cantaura, often at high altitudes. Since the station is approximately midway between the coast and the Orinoco River, the repeated observation of flocks moving high over that locality has led the collector to believe that this species probably appears on that river, not only by movement upstream, but also by actual migration due south from the coast.

On the Guarapiche River this cormorant was often seen swimming with apparent ease in rapids where a man would have great difficulty in walking upstream.

The species probably does not breed in the study area. Presumably it breeds on the islands off the coast, where it is present in noticeable numbers.

The call note is a low, harsh *erruk-erruk*.

The local name "cotúa" is applied also to the snakebird (*Anhinga anhinga*).

Family ANHINGIDAE: Snakebirds

ANHINGA ANHINGA ANHINGA (Linnaeus)

Plotus anhinga LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 218 (Brazil; restricted to Rio Tapajóz, Pará, Brazil, by Griscom and Greenway, Bull. Mus. Comp. Zool., vol. 88, 1941, p. 103).

SPECIMENS COLLECTED

1 unsexed, Mundo Nuevo, near San Antonio de Maturín, February 1946; plumage worn.

1 ♂ (?), 1 ♀, Caicara, November 3, 8, 1947; the ♀ with enlarged gonads; the ♂ (?) with iris dull orange.

The specimen questionably sexed as a male is a young bird just acquiring its remiges, which are only about a third their full size. Its rectrices, on the other hand, are practically full grown.

Rivers, brooks, and swamps, when located in heavy woods, form the preferred habitat of this species. For the cormorant (*Phalacrocorax o. olivaceus*) the essential habitat requisite is apparently merely sufficient water, as it is present along the Guarapiche River where it flows through deep woods and along the Guanipa River where it flows over the open savanna. The anhinga does not require so much water, a small brook being at times sufficient, but it appears necessary that this be located near stands of tall trees, in which the bird often perches.

The snakebird was present along the Guarapiche River around Caicara but was not seen near Cantaura. The collector never saw more than two individuals in one day, and then it was generally a pair flying together. The species was recorded in January, February, April, November, and December, four individuals being the maximum seen in any one month.

The call note is a rather loud, harsh *cruk-cruk-cruk*, repeated rapidly. Local name, "cotúa."

Family ARDEIDAE: Herons

ARDEA COCOI Linnaeus

Ardea Coci LINNAEUS, *Systema naturae*, ed. 12, vol. 1, 1766, p. 237 (Cayenne).

SPECIMEN COLLECTED

1, unsexed (wing only), Cantaura, April 24, 1949.

This partial wing of a cocoi heron was taken from a fairly freshly killed bird found on April 24; it was saved merely to establish the local record.

This large, wary heron was generally found near woodland ponds, although it was also reported on the open savanna. It was not common; not more than one bird was ever seen in a day, although it was recorded during February, March, April, and July. The note of this heron was a harsh *wok*. Its local name, "garza morena," means "dark-colored heron."

PHILHERODIAS PILEATUS (Boddaert)

Ardea pileata BODDAERT, *Table des planches enluminées* . . ., 1783, p. 54 (Cayenne, *ex* *Planches enluminées*, pl. 907).

SPECIMEN COLLECTED

1 ♀, Cantaura, March 2, 1946; gonads enlarged; iris brown, tarsi, toes, and bill blue-gray, eye ring bright blue; plumage somewhat abraded, the long feathers of the lower throat and breast heavily suffused with ochraceous-buffy.

This small heron was found exclusively in singles or in pairs by the small pools in or at the edge of the dry woods or the stands of "moriche" palms in the savannas around Cantaura, presumably feeding on the tadpoles abundant there during the wet season. In life it closely resembled the black-crowned night heron (*Nycticorax nycticorax hoactli*) of the United States, both in flight and when standing in the hunched-over manner typical of the latter bird. It is a quiet bird. The collector seldom heard it utter a note, although it was fairly common in suitable localities around Cantaura. When flushed it sometimes made a short croaking noise.

The local name, "garza," is applied indiscriminately to all herons.

BUTORIDES STRIATUS STRIATUS (Linnaeus)

Ardea striata LINNAEUS, *Systema naturae*, ed. 10, vol. 1, 1758, p. 144 (Surinam).

SPECIMENS COLLECTED

1 ♂, Caicara, November 12, 1947; gonads small; iris bright yellow, bill black with lower edge of mandible dull yellow, facial skin yellow above, black below, feet dull yellow green; gizzard contained small fish.

1 imm. ♂, Boca de Tigre, February 8, 1948, gonads small; iris yellow, stripe in front of eye yellow-green, bill black with underpart dull ochre, feet dull green.

The preferred habitat of this heron is the lowland seasonal forest. It was not recorded at the savanna ponds, and it was rare at the ponds of the deciduous seasonal woods. The bird was encountered in singles or pairs at suitable localities. Possibly owing to its local distribution it was recorded only during the months of April through July, September, and November.

A female examined during the first week of April at Cantaura was in breeding condition, with large eggs almost ready to be laid.

The call note was a loud *keeow*, similar to that of the eastern green heron (*Butorides v. virescens*) of North America.

Local name, "garza."

FLORIDA CAERULEA CAERULESCENS (Latham)

Ardea caerulescens LATHAM, *Index ornithologicus*, vol. 2, 1790, p. 690 (Cayenne).

SPECIMEN COLLECTED

1 ♀, Cantaura, September 20, 1947; gonads small; iris ivory white, bill dull blue-green shading to black, facial skin and feet dull green; gizzard contained aquatic insects, both larvae and adults; a young bird in wholly white plumage except for a slate-blue wash on head and tips of primaries.

This heron was encountered in all locations where there was sufficient water; apparently the nature of the surrounding vegetation had

little effect on its distribution. While usually in singles, up to five individuals could be seen in one day. It was recorded during every month of the year. As birds in adult plumage were rarely seen, it seems that the species probably did not breed within the study area.

BUBULCUS IBIS IBIS (Linnaeus)

Ardea ibis LINNAEUS, *Systema naturae*, ed. 10, vol. 1, 1758, p. 144 (Egypt).

SPECIMEN COLLECTED

1 ♂, Cantaura, August 25, 1948; gonads not much enlarged, testes 11 mm.; iris pale yellow, bill and facial skin rich chrome-yellow, feet yellow-brown above "hock" (=ankle), shading to brown below; gizzard contained grasshoppers; bird in good condition, not thin; skull well ossified.

The specimen has none of the long buffy plumes on the back that are characteristic of many of the herons, and there is only a faint tinge of buffy on the crown, occiput, and nape. It was taken from a flock of four following a small herd of cattle on the open savanna, about half a mile from the nearest pond. The species was never before recorded by the collector.

Apparently this is the third specimen of this Old World heron to be taken in Venezuela, the two previous examples having been obtained in the states of Guárico and Carabobo in 1943 and 1947, respectively (Phelps, *Bol. Soc. Venez. Cienc. Nat.*, vol. 10, 1946, p. 230; Dupouy, *Mem. Soc. Cienc. Nat. La Salle (Caracas)*, año 7, No. 19, 1947, pp. 174-179). The species was first recorded in the Western Hemisphere in British Guiana in 1937 (Blake, *Auk*, vol. 56, 1939, p. 470). It has been found also in Surinam (Haverschmidt, *Auk*, vol. 64, 1947, p. 143).

This bird was easily recognizable in life, as it was the only small white heron with a yellow bill to be found in the area. Moreover, its habit of walking immediately behind cattle was a striking field mark. In flight the wing beat appeared to be quicker and shallower than that of similar herons.

CASMERODIUS ALBUS EGRETTE (Gmelin)

Ardea Egretta GMELIN, *Systema naturae*, vol. 1, pt. 2, 1789, p. 629 (Santo Domingo, Falkland Islands, South America to Louisiana).

SPECIMEN COLLECTED

1 ♀, Cantaura, December 29, 1947; gonads slightly enlarged; iris and facial skin pale yellow, bill rich yellow, feet black.

Although not in full breeding condition this specimen has some of the long dorsal plumes.

Though recorded in all types of habitat in the vicinity of water, savanna ponds formed the preferred habitat of this egret. It was the commonest heron in the study area, recorded throughout the year

with as many as 20 individuals in view at one time, and was commonly seen hunting lizards on the dry open savanna, far from surface water.

Though lacking definite evidence, the collector thinks it probable that this bird bred within the study area, the year-round presence and relative abundance tending to substantiate the belief. Nevertheless, it was noted that the bird became relatively rare in the study area during September, October, and November, although abundant near Barcelona (Anzoátegui), suggesting the possibility of a withdrawal to the coast to nest.

The call note was a harsh *caw-ca*, accented on the first syllable, or a rasping *ca-aa-a-uw*.

LEUCOPHOYX THULA THULA (Molina)

Ardea thula MOLINA, Saggio sulla naturale del storia Chili, 1782, p. 235 (Chile).

SPECIMEN COLLECTED

1 unsexed, Cantaura, February 23, 1948; gonads small; iris yellow, facial skin yellow, bill black with base of lower mandible light blue-gray, tarsi black in front, dull pea green in back, feet yellow-green, gizzard contained insects; dorsal plumes present in this nonbreeding bird.

This heron was found in all types of habitat wherever there was open surface water. It was not common and was rarely encountered except as single birds, although a flock of 20 remained at Cantaura for several days during February 1949. The bird was recorded in the study area during February, May, June, and July.

Local name, "garza blanca," white heron.

SYRIGMA SIBILATRIX FOSTERSMITHI Friedmann

Syrigma sibilatrix fostersmithi FRIEDMANN, Smithsonian Misc. Coll., vol. 111, No. 9, 1949, p. 1 (Caicara, Monagas, Venezuela).

SPECIMEN COLLECTED

1 ♂, Caicara, July 24, 1948; gonads not enlarged; iris very pale yellow, feet and tip of bill black, rest of bill bright red, facial skin bright blue.

This specimen, the only one collected, is the type of its race. As stated in the original description, it is similar to the nominate subspecies but has the upper wing coverts between chamois and honey yellow, not dull pinkish cinnamon as in *sibilatrix*, and has the median dusky streaks on these feathers narrower; it also differs from southern typical birds in having the neck and breast light honey yellow instead of light buffy-olive, in having the crown slate color (instead of blackish slate), and in having a longer bill, the culmen from the base measuring 74.1 mm. (66–71 mm. in *sibilatrix*). It is known only from Venezuela in the valleys of the Orinoco and Apure Rivers to Caicara, and it is separated from the nominate race by the great forested area of Amazonia. (Typical *sibilatrix* occurs from southern Brazil to Uruguay, Paraguay, Bolivia, and northern Argentina.)

This heron was recorded during February, March, May, July, August, September, and October but only at savanna ponds, generally in groups of less than five individuals. The largest flock encountered consisted of 10 birds.

The call note was a high *kee-kee-kee*, rapidly repeated, quite unlike the calls of other herons in the study area.

Local name, "garza" (applied indiscriminately to all herons.)

NYCTICORAX NYCTICORAX HOACTLI (Gmelin)

Ardea Hoactli GMELIN, *Systema naturae*, vol. 1, pt. 2, 1789, p. 630 ("in Novae Hispaniae lacubus" = Valley of Mexico).

SPECIMEN COLLECTED

1 ♂, Cantaura, June 5, 1948; gonads small; iris red, feet, facial skin, and base of mandible yellow-green, bill black.

This heron was apparently rare or very local in distribution. Several were seen at a savanna pond close to heavy deciduous woods, and the present example was taken from this group. The bird was not recorded elsewhere in the area.

TIGRISOMA LINEATUM LINEATUM (Boddaert)

Ardea Lineatus BODDAERT, *Table des planches enluminées*, 1783, p. 52 (Cayenne, ex Daubenton, *Planches enluminées*, pl. 860).

SPECIMEN COLLECTED

1 ♀, Cantaura, March 30, 1948; gonads greatly enlarged (small yolks); iris dull orange, facial skin lemon-yellow, bill black with underside of mandible grayish, feet dull black with greenish tinge; plumage fairly fresh.

This heron was found only in the strands of large trees bordering the permanent brook just south of Cantaura, and four or five individuals were encountered in that small area during March and April of 1948 and 1949. It was often found perched quietly about 20 to 30 feet up in a tree. When approached the bird customarily extends its neck straight out, compressing all its feathers. Upon flushing, it utters the call note, a loud explosive *baa*. It is also prone to raise the red-brown neck hackles.

Local name, "bacao," in imitation of the call note.

Family CICONIIDAE: Storks

MYCTERIA AMERICANA Linnaeus

Mycteria americana LINNAEUS, *Systema naturae*, ed. 10, vol. 1, 1758, p. 140 ("America calidiore" = Brazil, from first citation).

SPECIMEN COLLECTED

1 ♀, Kilometer 52, M. G. O. Road Barcelona, San Tomé, March 7, 1948; gonads small (juv.); iris brown, bill small (180 mm.) and dull pink, feet and upper tarsi

blackish, tarsi dull pink; gizzard contained small fish ($\frac{3}{4}$ inch) and shrimp; probably a subadult although adult plumage complete.

Although recorded in all types of habitat wherever there was some water and a supply of food, this species was found oftenest on the savanna ponds, usually in groups of five or six birds. When the ponds dried up to the point where aquatic life became especially vulnerable, up to 50 individuals could be seen at once. They glided in at great altitudes, much in the manner of vultures. The species was recorded during the months of February through August and in October.

A wounded bird was heard uttering a low, creaking note.

Local names, "garzón," large heron, and "gabán."

Family THRESKIORNITHIDAE: Ibises and Spoonbills

THRESKIORNIS CAUDATUS CAUDATUS (Boddaert)

Scolopax caudatus BODDAERT, Table des planches enluminées, 1783, p. 57 (Cayenne, ex Daubenton, Planches enluminées, pl. 976).

SPECIMEN COLLECTED

1 ♀ (?), Cantaura, January 1, 1948; gonads small; iris dull orange, facial skin black, feet coral-red.

This specimen and three others from northern Colombia are much darker on the abdomen than three from Paraguay and Argentina and are also somewhat darker on the upperparts of the body. The abdomen is dark fuscous-black in the four northern birds, between fuscous and chaetura drab in the southern examples. The back averages slightly more grayish in the southern birds, but this difference is small. As far as can be told from the small series examined the bill is shorter in the northern birds, but the present Venezuelan example is either an exception in this regard or is wrongly sexed.

Recently Todd (Proc. Biol. Soc. Washington, vol. 61, 1948, p. 50) has described a race *hyperorius* from Buena Vista, Bolivia, based on paler coloration below and above. This race he finds ranges from eastern Bolivia and the Paraguayan Chaco and Brazil to southern Argentina. Neither Todd nor the senior author has seen any actual topotypes of *caudatus*, but, as Todd states, Salvadori (Ibis, 1900, pp. 501-517) saw at least one and found it to agree with birds from Venezuela and Colombia in being darker than Brazilian and Bolivian examples.

Though both races are valid, their characters are not so trenchant as Todd's description seems to suggest. In response to an inquiry of the senior author Dr. Zimmer looked over the material in the American Museum of Natural History and found that on the whole northern birds are darker than southern ones but that there is apparently complete intergradation even in the two extreme areas. He stated that one female from the Orinoco is as light as the southern birds.

The habitat of this ibis was exclusively open savanna in the vicinity of water. The local distribution, coupled perhaps with seasonal wanderings, made it difficult to encounter the bird at will. In July and August 1944 the species was the third commonest wader at savanna ponds near Caicara. It was not found at all in that area in February 1948. The species was customarily seen in flocks of 5 to 10 birds, approximately 20 individuals being the greatest number recorded in one day. While the bird was presumably present throughout the year, it was recorded only during January, June, July, August, and October.

The call note was a loud, unmistakable *tau-ta-co*, strongly accented on the second syllable. At times, particularly when flying, the bird uttered only the first syllable, *tau*, which sounded somewhat similar to old models of automobile horns.

The "tautaco," as this bird is called locally, in imitation of its call notes, forages at times on the dry savanna, although rarely far from water.

AJAJA AJAJA (Linnaeus)

Platalea ajaja LINNAEUS, Systema naturae, ed. 10, vol. 1, 1758, p. 140 ("in America australi" = Jamaica from first citation).

SPECIMEN COLLECTED

1 ♀, Caicara, June 2, 1947; gonads very small; iris brown, bill light blue-gray; gizzard contained large beetles; plumage very abraded.

This species is apparently rather local in distribution. It was a common wader at the savanna ponds near Caicara, with as many as 30 birds seen at one time during July and August 1944. More generally the species was encountered in small groups of four or five birds, with singles often recorded. It was present within the study area from May through August, apparently absenting itself from the area during the remaining months even though sufficient surface water was present.

Savanna ponds form the preferred habitat of the spoonbill, although it was also recorded occasionally at ponds in the deciduous seasonal forest. It was rather inclined to feed at night, often spending the day quietly perched in trees and thus appearing considerably rarer than it really was.

Local name, "cucharón," large spoon.

Family ANATIDAE: Ducks, Geese, and Swans

DENDROCYGNA VIDUATA (Linnaeus)

Anas viduata LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 205 (Cartagena, Colombia).

SPECIMEN COLLECTED

1 ♀, Caicara, June 12, 1948; gonads enlarged, one egg ready to be laid; iris brown, bill black, feet blue-gray; gizzard contained seeds; bird in good fresh plumage.

This duck was recorded at the savanna ponds during the months of April through October, in flocks of up to 40 individuals. It was considerably commoner at Caicara than at Cantaura. Though often found on the same ponds as *Dendrocygna autumnalis*, it customarily remained in flocks apart from that species.

The call note was very similar to that of *Dendrocygna autumnalis*.

Local name, "yaguaso."

DENDROCYGNA AUTUMNALIS DISCOLOR Sclater and Salvin

Dendrocygna discolor SCLATER and SALVIN, Nomenclator avium neotropicalium, 1873, p. 161 (Venezuela, Guiana, and Brazil).

SPECIMEN COLLECTED

1 ♀, San Ramón, June 18, 1944; gonads not enlarged; iris dark brown, bill rather bright red, tarsi and toes flesh color with a greenish tinge.

The bird collected was in fresh plumage, compared with a specimen from another Venezuelan collection that was taken a month earlier and was in a late stage of molt.

This was the common duck of the open savanna, encountered in flocks of 10 to 50 around the lagoons. It was recorded during February, March, and June through November. In spite of the name "tree duck," the collector never recorded one in the wooded areas around his collecting stations. He did, however, occasionally see this bird perched in the "chaparro" trees beside the savanna lagoons. Four examples taken (but not preserved) on October 12 proved to be two females with gonads greatly enlarged (large yolks) and two males with gonads greatly enlarged.

The call is a series of high, thin, whistled notes—*wee-ree, wee-ree, wee-ree*—uttered generally while in flight and forming a pleasant chorus as a flock comes flying over.

Local names, "pato güire" and "güire," probably in imitation of the call note.

SARKIDIORNIS SYLVICOLA Ihering and Ihering

Sarkidiornis sylvicola IHERING and IHERING, Catalogos da fauna Brasileira, vol. 1, 1907, p. 72. New name for *Anas carunculatus* Lichtenstein, 1819, not *A. carunculatus* Vieillot, 1816 (Paraguay).

SPECIMEN COLLECTED

1 ♂, about 10 km. south of Urica, July 4, 1948; gonads greatly enlarged (40 mm. long); iris dark brown, bill dull black, maxillary lobe dull black with

white mottling, feet dull gray; gizzard contained vegetable matter; an adult in fine fresh plumage.

This magnificent duck is a bird of the larger savanna ponds. In season it was relatively common locally, as many as 10 individuals being seen at one time. Though recorded in April, June, July, August, and December, it was during July that it reached its maximum numbers in the area.

The male collected was taken from a flock of eight, all males. During the same morning six more males were seen feeding in the flooded land adjacent to a large pond; the only hen seen in the vicinity was with a drake on a small pond nearby. Early in the afternoon of the same day four more (all females) were seen on a large woodland pond. Judging by the separation of sexes, the collector was led to believe that the hens might be incubating nearby. Moreover, the gonads of the male collected were greatly enlarged.

This is evidently a quiet duck; the collector never heard it utter a sound.

This bird was one of the prize waterfowl of the region. It appeared very gooselike, whether in flight or on the water, an impression somehow heightened by the large fleshy comb of the male. The bird was very wary, generally flushing out of range and rarely circling back to give the hunter a second chance. The male collected weighed exactly 3 kg., a little over 6½ pounds, which is probably close to the maximum weight for the species, as the bird was very fat. Females are markedly smaller.

Local name, "pato carretero" (applied in literature also to the Orinoco goose, *Neochen jubata*).

CAIRINA MOSCHATA (Linnaeus)

Anas moschata LINNAEUS, Systema naturae, ed. 10, vol. 1, 1758, p. 124 (Brazil).

SPECIMENS COLLECTED

1 ♀, Cantaura, December 2, 1947; gonads small; iris pale olive, bill black at base and gray at tip, feet black; bird thin.

1 unsexed [♂], San Tomé, April 27, 1949; iris dark tan, facial skin dull black with red protuberances at edges, bill dull gray, black at base, feet black. Partial specimen (head, one wing, and one foot).

The female specimen is in a puzzling plumage, one that cannot be matched by any of the series in the U. S. National Museum or by any description the senior author has been able to find in the literature. On the upperparts it is similar to a number of adult females seen but completely lacks any white in the wings. The upper back, lower back, rump, and upper tail coverts have a strong violet-copper sheen; the wings have a green and bluish-green gloss, the two colors being equally well developed. In other words, except for the complete

absence of white the bird looks like a fully adult bird above. The breast and abdomen, however, instead of being dark brown, deep sepia to dark clove brown, or fuscous, as in other examples, are pale buffy white heavily and abundantly flecked with clove brown. This appearance is caused by the fact that each feather is broadly tipped with, and also crossed about one-third of its length from the tip by, a band of pale buffy white, the rest of the feather being dull clove brown. The sides and flanks are dark fuscous, and some of their feathers have whitish terminal fringes. Apparently we have here a juvenal plumage but one not altogether closely approximating the brief description given by Phillips (Natural history of the ducks, vol. 1, 1922, p. 58), who merely writes that immature birds are less glossy on the back (not true in the present one) and have the upper wing coverts without white or with only a few white feathers. He says nothing about the underparts.

This magnificent duck was rare in the area; it apparently prefers small wooded ponds and swamps to the ponds on the open savanna, although it was recorded there also. It was encountered during March, April, July, and August.

Local name, "pato real," royal duck.

ANAS DISCORS Linnaeus

Anas discors LINNAEUS, *Systema naturae*, ed. 12, vol. 1, 1766, p. 205 (North America=Virginia or Carolina).

SPECIMEN COLLECTED

1 ♀, Cantaura, October 5, 1947; gonads small; iris dark brown; gizzard contained coarse sand.

Savanna ponds form the preferred habitat of this bird, although it was also recorded on the Guarapiche River in the heavy woods of the lowland seasonal forest. With the single exception of *Dendrocygna autumnalis discolor* this species was, in season, the commonest duck of the study area. Although generally recorded in flocks of about 10 individuals, a flock of approximately 400 birds was counted on a large savanna pond in March 1949. It was recorded in the area during February, March, June, September, October, and November. A June bird, examined in the hand, was in adult male plumage and apparently in good condition.

OXYURA DOMINICA (Linnaeus)

Anas dominica LINNAEUS, *Systema naturae*, ed. 12, vol. 1, 1766, p. 201 (South America=Santo Domingo, from Brissonian reference).

SPECIMEN COLLECTED

1 ♀, Caicara, July 24, 1948; gonads enlarged; iris brown, bill and feet olive-brown.

This small duck was common on certain overgrown savanna ponds, often in flocks of 10 to 30 birds. They were not generally seen, but when the collector waded through the heavy growths of water plants in search of other birds they would flush much in the manner of quail, flying a short distance before dropping back into cover.

A catlike mewling sound, heard very clearly as one entered the vegetation, apparently belonged to this species; the collector did not recognize it as belonging to any other bird in that habitat.

Family CATHARTIDAE: New World Vultures

CORAGYPS ATRATUS (Bechstein)

Vultur atratus BECHSTEIN, in Latham, Allgemeine Uebersicht der Vögel, vol. 1, 1793, Anhang, p. 655 (Florida, *ex* Bartram).

SPECIMEN COLLECTED

1 ♀, Cantaura, September 28, 1947; gonads very small; iris brown, bill black, head skin dull blue-black. Partial specimen (one wing and one foot missing), in very abraded plumage.

The material studied does not substantiate the distinctness of the South American race *C. a. foetens* (Lichtenstein).

This was the common vulture of the area, in favorite localities found in flocks of up to 100 individuals when assembled to feed on some dead animal. It was common in all types of habitat, although it preferred edge habitats to heavy woods or open savanna.

A downy chick, found at Cantaura on August 15 when perhaps two weeks old, was raised by the collector on dead lizards and fresh meat. It developed apparently normally, and by September 19 its wings were fairly well feathered out and the rectrices were beginning to appear. By October 1, although its down was still apparent, the bird was almost fully feathered and would run and hop about, flapping its wings vigorously. By October 20 the bird could fly a little and was then in full plumage, except that the tail was still a little short and a tiny bit of down clung to the breast feathers. About three months were required from hatching to the stage where it could fly a little. Although in the wild state the young might at that age be forced to fend for themselves, it was not until approximately six weeks later that the captured bird appeared ready to take care of itself. At first the chick uttered snakelike hisses, but later the food-begging note changed to a harsh *wahnk-wahnk* accompanied by much wing-flapping. The young vulture had considerable mucus in its nostrils and mouth; often the bill was wet with it—apparently a natural condition that disappeared as the bird got older.

The collector has had many wild birds for pets, including hawks and owls, but this vulture, ridiculous as it may seem, was by all odds the most devoted pet he ever had. Even when it was not hungry it

would follow its "master" wherever he went, running alongside or catching up with him by flying. It would sit by the hour at the collector's feet, nibbling at his shoes and uttering the food-begging note, almost inaudibly.

This species has the curious habit of defecating in such a manner that the feet are constantly bathed with the white liquid excrement, giving the feet and tarsi a whitewashed effect. One can only speculate as to the possible utility of this habit, but it is certain that the birds stand straight up in defecating and seemingly purposely direct the fecal matter to their feet.

Local name, "zamuro."

CATHARTES AURA RUFICOLLIS Spix

Cathartes ruficollis SPIX, Avium species novae . . . Brasiliam . . ., vol. 1, 1824, p. 3 (interior of Bahia and Piahy).

SPECIMEN COLLECTED

1 ♀ (?), Cantaura, April 25, 1948; gonads small; iris pale yellow, bill pale flesh, head red, rather bright, nape dull yellow-white, feet light gray, tarsi dull yellow; gizzard contained carrion; specimen lacks right wing and right leg, molting rectrices when collected.

The turkey vulture was common throughout the study area and was recorded during every month of the year. It showed preference for the deciduous seasonal woods-edge habitat, although it was encountered everywhere. As many as 10 individuals could be seen at one time, particularly at favorite roosting places.

The difference between the feeding habits of the present species and those of the black vulture (*Coragyps atratus*) is noteworthy. The turkey vulture showed decided preference for small carrion—dead snakes, rabbits, etc.—whereas the black vulture typically fed on large carrion such as dead cattle. Though this was not a fast rule, it did hold true to a remarkable extent.

The note of this bird was a rather loud aspirate hiss.

Local names, "olaya" and "oripopo."

CATHARTES URUBITINGA Pelzeln

Cathartes urubitinga "Natterer" PELZELN, Sitzungsab. math.-nat. Kl. Akad. Wiss. Wien, vol. 44, 1861, p. 7 (southern and central Brazil).

SPECIMEN COLLECTED

1 ♀, Cantaura, October 10, 1948; gonads small; iris dull red, bill pale flesh, feet black, shading abruptly to pale yellow at "hock" (ankle); gizzard contained carrion; right wing missing.

The junior author sent with this specimen a careful field sketch of the bird's head indicating the colors of the bare skin. Inasmuch as data of this sort are so seldom recorded in such detail, his drawing

has been copied and herein included (fig. 50). It will be seen that the name "yellow-headed vulture" is something of a misnomer, and certainly most of the brief descriptions in the literature are misleading. The points of difference between the details of this Venezuelan specimen from the northern end of the range of the species and those given by Wetmore (U. S. Nat. Mus. Bull. 133, 1926, p. 87) for one from Argentina, in the southern extreme of the range, suggest that a great deal more information of just this sort is needed.

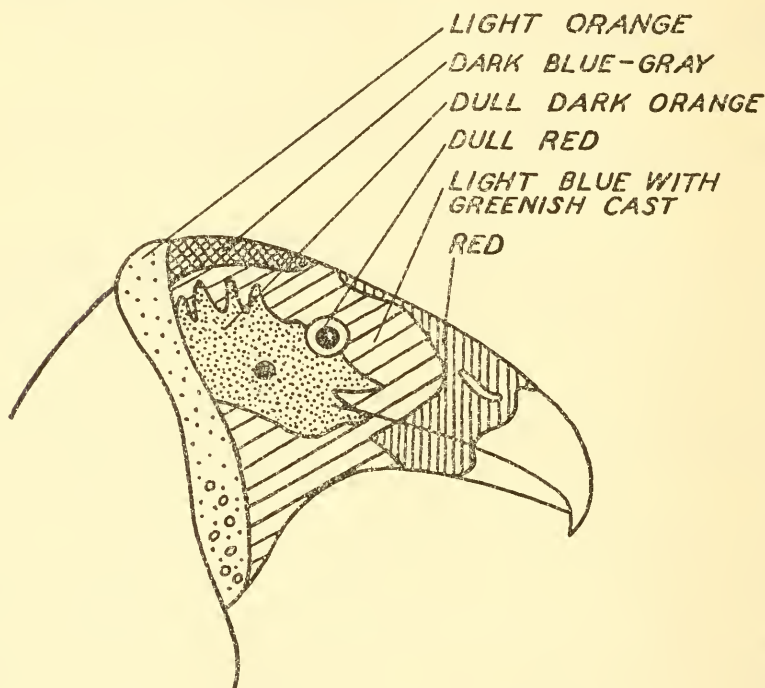


FIGURE 50.—Head of *Cathartes urubitinga*, showing color pattern in life.

The collector was not aware of the presence of this bird in the study area until October 1948. After that date he found it to be relatively common on the open savanna, outnumbering the *Cathartes aura* about seven to five during the months of December through March. The species was not recorded over wooded areas, although special effort was made to identify each *Cathartes* vulture seen.

The collector found that he was able to identify the present species with relative ease by the somewhat lighter flight and by an indistinct pale area on the upper surface of the wings at the base of the primaries, without the necessity of seeing the color of the head.

Local names, "olaya" and "oripopo," used indiscriminately for both *Cathartes aura* and the present species.

Family ACCIPITRIDAE: Hawks, Kites, Eagles

ELANUS LEUCURUS LEUCURUS (Vieillot)

Milvus leucurus VIEILLOT, Nouv. Dict. Hist. Nat., vol. 20, 1818, p. 563 (wrongly printed as 556) (Paraguay).

SPECIMEN COLLECTED

1 ♂, Caicara, November 5, 1947; gonads small; iris dull orange, bill brown with base of mandible and cere dull yellow, feet bright yellow; gizzard contained a rat; an adult in fresh plumage.

This kite was rather common in the moist man-made meadows of the Guarapiche River Valley at Caicara. It was customarily encountered in singles or pairs, generally perched in a small tree or coursing low over the fields. Though recorded only in April, August, and November, this is probably due to the fact that the collector rarely visited the habitat. The species was also recorded once at Cantaura in a similar habitat.

Local name, "gavilán," hawk.

ELANOÏDES FORFICATUS YETAPA (Vieillot)

Milvus yetapa VIEILLOT, Nouv. Dist. Hist. Nat., vol. 20, 1818, p. 564 (Paraguay; ex Azara).

SPECIMEN COLLECTED

1 ♀, Caicara, June 12, 1948; gonads slightly enlarged; iris dark brown, bill black with base and cere light blue-gray, feet light blue; gizzard contained large beetles.

The swallow-tailed kite was recorded over the lowland seasonal forest at Caicara, often in flocks of up to 50 individuals, during the months of April and June through September. It was absent or very rare in the area during the remainder of the year. A pair was recorded once at Cantaura in July. The present specimen was taken by firing the shotgun repeatedly straight up in the air. As the spentwad reached its zenith the bird dropped lower to inspect it, finally coming within range.

Local name, "gavilán tijereta" ("tijeras"=scissors).

CHONDROHIERAX UNCINATUS UNCINATUS (Temminck)

Falco uncinatus "Illiger" TEMMINCK, Nouveau recueil de planches coloriées d'oiseaux, livr. 18, 1822, pl. 103, pp. 104, 115 ("vicinity of Rio to the north of Brazil and all of Guiana").

SPECIMENS COLLECTED

1 ♀, Caicara, July 6, 1947; gonads very small; iris white, patch in front of eye bright yellow, skin around eye and cere bright pea green with a blue cast around eye and yellow cast on cere, maxilla black, mandible dull green, feet bright rich yellow.

1 ♀, Caicara, July 24, 1948; gonads very small; bill black with underpart of mandible gray, iris pale brown, spots over eye and at base of bill bright yellow, cere and facial skin dull green, feet yellow.

The first specimen is in gray barred plumage, the second in all black plumage with broad white and dusky gray bands on the tail and has a considerable amount of concealed white on the bases of the feathers of the top of the head, nape, and upper back. The gray bird shows signs of active molting in the remiges.

This tame sluggish hawk was encountered exclusively in the lowland seasonal forest at Caicara, where it was not uncommon. It was recorded during April, July, September, and November.

The gizzard of the July specimen was full of small snails, which had been extracted from their shells before they were eaten. Presumably the hard barbed cap on the tongue assists the bird in this task.

Local name, "gavilán," hawk.

ICTINIA PLUMBEA (Gmelin)

Falco plumbeus GMELIN, *Systema naturae*, vol. 1, pt. 1, 1788, p. 283 (Cayenne, ex Latham).

SPECIMEN COLLECTED

1 ♀, Caicara, March 24, 1948; gonads enlarged (large yolks); iris red, feet orange, bill black; gizzard contained beetles.

This kite was quite common over the lowland seasonal forest at Caicara, often in flocks of up to 10 birds, occasionally in company with the swallow-tailed kite, *Elanoides forficatus yetapa*. It was very rare at Cantaura, although it was often encountered in the vicinity of the tiny stream just south of that station. It was recorded from March through July and in September.

A pair were seen at their nest at Caicara during the last week of March. The nest, a rather large affair of sticks, was placed about 30 feet up in the crotch of a tall tree at the edge of the heavy woods.

GAMPSONYX SWAINSONII LEONAE Chubb

Gampsonyx swainsonii leonae CHUBB, *Bull. Brit. Orn. Club*, vol. 39, 1918, p. 22 (León, western Nicaragua).

SPECIMEN COLLECTED

1 ♀, Cantaura, Aug. 17, 1947; gonads slightly enlarged; cere dull blue-gray; iris rich red, feet bright yellow, bill black; gizzard contained a tail of a small lizard.

This beautiful little hawk was relatively common in the deciduous seasonal forest-edge habitat at Cantaura; it was rather rare at Caicara where this habitat was small in extent. It was recorded from January through September but was absent or rare during the rest of the year, apparently owing to at least local withdrawal from the area.

It was a silent bird, and the collector was unable to record any call note.

Local name, "gavilán," hawk.

ACCIPITER BICOLOR BICOLOR (Vieillot)

Sparvius bicolor VIEILLOT, Nouv. Diet. Hist. Nat., vol. 10, 1817, p. 325 (Cayenne).

SPECIMEN COLLECTED

1 ♀, Cantaura, February 16, 1946; gonads not enlarged; eye ring and iris yellow, cere black with a greenish tinge, tarsi and toes yellow-green.

This example is in rather worn plumage and may be a youngish bird as it has the thighs suffused with pale ochraceous-buff and banded with a darker shade of the same color.

The collector saw this hawk only once, the one collected, in the dry woods near Cantaura.

The local name is "gavilán coronado," which refers to the band of white that runs around the nape.

HETEROSPIZIAS MERIDIONALIS MERIDIONALIS (Latham)

Falco meridionalis LATHAM, Index ornithologicus, vol. 1, 1790, p. 36 (Cayenne).

SPECIMEN COLLECTED

1 ♂, Cantaura, September 14, 1947; gonads small; iris dull orange-yellow, cere ivory yellow, feet pale yellow, bill black, dull yellow at base of mandible; gizzard contained one large grasshopper and one small lizard.

The bird is immature, having the throat and breast streaked, not barred, but it shows signs of molt, as a patch of adult-type barred feathers are present on each side of the upper breast, and some of the rectrices are only partly grown.

This hawk was found on the savanna, particularly where the trees became numerous, and at times in the deciduous seasonal forest edge. It was recorded in every month of the year, although it apparently increased in numbers in June and July. Perhaps this marked the end of the breeding season, as many apparently immature birds were seen at this time.

The call of this hawk was a loud whistled scream.

Local name, "gavilán," hawk.

BUTEO ALBICAUDATUS COLONUS Berlepsch

Buteo albicaudatus colonus BERLEPSCH, Journ. für Orn., vol. 40, 1892, p. 91 (Island of Curaçao).

SPECIMENS COLLECTED

1 ♀ (ad.), Caicara, November 13, 1947; gonads small; iris brown, bill with tip black, base dull pale yellow-green, feet yellow; gizzard contained a young meadowlark.

2 ♀ (imm.), Cantaura, August 12, 1948, and October 26, 1947; gonads small in both; iris light brown in one, dark brown in the other, bill black, base and cere

blue, facial skin dull blue green, pale yellow in one, pale yellow-green in the other; gizzard of one contained an 8-inch lizard and a dove (*Zenaidura auriculata*), of the other a 12-inch snake.

The adult, as is often the case in hawks, is smaller than the two young birds. It is in the gray-phase plumage. The young are, of course, black mottled with buffy white below and with white on the occiput, nape, and upper back.

This hawk was almost exclusively a bird of the open savanna, although it was occasionally seen on telephone poles bordering roads crossing the deciduous seasonal woods. It was a fairly common bird, recorded in every month of the year. Up to perhaps 10 individuals could be seen in a day. To judge from the appearance of juvenal birds it seemed rather certain that this hawk nested in June and July.

The call note was a series of high, whistled *kee-kee-kee* notes, rapidly repeated.

Local name, "gavilán," hawk.

BUTEO ALBONOTATUS ABBREVIATUS Cabanis

Buteo abbreviatus CABANIS, in Schomburgk, Reisen in British Guiana. . . . , pt. 3, 1848, p. 739 (Upper Pomeroon River, British Guiana).

SPECIMEN COLLECTED

1 ♀, Cantaura, March 8, 1949; gonads small; iris bright brown, cere and feet pale yellow, facial skin dull green, bill bluish with dark tip; gizzard contained remains of a lizard and a small bird; an adult in fairly fresh plumage.

The zone-tailed hawk was typically a bird of the deciduous seasonal woods, showing decided preference for broken terrain and "bad lands." It was not common; rarely were more than two individuals seen in one day, although it was present during every month of the year and could be found almost at will.

This was without doubt the most active *Buteo* and perhaps, with the exception of the swallow-tailed kite (*Elanoides forficatus*), the most active raptor of the region, surpassing even the falcons. It customarily coursed back and forth over the woods at an altitude of about 50 feet, plunging from that height in an almost falconlike manner to capture its prey.

Local name, "gavilán negro," black hawk.

BUTEO MAGNIROSTRIS MAGNIROSTRIS (Gmelin)

Falco magnirostris GMELIN, Systema naturae, vol. 1, pt. 1, 1788, p. 282 (Cayenne, ex Daubenton, Planches enluminées, pl. 464).

SPECIMEN COLLECTED

1 ♀, Cantaura, February 15, 1946; gonads slightly enlarged; cere, feet, and iris yellow. Plumage considerably abraded, especially the rectrices.

Like most Venezuelan specimens, the present one is fairly dark as compared with birds from British Guiana.

This small *Buteo* was one of the commonest hawks in the dry woods and edges of woods around Cantaura and Caicara and was recorded in every month of the year. Its note, a high hoarse whistle, *seeuu*, was one of the typical sounds of this habitat. It was usually seen perched near the tops of the small trees, quietly awaiting its prey.

A fledgling, just out of the nest, was seen at Cantaura in August. Local name, "gavilán habado," barred hawk.

BUTEO NITIDUS NITIDUS (Latham)

Falco nitidus LATHAM, Index ornithologicus, vol. 1, 1790, 41 (Cayenne).

SPECIMENS COLLECTED

1 ♀ (ad.) Cantaura, February 14, 1946; gonads slightly enlarged; cere, feet, and iris yellow; gizzard contained some bits of an iguana; in fairly fresh plumage.

1 ♀, imm., Cantaura, April 4, 1948; ovary small, iris brown, bill black, cere and feet yellow-green, gizzard contained a lizard.

This was one of the commonest hawks of the deciduous seasonal woods; it was present also in the lowland seasonal forest but in lesser numbers. It was recorded in every month of the year.

A nest was found at Cantaura during the second week of May about 30 feet up in the crotch of a still-leafless tree. It was rather small and compact, not conspicuous. One bird was incubating, while the other, on guard a short distance away, whistled whenever the nest was approached.

The call note was similar to that of the *Buteo magnirostris* but somewhat more whistled and less harsh.

Local names, "gavilán habado," barred hawk, and "gavilán gris," gray hawk.

PARABUTEO UNICINCTUS UNICINCTUS (Temminck)

Falco unicinctus TEMMINCK, Nouveau recueil de planches coloriées d'oiseaux, livr. 53, 1824, pl. 313 (vicinity of Rio Grande near Boa Vista, Brazil).

SPECIMEN COLLECTED

1 ♀, Cantaura, February 18, 1946; gonads not enlarged; iris dark brown, tarsi and toes yellow, bill light blue, the tip black, cere yellow-green; gizzard contained pieces of a guan (*Ortalis ruficauda*); in molt.

In flight this hawk never failed to remind the collector of a large, dark marsh hawk (*Circus hudsonius*), not only because of the white at the base of the tail but also because of its graceful, harrierlike appearance in flight. The bird was fairly common locally, often seen in groups of three or four. It apparently prefers semiopen country where the savanna becomes more overgrown and tends toward edge growth bordering the dry woods.

Although "sluggish habits" may "preclude a diet of such active creatures as birds" for the subspecies *Parabuteo unicinctus harrisi*, as John B. May suggests in "The Hawks of North America" (1935,

p. 65), the collector considers the Venezuelan race to be one of the most active and powerful hawks found in the llanos around Cantaura and Caicara. He has seen it attempt to take jaçanas and gallinules and would not doubt that it could occasionally take large birds.

Fledglings, apparently just out of the nest, were seen begging food from adults in February and in July.

The note of this bird was a harsh, wheezy *uerr*, not unlike the note of the turkey vulture (*Cathartes aura aura*) but considerably louder and often of much longer duration.

HYPOMORPHNUS URUBITINGA URUBITINGA (Gmelin)

Falco Urubitinga GMELIN, Systema naturae, vol. 1, pt. 1, 1788, p. 265 (Brazil).

SPECIMENS COLLECTED

1 ad, ♀, Cantaura, April 20; gonads enlarged; iris light brown, cere, tarsi, and toes bright yellow.

1 im. ♀, Cantaura, May 7, 1946; gonads not enlarged.

The young bird has all the rectrices longitudinally marbled; in most comparable specimens this is restricted to the central pair or two, the others being transversely marked.

This is an uncommon hawk, found in and along the edge of the dry woods around Cantaura. It was recorded during the months of January through August, and December. Rarely were more than one or two individuals seen in a day. Though a large, powerful bird, it always impressed the collector as being sluggish; he would not expect it to capture large birds or rabbits. The adult bird collected was hunting frogs at a small woodland pool, the remains of several being found in the gizzard. A large lizard was found in the gizzard of another April bird, which was not prepared as a specimen.

BUSARELLUS NIGRICOLLIS NIGRICOLLIS (Latham)

Falco nigricollis LATHAM, Index ornithologicus, vol. 1, 1790, p. 35 (Cayenne).

SPECIMEN COLLECTED

1 ♀, Cantaura, April 4, 1948; gonads slightly enlarged; iris brown, feet gray, soles spiny, bill and cere black; gizzard contained a 6-inch fish apparently caught alive in a shallow pond; an adult in good plumage.

This hawk was encountered at streams and ponds on the savanna and in the deciduous seasonal woods. It was not common, two being the greatest number seen in one day. It was recorded during February, March, April, and May.

GERANOSPIZA CAERULESCENS (Vieillot)

Sparvius caerulescens VIEILLOT, Nouv. Dict. Hist. Nat., vol. 10, 1817, p. 318 (South America; Cayenne, designated as type locality by Berlepsch and Hartert, Nov. Zool., vol. 9, 1902, p. 114).

SPECIMEN COLLECTED

1 ♀, Cantaura, April 22, 1946; gonads slightly enlarged; feet bright orange, iris dull orange, cere black; in molt, especially in the tail.

This hawk was found exclusively in the deciduous seasonal woods, often in the vicinity of water. It was recorded during the months of January through April and from July through November. The specimen taken was found in open woods near water.

A rather active bird, it did not remain perched in one place for long. It had the peculiar habit of hunting tree lizards (which apparently form a large part of its diet) by dropping down the trunk of the same tree in which it was perched. Failing to capture its prey, it would cling to the trunk itself or perch close to the trunk on a nearby branch, awaiting the reappearance of the lizard. Often this happened in rapid succession, giving the hawk the appearance of a large jay hopping up and down through the branches.

In life this hawk gave the collector the impression of being much heavier than it actually was. In the hand it appeared small and fragile, mostly feathers, and this appearance was heightened by the long legs and thin tarsi.

The specimen prepared had a large green lizard about 12 inches long in its gizzard. Another example, taken in November (not saved), contained insects.

The call note was a soft, clearly whistled "ueeoo-ueeoo." In the second week of February, at Cantaura, two birds were seen chasing each other through the woods, calling as they flew.

Family FALCONIDAE: Falcons

HERPETOTHERES CACHINNANS CACHINNANS (Linnaeus)

Falco cachinnans LINNAEUS, Systema naturae, ed. 10, vol. 1, 1758, p. 90 (South America, ex Rolander; type locality restricted to Surinam by Berlepsch, Nov. Zool., vol. 15, 1908, p. 290).

SPECIMEN COLLECTED

1 ♂, Cantaura, July 29, 1947; gonads very small; iris dark brown, base of bill dull yellow, rest of bill black, feet dull yellow; gizzard contained remains of a large snake; active molt in tail and wings.

Within the study area this hawk was found to be rather strictly limited to the deciduous seasonal forest. It was commoner at Caicara than at Cantaura, although it could be found almost at will at either of the two stations. A sluggish bird, it was seen customarily quietly perched. Often a pair were seen together. This species was recorded during January through April, July, August, September, November, and December.

Besides a very human laughing call, the bird uttered a loud, clear, rhythmic *bar-co-va*, accented on the first and last syllables and repeated over and over again. Often two birds would call at the same time

(but not in unison). The preferred time for calling was early in the morning and late in the evening, when other hawks were generally silent. The collector always had the impression that this bird was somewhat nocturnal in habits, although he can cite no particular example.

Local name, "barco va," in imitation of the call note.

DAPTRIVS ATER Vieillot

Daptrivus ater VIEILLOT, Analyse d'une nouvelle ornithologie élémentaire, 1816, p. 68 (Brazil).

SPECIMEN COLLECTED

1 ♂, September 12, 1948; gonads small; iris brown, cere and facial skin pale yellow-green, bill blue, gray-yellowish at tip, feet yellow; plumage immature and much abraded, especially the tail feathers; breast and abdomen sooty black barred with dull brownish white, the bars much narrower than the dark interspaces and the rectrices basally white barred with black.

Although this hawk was well known in Caicara, it was recorded by the collector only twice, in July and September, each time in a small flock of four or five individuals. The September specimen was one of three young birds that were following two adults, presumably the parents.

The call note was a loud *ca-caa-o*, given rapidly with the accent on the second syllable.

Local name, "cacao," in imitation of the call note.

MILVAGO CHIMACHIMA CORDATUS Bangs and Penard

Milvago chimachima cordata BANGS and PENARD, Bull. Mus. Comp. Zool., vol. 62, 1918, p. 35 (San Miguel Island, Pearl Islands, Bay of Panama).

SPECIMEN COLLECTED

1 ♀, Caicara, November 13, 1947; gonads enlarged; iris dull yellow, bill dull light blue, facial skin and cere dull blue with greenish cast, feet dull blue; gizzard contained insects; active molt in wings and tail, otherwise in good plumage.

This bird was rather common locally on the savanna and in the deciduous seasonal woods edge. It was encountered throughout the year, generally in singles or groups of three to five individuals. One would not expect, ordinarily, to see more than a dozen birds in a day's work.

The gizzard of the specimen taken contained insects. The bird was often seen perched on the backs of cattle, eating ticks (whence its local name) and other external parasites. The collector observed one clinging to the hanging nest of the oriole, *Icterus nigrogularis*, in an unsuccessful attempt to get the fledglings within.

Three call notes were recorded: A loud, catlike *eeeeah-eeeeah*; a *djay*, not unlike that of the North American blue jay, *Cyanocitta cristata*; and a thin whistle.

Local name, "garrapatero," tickbird.

POLYBORUS CHERIWAY CHERIWAY (Jacquin)

Falco cheriway JACQUIN, Beyträge zur Geschichte der Vögel, 1784, p. 17, pl. 4 (Aruba and coast of Venezuela).

SPECIMEN COLLECTED

1 ♀, Cantaura, September 7, 1947; gonads small; iris light brown, bill dull light blue, cere and feet dull yellow; gizzard full of inch-long caterpillars; plumage worn, primaries showing signs of active molting.

Though this caracara prefers the deciduous seasonal woods edge, it was encountered in all habitats except the lowland seasonal forest. A common bird, noted during every month of the year, it was always possible to record more than 25 individuals in a day's work. It was usually found in bands of two to four, although groups of as many as 10 birds were not uncommon at favorite roosting places and near carrion. A pair were observed copulating during the last week in April, and a fledgling, apparently just out of the nest, was seen during the last week in September, suggesting that the bird may have two breeding seasons.

The specimen collected had its gizzard full of caterpillars, which it had evidently gleaned from a nearby field. More than any other raptor, this species has the custom of patrolling the highway, particularly early in the morning, to feed on the rabbits, skunks, snakes, and other animals killed by cars during the night. This caracara also came in with the vultures to feed at very foul carrion. However, it appeared to feed more on the insect larvae present there than on the carrion itself. One was observed chasing a *Buteo albicaudatus* and threatening it, without ever coming to blows, until it dropped its prey, a large lizard, to the ground, where the caracara consumed it. The bird has the curious habit of sitting on its haunches in the dust, its tail spread out flat in support and its body and head upright. Locally, it was said to be "refreshing itself."

The commonest note uttered by this bird is a pebbly *eh-eh-eh-eh*, with somewhat the quality of the sound of a person clearing his throat.

Local name, "caricare."

FALCO FEMORALIS FEMORALIS Temminck

Falco femoralis TEMMINCK, Nouveau recueil de planches coloriées d'oiseaux, livr. 58, pl. 121; livr. 21, pl. 343, 1822 (Brazil, ex Natterer).

SPECIMENS COLLECTED

2 ♂, 2 ♀, Cantaura, July 6, August 5, 24, September 25, 1947 and 1948; all with gonads small; iris brown to bark brown, cere and facial skin rich yellow in the 2 males, pale blue-green in 1 female, bill in males black at tip, shading to blue and then to yellow-green or pale yellow at base, in females black at tip, otherwise blue-gray, feet yellow in both sexes; gizzards contained insects, bird feathers, the remains of a fledgling hummingbird (*Amazilia fimbriata?*), and the foot of a small nighthawk.

The two males (taken in August) show signs of molting in the wings; the females do not. The females are immature and have the breast very heavily streaked with blackish; they also have the upper tail coverts blackish brown like the rest of the upperparts; the males have these feathers barred with narrow transverse grayish lines.

This beautiful falcon is primarily a bird of the open savanna, although it was at times encountered at clearings in the deciduous seasonal forest. It was not common, three birds being the maximum recorded in any one day. It was recorded in every month of the year and there was no apparent fluctuation in numbers. One of these falcons was seen to overtake and capture a domestic pigeon at full speed over the savanna, no easy feat when the relatively small difference in size between them is considered.

When attacking another hawk, this falcon was heard uttering a scolding note, *ee-ee-ee-ee-ee*.

Local name, "gavilán," hawk.

FALCO COLUMBARIUS COLUMBARIUS Linnaeus

Falco columbarius LINNAEUS, *Systema naturae*, ed. 10, vol. 1, 1758, p. 90 (America = Carolina, *ex* Catesby).

SPECIMEN COLLECTED

1 ♀, Cantaura, April 1, 1948; gonads small; iris dark brown, bill blue, with the tip dark, feet and cere yellow-green; gizzard contained remains of a lizard and a bird; immature specimen, showing signs of molt, new dark slate-blue feathers coming in among brown ones on back.

The pigeon hawk was recorded in April and in November. Though encountered in all types of habitat, it was most often observed in the deciduous seasonal forest edge, where, in April, it followed the great flocks of dickcissels (*Spiza americana*). It was not a common hawk in the study area. Perhaps half a dozen would be seen in April and considerably fewer in November.

Local name, "gavilán."

FALCO SPARVERIUS ISABELLINUS Swainson

Falco isabellinus SWAINSON, *Animals in menageries*, 1837, p. 281 (British Guiana).

SPECIMEN COLLECTED

1 ♂, Cantaura, February 20, 1945; gonads not enlarged; iris dark brown, feet dull orange, bill dark blue, cere bright orange; plumage fairly abraded.

This example agrees rather well with a male from British Guiana but has the gray of the top of the head and of the upper wing coverts paler than in the latter example. Both have the underparts immaculate.

The sparrow hawk was abundant in the deciduous seasonal woods-edge habitat and on the open savanna in the vicinity of telephone poles. It was recorded throughout the year. These birds were ob-

served nesting during the months of January through April, generally in hollowed-out termite nests. One nest examined contained a clutch of three eggs, placed directly on the floor of the nest cavity.

These hawks were repeatedly observed catching insects, in addition to small lizards about 5 inches long, which were common in the habitat.

The call note of this little falcon, a high *killy-killy-killy*, was not noticeably different from that of the *Falco sparverius sparverius* of the Eastern United States.

Local name, "gavilán primito."

Family CRACIDAE: Guans

ORTALIS RUFICAUDA (Jardine)

Ortalida ruficauda JARDINE, Ann. Mag. Nat. Hist., vol. 20, 1847, p. 374 (Tobago).

SPECIMEN COLLECTED

1 ♀ (?), Cantaura, February 12, 1946; iris brown, eye ring dull blue-black, bare skin of throat pale dull red; plumage worn.

This species appears to be very closely allied to, perhaps conspecific with, *Ortalis vetula*.

This guan was common both in the dry woods around Cantaura and in the wet woods at Caicara. Though it showed preference for localities near water it was not closely limited to such places. It was generally found in flocks of 6 to 8, although the collector saw flocks of more than 50 birds around Cantaura; it was noted in every month of the year.

A chick of this species, with the egg-tooth still on its bill, was seen during the last week of June. Half-grown young were recorded during July.

Gizzards examined invariably contained leaves, tender shoots, fruits, and berries. While the bird was primarily arboreal, it was also seen occasionally feeding on the ground.

The local name, "guacharaca," is in imitation of the bird's call, a loud, unmelodious, but unmistakable call, generally given early in the morning. The members of the flock also keep in contact with one another by means of a soft peeping call.

Family PHASIANIDAE: Pheasants, Quail, and their Allies

COLINUS CRISTATUS MOCQUERYSI (Hartert)

Eupsychortyx mocquerysi HARTERT, Bull. Brit. Orn. Club, vol. 3, 1894, p. xxxvii (Cumaná, Dept. Sucre, Venezuela).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Cantaura, February 17-19, 1946; gonads of male not enlarged, of female slightly enlarged; iris dark brown in both.

These specimens constitute an interesting extension of the known range of this quail. According to Gilliard (Amer. Mus. Nov., No.

1071, 1940, p. 3) all specimens from the junction of the Apure with the Orinoco east to Ciudad Bolívar are intermediate between *sonnini* and *barnesi*, but nearer the former. The present examples are not at all like *barnesi*, with topotypes of which they have been compared, and are not like the intermediates mentioned by Gilliard, but they agree very well with birds from Margarita Island. Hellmayr and Conover (Catalogue of the birds of the Americas, pt. 1, No. 1, 1942, p. 259, footnote) consider *mocquerysi* an unsatisfactory race, but the material examined in the present connection certainly upholds it.

This quail was abundant locally in the fields at the edge of the dry woods, as well as on the open savanna wherever it had become sufficiently overgrown to afford cover. The size of the coveys varied considerably, probably with the season. A covey of 8 to 12 birds was usual, but the collector recorded coveys of at least 30 birds in November. The call note of this species was very similar to that of the bobwhite (*Colinus v. virginianus*) of the Eastern United States. One nest was found in July; half-grown young were found in December.

Local name, "perdiz."

Family OPISTHOCOMIDAE: Hoatzins

OPISTHOCOMUS HOAZIN (P. L. S. Müller)

Phasianus hoazin P. L. S. MÜLLER, Natursystem, Suppl., 1776, p. 125 (based on "Faisan huppé de Cayenne"; Cayenne).

SPECIMEN EXAMINED

1 ♂, Caicara, December 29, 1945; gonads not enlarged; facial skin dull blue black; iris bright red; molting specimen, unusually brightly colored.

The hoatzin was common along the Guarapiche River at Caicara, and, in the collector's experience, always in stands of "lata" or "caña brava" (*Gynnerium*), upon the leaves and shoots of which it apparently feeds. The gizzard of the example collected contained green pulpy matter, believed by the collector to be "lata." These birds were found in flocks of at least 20 to 30 individuals. Their harsh, monotonous note, *ca cherk, ca cherk*, could be heard for some distance, sounding quite like a chorus of frogs. The birds also uttered a low hiss. Beebe (Zoologica, vol. 1, 1909, pp. 45-66) has written in detail of this bird on the Guarapiche River.

Local name, "guacharaca de agua."

Family ARAMIDAE: Limpkins

ARAMUS GUARAUNA GUARAUNA (Linnaeus)

Scolopax guarauna LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 242 (based on "Le Courly brun d'Amérique" Brisson, Ornithologia sive synopsis methodica, vol. 5, 1760, p. 330, and "Guarauna" Marcgrave, Historiae rerum

naturalium Brasiliae libri octo, 1648, p. 204; "in America australi"; type from Cayenne).

SPECIMEN COLLECTED

1, unsexed, Cantaura, July 10, 1948; iris light brown, feet very dark brown, bill dull yellow shading to dark brown at tip; gizzard contained a large snail, which before being eaten had been extracted from its shell, which may have been approximately 3 inches long; an adult specimen in good plumage with a pronounced from bronze (in some lights slightly purplish) gloss on dorsal feathers.

The limpkin was relatively common locally throughout the wooded areas, wherever there was a small amount of surface water. Although a shy bird, it could often be seen in the daytime quietly perched in the top of a tall tree. At night, the loud *kra-ow* (or, in Spanish, "carrao"), which could be heard for at least a mile, revealed the presence of the bird. It was definitely recorded in the collector's field notes only during May, July, and September. However, he believes that the limpkin is a permanent resident in the area and that it was only through oversight (the bird was not often seen in the course of the regular field work) that the sight records were not jotted down in the notebook.

Local name, "carrao," in imitation of the call note.

Family RALLIDAE: Rails, Coots, Gallinules

ARAMIDES CAJANEA CAJANEA (P. L. S. Müller)

Fulica cajanea P. L. S. MÜLLER, *Natursystem*, Suppl., 1776, p. 119 (Cayenne, ex Daubenton, Planches enluminées, pl. 352).

SPECIMEN COLLECTED

1 ♀, Cantaura, March 19, 1948; gonads enlarged; iris, eye ring, and feet bright red, bill light green shading to dull yellow at base; remiges with signs of active molt; rectrices very abraded, with no signs of molt.

The wood rail was common locally along streams in the deciduous seasonal woods and the lowland seasonal woods, often encountered in bands of 10 to 12 individuals. Although a shy bird, it was not especially wary and could be approached at times with relative ease. It was recorded in the months of February through May and in November.

The ovary of the March female was enlarged, but the gonads of two males examined early in April were not enlarged.

Local name, "coitara," variant pronunciation of "cotara."

NEOCREX ERYTHROPS OLIVASCENS Chubb

Neocrex erythrops olivascens CHUBB, *Bull. Brit. Orn. Club*, vol. 38, 1917, p. 33 (Venezuela).

SPECIMEN COLLECTED

1 ♂, Caicara, August 8, 1948; gonads slightly enlarged; iris dull red, feet coral red, bill yellow-green with the basal half bright red.

This specimen agrees in coloration better with an unsexed bird from Laguna de Fúquene, Cundinamarca, Colombia, than with a slightly paler female from Culata, Venezuela, but it has a larger, stronger bill than either. This may be due to difference in sex; culmen from the base 20.8 mm.

A little-known, rarely collected bird, each additional specimen adds a little to the available data on the distribution and characters of this little rail. It was abundant during August at puddles or rain water along a short stretch of dirt road outside Caicara. It was known among local hunters as a bird that appeared in the bottomlands in August only to disappear again until the following year. The collector searched suitable places with great care during other months, always unsuccessfully.

Local name, "turututu."

GALLINULA CHLOROPUS PAUXILLA Bangs

Gallinula chloropus pauxilla BANGS, Proc. New England Zool. Club, vol. 5, 1915, p. 96 (Guabinas, Rfo Cauca, western Colombia).

SPECIMEN COLLECTED

1 ♂, Caicara, June 20, 1947; gonads small; iris dark brown, bill yellow-green at tip, red at base, feet yellow-green, orange above the "hock" (ankle).

Wetmore (Proc. U. S. Nat. Mus., vol. 87, 1939, pp. 190-191) has recorded *pauxilla* as far east as Independencia, below Ocumare de la Costa, northern Venezuela. The present example, with a wing length of 167 mm., is somewhat intermediate between *pauxilla* and *galeata* but nearer the former, of which race this seems to be the most eastern published record. It is an adult in good plumage.

Both this and the next species were present on some semipermanent ponds in the vicinity of Caicara. They were not present on all ponds, even when conditions appeared favorable, nor were they recorded at all in the vicinity of Cantaura. On the pond where the *Porphyryla* was taken, both species were present in about equal numbers. However, on some other ponds only one or the other of the two species was recorded. Both withdraw from the area toward the end of the dry season. The present subspecies was recorded in June, July, August, and November.

PORPHYRULA MARTINICA (Linnaeus)

Fulica martinica LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 259 (Martinique, West Indies).

SPECIMEN COLLECTED

1 ♀, about 10 km. south of Urica, August 30, 1948; gonads slightly enlarged; iris brown, bill with tip yellow with a greenish cast, the base red, frontal shield light blue, feet yellow with a greenish cast; gizzard contained seeds; bird was rather fat; plumage quite abraded, one wing damaged by shot.

Recorded in August and November.

Family JACANIDAE: Jaçanas

JACANA SPINOSA INTERMEDIA (Sclater)

Parra intermedia P. L. SCLATER, Proc. Zool. Soc. London, 1856 (1857), p. 282 (Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, May 7, 1945; gonads not enlarged; iris brown, frontal lobes red, bill yellow, feet dark with bluish cast.

The chestnut back of this example is not quite so dark as in the single available comparative specimen of this subspecies (a female from Ocumare de la Costa). The difference is very slight and may be either individual or sexual. The present bird is in fresh plumage.

This bird, abundant on the savanna lagoon, was also recorded uncommonly on woodland ponds. Its laughing, chattering call reminded the collector of a Florida gallinula (*Gallinula galeata*). Flocks of 10 to 50 were counted on the savanna lagoons during each month of the year.

Local name, "gallito de agua."

Family HELIORNITHIDAE: Finfoots

HELIORNIS FULICA (Boddaert)

Colymbus fulica BODDAERT, Table des planches enluminées, 1783, p. 54 (Cayenne, ex Daubenton, pl. 803).

SPECIMEN COLLECTED

1 ♀, Caicara, November 5, 1947, gonads enlarged; iris dull brown, feet black with very pale tan markings, bill black with mandible bluish at base; gizzard contained large arachnid; plumage fairly fresh.

At different times during the first week of November 1947 singles and pairs of finfoots were seen on the Guarapiche River at Caicara, probably the same birds being encountered again and again. Generally the birds flushed, pattering along the water before taking to the air. One was seen to dive.

Family CHARADRIIDAE: Plovers

BELONOPTERUS CHILENSIS CAYENNENSIS (Gmelin)

Para cayennensis GMELIN, Systema naturae, vol. 1, pt. 2, 1789, p. 706 (Cayenne).

SPECIMEN COLLECTED

1 ♀, Cantaura, February 5, 1946, gonads enlarged; iris red, bill dull red at base, iris black, eye ring dull red, feet black.

The bird collected is in molt, agreeing in that respect with one taken in January in Amazonas by another collector.

This plover was exclusively a bird of the open savanna, where it was commonly found in small flocks of 6 to 10 individuals. Concen-

trations of up to 100 birds were occasionally met with in the vicinity of the larger ponds. It was recorded during each month of the year.

Breeding activity was carried on throughout May, June, and July. Particularly during the latter two months flightless young could be found with relative ease. During the three months the birds were observed in display. Often they would fly over the spot where the display was to take place, using a peculiar, undulant flight and uttering a continuous high *keee-keee-keee-keee-keee* note, which would rise and fall slightly in pitch. They would then land in a small group and face one another, standing stiffly upright with the wings spread-eagle. The wings would then be closed, and the birds, in pairs, would march to and fro, still in a stiffly erect position with the black breast very much in evidence. They would subsequently go into a crouching position, in which the far wing would be raised, showing the markings, while the near wing was dropped. Often they would return to the erect spread-eagle position, and occasionally while in this position they would enter into a mock battle, striking at one another with their wings. During practically the whole performance the excited calling was continued.

In common with many other birds, this plover often feigned being wounded when the nest or the young were approached.

Local name, "alcaraván."

PLUVIALIS DOMINICA DOMINICA (P. L. S. Müller)

Charadrius Dominicus P. L. S. MÜLLER, *Natursystem*, Suppl., 1776, p. 116 (Hispaniola).

SPECIMEN COLLECTED

1 ♂ (?), Cantaura, October 12, 1947; gonads very small; iris brown.

The specimen is in molt from summer into winter plumage, thus substantiating the statements in the literature that the molt takes place (except for the remiges and rectrices) during migration.

The golden plover was quite common on the savanna ponds during October and November, generally in flocks of 10 to 40 individuals. At the peak of the migration it was possible to count 200 birds in a day. The bird was equally common both near Cantaura and near Caicara. Those examined were invariably extremely fat.

Local name, "tingüín."

CHARADRIUS HIATICULA SEMIPALMATUS Bonaparte

Charadrius semipalmatus BONAPARTE, *Journ. Acad. Nat. Sci. Philadelphia*, vol. 5, 1825, p. 98 (coast of New Jersey).

SPECIMEN COLLECTED

1 ♀, Caicara, September 12, 1948; gonads small; iris brown, bill very dark brown with the basal portions of the maxilla and the lower portion of the mandible dull yellow, feet dull yellow-brown; plumage worn.

The semipalmated plover, a North American migrant, was rare within the study area, the main bulk of the migration remaining on the coast. Within the area it was recorded as singles at the savanna ponds during October and November.

Local name, "tingüfn."

CHARADRIUS COLLARIS Vieillot

Charadrius collaris VIEILLOT, Nouv. Dict. Hist. Nat., vol. 27, 1818, p. 136 (Paraguay, ex Azara).

SPECIMEN COLLECTED

1 ♀, about 10 km. south of Urica, July 4, 1948; gonads slightly enlarged; iris brown, feet tan, bill black; plumage much abraded.

A flock of about 50 collared plovers was seen at a large pond on the open savanna, from which this example was taken. The flock was seen again early in August. Aside from this, the species was not seen again in the study area, although a smaller flock was recorded in October at Barcelona, Anzoátegui.

The call note is a weak *peep-peep*, *peep-peep*, quite unlike the melodious whistles of similar plovers.

Local name, "tingüfn."

CHARADRIUS WILSONIA BELDINGI (Ridgway)

Pagolla wilsonia beldingi RIDGWAY, U. S. Nat. Mus. Bull. 50, pt. 8, 1919, pp. 108 (in key), 112 (La Paz, Lower California).

SPECIMEN COLLECTED

1 ♀, Barcelona, October 12, 1948; gonads small; iris brown, bill black, feet pale golden tan, tips of toes and nails black; gizzard contained small insects; bird rather fat.

This is a rather surprising distributional record. The form of Wilson's plover to be expected in northern Venezuela is *C. w. cinnamominus*, but this example agrees in every way with *beldingi* of the Pacific coast from Baja California to Peru. It constitutes not only a great extension of the winter range of *beldingi* (even as a straggler) but also an addition to the known fauna of Venezuela.

This species was never recorded within the study area; apparently it migrates along the coast in this general region.

Family SCOLOPACIDAE: Sandpipers, Curlews, Godwits

BARTRAMIA LONGICAUDA (Bechstein)

Tringa longicauda BECHSTEIN, in Latham, Allgemeine Uebersicht der Vögel, vol. 4, pt. 2, 1812, p. 453 (North America).

SPECIMEN COLLECTED

1 ♀, Cantaura, September 20, 1947; gonads small; base of bill soft (suggesting immaturity); iris brown, feet dull yellow-green, bill dull yellow with tip and

culminal ridge black; gizzard contained small beetles and clear white sand; plumage, especially the primaries, rather worn; bird quite fat.

A very few published records of the upland plover in Venezuela have come to our attention. It was a rather common migrant on the open savanna (not near water) during March, September, and October. Usually single birds were recorded.

NUMENIUS PHAEOPUS HUDSONICUS Latham

Numenius hudsonicus LATHAM, Index ornithologicus, vol. 2, 1790, p. 712 (Hudson Bay).

SPECIMEN COLLECTED

1 ♀, Barcelona, October 12, 1948; gonads small; iris black, bill dark brown with base of mandible lighter, feet light blue-gray; gizzard contained remains of small crabs; bird fat; plumage much abraded.

There seem to be very few published records for this curlew in Venezuela. The present specimen was taken from a flock of five individuals. This species had never before been recorded within the study area. Apparently it migrates along the coast in this general region.

TOTANUS FLAVIPES (Gmelin)

Scolopax flavipes GMELIN, Systema naturae, vol. 1, pt. 2, 1789, p. 659 (New York).

SPECIMEN COLLECTED

1 ♀, Cantaura, September 20, 1947; gonads small; iris brown, bill black, feet dull yellow-green; plumage much abraded.

The season during which migrant lesser yellowlegs occur in Venezuela is fairly prolonged. Besides this September example, it may be recalled that Wetmore (Proc. U. S. Nat. Mus., vol. 87, 1939, p. 193) saw several each day from October 23 to 31 about a lagoon below Ocumare de la Costa.

The lesser yellowlegs was a common migrant, perhaps a little more common than the greater yellowlegs, at the savanna ponds. It was recorded within the study area in April and from June through October. It never failed to amaze the collector to find this bird in the Tropics during the boreal summer when he believed it should be in the far north.

Local name, "tingüín."

TOTANUS MELANOLEUCUS (Gmelin)

Scolopax melanoleucus GMELIN, Systema naturae, vol. 1, pt. 2, 1789, p. 659 (Chateaux Bay, Labrador).

SPECIMEN COLLECTED

1 ♂, Cantaura, October 5, 1947; gonads small; iris dark brown; gizzard contained small insects; bird thin; specimen in worn plumage.

On its extensive migrations the greater yellowlegs passes through

Venezuela. Wetmore (Proc. U. S. Nat. Mus., vol. 87, 1939, p. 193) observed them daily near Ocumare de la Costa in the last week of October. Holt obtained one at Soledad, November 29 (Friedmann, Proc. U. S. Nat. Mus., vol. 97, 1948, p. 397).

The greater yellowlegs was a conspicuous migrant at the savanna ponds. It was recorded within the study area during March and April, and July through November, at times in flocks of up to 25 individuals.

Local name, "tingüín."

TRINGA SOLITARIA CINNAMOMEA (Brewster)

Totanus solitarius cinnamomeus BREWSTER, Auk, vol. 7, 1890, p. 377 (San José del Cabo, Lower California).

SPECIMEN COLLECTED

1 ♂, Caicara, September 8, 1947; gonads small; plumage extremely abraded.

This specimen, with a wing length of 130 mm., and with very little white spotting on the upperparts, is best referred to the race *cinnamomea*. Both subspecies of the solitary sandpiper pass through Venezuela on migration. Wetmore (Proc. U. S. Nat. Mus., vol. 87, 1939, p. 193) obtained an example of the nominate form near Ocumare de la Costa on October 29.

The North American migrant most often seen within the study area was probably the solitary sandpiper. While it prefers bodies of water near the woods, it was also often encountered on the open savanna. It was recorded from January through May and July through October.

The occurrence of such a considerable number of stragglers within the study area during the boreal summer, not only of this species but also of other sandpipers, is noteworthy, particularly when one considers the almost complete absence in the Northeastern United States of stragglers of those species that breed in northern Canada.

Local name, "tingüín."

ACTITIS MACULARIA (Linnaeus)

Tringa macularia LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 249 (Pennsylvania).

SPECIMEN COLLECTED

1 ♀, Cantaura, September 1, 1947; gonads very small; iris brown; gizzard contained small insects, mostly Coleoptera; bird thin but with small areas of fat on abdomen; plumage very worn.

The spotted sandpiper is only a migrant in Venezuela, other records being Independencia, October 23–31, and Río Guárico near El Sombrero, November 19 (Wetmore, Proc. U. S. Nat. Mus., vol. 87, 1939, p. 193).

This sandpiper is a common migrant within the study area, being found in twos and threes by almost any body of water located in the woods. It was rarely encountered on the savanna. It was recorded in the area during February through May and from July through December.

Local name, "tingüín."

ARENARIA INTERPRES MORINELLA (Linnaeus)

Tringa Morinella LINNAEUS, *Systema naturae*, ed. 12, vol. 1, 1766, p. 249 (sea coast of North America; Europe; restricted type locality, coast of Georgia, *ex* Catesby).

SPECIMEN COLLECTED

1 unsexed, Barcelona, October 12, 1948; iris dark, bill dark brown, feet dull orange, nails black; signs of active molting.

This species was never recorded within the study area; apparently it migrates along the coast in this general region.

LIMNODROMUS GRISEUS GRISEUS (Gmelin)

Scolopax grisea GMELIN, *Systema naturae*, vol. 1, pt. 2, 1789, p. 658 (shores of New York, Long Island.)

SPECIMEN COLLECTED

1 ♀, Barcelona, October 10, 1948; gonads small; iris dark, bill dull olive, darker at the tip, feet olive; gizzard contained a flatworm; bird fat.

This specimen, in worn plumage, has a bill length of 58 mm., which indicates that it belongs to this form. It is molting out of juvenile into first winter plumage, but in spite of this it agrees very well in coloration with examples critically identified as *griseus* by Dr. J. W. Aldrich.

We have not come across any previous records for this bird from Venezuela, but its occurrence there as a migrant is not surprising, as it was known from Trinidad, the Guianas, and eastern Brazil. The species was never recorded within the study area as such; apparently it migrates along the coast in this general region.

CAPELLA GALLINAGO DELICATA (Ord)

Scolopax delicata ORD, *in* Wilson, *American ornithology*, vol. 9, 1825, p. cexviii, reprint (Pennsylvania).

SPECIMENS COLLECTED

1 ♂, about 10 km. south of Urica, November 4, 1948; gonads small; iris light brown, bill light brown, darker at tip, feet light green.

1 ♀, Cantaura, March 10, 1949; gonads slightly enlarged; skull well ossified; iris brown, feet dull green; bird not fat.

Hellmayr and Conover (*Catalogue of the birds of the Americas*, pt. 1, No. 3, 1948, p. 149) state that the Wilson's snipe is known as a winter visitor in Venezuela in the states of Táchira, Mérida, and Zulia. To

these may now be added Monagas and Anzoátegui, indicating a wide Venezuelan spread of the species.

The November specimen was taken from a flock of about 10 birds found at the edge of a large savanna pond. The March specimen was collected at a small semiwooded swamp, where a pair of the resident race, *paraguayiae*, was found, apparently having bred in April and May of the previous year. Snipe are not common within the area; they were recorded during March, April, May, July, and November, but it is possible that the April/May birds were the breeding subspecies. The note of both the April and the November birds was apparently the same, a rasping *reeep-reeep*.

Local name, "becasina."

EREUNETES PUSILLUS (Linnaeus)

Tringa pusilla LINNAEUS, *Systema naturae*, ed. 12, vol. 1, 1766, p. 252 (Santo Domingo).

SPECIMEN COLLECTED

1 ♀, Caicara, September 12, 1948; gonads small; iris black, bill and feet black.

The specimen is in fresh plumage; its exposed culmen measures 19 mm.

EROLIA MINUTILLA (Vieillot)

Tringa minutilla VIEILLOT, *Nouv. Dict. Hist. Nat.*, vol. 34, 1819, p. 466 ("Amérique jusqu'à delà du Canada"); restricted type locality, Halifax, Nova Scotia, *apud* A. O. U. Check-List, ed. 4, 1931, p. 120).

SPECIMENS COLLECTED

1 ♀, Cantaura, October 25, 1947; gonads small; bill black, feet dull blue-gray; gizzard contained small insects.

1 ♀, Barcelona, October 12, 1948; gonads small; iris brown; bill black, feet rather pale olive.

The Cantaura specimen has a shorter bill than the one from Barcelona, but both may be matched in a large series of North American birds.

EROLIA FUSCICOLLIS (Vieillot)

Tringa fuscicollis VIEILLOT, *Nouv. Dict. Hist. Nat.*, vol. 34, 1819, p. 461 (Paraguay, *ex* Azara, No. 404).

SPECIMEN COLLECTED

1 ♀, Cantaura, October 25, 1947; gonads small; iris brown, feet black, bill dark brown; gizzard contained small insects. When collected the specimen was molting from summer into winter plumage on the back.

The white-rumped sandpiper has been recorded from a number of localities in Venezuela by different observers and appears to be a fairly regular migrant there. It was an uncommon but regular migrant in the area, being recorded at the savanna ponds during the

latter half of October, generally as singles and never more than five birds in a flock.

Local name, "tingüín."

EROLIA MELANOTOS (Vieillot)

Tringa melanotos VIEILLOT, Nouv. Dict. Hist. Nat., vol. 34, 1819, p. 462 (Paraguay, ex Azara, No. 401).

SPECIMEN COLLECTED

1 ♀, Cantaura, October 5, 1947; gonads small; iris dark brown. This specimen, unlike so many of the other migrant shorebirds collected, is in fresh plumage.

The pectoral sandpiper is a common migrant in Venezuela, where numbers of specimens have been recorded by different collectors.

The pectoral sandpiper was common at the savanna ponds within the study area. It was recorded during September, October, and November, generally in small flocks of about a dozen individuals.

Local name, "tingüín."

Family BURHINIDAE: Thick-knees

BURHINUS BISTRIATUS VOCIFER (L'Herminier)

Aedicnemus vocifer L'HERMINIER, Mag. Zool., vol. 7, cl. 2, 1837, pl. 84 ("Llanos de Maturin, petite ville située sur les bords du Guarapiche et dépendante de la province de Cumaná" = Maturín, state of Monagas, northeastern Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, September 10, 1947; gonads small; iris bright yellow, feet dull yellow-green, bill black with base of mandible buff; gizzard contained insects and seeds; plumage fairly abraded.

This species was exclusively a bird of the savanna, where it was recorded throughout the year. It was characteristically encountered in trios; perhaps as many as 25 might be seen in a day. The bird was rather nocturnal, as the relatively large eyes would suggest.

The call, often uttered at night or when the bird flushed, was a rather loud whinny, accented on the first syllable. The local name, "ñénguere," is a rather unsuccessful imitation of this call.

Family COLUMBIDAE: Pigeons, Doves

COLUMBA CORENSIS Jacquin

Columba (corensis) JACQUIN, Beytrage zur Geschichte der Vögel, 1784, p. 31 (Coro, Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, May 25, 1946; gonads enlarged; iris light brown, bill pink, eye ring gray, tarsi and toes red; plumage fresh.

Wetmore (Proc. U. S. Nat. Mus., vol. 87, 1939, p. 195) recorded this pigeon inland from the arid coastal region as far as El Sombrero

The present example from Cantaura is still farther away from the coast. It seems that the range of this species is considerably more extensive than is indicated in the literature.

Hellmayr and Conover (Catalogue of the birds of the Americas, pt. 1, No. 1, 1942, p. 435) find that *corensis* is an earlier name for this species than *gymnophthalmus* Temminck, to which it is generally referred.

This large pigeon was rather common around Cantaura, being recorded throughout the year. It was never seen in the vicinity of Caicara, although an effort was made to record it at that station. Nearer the coast the bird was a common inhabitant of the spiny woods, but within the study area, where that habitat was absent, it was generally found only near stands of tall trees in the deciduous seasonal forest edge.

There was considerable seasonal fluctuation in the numbers of this species. The low was reached during December through March, with a marked increase toward the end of the latter month. From March on, flocks of 10 to 20 individuals were seen regularly where in the preceding months scattered pairs and trios were occasionally encountered. During all this time the present species generally remained apart from the other doves, but toward autumn, in October and November, great flocks of up to 500 birds would be formed, usually mixed in about equal numbers between *Columba corensis* and *C. cayennensis pallidicrissa*. Then these flocks would suddenly disappear, leaving only occasional stragglers. Fledgings, still unable to fly, were recorded in mid-April, late in July, and early in August.

The present species was often seen flying at great heights, a custom shared only by the *Columba pallidicrissa*; the other doves of the area were all low fliers.

The call note of this pigeon was unmistakable. It consisted of four notes, the first and last being loud and melodious, the middle ones being short chucks. It might be written as *coooo*, *chuck-chuk*, *chooooo*.

Local name, "paloma ala blanca," white-winged dove.

COLUMBA CAYENNENSIS PALLIDICRISSA Chubb

Columba pallidicrissa CHUBB, Ibis, 1910, p. 60 (Costa Rica).

SPECIMENS COLLECTED

1 ♀, Cantaura, February 20, 1946; gonads slightly enlarged; iris light orange; feet red.

1 unsexed, Cantaura, May 7, 1945; iris orange; feet dull red, eye ring dull red; gizzard contained small seeds.

1 ♀ imm., Cantaura, August 17, 1949; gonads very small; iris dull tan, feet dull red, bill black, skin on chin and upper throat bluish gray; gizzard contained small red fruit with seeds.

The May bird is slightly more deeply and brightly colored than the February example (the August bird, being young, is much less brightly colored).

In the use of the specific name *cayennensis* instead of *rufina* we are following Hellmayr and Conover (Catalogue of the birds of the Americas, pt. 1, No. 1, 1942, p. 453).

Although the present bird was much commoner in that it was more evenly distributed throughout the study area, the remarks on seasonal fluctuation of *Columba corensis* hold true for it also.

This pigeon was typically a bird of the deciduous seasonal woods, although it was also found breeding in stands of "moriche" palm on the savanna. It was a permanent resident, recorded throughout the year both at Cantaura and Caicara, but it was commoner at the latter station, at least during the dry season.

This pigeon was found nesting in the latter half of April, as well as in July and August. The nests, very flimsy affairs of twigs, were placed in trees 10 to 20 feet above ground. The collector was never able to climb up to examine one, but in one instance it was possible to look up through the bottom of the nest and see a single egg within. The bird was apparently brooding when flushed off the nest, perhaps lending some support to the local belief that this species lays but one egg.

One of the favorite foods of this species was the fruit of the "chaparro manteca." The bird was quite arboreal, rarely feeding on the ground.

The call note was loud and pigeonlike. Locally, the bird was said to say "santa cruz"; the first two notes (santa) are short and unmusical, while the last is a long melodious *cooouu* (cruz).

Local name, "paloma turca."

ZENAIIDURA AURICULATA STENURA (Bonaparte)

Zenaida stenura BONAPARTE, Compt. Rend. Acad. Sci. Paris, vol. 40, No. 3, January 15, 1855, p. 98 ("Columbia"=Colombia).

SPECIMEN COLLECTED

1 ♀, Cantaura, Anzoátegui, May 10, 1945; gonads enlarged (small yolks); iris brown, eye ring light blue, feet red; plumage very worn.

Hellmayr and Conover (Catalogue of the birds of the Americas, pt. 1, No. 1, 1942, p. 490) have shown that *stenura* Bonaparte is the correct name for this form, previously referred to by authors under Ridgway's name *vinaceo-rufa*. They also indicate that *rubripes* Lawrence is not separable.

This was the common dove of the savanna and, at times, of the deciduous seasonal woods edge. It was recorded throughout the year but with very marked fluctuation in numbers. During January and February the bird was rare and was then generally recorded only as occasional singles. However, at times even during these months flocks of up to 50 individuals were recorded, apparently immature

birds of the year. In March the numbers increased suddenly, and over a hundred birds could be seen in favorite localities. Movement was continued throughout April, and by the middle of May it was possible to count almost a thousand birds during the evening flight to the roosting sites. The peak was reached late in May and early in June, when, at one favorite locality, where the evening flight was measured to be 4 km. broad, and took two hours to pass the observation point, it was possible to arrive at a total figure of 8,000 to 10,000 individuals, by careful estimate. The birds making up this flight customarily flew in flocks of 50 to 100, allowing the collector to count large and small flocks passing over a measured distance. By the end of June the numbers had decreased sharply, and this decrease continued to be rapid through July and August. During September, October, and November it was often possible to record 50 birds in a day, but by December the dove was rare, dropping to its minimum in January and February.

This dove was found to be breeding in the area from the month of April to early in August, and September through November. Individuals shot for sport from the great flocks of May and June were in breeding condition, or possibly in recent postbreeding condition. It was a surprise to the collector to find the bird nesting in November, when the great majority had long since disappeared from the area. Nests, well made of twigs, were found both on the ground and in small trees, up to 8 feet above ground. The white eggs were generally found to be two to a clutch.

A record of a single nest is as follows:

July 20—birds seen carrying twigs, building nest.

July 21—incubating 2 eggs (one laid on the evening of the 20th and one on the morning of the 21st, with incubation beginning at once (?)).

August 2—young first seen; already quite large with pinfeathers in the wings.

August 6—young climbing out of nest, flapping their wings.

August 9—young left the nest, but stayed in the same bush; parent bird roosted with them at night; all were gone the next day; 21 days in all from nest-building to abandonment.

This species commonly fed on small seeds gleaned from the ground. It was also fond of the seeds of certain bushes and trees of the habitat.

The call was a soft simple *coooo* rising very slightly at the end.

Local names, "paloma sabanera," savanna dove, and "paloma chaparrera," chaparro dove.

SCARDAFELLA SQUAMMATA RIDGWAYI Richmond

Scardafella ridgwayi RICHMOND, Proc. U. S. Nat. Mus., vol. 18, 1896, p. 660 (Margarita Island, Venezuela).

SPECIMEN COLLECTED

1 ♀, Cantaura, Anzoátegui, April 12, 1946; gonads very enlarged; iris light yellow-brown, tarsi and toes light pink; feathering worn.

The single example collected agrees very closely with the type.

This small dove was common in the general habitat designated as "dry woods edge"; it was also present but not common near the edge of the wet woods, in either case usually encountered in small flocks, rarely of more than 12 individuals. There was no noticeable variation in the abundance of the bird throughout the year, except for a slight increase in the size of the flocks as the young birds made their appearance toward the end of the breeding season.

Around Cantaura this species began nesting in January and continued throughout the months of April, June, and September. The nests were well made, much more substantial than those of the mourning dove (*Zenaidura macroura carolinensis*) of the United States. They were found in small trees, about 4 to 6 feet above ground. Of six occupied nests examined, all contained two eggs or nestlings.

On September 29 a pair was seen building a nest. Both birds were continually at the nest site, but it is not certain that both actually carried materials there. On October 4 a bird was seen incubating and calling while on the nest. October 26—young first seen, already well feathered (parent bird brooded too closely before to enable the young to be seen). October 27, early morning—young left the nest, one remaining in the bush during the day. Perhaps very rainy weather might account, at least partially, for the fact that the young were brooded up to one day before leaving the nest. October 29—one parent seen perched with one young in a nearby tree. In all, it was 29 days from nest-building to abandonment.

The note of this dove, given continuously throughout the day, was one of the typical sounds of the habitat. It may be written as *tuc-a-tuuu*, the accent on the last syllable. The bird also had a low note, *errrru errrru*, running lightly up or down the scale.

As this dove flies, its wings make a dry rattling sound. Likening this sound to that of the maracas (rattles used to supply rhythm for much South American dance music), the local Venezuelans know the bird as "potoca maraquera," "potoca" being a general name applied to all small doves.

COLUMBIGALLINA PASSERINA ALBIVITTA (Bonaparte)

Ch[amaepelia] albivitta BONAPARTE, Compt. Rend. Acad. Sci. Paris, vol. 40, No. 1, 1855, p. 21 (Cartagena, Colombia).

SPECIMEN COLLECTED

1 ♀, Cantaura, May 25, 1946; gonads enlarged; iris dark brown, base of bill dull orange, tarsi and toes flesh color; in molt.

This agrees with a number of other specimens of *albivitta* and bears out Wetmore's observation (Proc. U. S. Nat. Mus., vol. 87, 1939, p. 198) that *perpallida* Hartert of Curaçao and Margarita may be a valid form. Our present example is darker below and duskier, less pure olive brownish above than specimens from those islands.

This dove was common in the open fields and overgrown savanna, particularly in the drier country around Cantaura; recorded in every month of the year. It was perhaps a little commoner than the preceding species in that its distribution is a little more general. While generally encountered in small flocks of less than 10 birds, it was not uncommon, toward the end of the nesting season, to see flocks of 30 to 40 birds. With this exception little seasonal variation was noted.

The bird was found nesting around Cantaura during the months of January through June, September and November. The nests found were bulky, large in comparison with the size of the bird. They were built of small twigs and lined with fairly fine grass and were placed in small bushes about 2 to 3 feet off the ground. As the bushes were leafless during January and February it was not a difficult task to find these bulky nests. Two eggs are apparently a full clutch.

The note of this bird is a soft, treble-toned *coo* or *coook*, repeated several times.

The general name for small doves, "potoca," was applied locally to this species.

COLUMBIGALLINA TALPACOTI RUFIPENNIS (Bonaparte)

Chamaepelia rufipennis BONAPARTE, Compt. Rend. Acad. Sci. Paris, vol. 40, No. 1, January 1855, p. 22 (environs of Cartagena, Colombia).

SPECIMEN COLLECTED

1 ♂, Caicara, January 2, 1946; gonads enlarged; iris yellow-white, "but not apparent in live bird—eye appears black" (?); feet light pink.

This individual, although in worn plumage, agrees very well with comparative material of this subspecies.

This was the common dove of the wet woods edge around Caicara, where it was noted during every month of the year. On the other hand, it was rarely seen around Cantaura.

CLARAVIS PRETIOSA (Ferrari-Perez)

Peristera pretiosa FERRARI-PEREZ, Proc. U. S. Nat. Mus., vol. 9, 1886, p. 175. New name to replace *Columba cinerea* Temminck, 1811, not of Scopoli, 1786 (Brazil).

SPECIMENS COLLECTED

1 ♂, Caicara, June 21, 1947; gonads enlarged; iris brown, tarsi and toes pink, bill blue-green; gizzard contained seeds; plumage somewhat worn.

1 ♀, Cantaura, March 30, 1948; gonads slightly enlarged, bill blue-gray, iris tan, feet pink; gizzard contained seeds; plumage somewhat worn.

This dove was rather common in the woods at Caicara; at Cantaura it was very rare, although at times (March and April) flocks of more than 100 birds were seen in the heavier woods bordering the nearby stream. It was recorded during the months of March through June,

September, and November, generally in small flocks of less than 10 birds. It was almost exclusively arboreal, very rarely to be seen on the ground.

Local name, "pipe azul."

LEPTOPTILA VERREAUXI VERREAUXI Bonaparte

Leptoptila verreauxi BONAPARTE, Compt. Rend. Acad. Sci. Paris, vol. 40, No. 3, January 15, 1855, p. 99 ("Nouvelle Grenada").

SPECIMEN COLLECTED

1 ♀, Cantaura, December 1, 1945; gonads enlarged (small yolks); iris yellow, eye ring blue, feet deep red; plumage considerably abraded.

This specimen agrees with others of its race. Larger series than are available for study might well reveal the existence of more than a single race in the wide range given this form by Hellmayr and Conover (Catalogue of the birds of the Americas, pt. 1, No. 1, 1942, p. 577).

This large dove was common both in the dry woods around Cantaura and in the wet woods around Caicara. It was a bird of the woods floor, rarely seen perched at more than 8 to 10 feet above ground. It was generally encountered singly or in groups of 3 or 4 birds, although the collector has seen more than 75 together at water holes.

The collector examined a great many of these doves, shot for sport throughout the year, and on this basis believes they could be breeding from January through July. Nests were found in April and June. Beebe (*Zoologica*, vol. 1, 1909, p. 73) also found a nest with two eggs on April 2 at Caño Guanoco, northwestern Venezuela. The nests were rather well built of twigs without any lining. Clutches consisted of two white eggs.

Gizzards of 2 examples examined in July contained 23 small caterpillars, a large moth, and seeds, many of which were already sprouted.

The note is a low, hollow *cooo-ooo*, generally repeated at intervals of perhaps one to two minutes.

The bird was known locally both as "pipe" and "tutuel."

Family PSITTACIDAE: Parrots

ARA ARARAUNA (Linnaeus)

Psittacus Ararauna LINNAEUS, *Systema naturae*, ed. 10, vol. 1, 1758, p. 96 (South America=Pernambuco, *ex* Maregrave, Hellmayr, *Abh. Bayer. Akad. Wiss.*, Kl. 2, vol. 22, 1906, Abth. 3, p. 577).

SPECIMEN COLLECTED

1 ♂, Caicara, September 12, 1948; gonads small; iris very pale yellow, facial skin white, bill and feet black; gizzard contained "jabillo" seeds; a fine adult showing signs of molting in the tail and wings, many of the anterior dorsal body feathers frayed terminally.

The blue-and-yellow macaw was found exclusively in the lowland forest of the Guarapiche and Amana River bottoms in the vicinity of Caicara, generally in flocks of somewhat less than 25 birds. It was recorded in March, September, and October.

The example collected was feeding on the seeds of the "jabillo" (*Hura crepitans*).

Local names, "guacamayo" and "guaco."

ARATINGA ACUTICAUDATA NEOXENA (Cory)

Conurus noxenus CORY, Publ. Field Mus. Nat. Hist., orn. ser., vol. 1, 1909, p. 243 (Boca del Río, Margarita Island, Venezuela).

SPECIMEN COLLECTED

1 ♀, Caicara, December 23, 1945; gonads not enlarged; iris dull orange, tarsi and toes dull orange; plumage fairly fresh.

Our specimen agrees very closely with a male from El Sombrero, taken in November.

This parakeet was recorded throughout the year on the savanna and in the woods-edge habitat. There was considerable seasonal variation in numbers, particularly at Cantaura. The birds were quite rare from March through July. Late in August flocks of about a hundred birds were present and remained until January, when peak flocks of over 200 individuals were recorded. In February the size and the number of the flocks decreased rapidly, and by March the species was very rare around Cantaura. Since the species was much commoner at Caicara, it was more difficult to evaluate the extent of the variation in numbers at that station.

The call note of this species is very different from that of the other common parakeet (*Aratinga pertinax*), being a loud scream which might be written as *cheeeah-cheeeah* rapidly repeated.

Local name, "carapaico."

ARATINGA LEUCOPHTHALMUS LEUCOPHTHALMUS (P. L. S. Müller)

Psittacus leucophthalmus P. L. S. MULLER, Natursystem, Suppl., 1776, p. 75 (Guiana).

SPECIMENS COLLECTED

1 ♀, Cantaura, January 5, 1946; gonads rather enlarged; iris brown, tarsi and toes dull black, bill flesh color; bird very fat.

1 ♀, Cantaura, April 19, 1948; gonads slightly enlarged; iris tan, bill pale flesh color, feet black, facial skin colorless (not obvious in life); gizzard contained fruit pulp.

Both birds have the greater under wing coverts bright yellow. In a series of Brazilian examples about half the birds have these feathers as in the present two specimens, and half have them light green, regardless of sex.

Flocks of 10 to 20 of these birds were seen regularly, January to

June, near stands of moriche palms (*Mauritia flexuosa*) on the savanna near Cantaura. The species is apparently rare around Cantaura, as the residents of that area did not know the bird.

The note of this species is very similar to that of *Aratinga acuticaudata neoxena*, although slightly higher in pitch. With both species flying over it was possible to distinguish flocks of this bird from the others by its note.

ARATINGA PERTINAX MARGARITENSIS (Cory)

Eupsittula pertinax margaritensis CORY, Publ. Field Mus. Nat. Hist., zool. ser., vol. 13, pt. 2, 1918, p. 63 (Margarita Island).

SPECIMENS COLLECTED

1 ♀, Cantaura, January 30, 1945; gonads not enlarged; iris pale yellow, feet dull brown.

1 ♂, Cantaura, April 19, 1948; gonads small, one extremely small; iris dull yellow, feet black, bill dark gray; gizzard contained seeds.

The rectrices of the January bird are all imperfect; their tips apparently were shot off when the bird was collected. This specimen is slightly darker on the crown and on the throat than are some from Soledad, in this respect suggesting an intergradation toward *chryso-phrys* of the Guianas.

This was the commonest parakeet collected in the region. Though present at all times of the year in all types of habitat visited, it was most abundant at the edge of the dry woods, where it was generally encountered in flocks of 10 to 20 or more individuals.

These birds were found nesting in hollowed-out termite nests about 10 to 20 feet above ground, from February through April. The clutch was usually of three or four eggs.

The commonest call note of this parrot was a dry *chrrr chéedit*, heavily accented on the *chee*. In April these birds were observed feeding on the fruit of "mapurite" (*Fagara caribaea*) and "chaparro" (*Curatella americana*).

The local name of the bird, "perico cara sucia," dirty-faced parakeet, refers to the dull dirty-brown coloration of the throat.

FORPUS PASSERINUS VIRIDISSIMUS (Lafresnaye)

Psittacula viridissima LAFRESNAYE, Rev. Zool., 1848, p. 172 (Caracas, Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, January 31, 1945; gonads very small; iris light brown, feet and bill light flesh color; seeds found in gizzard; slight signs of body molt.

This little parrot was fairly common in all habitats in the region visited except the open savanna. It showed preference for the edge habitats, both near wet and dry woods. It was recorded in every month except May, October, and December.

In July one nest was found about 5 feet above ground in a hollow branch near Cantaura. It contained two nestlings.

In keeping with the finchlike appearance and flight of this bird, its call note was a high finchlike *chee chee chee*. It reminded the collector of the red crossbill (*Loxia curvirostra minor*) of the Eastern United States.

The local name of this little parrot of the river valleys was "popuís."

AMAZONA OCHROCEPHALA OCHROCEPHALA (Gmelin)

Psittacus ochrocephalus GMELIN, Systema naturae, vol. 1, pt. 1, 1788, p. 339 (South America; restricted to Venezuela by Berlepsch and Hartert, Nov. Zool., vol. 9, 1902, p. 109).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Cantaura, February 10, 1945, and February 10, 1946; gonads of male not enlarged, of female slightly so; in both iris orange, eye ring white. Both specimens are in rather abraded feathering.

Wetmore (Proc. U. S. Nat. Mus., vol. 87, 1939, p. 201) notes that a male from Río Guárico, while identifiable to the nominate race, shows an approach to the characters of *panamensis*, especially in the head markings. "On the left side of the crown the yellow color extends to the cere with a faint barely distinguishable line of green extending along its anterior margin. On the right the green color spreads across behind the cere cutting off completely the yellow of the crown." In the present male the cere is almost entirely yellow, and this color is continuous with that of the crown. In the female the cere and a narrow frontal band are greenish, and so there may well be a matter of sexual dimorphism here that should be taken into account in future revisionary studies of this parrot.

This was the common large parrot of the wooded regions. It was recorded throughout the year; no seasonal fluctuation in numbers was noted. It was the collector's feeling that this species preferred the dry woods while the other (*Amazona a. amazonica*) was more a bird of wet woods. Though both were encountered in the same localities, this species was commoner around Cantaura, while *Amazona a. amazonica* was the more abundant around Caicara. Both species were seen flying in pairs, generally in loose groups of 10 to 30 birds.

Fledglings were brought to the collector during March and April. He did not find a nest but was informed locally that the birds nested in hollowed-out termite nests and that the usual clutch was two eggs.

This parrot's commonest call note may be written *cacáwuk*, with the accent on the middle syllable.

Local name, "loro."

AMAZONA AMAZONICA AMAZONICA (Linnaeus)

Psittacus amazonicus LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 147 (Surinam; error—"le pays des Amazones," Hellmayr, Nov. Zool., vol. 17, 1910, p. 406).

SPECIMEN COLLECTED

1 ♂, Cantaura, February 17, 1946; gonads slightly enlarged; iris orange, eye ring blackish; plumage rather worn.

This was the common parrot of the deciduous seasonal forest at Caicara, generally recorded in flocks of from 10 to 50 birds. Apparently it was absent, or at least rare, in the lowland seasonal forest itself. It was also present but rare at Cantaura. It was recorded during every month of the year.

The commonest call note of this bird is a high clear *kéeeik kéeeik* rapidly repeated.

The "cotorra," as this bird is called locally, inhabits open woodlands.

Family CUCULIDAE: Cuckoos

PIAYA CAYANA COLUMBIANA (Cabanis)

Pyrhococcyx columbianus CABANIS, Journ. für Orn., 1862, p. 170 (Cartagena, Colombia).

SPECIMEN COLLECTED

1 ♂, Cantaura, April 30, 1945; gonads not enlarged; bill yellow-green, feet dull olive, iris red; gizzard contained large grasshoppers.

This specimen agrees very closely with other examples of its subspecies.

The squirrel-cuckoo was recorded throughout the year in the deciduous seasonal woods at Cantaura and Caicara, generally encountered as singles or pairs. One would not expect to see more than 10 individuals in a day's field work.

Its local name, "piscua," is in imitation of its call note, a dry *peeck-wa* accented on the first syllable. The bird also uttered a sharp, dry *chick chuck-chuck*.

CROTOPHAGA MAJOR Gmelin

[*Crotophaga*] *major* GMELIN, Systema naturae, vol. 1, 1788, p. 363 (Cayenne).

SPECIMEN COLLECTED

1 ♂, Caicara, December 29, 1945; gonads not enlarged; iris dull yellow-green. The remiges are all new and only partly grown, being still enclosed basally in their sheaths.

The bird was collected in deep, wet woods, where small flocks were met along the Guarapiche River at Caicara from August to December. Two call notes were given by the birds—a low, harsh, aspirate hiss and a low chucking note.

CROTOPHAGA ANI Linnaeus

Crotophaga ani LINNAEUS, Systema naturae, ed. 10, vol. 2, 1758, p. 105 (America, Africa=Jamaica).

SPECIMEN COLLECTED

1 ♀, Cantaura, July 19, 1947; gonads enlarged, brood patch evident; iris brown; gizzard contained insects.

This species was encountered only in small fields in the immediate vicinity of water, both at Cantaura and Caicara. It was recorded during every month of the year, apparently breeding in July.

The call note was a whistled *pedro luis*, accented on the rising *luuuis*. Local name, "pedro luis," in imitation of the call note.

CROTOPHAGA SULCIROSTRIS Swainson

Crotophaga sulcirostris SWAINSON, Philos. Mag., 1827, p. 440 (Mexico).

SPECIMEN COLLECTED

1 ♀, Cantaura, February 25, 1946; gonads very small; iris dark brown; plumage very worn.

This ani was a common bird throughout the year in the woodland edge, the overgrown fields, and clearings around Cantaura and Caicara. A female, taken during the second week of August, had a fully formed light-blue egg in the oviduct.

Its local name, "pedro luis," is in imitation of its call note. To the collector this note sounded more like a sneezy *kt chéeeuu kt chéeeuu*, with the accent on the *chee*.

TAPERA NAEVIA NAEVIA (Linnaeus)

Cuculus naevius LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 170 (Cayenne).

SPECIMEN COLLECTED

1 ♂, Caicara, June 21, 1947; gonads not enlarged; iris bright tan, feet and bill blue-gray; gizzard contained insects; plumage very abraded.

This species was irregularly distributed throughout the study area. Generally scattered individuals would be found at certain localities in the overgrown wooded fields, both at Cantaura and Caicara. It was recorded during March, April, June, July, and September.

The call, a high, clear, whistled *feen-feen* or *feen-feen-feen* was usually given late in the afternoon, often one bird answering another.

Local name, "fin-fin," in imitation of the call note.

Family TYTONIDAE: Barn Owls

TYTO ALBA STICTICA (Madarász)

Strix stictica MADARÁSZ, Ann. Mus. Nat. Hungar., vol. 2, 1904, p. 115 (Mérida, 1,630 meters, Venezuela).

SPECIMENS COLLECTED

1 ♀, Cantaura, June 15, 1948; gonads slightly enlarged; iris brown.

1 ♀, Cantaura, February 15, 1949; gonads somewhat enlarged; iris brown.

1 ♀, fledgling, Caicara, November 14, 1947; gonads small; iris dark brown, bill flesh color.

The first specimen listed is very rufescent below, the second one is

very albescent, while the third is also a whitish-bellied bird but has more of a light-ochraceous wash on parts of the underparts.

These three specimens, together with a topotypical female in the rufescent phase (less so than the June *Cantaura* bird), a male, similarly rufescent, from Laguna Valencia, and an extremely white male from Culata, 3,000 meters, are all taken to be *stictica*. Peters (Check-list of birds of the world, vol. 4, 1940, p. 81) considers *stictica* to be a synonym of *contempta* Hartert, described from Cayambe, 9,223 feet, Ecuador. Aside from the unlikelihood of a race having such a discontinuous range (Temperate Zone in Colombia and Ecuador, zonal range unknown in Peru and Venezuela), a single male *contempta*, from Pichincha, Ecuador, has the little white dorsal spots smaller, less noticeable than in any of the five Venezuelan birds. Although *Cantaura* and *Caicara* are in the lowlands, and *Culata* is some 3,000 meters above sea level, the birds from these localities seem to belong to the same form. This makes one wonder about the hypothecated range of *contempta* (including *stictica*) in the literature. At least until more is known, it seems better to call Venezuelan birds *stictica*.

The barn owl is so variable that much longer series are needed before any really critical work can be done on the species in tropical America. In his original description of *stictica* Madarász makes no comparison with *contempta* or with any other geographically even fairly adjacent race. The present allocation of these specimens can therefore be looked upon only as tentative. It has not been feasible to investigate with any thoroughness the possibility that our *Cantaura* and *Caicara* birds may be intermediate between *stictica* (or *contempta*) and *hellmayri* of the Guianas south to Amazonia. Of the latter race one male and one unsexed bird from British Guiana have been examined.

The barn owl was recorded over open fields and savanna during February, June, August, September, November, and December. The fledgling was taken from a nest of four in an abandoned house.

Local name, "chaure."

Family STRIGIDAE: Owls

BUBO VIRGINIANUS subspecies

SPECIMEN COLLECTED

1 ♀ imm., *Cantaura*, May 28, 1948; gonads very small; skull not well ossified; iris dull yellow; bill dull black, feet dull blue-gray; gizzard contained beetles.

Because of its immaturity, although the bird is fully grown, and because of the fact that no form of the great horned owl has been reported previously from this section of Venezuela, it is impossible to attempt a subspecific identification of this specimen.

The two forms geographically nearest are *scotinus* Oberholser,

described from Caicara on the Río Orinoco (and still known only from the type locality), and *elutus* Todd, from Loricá, Bolívar, eastern Colombia. The former is said to be nearest to *melancerus* of Mexico, but darker, particularly above, the face also darker and more rufescent, the legs more deeply rufescent and less mottled with dusky. None of these characters hold in our bird when compared with a number of Mexican *melancerus*. The race *elutus* is said to be like *scotinus* but with the upper parts much paler, less rufescent, the legs more heavily mottled with dusky. In its general coloration the Cantaura bird seems to agree better with *elutus* than with *scotinus*, and also it agrees (allowing for age differences) with four adult *elutus* from north-eastern Colombia (La Raya, Bolívar, and Camperucho, Magdalena, and La Gloria, Magdalena, and Río Hacha, Guajira).

This powerful owl was encountered in the deciduous seasonal woods at Cantaura in May and again in August. The collector was informed that it was present at Caicara, but it was apparently rare throughout the area.

Local name, "jújú," in imitation of the call, supposedly a low *hooo-hooo*.

GLAUCIDIUM BRASILIANUM PHALOENOIDES (Daudin)

Strix phaloenoides DAUDIN, *Traité d'ornithologie*, vol. 2, 1800, p. 206 (Trinidad).

SPECIMENS COLLECTED

2 ♀, Cantaura, January 7, 1946 (gonads slightly enlarged), and April 12, 1945 (gonads not enlarged); iris pale yellow in one (gray phase), bright yellow in the other (red phase); feet dull yellow-green.

Insect remains were found in the gizzard of the April bird. This specimen is in the gray-plumage phase and is somewhat darker than a gray-phase bird from El Sombrero taken in November. The other example is the reddest specimen seen of the brown phase. Venezuelan birds are a rather conglomerate group showing variational trends toward *duidae*, *brasilianum*, and *medianum*, although by and large they are closer to Trinidad birds (*phaloenoides*) than to any other race.

This little owl was abundant in the deciduous seasonal forest edge; it was also present in the woods but apparently in lesser numbers. It was recorded throughout the year. In January and February at Cantaura as many as 10 birds at one time could be heard calling. At this time of year the species apparently reached either its peak in abundance or in calling activity.

An immature bird, just out of the nest, was brought to the collector in mid-July and was kept in captivity until August of the following year. It had the run of the house and was active in the day as well as the night; in the wild the species was noted to be remarkably

diurnal. Though it would eat birds, lizards, and other meat, it never did so with the same relish as it did insects. It would eat any insect of sufficient size to allow it to be grasped, even foul-smelling beetles. It was expert at catching moths in flight. Very large grasshoppers appeared to be almost too strong for it, and they were attacked only after some hesitation, even when the bird was fully adult. While in the United States the collector had a saw-whet owl (*Cryptoglaux acadica*) in captivity for many months. Though only slightly larger, the saw-whet owl was much more powerful than the present species. Like the saw-whet owl, it had the habit of hiding what food it was unable to eat, returning later to finish the meal, and like the saw-whet, it showed considerable annoyance if in the meantime the hidden food had been removed, returning repeatedly to search the spot and uttering its scolding note.

As a fledgling the bird uttered a weak insectlike twitter. After a month it gave also a fairly loud finchlike *cheeep* when startled, especially just as it flushed. Early in September, about two months after its capture, the young owl began to give the adult call, although a little higher pitched than what it was to give later on. At this time it was a regularly spaced *chirp, chirp, chirp*, with somewhat the quality of a cork being rubbed on wet glass. In giving this call the bird stood straight up, with wings and feathers pressed tightly against the body. By December the call had assumed the adult sound, a *wup-wup-wup*, still with the corklike quality when heard close by. Almost a year later, in May, the owl became very pugnacious, fighting the collector's finger and even flying at him to strike his head. At this time it would flutter its wings to make a drumming sound and then utter a loud *churrap, churrap, churrap*. Often it would give the *wup-wup* call, repeated six to eight times, followed by three or four *churrups*. This was the complete adult call, which was heard at times throughout the year. In giving the *wup* note, the owl customarily stands straight up, feathers compressed, ear tufts slightly raised, throat distended, but bill barely open; for the *churrap* the bird often bent over, with the feathers somewhat erected, especially on the back. It occasionally clicked its bill.

When approached by a cat or dog the captive owl would stand very erect with the feathers very tightly pressed to the body and with the ear tufts, which are normally not at all apparent, greatly erected and very conspicuous.

The captive also enjoyed bathing, either flying back and forth through the shower or in the wash basin, often soaking itself to the point to where it could scarcely fly. It would then spend considerable time preening, giving special attention to its feet.

When flying the wing usually made a rather loud "thrupping" sound, although the bird could fly silently, at least at low speeds.

In the wild the species called most frequently for about two hours after sunset and again from about an hour before daybreak to two hours afterward. It was also heard to call throughout the day, even in midday in the bright sunlight, and during the night. The collector noted that passerine birds rarely assembled to scold these little owls during the day, even when the birds were calling.

Local name, "pavita."

PULSATRIX PERSPICILLATA PERSPICILLATA (Latham)

Strix perspicillata LATHAM, Index ornithologicus, vol. 1, 1790, p. 58 (Cayenne).

SPECIMEN COLLECTED

1 ♀, Cantaura, February 21, 1946; gonads greatly enlarged; iris yellow, bill yellow-green; gizzard contained large insects.

This is the palest example of its kind that we have seen. It has far more white (bars) on the greater upper wing coverts and paler bars on the outer webs of the remiges and both webs of the rectrices than in other specimens seen. This may be a matter of age, the present example possibly being subadult. It may also be a matter of sex, but this cannot be determined definitely as the comparative material consists mostly of male birds.

The spectacled owl was noted in February, July, and September. A pair was encountered in the dry open woods, and one was collected. It was a surprise to the collector to find only insects in the gizzard of such a large powerful bird.

The local name is "titiriji," supposedly in imitation of its call.

SPEOTYTO CUNICULARIA BRACHYPTERA Richmond

Speotyto brachyptera RICHMOND, Proc. U. S. Nat. Mus., vol. 18, 1896, p. 663 (east of Porlamar, Margarita Island, Venezuela).

SPECIMEN COLLECTED

1 ♂, Caicara, December 18, 1945; gonads slightly enlarged; iris rich yellow.

This specimen is slightly darker and larger than three topotypes and the type of *brachyptera* but it seems referable to that form. It is too large (wing 155 mm.) for *minor* and is not so brightly colored as *apurensis*. It would appear to be an intermediate between *brachyptera* and *apurensis* but nearer to the former, with which it is here placed. It is in fairly fresh plumage.

This is a bird of the open mesa, where it was locally common and was often flushed when the collector walked across the savannas frequented by it. It was recorded in June, July, September, October, and November, generally in colonies of 10 to 20 pairs.

RHINOPTYNX CLAMATOR CLAMATOR (Vieillot)

Bubo Clamator VIEILLOT, Histoire naturelle des oiseaux de l'Amérique septentrionale, vol. 1, 1807, p. 52, pl. 20 (Cayenne).

SPECIMENS COLLECTED

1 ♂, Cantaura, June 8, 1948; gonads small, iris brown; gizzard contained a mouse.

2 ♀, Caicara, February 10 and March 25, 1948; gonads enlarged (much enlarged in the February bird, which showed small yolks); iris dark brown, bill black; gizzard of one contained a rat, that of the other the remains of an unidentifiable small mammal.

These three specimens of a fairly rare owl are all in good plumage. The male is much whiter, less buffy ochraceous below than the females. In this respect it agrees with another adult male from Petrolea, Santander del Norte, Colombia. The male and one of the females have the black dorsal streaks much broader than does the second female; the latter agrees in this respect with an unsexed bird from Costa Rica. None of them show any approach to *oberi* Kelso, from Tobago (type examined). In his original description of *oberi* (Auk, 1936, p. 82) Kelso writes of having seen five specimens of *clamator* from the Venezuelan mainland; these together with the present three examples, indicate that this owl is not uncommon in northern Venezuela.

This owl was common in the deciduous seasonal forest, both at Cantaura and Caicara. It was recorded in March, April, May, and July. One was also collected in the lowland seasonal forest. In March, in two consecutive years, a flock of at least 15 individuals was encountered at the same spot in the deciduous seasonal forest at Caicara.

Local name, "lechuza."

ASIO FLAMMEUS PALLIDICAUDUS Friedmann

Asio flammeus pallidicaudus FRIEDMANN, Smithsonian Misc. Coll., vol. 111, No. 9, 1949, p. 2 (Cantaura, Anzoátegui, Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, July 13, 1947; gonads very small; iris yellow; gizzard empty.

This specimen is the type and only known example of its race. As stated in the original description it is a dark form with a pale tail, resembling *A. f. bogotensis* Chapman of the Colombian-Ecuadorian highlands in its general dark color above but differing from that race in having the ochraceous-buffy markings somewhat more extensive, in having a strikingly paler tail, the central rectrices being light ochraceous-buff barred broadly with fuscous, the pale and the dark bands about equal in width (the dark ones very much wider than the pale ones in *bogotensis*) and the lateral rectrices similar with the

dark bars rapidly decreasing in width, becoming narrow bars on the inner webs of the outermost pair and entirely absent on the outer web of the outermost pair (the median rectrices in *pallidicaudus* are about like the outer ones in *bogotensis*), the facial disk more tinged with ochraceous-buff, the breast less heavily streaked with fuscous, the under wing coverts almost immaculate ochraceous-buff (much streaked with fuscous in *bogotensis*), and the outermost primaries with fewer dark bands on the underside, unbarred for the basal two-thirds (in *bogotensis* less than the basal two-fifths).

This owl was recorded on the open savanna in groups of four to six birds during June, July, and September. In June and July they were apparently feeding on frogs, which were abundant on the savanna.

Family NYCTIBIIDAE: Potoos

NYCTIBIUS GRISEUS GRISEUS (Gmelin)

Caprimulgus griseus GMELIN, *Systema naturae*, vol. 1, pt. 2, 1789, p. 1029, No. 5 (Cayenne).

SPECIMENS COLLECTED

2 ♀, Cantaura, May 20, July 15, 1948, gonads enlarged (greatly so in the May specimen); iris bright yellow, feet gray, bill black; gizzards contained beetles, moths, and grasshoppers.

These two specimens are slightly paler above than another female from northern Brazil (Serra Imeri, Rio Maturaca), but are very similar to one from Paraguay (Puerto Pinasco).

The gray potoo was relatively common in the deciduous seasonal woods at both Cantaura and Caicara. It was recorded from May through September, the May example being in breeding condition.

The call of this species was a series of loud, sustained, notes—*wah-wah-wah-wah-wah-wu-wu-wusu*, becoming slightly softer at the end. To the collector it appeared to be in a minor key, and each succeeding note was about half a tone lower. Heard at night in these rather desolate woods, the call, something between a laugh and a wail, was not one to be quickly forgotten.

At night the eyes of this potoo shine very brightly in the light of a hunting lantern.

Local name, "perico ligero." Although the translation of this name is "fast parakeet," the collector could find no person who could give him a reasonable explanation of such a name. Nevertheless, it is used throughout the study area to denote this species.

Family CAPRIMULGIDAE: Goatsuckers

CHORDEILES PUSILLUS SEPTENTRIONALIS (Hellmayr)

Nannochordeiles pusillus septentrionalis HELLMAYR, *Nov. Zool.*, vol. 15, 1908, p. 78 (Maipures, Río Orinoco, Venezuela).

SPECIMEN COLLECTED

1 ♀, Cantaura, June 1, 1948; gonads slightly enlarged; brood patch evident; iris brown; gizzard contained tiny insects.

An adult in good plumage, agreeing very well with another from British Guiana.

This tiny nighthawk was recorded over the savanna and woods edge during March and June. It was undoubtedly present in other months but not recorded, as the collector experienced considerable difficulty in distinguishing it with any certainty from the *Chordeiles*.

The example collected was one of three which were chasing one another over the savanna, giving a (vocal?) *beep* note as they passed.

Local name, "aguaitacamino."

CHORDEILES ACUTIPENNIS ACUTIPENNIS (Hermann)

Caprimulgus acutipennis HERMANN, Tabula affinitatum animalium, 1783, p. 230 (Cayenne).

SPECIMENS COLLECTED

1 ♂, 4 ♀, Cantaura, September 1, 1947, May 22, August 20, September 24, and October 6, 1948; gonads greatly enlarged in the May 22 bird, small in all the others.

1 ♂ (labeled ♀, but ♂ in plumage), November 7, 1947; gonads small; iris brown; gizzard contained "stink bugs."

The Cantaura male had the bill black, iris dark brown, feet brown; its gizzard contained small beetles and winged ants. It was shot from a flock of about 25 birds, all apparently of the same kind. The females also had black bills, brown irides and feet, and their gizzards also contained small beetles and winged ants.

The size variations in this bird are so great that one is almost led to wonder if there may not be two very similar species, one smaller and one larger, that occur together. Thus three of the Cantaura females have wing lengths of 142.5, 145, and 147.3 mm., respectively, while the fourth one has a wing 162 mm. long. A similar situation was reported for this species in another collection (Friedmann, Proc. U. S. Nat. Mus., vol. 97, 1948, p. 412) where two males from the Orinoco were found to have wings measuring 156 mm. in length while a third one from the same place measured 166 mm. However, it seems best to look upon this nighthawk as a very variable single entity.

Comparison of these Venezuelan birds with a long series from northern Colombia (Bolívar, Magdalena, Santa Marta, Santander del Norte) shows that Colombian females average larger than the Venezuelan birds seen, the limits of variation in wing length of the Colombian birds being 152 to 181 mm. Of eight Colombian females four were below the upper limits of Venezuelan ones, and four were much larger, while of the four Venezuelan birds three were smaller than the

smallest of the Colombian examples. Less difference was found in the males, although here also the Venezuelan birds were no bigger than the smallest Colombian ones; wing length in two Venezuelan males 165, 169, in 11 Colombian males 160–182 (average 178.8 mm.).

This was the commonest nighthawk of the study area, recorded over the deciduous seasonal woods, the edge, and, more rarely, the savanna, during the months of May through October, generally in flocks of 10 to 20 individuals.

The May example was apparently approaching breeding condition.

The September example was taken from a flock roosting in a grove of trees at the edge of a small pond.

Local name, "aguaitacamino."

PODAGER NACUNDA (Vieillot)

Caprimulgus nacunda VIEILLOT, Nouv. Dict. Hist. Nat., vol. 10, 1817, p. 240 (Paraguay).

SPECIMEN COLLECTED

1 ♂, Cantaura, May 25, 1948; gonads small; iris brown; gizzard contained beetles.

On geographic grounds this specimen should belong to the northern smaller subspecies *minor* Cory. However, it is as large (wing 240 mm.) as any specimens seen from Paraguay and Argentina. This has led to a review of the material available, 15 birds, and this, in turn, indicates that the northern race cannot be maintained. In the original description of *minor* (Publ. Field Mus. Nat. Hist., orn. ser., vol. 1, 1915, p. 300) from Bôa Vista, Rio Branco, Brazil, the only characters given are "similar to *Podager nacunda* but smaller, and the black markings on crown and scapulars much smaller . . . wing 223; tail 114; tarsus 24 mm." An Argentine male has a wing of 241 mm.; one from Pernambuco, Brazil, 228 mm., and another from "Brazil" 240 mm.; four males from Colombia have wings 221, 232, 233, and 242 mm. long, respectively, and the present Venezuelan male 240 mm. Not enough females have been seen to tell if they show any constant differences, but the few seen do not indicate any such. The character of the size of the black markings on the crown and scapulars does not hold in the series studied.

The Cantaura example is slightly darker than any of the others studied, but the difference is not striking. It also is the least rufescent on the breast and on the upper wing coverts. The species is, however, more or less dichromatic, both rufescent and cinereous birds being found in the same areas.

This large nighthawk is exclusively a bird of the open savanna. It was recorded from May through September. There was great seasonal fluctuation in numbers; while generally encountered in small groups, it attained concentrations of at least 500 birds in June.

A wounded bird uttered a loud nasal *wan* and threatened in a rather snakelike manner, striking with opened bill, wings outspread. It also uttered other sounds not unlike the growling of a puppy. Local name, "aguaitacamino."

NYCTIDROMUS ALBICOLLIS ALBICOLLIS (Gmelin)

Caprimulgus albicollis GMELIN, Systema naturae, vol. 1, pt. 2, 1789, p. 1030 (Cayenne.)

SPECIMENS COLLECTED

1 ♂, Cantaura, March 3, 1946; gonads enlarged; iris brown; plumage fairly fresh.

1 ♀, Cantaura, October 5, 1948; gonads small; iris dark; bill reddish brown, black at tip, feet pale brown; gizzard contained large scarabaeid beetles and a grasshopper; plumage not fresh.

A widely distributed bird, ranging from Guatemala to Peru and to eastern Brazil. It was common in the open woods around Cantaura and Caicara, where it was recorded throughout the year.

As there were several species of goatsuckers in the woods, the collector was rarely certain that the call notes heard belonged to this species, nor, in this case, was he able to collect the bird while calling. However, the call note commonly heard, a loud rapid series of *tuc-tuc-tuc*, belongs most probably to this species. The most characteristic call certainly of this species was a loud *ah-ray-o*, strongly accented on the middle syllable.

The name "aguaitacamino" is applied locally to all goatsuckers.

CAPRIMULGUS CAYENNENSIS CAYENNENSIS Gmelin

Caprimulgus cayennensis GMELIN, Systema naturae, vol. 1, pt. 2, 1789, p. 1031 (Cayenne).

SPECIMENS COLLECTED

1 ♂, Cantaura, June 8, 1947; gonads enlarged; iris brown; gizzard contained small beetles.

1 ♀, Cantaura, December 16, 1947; gonads slightly enlarged; iris brown.

1 ♀, Caicara, November 7, 1947; gonads enlarged; iris brown; gizzard contained a large grasshopper and a large beetle.

The male collected is not quite so dark as a male from Roraima, British Guiana, and, on the other hand, it is not so pale above as four males from northeastern Colombia (Departments of Magdalena, Bolívar, and Guajira), but it is nearer the latter. It is noticeably darker than *insularis* (from Curaçao). The range of variation in the limited material examined suggests that a study of this species with adequate series, including topotypical Cayenne birds, should prove of interest.

The females are also somewhat darker than northeastern Colombian examples. One of the present two is much more rufescent on the

forehead, crown, occiput, and cheeks than the other, indicating the sort of dichromatism so frequently present in members of this family.

This small pauraque was exclusively a bird of the deciduous seasonal woods edge, both at Cantaura and Caicara. It was recorded during February, March, June, July, August, and September. Apparently a silent bird, the only call recorded was a thin *tic-tic*, given when flushed.

Local name, "aguaitacamino." "Aguaita," probably of Carib Amerind derivation, is used locally to signify "watch" or "look at." "Camino" is "road" in Spanish. Hence, perhaps incorrectly, the name "aguaitacamino" connotes, at least locally, "roadwatcher," as these birds are seen along the road at night.

Family APODIDAE: Swifts

STREPTOPROCNE ZONARIS ALBICINCTA (Cabanis)

Hemiprocne albicincta CABANIS, Journ. für Orn., vol. 10, 1862, p. 165 (Guiana to Mexico).

SPECIMEN COLLECTED

1 ♀, Caicara, June 20, 1948; gonads slightly enlarged; iris brown; bill black, feet blue-black; gizzard contained small insects; bird fat. An adult in good but somewhat worn plumage.

This large swift was rather common at Caicara, where it was found over all types of habitat. It was recorded during March, April, June, July, August, November, and December, at times in flocks of up to a hundred individuals. The note of this swift, rarely heard, was a loud, explosive *cheeach*.

Local name, "golondrina," swallow; no distinction is made between swifts and swallows.

CHAETURA BRACHYURA BRACHYURA (Jardine)

Acanthylis brachyura JARDINE, Ann. Mag. Nat. Hist., vol. 18, 1846, p. 120 (Tobago).

SPECIMENS COLLECTED

1 ♂, El Toro, about 40 km. west of Cantaura, March 18, 1949; gonads small; skull well ossified; iris dark brown, bill and feet black; gizzard contained small insects.

2 ♂, Caicara, April 18, 1949; gonads small in one, slightly enlarged in the other; gizzard of one contained insects.

These specimens are somewhat larger than a male from Ocumare de la Costa, northern Venezuela; their wing lengths are 122–123.5 and 124.5 mm. against 117.5 mm. in the smaller, more northwestern example. The Caicara and El Toro specimens are also slightly paler on the rump and upper tail coverts. The two April birds are in molt.

This swift was common at Caicara, often seen in flocks of more than a hundred birds, while at Cantaura it was encountered only once, in April. It was recorded during February, March, April, June, July,

August, and November. Since the collector had always associated the bird with the lowland seasonal forest of Caicara, Quiriquire, and Caripito, he was surprised, as it was toward the end of the dry season, and particularly considering the rarity of the species over the barren, deciduous, seasonal woods at Cantaura, to find it over similar woods at El Toco.

This species uttered a swiftlike twitter.

Local name, "golondrina."

REINARDA SQUAMATA SQUAMATA (Cassin)

Cypselus squamatus CASSIN, Proc. Acad. Nat. Sci. Philadelphia, vol. 6, 1853, p. 369 (British Guiana).

SPECIMENS COLLECTED

2 ♀, Cantaura, April 19, 1948, and August 17, 1947; gonads greatly enlarged in both, brood patch evident in the August bird; iris dark brown; gizzard contained small insects; the April bird was very fat; both specimens are in worn plumage, the August example more abraded than the April one.

Gilliard (Bull. Amer. Mus. Nat. Hist., vol. 77, 1941, pp. 468-469) found the birds from British Guiana westward to the lower Orinoco to be of the nominate race. The present two examples fit in with his conclusions and differ from a series of *semota* Riley from the Casiquiare.

This swift was typical of the open savanna, particularly in the vicinity of eroded cliffs, where it apparently nested. Generally encountered in small flocks of less than 20 individuals, this bird was recorded from February through August, October, and December.

Local name, "golondrina."

Family TROCHILIDAE: Hummingbirds

GLAUCIS HIRSUTA HIRSUTA (Gmelin)

Trochilus hirsutus GMELIN, Systema naturae, vol. 1, pt. 1, 1788, p. 490 (Brazil = northeastern Brazil, *ex* Marcgrave).

SPECIMEN COLLECTED

1 ♀, Caicara, July 5, 1947; gonads greatly enlarged (small yolks); iris dark brown, bill black with base of mandible yellow, feet yellow; an adult in slightly worn plumage.

This hummer was recorded February, March, and June, always at the stands of wild plantain (*Heliconia* sp.) in the lowland seasonal forest at Caicara.

In flight the buzzing of the wings was very noticeable.

PHAETHORNIS ANTHOPHILUS ANTHOPHILUS (Bourcier)

Trochilus anthophilus BOURCIER, Rev. Zool., 1843, p. 71 (Upper Magdalena Valley, Colombia).

SPECIMEN COLLECTED

1 ♂, Caicara, December 15, 1945, gonads slightly enlarged; iris brown; lower mandible orange-red.

The present specimen is the first to be found in northeastern Venezuela; previously the race was known only from northern Colombia and western Venezuela (Zulia). It therefore constitutes a very great eastward extension of known range. Further material would be very interesting to study as the eastern birds may prove to be a distinct race. The tail of our present example is noticeably longer than in any of a good series of typical *anthophilus*, although the wings and bill do not show this difference.

This species was found to be rather common in the lowland seasonal forest at Caicara but, curiously enough, only during April and December. Careful but unsuccessful searches were made in various other months. It was a low-flying bird, rarely seen at more than 10 feet above ground and generally encountered singly. When flying, its wings made a loud buzzing that could often be heard long before the bird itself was located.

This hummer was especially fond of feeding at the flowers of the wild plantain, *Heliconia* sp.

Local name, "tucusito."

CHRYSOLAMPIS MOSQUITUS (Linnaeus)

Trochilus Mosquitus LINNAEUS, *Systema naturae*, ed. 10, vol. 1, 1758, p. 120 ("Indiis"; error=Surinam by substitution of Berlepsch and Hartert, Nov. Zool., vol. 9, 1902, p. 87, note).

SPECIMENS COLLECTED

1 ♂, Caicara, December 15, 1945; gonads somewhat enlarged; iris brown; feathers fairly worn.

1 ♂ (imm.), 1 ♀, Cantaura, February 3-12, 1946; gonads not enlarged; iris black in young ♂, brown in ♀; feathers fairly worn.

This hummer was rather uncommon in the dry woods around both Cantaura and Caicara. While not confined to such locations, two of the three birds collected were taken while feeding at flowers in the tops of tall trees.

CHLOROSTILBON CANIVETHI CARIBAEUS Lawrence

Chlorostilbon caribaeus LAWRENCE, *Ann. Lye. Nat. Hist. New York*, vol. 10, 1871, p. 13 (Island of Curaçao).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Cantaura, March 8, 1946; gonads slightly enlarged; iris dark brown.

Peters (*Check-list of birds of the world*, vol. 5, 1945, p. 39) considers *nanus* Berlepsch and Hartert as doubtfully distinct from *caribaeus*. The material we have seen leaves us no choice but to consider them identical, giving *caribaeus* a range extending from the islands of

Curacao, Aruba, Bonaire, and Trinidad, across northeastern Venezuela to the middle and upper Orinoco Valley.

This hummer showed a decided preference for flower gardens in the small villages. It was found also, but not too commonly, along the edge of the woods both at Cantaura and Caicara; recorded in all months except May, June, and September.

The note is a dry pebbly rattle.

AMAZILIA FIMBRIATA MACULICAUDA (Gould)

Thaumatias maculicaudus GOULD, Introduction to the Trochilidae, 1861, p. 154 (British Guiana).

SPECIMEN COLLECTED

1 ♂, Cantaura, April 12, 1945; gonads not enlarged; iris black, lower mandible dull red; gizzard contained tiny insects; specimen in molting condition.

This hummer occurs from the Guianas west to eastern Venezuela.

Abundant throughout the area, this hummer was encountered in all types of habitat except the lowland seasonal forest, but it appeared to be commonest in the deciduous seasonal woods. No seasonal fluctuation in numbers was noted.

A nest of this hummer was found at Cantaura in January about 3 feet above ground in a small tree. It contained two white or light cream-colored eggs. While one bird brooded the other often hovered about the bush, occasionally coming in to inspect the observer when he approached the nest. The young uttered a weak chirp when hungry. Considering the small size of the bird the collector was surprised to note that the young were fed at about 30-minute intervals, although, being fed by regurgitation, it may be that they received a large quantity of food at each feeding. One egg hatched late in the afternoon, the other early in the morning of the following day. The young left the nest 18 days after hatching.

Two call notes were recorded, a sharp *chip* and a dry rattle.

Local name, "tucusito."

AMAZILIA TOBACI ALICIAE Richmond

Amazilia aliciae RICHMOND, Auk, vol. 12, 1895, p. 368 (Margarita Island).

SPECIMEN COLLECTED

1 ♂, Caicara, December 20, 1945; gonads not enlarged; iris dark brown.

This specimen agrees very well with the type of *aliciae*, which ranges to the coastal lowlands of northeastern Venezuela.

This hummer was abundant at the edge of the wet woods at Caicara. It was also present, uncommonly, in and near the dry woods around Cantaura.

The call note of this bird, often repeated in rapid succession, is loud and distinctive. It may be written *chee-chrrr-cheeee-chrrr*, with the accent on the third syllable.

Family TROGONIDAE: Trogons

TROGON STRIGILATUS STRIGILATUS Linnaeus

Trogon strigilatus LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 167 (Cayenne).

SPECIMEN COLLECTED

1 ♂, Caicara, March 24, 1948; gonads small; iris brown, eye ring blue-white, bill blue-gray, feet black; gizzard contained fruit.

Apparently all the individuals of this trogon do not breed at one time of the year. This example was not in breeding condition in March, while others from southern Venezuela (Friedmann, Proc. U. S. Nat. Mus., vol. 97, 1948, p. 426), taken in February, March, and April, were found to have enlarged gonads. The present specimen is in good fresh plumage.

This beautiful trogon was recorded in the deciduous seasonal woods at Caicara during March and July. The collector was informed locally that it was a rather common bird and that it could often be heard calling at night. Quite possibly that is true, for the bird was heard uttering the loud rather distinctive call *cow-cow-cow* after dark as well as during the day. It was a quiet bird, often sitting motionless for long periods, inconspicuous in spite of its size and coloring.

Notwithstanding its local name, "gusanero" (worm-eater), fruit and seeds were found in the gizzard of the specimen collected.

Family ALCEDINIDAE: Kingfishers

CERYLE TORQUATA TORQUATA (Linnaeus)

Alcedo torquata LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 180 (Martinique and Mexico).

SPECIMEN COLLECTED

1 ♂, Cantaura, May 2, 1948; one testis (right) small, the other very small and irregular in shape; iris dark brown, bill dull gray, green at base; an adult in fairly fresh plumage.

The great-ringed kingfisher was encountered uncommonly on the Guarapiche River, where it flowed through the lowland seasonal forest at Caicara, and on the Guanipa River on the open savanna. It was recorded in April, May, August, September, and November.

This species was heard to utter a low *chuck*.

CHLOROCERYLE AMAZONA AMAZONA (Latham)

Alcedo amazona LATHAM, Index ornithologicus, vol. 1, 1790, p. 257 (Cayenne).

SPECIMEN COLLECTED

1 ♀, Cantaura, October 12, 1947; gonads enlarged; iris brown; plumage fresh.

This kingfisher was common on the Guarapiche River at Caicara; it was also encountered occasionally at the savanna ponds. It was recorded during April, May, September, and November, apparently breeding in September.

The call note was a short, harsh *chr*rt.

Local name, "martín pescador."

CHLOROCERYLE AMERICANA AMERICANA (Gmelin)

Alcedo americana GMELIN, *Systema naturae*, vol. 1, 1788, p. 451 (Cayenne).

SPECIMEN COLLECTED

1 ♀, unsexed, Cantaura, March 1, 1946, August 17, 1947; gonads not enlarged in March bird (no comment on label of August specimen); iris brown or black; gizzard contained remains of small fish.

Both specimens are in somewhat abraded plumage, the March bird more so than the August one.

This small kingfisher was present, but not common, about streams and ponds in the woodland or edge both around Cantaura and Caicara. It was recorded during March, April, May, September, and December. The collector did not find it at the savanna lagoons, although those bodies of water contained enough animal life to support small flocks of herons and spoonbills.

The specimen collected was not heard uttering a call note; however, others that the collector believes were all this species and not *Chloroceryle amazona* had two distinct notes, a sharp *click* and a short *chrrup*, which was uttered while flying.

Both of the present species and the larger *Megaceryle torquata* are known locally by the name "martín pescador."

Family GALBULIDAE: Jacamars

GALBULA RUFICAUDA RUFICAUDA Cuvier

Galbula ruficauda CUVIER, *Règne animal*, vol. 1, 1817, p. 420 ("La Guyane"; Cayenne).

SPECIMEN COLLECTED

1 ♀, Caicara, December 15, 1945; gonads slightly enlarged; iris brown, feet yellow-green; soles dull yellow.

This jacamar was encountered singly in the wet woods around Caicara, where it was a common bird. It was observed once at Cantaura in March. At Caicara it was noted in March, April, July, November, and December.

The bird has a variety of calls, generally composed of short clear notes given in succession and running up or down the scale.

In the collector's field catalog this bird is noted as the "jilguero." Though this is its local native name, "jilguero" is usually used for small finches in Spanish-speaking countries.

Family BUCCONIDAE: Puffbirds

HYPNELUS BICINCTUS ~~BICINCTUS~~ (Gould)

Tamatia bicincta GOULD, *Proc. Zool. Soc.* London, 1836 (1837), pt. 4, p. 80 (Cayenne ? = Venezuela).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Cantaura, May 21, June 15, 1947; gonads slightly enlarged in both; brood patch very evident in ♀; iris pale yellow; gizzards contained dragonfly and other insects.

Both birds are in worn plumage, the May female more so than the June male.

Although the collector searched for this species during 1944, 1945, and 1946, he was never able to record the bird within the study area. However, from June 1947 until May 1949 it was fairly common throughout, generally recorded singly, but with as many as 10 seen in one day during every month of the year except July. The collector feels certain that it was not simply through oversight that the species was not recorded during the first three years, but that the bird was actually absent or very rare in the area. It was encountered most commonly in the deciduous seasonal woods, but it was present also in the edge habitats and in the lowland seasonal forest.

Local name, "aguantapiedra"—used at least by the boys of the region, in the sense that this sluggish bird will endure or tolerate (aguantar) stoning (piedra) for considerable time without flushing.

CHELIDOPTERA TENEBROSA TENEBROSA (Pallas)

Cuculus tenebrosus PALLAS, Neue nordische Beyträge, vol. 3, 1782, p. 3 (Surinam).

SPECIMEN COLLECTED

1 ♀, Caicara, November 8, 1947; gonads enlarged; iris brown, feet and bill black; remiges molting; gizzard contained "stink bugs."

This specimen agrees with birds from northern Brazil and southern Venezuela in the color of the middle abdomen and shows no tendency to paler gray there as in the description of *pallida* Cory from northwestern Venezuela. (This latter race may not be valid, as Peters-Check-list of birds of the world, vol. 6, 1948, p. 23, synonymizes it with *tenebrosa*.)

This bird was fairly common at the edge of the lowland seasonal forest at Caicara, becoming abundant outside the study area toward Caripito. Several were observed at Cantaura in February. It was recorded at Caicara in January, March, June, July, August, and December. Generally it was found in small flocks that perched at the tips of dead branches or on telephone wires, from which they sallied forth to catch insects in the air, much in the manner of flycatchers.

Family RAMPHASTIDAE: Toucans

RAMPHASTOS TUCANUS Linnaeus

Ramphastos tucanus LINNAEUS, Systema naturae, ed. 10, vol. 1, 1758, p. 103 (South America; restricted to Surinam by Griscom and Greenway, Bull. Mus. Comp. Zool., vol. 81, 1937, p. 430).

SPECIMEN COLLECTED

1 ♂, Caicara, December 27, 1945; gonads not enlarged; iris brown; tarsi and toes light cobalt. Some of inner primaries and secondaries are externally edged with dull sepia, making it seem as if the bird were in molt when collected, the old brown remiges showing among the black new ones. However, there is no other visible sign of molt.

This beautiful toucan was common in the wet woods around Caicara; it was not encountered elsewhere. The birds were generally seen in pairs, although five or six often could be heard calling at the same time. Its call consists of three loud notes, uttered rhythmically with a brief pause between each note. It may be written *peeah-po-co*; the first note is high and downward-slurring, accented at the beginning; the other two notes are lower in tone. These notes all carry equally well; even at a distance the *peeah-po-co* is still clear and unmistakable. The bird bobs its head to the rhythm of the call. Locally it is thought to make the sign of the cross at this time.

It was recorded in February, March, April, June, July, September, and December. A female examined in July was found to be in breeding condition, the ovary with "small yolks."

Local name, "piapoco," in imitation of the call.

PTEROGLOSSUS ARACARI RORAIMAE Brabourne and Chubb

Pteroglossus roraimae BRABOURNE and CHUBB, Ann. Mag. Nat. Hist., ser. 8, vol. 10, 1912, p. 261 (British Guiana).

SPECIMEN COLLECTED

1 ♀, Caicara, December 21, 1945; gonads not enlarged; iris brown, tarsi and toes dull green; in molt.

The limited material available for study does not lead to a conclusive decision regarding the separation proposed by Brabourne and Chubb (*cit. supra*) of a form *roraimae* from British Guiana and adjacent parts of Venezuela. Peters (Check-list of birds of the world, vol. 6, 1949, p. 76) accepts this race, and we follow his arrangement. Our present example agrees with two from British Guiana in its broad black culminal stripe; it differs from them in having darker green thighs.

On August 28 at Caicara a nest was found in a hole about 40 feet up in a spiny "habillo" tree. It contained two young almost ready to fly. Apparently both parents tend the young, as one of the old birds was killed at the nest several days earlier by a boy with an air gun, yet the young ones were being fed by the other parent on August 28.

This small toucan was found uncommonly at the edge of the wet woods around Caicara; it was not encountered elsewhere. The call note is a low, slightly aspirate *k'sing k'sing*—not a striking call and one that could easily pass unnoticed.

Local name, "tilin," in imitation of the call note.

Family PICIDAE: Woodpeckers

MELANERPES RUBRICAPILLUS RUBRICAPILLUS (Cabanis)

Centurus rubricapillus CABANIS, Journ. für Orn., 1862, p. 328 (Barranquilla, Colombia).

SPECIMEN COLLECTED

1 ♂, Cantaura, December 2, 1945; gonads not enlarged, iris pale yellow. The single specimen obtained is in molt.

The red-crowned woodpecker was abundant in the deciduous seasonal woods-edge habitat, where it was recorded throughout the year; it was rarely encountered elsewhere. The bird appeared to be nesting in June, but early in February it was seen to dig a nest hole in a soft tree. Early in April it was entering the hole regularly at sundown, apparently to pass the night.

The common call note was a soft *chrrrrr*.

Local name, as for most woodpeckers, "carpintero," carpenter.

CHRYSOPTILUS PUNCTIGULA PUNCTIPECTUS Cabanis and Heine

Chrysoptilus punctipectus CABANIS and HEINE, Museum Heineanum, vol. 4, 1863, p. 163 (Venezuela).

SPECIMEN COLLECTED

1 ♀, Cantaura, December 4, 1945; gonads not enlarged; plumage very abraded.

This woodpecker was usually recorded at stands of "morighe" palm on the savanna; it was also seen occasionally in the deciduous seasonal woods-edge habitat. It was recorded in April, May, August, November, and December.

The call note was a harsh, low *peek*.

DRYOCOPUS LINEATUS LINEATUS (Linnaeus)

Picus lineatus LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 174 (based on Daubenton, Planches enluminées, pl. 717; Cayenne).

SPECIMEN COLLECTED

1 ♂, Cantaura, May 1, 1946; gonads not enlarged; iris light yellowish white; feathering worn.

This magnificent woodpecker was common throughout the year both in the dry and wet woods around Cantaura and Caicara and at stands of moriche palms in the savannas. The call note may be written *peek-cuchrrrrrr*, the *peek* being high and clear in tone, the *cuchrrrrrr* lower.

All woodpeckers are known in Venezuela by the general name "carpintero"; this species was further designated locally as "carpintero cope rojo," red-crested woodpecker.

VENILIORNIS KIRKII CONTINENTALIS Hellmayr

Veniliornis kirkii continentalis HELLMAYR, Nov. Zool., vol. 13, 1906, p. 39 (Caripé, near Cumaná, Venezuela).

SPECIMEN COLLECTED

1 ♀, Cantaura, February 16, 1945; gonads slightly enlarged; iris brown.

The specimen collected agrees very well with other Venezuelan examples of this race but appears, from the brightness and the extent of the red on the lower back, rump, and upper tail coverts, to be an unusually highly colored individual.

This red-backed woodpecker was present, but not common, in the dry woods around Cantaura, where, at times, it was found in small groups of five or six individuals.

The species was not recorded from Caicara, but the collector believes it should be found there, especially in that Caicara is considerably closer to Caripé, the type locality for the bird.

PICUMNUS SQUAMULATUS RÖHLI Zimmer and Phelps

Picumnus squamulatus röhli ZIMMER and PHELPS, Amer. Mus. Nov., No. 1270, 1944, p. 6 (Cotiza, Caracas, Venezuela, altitude about 1,000 meters).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Cantaura, March 27, 1946; gonads of male enlarged, of female slightly so; iris brown.

These specimens corroborate the characters given by Zimmer and Phelps for this recently described subspecies. Our two birds are in worn plumage.

This tiny woodpecker was fairly common in the dry woods around Cantaura and Caicara, and was recorded February to July, and in November. In spite of its soft tail the bird's actions were distinctly woodpeckerlike, generally climbing about on the small twigs at the ends of the branches. It is a quiet bird; the collector never heard it utter a sound.

Family DENDROCOLAPTIDAE: Woodhewers

DENDROPLEX PICIROSTRIS PHALARA Wetmore

Dendroplex picirostris phalara WETMORE, Smithsonian Misc. Coll., vol. 98, No. 4, 1939, p. 4 (El Sombrero, Estado Guárico, Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, February 17, 1945; gonads not enlarged; iris light brown, bill brown with a pinkish cast.

Although this individual is sexed as a male and is said to have small gonads, the collector notes that it has a "very evident brood patch," an indication that the male may do a large part, if not all, the incubating. The specimen is in molt, especially in the tail. It was collected in a clump of trees in a bushy field, where it appeared to have been feeding on beetles, the remains of a number of which were found in its gizzard.

This specimen has been compared with the type and paratypes of *phalara* by the original describer and found to agree very well. It extends the known range eastward for a considerable distance, bearing out Wetmore's contention (Proc. U. S. Nat. Mus., vol. 87, 1939, p. 214) that "it is probable that this race extends across the northern llanos."

This woodhewer was abundant in the dry woods around both Cantaura and Caicara, often seen in pairs and threes. It was also present commonly in the edge growths, but it was rarely seen in the deep wet woods and was absent in the lowland seasonal forest at Caicara. It was recorded in every month of the year except September and October. Fledglings of this species were brought to the collector in April and May. In July the collector saw one of these woodhewers carrying food in its bill, and it was apparently about to feed the young. He was surprised by this action and took special note of it, as he had thought the species might feed its young by regurgitation.

The call was a series of loud, whistled *chui's*, descending the scale and becoming more rapid at the end. It was also uttered by the fledglings.

No distinction was made locally between the woodhewers and the woodpeckers; both were known under the general name "carpintero."

XIPHORHYNCHUS GUTTATUS JARDINEI (Dalmás)

Dendrornis jardinei DALMÁS, Mém. Soc. Zool. France, vol. 13, 1900, p. 140 ("Cote de Paria" = vicinity of Cumaná, Bermudez).

SPECIMEN COLLECTED

1 ♂, Caicara, November 4, 1947; gonads small; iris brown, bill black; remiges molting, otherwise plumage fairly worn; gizzard contained insects.

In allocating the present example to the race *jardinei* we agree with the classification advocated recently by Phelps and Phelps (Proc. Biol. Soc. Washington, vol. 62, 1949, p. 113-114).

This bird was found in deep wet woods. It was observed only once (the specimen collected), in the densest part of lowland seasonal forest at Caicara.

LEPIDOCOLOPTES SOULEYETHI LITTORALIS (Hartert and Goodson)

Picolaptes albolineatus littoralis HARTERT and GOODSON, Nov. Zool., vol. 24, 1917, p. 417 (Quebrada Seca, "Estado Bermudez," Venezuela).

SPECIMEN COLLECTED

1 unsexed, Cantaura, May 12, 1946; iris dark brown.

The specimen is in worn plumage and imperfect condition, with most of the mandible broken off. It has been compared with speci-

mens from near Maracay and from near Parapara, with which it agrees very closely.

The call is an even, rapid series of *chi* notes, rather wrenlike in quality. It may remain at the same pitch throughout the call or the pitch may rise and fall.

This species was relatively common locally in the deciduous seasonal woods and at the edge of the lowland seasonal forest. It was recorded in March, April, July, and August, and was apparently nesting in July in a hole in a "papaya" tree, about 8 feet above the ground.

Local name, "carpintero."

CAMPYLORHAMPHUS TROCHILIROSTRIS VENEZUELENSIS (Chapman)

Xiphorhynchus venezuelensis CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 2, 1889, p. 156 (Venezuela).

SPECIMEN COLLECTED

1 unsexed, Caicara, December 17, 1945; gonads destroyed by shot; iris brown, tarsi and toes dull pea green; plumage abraded.

This species was common locally in the wet woods around Caicara (recorded in May, August, and December); it was not present around Cantaura. While the local name of this bird is "tanguero," anteater, the collector did not observe the bird eating ants. However, he often saw it using its long curved bill to probe to the bases of the pineapple-like leaves of the epiphytic plants common on the trees in the wet woods.

The call note of this species is similar to that of *Dendroplex picirostris phalara*, although it is less musical. It usually commenced with four or five spaced notes, followed by a series of staccato notes, which rose rapidly to a peak and rapidly dropped back to the pitch at which the call began.

SITTASOMUS GRISEICAPILLUS GRISEUS (Jardine)

Sittasomus griseus JARDINE, Ann. Mag. Nat. Hist., vol. 19, 1847, p. 82 (Tobago).

SPECIMEN COLLECTED

1 ♂, Cantaura, April 13, 1946; gonads very enlarged; iris dark brown.

Hellmayr (Catalogue of the birds of the Americas, pt. 4, 1925, pp. 359-360) writes that "comparison of a large amount of material . . . fails to disclose any constant difference between Tobago and mainland examples" and gives the range in northern Venezuela as from Bermudez west to Mérida. Our present specimen is considerably duskier, more brownish olive, than specimens from Tobago and San Julián (near Caracas), while one from Rancho Grande is much more greenish than any of the others. It would seem, from this, and in light of the recent separation of a west Venezuelan form *perijuanus* Phelps and

Gilliard, that additional material may well reveal other separable groups at present kept under the name *griseus*.

This bird was found once at the edge of open woods. The example collected was the only one seen.

DENDROCINCLA FULIGINOSA MERULOIDES (Lafresnaye)

Dendrocops meruloides LAFRESNAYE, Rev. Mag. Zool., ser. 2, vol. 3, 1851, p. 467
("Cote ferme"=vicinity of Cumaná, Bermudez, northeastern Venezuela).

SPECIMEN COLLECTED

1 ♀, Caicara, November 4, 1947; gonads small; iris light brown, bill with maxilla blackish, mandible blue-gray, feet blue-gray; gizzard contained insects, plumage somewhat abraded.

This bird was found but once, in deep, wet woods.

Family FURNARIIDAE: Spinetails, Ovenbirds

SYNALLAXIS ALBESCENS TRINITATIS Zimmer

Synallaxis albescens trinitatis ZIMMER, Amer. Mus. Nov., No 819, 1935, p. 2
(Prinestown, Trinidad Island).

SPECIMEN COLLECTED

1 ♀, Cantaura, January 20, 1946; gonads slightly enlarged; iris very pale tan; plumage fairly fresh.

The forehead in our specimen is somewhat darker than in others from El Sombrero, and Soledad. However, it is not a great difference, but it may vaguely point to a variational trend southward toward the characters of *josephinae* of southwestern Venezuela and British Guiana.

The collector noted that this bird had a habit of continually jerking its tail up and down. The example collected was one of a pair (?) seen doing this.

This form was collected in a fairly open field. It was common in overgrown fields at both Cantaura and Caicara, recorded throughout the year. During the third week of July one was seen carrying nesting material.

The call was high *phoebe* note, not unlike the song of the North American black-capped chickadee (*Penthestes atricapillus*), although somewhat harsher. Often this call was repeated again and again, even in the heat of midday.

PHACELLODOMUS RUFIFRONS INORNATUS Ridgway

Phacellodomus inornatus RIDGWAY, Proc. U. S. Nat. Mus., vol. 10, 1887, p. 152
(Caracas, Venezuela).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Caicara, December 19, 1945, and July 24, 1948; gonads not enlarged; iris dull milk white in the male, brown in the female.

The male agrees fairly well with the type, but it is in fresher plumage; the type is a molting bird. The female is partially albinistic in both wings, the albinism taking the rather unusual pattern of forming external margins to the bases of both webs of the primaries and secondaries and occupying more than the proximal half of the latter feathers.

This bird was common at the edges of the wet woods at Caicara; although it was rare around Cantaura. The call notes commonly heard were a loud harsh *chick-chick-chick* and a *chip-chip-chip-chip*, which reminded the collector greatly of the call of the eastern chipmunk (*Tamias striatus fisheri*) of the United States.

Although the gonads were not enlarged in the specimen collected on December 19, these birds were observed early in January placing more twigs on their bulky nests.

XENOPS RUTILUS HETERURUS Cabanis and Heine

Xenops heterurus CABANIS and HEINE, Museum Heineanum, vol. 2, 1859, p. 33 ("Columbian"=Bogotá, Salvin, Ibis, 1869, p. 319).

SPECIMEN COLLECTED

1 ♂, Caicara, November 4, 1947; gonads enlarged; iris light brown, bill dark brown with base of mandible flesh color, feet dark blue-gray.

Hellmayr (Catalogue of the birds of the Americas, pt. 4, 1925, pp. 240-241) writes that in Venezuela this species occurs only in the mountain ranges from Mérida to Caracas and Bermudez. Since Caicara is hardly a highland locality, the range of the bird is apparently more extensive than statements in the literature indicate.

Hellmayr also mentions that birds from Peru and from western Venezuela (Mérida, Caracas, Carabobo) are like those from Colombia in size but that specimens from Bermudez and Trinidad seem to be smaller. The present specimen has the wing 68, tail 46, and culmen from base 13.5 mm. long and agrees with Peruvian specimens (a male from Matchu Picchu in comparable plumage condition has the wing 68, tail 44, and culmen from the base 15 mm.).

This species was observed once in the densest part of the lowland seasonal forest at Caicara where the present example was collected.

It was heard to utter a trilling call.

Family FORMICARIIDAE: Ant-thrushes

TARABA MAJOR SEMIFASCIATUS (Cabanis)

Diallactes semifasciatus CABANIS, Journ. für Orn., vol. 20, 1872, p. 234 ("Pará, Guiana and Venezuela"; Pará accepted as type locality, auct. Hellmayr, Nov. Zool., vol. 12, 1905, p. 283).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Caicara, November 2 and 6, 1947; gonads small in ♂, slightly enlarged in ♀, which had an evident brood patch; iris bright red in ♂, orange in

♀, bill black, feet blue-gray; gizzards contained a grasshopper and the remains of a small lizard.

The male shows signs of active molt in the remiges, the female shows none.

This large antshrike was recorded three times in the lowland seasonal forest at Caicara, single birds each time, the first two being collected. It was seen in March and December.

SAKESPHORUS CANADENSIS TRINITATIS (Ridgway)

Thamnophilus trinitatis RIDGWAY, Proc. U. S. Nat. Mus., vol. 14, 1891, p. 481 (Trinidad).

SPECIMENS COLLECTED

2♂ (1=♀), Cantaura, February 12, and April 4, 1946; gonads not enlarged in February bird, slightly so in April example; iris brown, bill, tarsi, and toes blue-gray.

1♂, Caicara, July 6, 1947; gonads not enlarged; iris dark brown, feet blue-gray; gizzard contained small insects.

These three specimens are not easy to place subspecifically, as they are more or less intermediate between *trinitatis* and *intermedius*.

This species was fairly common in the dry woods, especially around Caicara, particularly in heavy undergrowth or in patches of "maya." It was recorded in March, April, July, August, September, and December. It was present, but less common, around Cantaura. The call note of this bird was a scolding *chree*. A variety of other calls, generally quite loud and consisting of a series of short notes, repeated at brief intervals, were characteristic of this species.

The name "pavita" is applied locally to all ant-thrushes.

THAMNOPHILUS DOLIATUS FRATERCULUS Berlepsch and Hartert

Thamnophilus doliatus fraterculus BERLEPSCH and HARTERT, Nov. Zool., vol. 9, 1902, p. 70 (Altagracia, Venezuela).

SPECIMENS COLLECTED

1♂, 1♀, Caicara, December 19–22, 1945; gonads slightly enlarged in ♀, not in ♂; iris of ♀ white, of ♂ dull pale yellow; feet of ♂ dull blue.

A common wide-ranging bird of the bushy scrub country around Caicara. It was rarely observed in the vicinity of Cantaura. The collector noted it during March, April, August, November, and December.

The call note was a low *chuck*. The bird also uttered calls similar to those of *Sakesphorus canadensis trinitatis*.

FORMICIVORA GRISEA INTERMEDIA Cabanis

Formicivora intermedia CABANIS, Arch. Naturg., vol. 13, 1847, p. 225 (Aragua, northern Venezuela).

SPECIMEN COLLECTED

1 ♂, Caicara, December 22, 1945; gonads not enlarged; iris brown; somewhat worn feathering.

This antbird was encountered in the deciduous seasonal woods and in the lowland seasonal forest, where it was rather common. It was recorded in January, March, April, May, June, July, August, November, and December.

It had a scolding call, somewhat similar to that of the red-eyed vireo (*Vireo v. virescens*), and it also uttered a soft, but clear, descending trill, sometimes followed by several clear, spaced notes at a slightly higher pitch.

Local name, "pavita."

MYRMECIZA LONGIPES LONGIPES (Swainson)

Drymophila longipes SWAINSON, Zool. Journ., vol. 2, No. 6, 1825, p. 152 ("from some part of Brazil . . .," error = Trinidad; suggested by Hellmayr, Nov. Zool., vol. 13, 1906, p. 33).

SPECIMEN COLLECTED

1 ♂, Caicara, December 18, 1945; gonads not enlarged; iris red brown; tarsi and toes bluish.

The specimen, which is in fairly fresh plumage, agrees with a small series of others examined. It shows no approach to *griseipectus* Berlepsch and Hartert.

This bird was fairly common locally in December 1945, in the wet woods around Caicara; it was never observed again. The collector heard the bird utter a short song, composed of six hollow, whistled notes followed by a short trill. It might be written *too-too-too-too tee-tee trrrr*, with all notes at the same, rather low pitch, except for the fifth and sixth ones, which are slightly higher. It also uttered a series of short notes on a descending scale.

This species appeared to be much more a bird of ground than the preceding ant-thrushes, which were usually observed in dense bushes.

Family COTINGIDAE: Chatterers

TITYRA INQUISITOR ERYTHROGENYS (Selby)

Psaris erythrogenys SELBY, Zool. Journ., vol. 2, 1826, p. 483 ("Pernambuco," error; Cayenne suggested by Hellmayr, Catalogue of birds of the Americas, pt. 6, 1929, p. 220).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Cantaura, January 5, 1945, and March 24, 1948; gonads not enlarged; iris brown, maxilla black, mandible dull blue, feet black.

The female specimen is one of those individuals that are heavily marked with blackish on the upper back, but, as Hellmayr has indi-

cated (Catalogue of the birds of the Americas, pt. 6, 1929, p. 220), this is purely a matter of individual variation.

The rufous-checked tityra occurs from the Guianas west across Venezuela to the eastern base of the eastern Andes in Colombia.

A flock of five of these birds was observed sitting quietly in the tops of trees bordering a small field; one was collected.

This bird was encountered in the deciduous seasonal woods-edge habitat at both Cantaura and Caicara during the months of January through April and in July, often in small flocks of less than 10 individuals. This species appeared to be a migrant, simply passing through the study area.

The call note was a soft rattle.

Family PIPRIDAE: Manakins

CHIROXIPHIA LANCEOLATA (Wagler)

Pipra lanceolata WAGLER, Isis, 1830, p. 931 ("Guiana sive Cajenna," error).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Caicara, December 17–20, 1945; gonads not enlarged; iris red-brown; tarsi and toes of ♀ yellow-ochre.

The lance-tailed manakin was found around the edges of wet woods. It was common in the wet woods and forest edge around Caicara in April, May, August, September, November, and December, and as many as 10 individuals were seen together feeding on small berries, the fruit of a tree-climbing vine common in the area.

The commonest call of this species was a clear whistled series of notes, beginning with a querulous *beni*?, a pause, and then a series *toro-toro-toro*. The local name of the bird, "benitoto," is in imitation of this call.

Family TYRANNIDAE: Tyrant Flycatchers

FLUVICOLA PICA PICA (Boddaert)

Muscicapa pica BODDAERT, Table des planches enluminées d'histoire naturelle, 1783, p. 42 (based on Daubenton, Planches enluminées, pl. 675, fig. 1, Cayenne).

SPECIMEN COLLECTED

1 ♂, Cantaura, July 19, 1947; gonads slightly enlarged, building nest with another individual when collected; iris brown; gizzard contained small insects.

Though *pica* and *albiventer* are obviously very closely related and are geographic representatives, the fact that the two forms appear not to intergrade in their characters (long series of both seen) makes it uncertain whether they are really conspecific as Hellmayr (Catalogue of the birds of the Americas, pt. 5, 1927, pp. 81–83) and others have considered them.

This striking bird was recorded near Cantaura at ponds in the deciduous seasonal woods edge and occasionally on the savanna during

the months of March, April, May, July, and September. It was seen only in singles or pairs.

The example taken was one of a pair which were building a hanging nest about 3 feet up in a small bush.

ARUNDINICOLA LEUCOCEPHALA (Linnaeus)

Pipra leucocephala LINNAEUS, Museum Adolphi Friderici Regis . . . , vol. 2, Prodr., 1764, p. 33 (locality not indicated; Systema naturae, ed. 12, vol. 1, 1766, p. 340: Surinam).

SPECIMEN COLLECTED

1 ♂, Cantaura, July 13, 1947; gonads enlarged; iris light brown, lower part of mandible dull yellow, rest of mandible and maxilla black; gizzard contained insects.

This bird was collected on open savanna country near "morange" palms. It is in fairly fresh plumage.

This striking species was recorded in January and July on the savanna in groves of "morange" palm. It was not common, even in that habitat.

PYROCEPHALUS RUBINUS SATURATUS Berlepsch and Hartert

Pyrocephalus rubinus saturatus BERLEPSCH and HARTERT, Nov. Zool., vol. 9, 1902, p. 34 (Altagracia, Río Orinoco, Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, April 13, 1946; gonads greatly enlarged; iris dark brown.

The under wing coverts are sooty blackish in this race; the present specimen has a few pinkish feathers among them.

The vermilion flycatcher was common on the savanna and in the deciduous seasonal woods edge. It was recorded throughout the year and was found nesting in April and in October; the April nest contained young ready to fly when discovered during the first week of that month. Both nests were in small trees, between 6 and 10 feet above ground.

The collector recorded the bird in flight song in April, May, and July and an apparent decrease in flight song during August; no mention is made regarding other months. The bird would rise singing up to perhaps 60 feet with a fluttering, mothlike flight and then descend again. The song was a thin, high, but not unmusical *chee, drreeee, drreeee, drreeee* repeated over and over. This song was heard at all hours of the day and night during May, and from the sound it appeared that even at night the bird was flying as it sang. The call note was a sharp *zeeep*.

Local name, "sangre de toro," blood of the bull, in reference to the bright-red color.

MACHETORNIS RIXOSA FLAVIGULARIS Todd

Machetornis rixosa flavigularis TODD, Ann. Carnegie Mus., vol. 8, 1912, p. 210 (Tocuyo, state of Lara, Venezuela).

SPECIMEN COLLECTED

1♂, Cantaura, April 7, 1946; gonads very much enlarged; iris red-brown; feathering very abraded.

This interesting flycatcher was found in bushy fields, generally not far from water. It was often seen following cattle, running along beside their feet or perched on the animals' backs. The bird was not common in the area but was observed at Cantaura from late in January through June, August through October, and in December.

The bird utters mouselike, squeaky, and twittering notes and also a sharp, hissing *seep*.

MUSCIVORA TYRANNUS TYRANNUS (Linnaeus)

Muscivora tyrannus LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 325 (Surinam).

SPECIMENS COLLECTED

1♂, 1♀, Cantaura, July 24 and September 19, 1948; gonads small; iris brown, feet black, bill black; gizzards contained insects; male not fat.

The female, taken July 24, is a young bird molting into adult plumage, part of the feathering being partly frayed, brownish, juvenal plumage and partly fresh, adult plumage. The top of the head is pale brownish gray bordered frontally, laterally, and posteriorly with black, with one black and one yellow feather coming in on the fore-crown.

The male, taken September 19, shows active molt in the wings and tail; the two outermost primaries are barely sprouted but fortunately show enough of their distal parts to enable definite subspecific identification to be made. The young female is identified to the same race only inferentially and by its dark upperparts.

There was very great seasonal fluctuation in numbers. During two successive years the collector observed the formation of a concentration at a favorite spot about 10 miles north of Cantaura. Up to the second week of July less than 10 birds were recorded in a day. From then on the number remained at slightly less than 50 birds until late in August, when there was a sharp increase. From this time until the third week in September there were not less than 3,000 birds in the concentration, by careful repeated estimates, and at times there appeared to be double this number present. By the second week in October no more than 200 or 300 birds remained. Although the fork-tailed flycatcher was recorded throughout the area, the collector knew of only two such concentrations within the study area. The birds composing the July and August flocks were generally short-

tailed individuals. Later, in September, many long-tailed males were present. The September birds were very fat; in spite of the small size of the bird they were sometimes eaten locally. While some were seen catching insects, a fact confirmed by gizzard examination, the majority appeared to be feeding on the fruit of a small tree that grew in the area. It seems possible that the reason for the concentration was the abundance of such (presumably) fat-producing food.

This is a quiet bird; the only notes heard were a pebbly *errrt* and a metallic *zlit*. At the concentrations a clicking noise was heard, probably produced by the birds clicking their bills, or possibly by the wings.

MUSCIVORA TYRANNUS MONACHUS (Hartlaub)

Tyrannus (Milvulus) monachus HARTLAUB, Rev. Zool., vol. 7, 1844, p. 214 (Guatemala).

SPECIMEN COLLECTED

1 ♀, Cantaura, March 25, 1949, gonads slightly enlarged; iris brown; gizzard contained insects; bird rather fat.

This example of the pale-backed northern race of the fork-tailed flycatcher was shot out of a flock of about 25 apparently similar birds. It shows signs of molting in the inner secondaries.

Two subspecies of this bird occur in our area, one apparently only seasonally. The present race was recorded throughout the year, generally on the open savanna.

TYRANNUS MELANCHOLICUS CHLORONOTUS Berlepsch

Tyrannus chloronotus BERLEPSCH, Orn. vol. 14, 1907, p. 479 (Temax, Yucatán).

SPECIMEN COLLECTED

1 ♂, Cantaura, December 3, 1945; gonads not enlarged; plumage rather worn.

The specimen has the pale throat and crown characteristic of the race.

This bird was common throughout the year at the edge of the dry woods and on the savanna where groups of trees were present. It was usually seen in singles or in small groups of three to five individuals.

In May the birds were seen carrying nesting material, and in the first week of September fledglings just out of the nest were recorded.

The call is a fairly loud chattering note, often a harsh *chrrr*, followed by a squeaky *chee* and a rapidly descending chatter.

Local name, "pecho amarillo," yellowbreast.

TYRANNUS DOMINICENSIS DOMINICENSIS (Gmelin)

[*Lanius tyrannus*] *B. dominicensis* GMELIN, Systema naturae, vol. 1, pt. 1, 1788, p. 302 (based on "Le Tyran, de Sainte Dominique" Brisson, Orn., vol. 2, 1760, p. 394, pl. 38, fig. 2: Hispaniola).

SPECIMEN COLLECTED

1 ♂, Cantaura, December 15, 1947; gonads small; iris brown, feet black, bill very dark brown; bird thin; an adult in worn plumage.

Several individuals were seen in December in the deciduous seasonal woods-edge habitat, usually together with *Tyrannus melancholicus chloronotus*.

EMPIDONOMUS VARIUS RUFINUS (Spix)

Muscicapa rufina SPIX, Avium species novae . . . Brasiliam . . ., vol. 2, 1825, p. 22, pl. 31, figs. 1, 2 ("in provincia fl. Amazonum").

SPECIMEN COLLECTED

1 ♂, Cantaura, January 19, 1948; gonads small; iris dark, bill dark brown with base of mandible pale yellow-brown, feet black; feathering very worn.

The specimen has the small bill and generally paler coloration of the subspecies *rufinus*. Zimmer (Amer. Mus. Nov., No. 962, 1937, pp. 22-25) has shown that *rufinus* occurs farther to the west than Hellmayr's account (Catalogue of the birds of the Americas, pt. 5, 1927, pp. 113-114) indicates. The present example bears him out in this.

This flycatcher was taken in the deciduous seasonal woods-edge habitat. It was also recorded in the woods at Caicara in April and July.

MYIODYNASTES MACULATUS MACULATUS (P. L. S. Müller)

Muscicapa maculata P. L. S. MÜLLER, Natursystem, Suppl., 1776, p. 169 (Cayenne).

SPECIMEN COLLECTED

1 ♂, Cantaura, April 17, 1945; gonads enlarged.

Our specimen is somewhat intermediate between *maculatus* and *tobagensis* Zimmer but is nearer the former, with which it is here identified. It probably comes from the northern limit of the range of this race, as *tobagensis* (Amer. Mus. Nov., No. 963, 1937, p. 7) is said to inhabit northern Venezuela west to northern Anzoátegui, southeastward across the Orinoco Delta into British Guiana. Two specimens from Tobago are so much darker above than our present example that they cannot be looked upon as the same race; the character of the supposedly less yellowish, more whitish underparts of *tobagensis* does not seem to hold very well in the material studied.

This bird was fairly common throughout the year in the wet woods around Caicara; it was present but rather rare in the dry woods around Cantaura, except in April, May, and June, when a definite movement was taking place. The call note was a series of spaced *chee-chee-chee's*, fairly loud, but not very flycatcherlike. A marked temporary increase in the numbers of this bird around Cantaura was noted during the latter half of April, both in 1945 and 1946.

MEGARHYNCHUS PITANGUA PITANGUA (Linnaeus)

Lanius pitangua LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 136 (based on Brisson (*ex* Marcgrave), eastern Brazil).

SPECIMEN COLLECTED

1 ♀, Cantaura, November 2, 1948; gonads small; iris brown, bill very dark brown, feet black; plumage abraded.

The collector recorded this flycatcher only at the time he took the present example. Three were seen in the deciduous seasonal forest on that day, and the bird is probably not uncommon in the area. In life the bird is rather similar to the common "crisofue," although the heavier head and shorter tail of the present species should have enabled the collector to take more satisfactory field notes regarding its abundance.

MYIOZETETES CAYENNENSIS RUFIPENNIS Lawrence

Myiozetetes rufipennis LAWRENCE, Ann. Lyc. Nat. Hist. New York, vol. 9, 1869, p. 267 (Valencia, Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, April 19, 1948, gonads slightly enlarged; iris brown, bill and feet black; gizzard contained small insects; wings and tail molting; the old upper wing coverts, although quite abraded, showing characteristic rufous external edgings.

Together with the data recently put on record by Gilliard (Bull. Amer. Mus. Nat. Hist., vol. 77, 1941, p. 486), Wetmore (Proc. U. S. Nat. Mus., vol. 87, 1939, p. 227), and Friedmann (Proc. U. S. Nat. Mus., vol. 97, 1948, p. 503), the present Cantaura record indicates a much greater distribution for *rufipennis* than Hellmayr gives (Catalogue of the birds of the Americas, pt. 5, 1927, p. 139). Wetmore found it common in central northern Venezuela (Ocumare de la Costa), while Holt (reported on by Friedmann, *cit. supra*) obtained nontypical specimens as far south as the Casiquiare.

This flycatcher was rather common in the groves of "chaparro" around some ponds on the savanna and in the deciduous seasonal woods edge habitat.

It was recorded nesting in May and July. The nest was a bulky, ovenlike affair of grass, lined with finer grasses, placed about 10 feet above ground at the tip of a branch.

The call was a high *seeeuu*.

MYIOZETETES SIMILIS COLUMBIANUS Cabanis and Heine

Myiozetetes columbianus CABANIS and HEINE, Museum Heineanum, vol. 2, 1859, p. 62 (Puerto Cabello, Venezuela, and Cartagena, Colombia).

SPECIMEN COLLECTED

1 ♀, Caicara, December 30, 1945; gonads slightly enlarged; iris white; plumage fairly fresh.

A fairly common and widespread bird in northern Venezuela wherever there are moist woodlands.

This bird was abundant in the wet woods around Caicara, where it preferred the tops of tall trees. It was also present but not common in the dry woods around Cantaura. The calls were a high unmusical twitter that neither rose nor fell in pitch, a *chrrr* that dropped rapidly, and a high penetrating *cheep*. When flying the bird can make a loud woodpeckerlike *thrup* with its wings, loud enough to attract the attention of the collector even when the birds are flying from the tops of trees perhaps 60 to 70 feet in height.

PITANGUS SULPHURATUS RUFIPENNIS (Lafresnaye)

Saurophagus rufipennis LAFRESNAYE, Rev. Mag. Zool. ser. 2, vol. 3, 1851, p. 471 (Caracas).

SPECIMEN COLLECTED

1 ♂, Cantaura, July 2, 1947; gonads slightly enlarged; iris dark brown; gizzard contained insects.

Plumage very worn, but showing all the characters of the race *rufipennis*, with no approach to those of *P. s. trinitatis*.

This flycatcher was widely distributed throughout the region. Especially around Cantaura, it preferred the woods in the vicinity of water. It was recorded during every month of the year, and it was observed nesting in March, April, and May.

The call was a vigorous *crístofue* or *bem-te-vi* strongly accented on the first and last syllables.

Local name, "crístofue," in imitation of the call.

MYIARCHUS TYRANNULUS TYRANNULUS (Müller)

Muscicapa tyrannulus MÜLLER, Natursystem, Suppl., 1776, p. 169 (based on Daubenton, Planches enluminées, pl. 571, fig. 1; Cayenne).

SPECIMEN COLLECTED

1 ♂, Cantaura, December 1, 1945; gonads not enlarged; iris light brown; plumage much abraded.

The specimen agrees with other similarly worn examples from San Antonio and Puerto Ayacucho.

This species was fairly common in all wooded and semiwooded country visited; recorded from January through July, August, November, and December. Unfortunately, the collector failed to describe the call note at the time he secured the specimen, but as he recalls it this species' note reminded him of that of the North American crested flycatcher (*Myiarchus crinitus*) although more subdued.

TOLMOMYIAS FLAVIVENTRIS COLLINGWOODI (Chubb)

Rhynchocyclus flaviventris collingwoodi CHUBB, Bull. Brit. Orn. Club, vol. 40, 1920, p. 109 (Macqueripe Valley, Trinidad).

SPECIMEN COLLECTED

1 ♀, Cantaura, January 8, 1945; gonads slightly enlarged; iris light brown, tarsi and toes bluish black; plumage somewhat worn.

The specimen agrees closely with a long series of Venezuelan examples.

This little flat-billed flycatcher was fairly common in the dry woods and edge around Cantaura. Though it was not observed in the vicinity of Caicara, it is probable that it was simply overlooked by the collector. An example taken in May (not preserved) proved to be a male with the gonads greatly enlarged.

TODIROSTRUM CINERUM CINERUM (Linnaeus)

Todus cinerus LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 178 (based on "The Grey and Yellow Flycatcher" Edwards, Gleanings of natural history, vol. 2, p. 110, pl. 262; Surinam).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Cantaura, February 2, 1945, and March 17, 1946; gonads not enlarged in February ♀, slightly so in March ♂; iris white in ♂, pale yellow in ♀, feet black, maxilla black, mandible light pinkish in ♀, apparently terminally dusky in ♂; plumage fairly fresh.

The tody flycatcher was common locally at the edge of the wet and dry woods, both at Cantaura and Caicara, January to May, and November. In life it was not very flycatcherlike. Instead of hunting from a favorite perch it chased insects much in the manner of a lively warbler.

The bird's call note was a sharp *chip*. It also had a brief song that might be written as a series of about six *zseet* notes, each note a little shorter and higher than the preceding one.

EUSCARTHORNIS MARGARITACEIVENTER IMPIGER (Sclater and Salvin)

Euscarthmus impiger SCLATER and SALVIN, Proc. Zool. Soc. London, 1868, p. 171, pl. 13, fig. 1 (Caracas).

SPECIMEN COLLECTED

1, unsexed, Cantaura, January 19, 1948; iris very pale yellow, bill and feet dull brown; plumage fairly fresh.

The example was taken in the deciduous seasonal woods-edge habitat. It was the only time the collector saw an example of this bird.

ATALOTRICCUS PILARIS VENEZUELENSIS Ridgway

Atalotriccus pilaris venezuelensis RIDGWAY, Proc. Biol. Soc. Washington, vol. 19, 1906, p. 115 (San Antonio, Bermudez, Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, June 15, 1947; gonads enlarged; iris pale yellow; gizzard contained insects; plumage worn.

The example taken was found in the deciduous seasonal woods-edge habitat.

Phelps and Phelps (Bol. Soc. Venez. Cienc. Nat., vol. 11, 1948, p. 199) have found *venezuelensis* to be a valid race.

EUSCARTHIMUS MELORYPHUS MELORYPHUS Wied

Euscarthmus melorypphus WIED, Beitr. Naturg. Bras., vol. 3, pt. 2, 1831, p. 947 (boundary line of Minas Geraes and Bahia).

SPECIMEN COLLECTED

1 ♂, Cantaura, July 19, 1947; gonads enlarged; iris brown; gizzard contained tiny insects.

This specimen was one of what seemed to be a pair. It is in worn plumage, which may account for the fact that it lacks the dusky lateral and posterior edges to the orange coronal-occipital area, which, in turn, makes it appear to have a larger, more extensive orange area than any other example examined: 15 from Colombia, 1 from Venezuela, 1 from Brazil, and 2 from Argentina.

This little bird customarily remained hidden in weedy overgrown patches, with special preference for downed trees and piles of brush. It was recorded both at Cantaura and Caicara during April, July, August, September, and December.

The bird had a twittering call and a little chattering song, quite loud but extremely hard to place. It might be written as *chedereee* and *cheedier*, accented on the last and on the first syllables, respectively.

XENOPSARIS ALBINUCHA MINOR Hellmayr

Xenopsaris albinucha minor HELLMAYR, Anz. Orn. Ges. Bay., vol. 3, 1920, p. 17 (Quiribana de Caicara, Río Orinoco, Venezuela).

SPECIMEN COLLECTED

1 ♂ imm., Cantaura, December 29, 1947; gonads small; iris dark.

This specimen, kindly identified by Dr. J. T. Zimmer on the basis of the great collection of Neotropical birds under his care, constitutes a definite extension of range northeastward. The bird is common in the Orinoco Basin.

Xenopsaris is one of those genera whose family relationships are not yet settled. Years ago Ridgway placed it in the Cotingidae, while Hellmayr has put it in the Tyrannidae. As Dr. Zimmer has pointed out (*in litt.*), the lack of rictal bristles and the scutellation of the tarsus are cotingine, and it may well be that the birds really belong with the chatters and not with the flycatchers.

The present example was collected in the deciduous seasonal woods-edge habitat. It was the only one seen by the collector.

ELAENIA PARVIROSTRIS Pelzeln

Elainea parvirostris PELZELN, Zur Ornithologie Brasiliens, vol. 2, 1868, pp. 107, 173 (Curityba, Paraná).

SPECIMEN COLLECTED

1 ♂, Cantaura, July 24, 1947; gonads very small; iris brown, base of mandible dull yellow; gizzard contained small caterpillars; plumage abraded.

This species breeds in Argentina and spends the southern winter in northern South America.

This flycatcher was recorded in the deciduous seasonal woods edge during May, June, and July, at which time it was fairly common.

ELAINIA CHIRIQUENSIS ALBIVERTEX Pelzeln

Elainia albivertex PELZELN, Zur Ornithologie Brasiliens, pt. 2, 1868, pp. 107, 177 (Ypanema, São Paulo).

SPECIMEN COLLECTED

1 ♂, Cantaura, May 15, 1948; gonads small; iris brown, eye ring prominent in life; feet black, bill dark brown, the base of mandible gray with a pink cast; gizzard contained seeds; bird very fat; plumage fairly worn.

This specimen agrees with a series from various parts of the range of this race.

SUBLEGATUS GLABER ORINOCENSIS Zimmer

Sublegatus glaber orinocensis ZIMMER, Amer. Mus. Nov., No. 1109, 1941, p. 5 (Altagracia, Río Orinoco, Venezuela).

SPECIMEN COLLECTED

1 ♀, Cantaura, February 3, 1946; gonads not enlarged; iris dull brown, tarsi and toes black; feathering rather worn.

The specimen is fairly large for its race (wing 64 mm.), but in pallor of coloration it agrees with the characters of *orinocensis*.

This was a fairly common flycatcher at the edge of the dry woods. It was a rather noisy bird with a variety of "chrrring" call notes.

PHAEOMYIAS MURINA INCOMTA (Cabanis and Heine)

Elainia incomta CABANIS and HEINE, Museum Heineanum, vol. 2, 1859, p. 59 (Cartagena, Colombia).

SPECIMENS COLLECTED

1 ♂, Cantaura, December 1, 1945; gonads not enlarged; iris dark brown.

1 ♀, Cantaura, December 29, 1947; gonads small, iris brown, feet black, maxilla brown, mandible dull yellow; line over eye prominent in life.

1, unsexed, Cantaura, October 10, 1948; iris dark, feet black, bill dark brown with base of mandible dull yellow; body fat.

All three specimens are in worn plumage.

CAMPTOSTOMA OBSOLETUM VENEZUELAE Zimmer

Camptostoma obsoletum venezuelae ZIMMER, Amer. Mus. Nov., No. 1109, 1941, p. 12 (La Cascabel, Río San Félix, Venezuela).

SPECIMENS COLLECTED

1 unsexed, Cantaura, January 8, 1946; iris brown.

1 ♀, Caicara, November 8, 1947; gonads small; iris brown, bill and feet black.

The Cantaura bird is in very worn plumage; the Caicara example is less abraded. They were collected in semiopen bushy fields.

The race *venezuelae* appears to be of only doubtful validity, but we do not have sufficient material to make a definite decision.

The collector experienced some difficulty in distinguishing this flycatcher from the preceding form in the field. He considered both to be fairly common at the edges of overgrown fields;

PIPROMORPHA OLEAGINEA CHLORONOTA (D'Orbigny and Lafresnaye)

Muscicapa chloronota "Lesson" D'ORBIGNY and LAFRESNAYE, Synopsis avium, in Mag. Zool., 1837, cl. 2, p. 51 (Yuracares, Bolivia).

SPECIMEN COLLECTED

1 ♂, Caicara, July 5, 1947; gonads slightly enlarged; iris brown, feet blue-gray gizzard contained large seeds.

This specimen is very slightly paler below and, to a still lesser extent above, than a series from southern Venezuela and northern Brazil, but not enough so to warrant considering it as of the race *pallidiventris* (Hellmayr) of Bermudez, northeastern Venezuela, and Trinidad and Tobago. Hellmayr (Catalogue of the birds of the Americas, pt. 5, 1927, p. 498, footnote) calls *pallidiventris* an unsatisfactory race at best.

Family HIRUNDINIDAE: Swallows

PROGNE CHALYBEA CHALYBEA (Gmelin)

Hirundo chalybea GMELIN, Systema naturae, vol. 1, pt. 2, 1789, p. 1026 (Cayenne).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Cantaura, June 28 and August 17, 1947; gonads very small in June ♀; slightly enlarged in August ♂; iris dark brown (♀), black (♂); gizzards contained small insects; both specimens are in worn plumage.

This martin was rather common in season, being encountered in small flocks of less than 10 individuals, in all types of open country, not necessarily near water.

The call, a rising *chrrr*, was not unlike that of the purple martin (*Progne subis subis*) although not so loud or so often repeated. It also had a "song," a warbling, rather musical *chrrr chrrrrr chee chrrr*.

PHAEOPROGNE TAPERA TAPERA (Linnaeus)

Hirundo tapera LINNAEUS, Systema naturae, ed. 3, vol. 12, pt. 1, 1766, p. 345 (northeastern Brazil).

SPECIMEN COLLECTED

1 ♀, Cantaura, August 17, 1947; gonads very small; iris dark brown; gizzard contained insects; bird in fairly worn feathering.

The collector saw this swallow only once, when a flock of about 20 was encountered near water on the open savanna and the present example was collected.

STELGIDOPTERYX RUFICOLLIS AEQUALIS Bangs

Stelgidopteryx ruficollis aequalis BANGS, Proc. New England Zool. Club, vol. 2, 1901, p. 58 (Santa Marta, Colombia).

SPECIMEN COLLECTED

1 ♂, Caicara, November 2, 1947; gonads small; bird apparently juvenal; skull not ossified; edges of gape fleshy, iris brown; gizzard contained insects; for a young bird remarkably adult in plumage.

The Caribbean rough-winged swallow occurs across northern Venezuela south to the Orinoco drainage basin and westward into Colombia.

This swallow was abundant on the Guarapiche River at Caicara; it was not seen at Cantaura. At Caicara it was often seen in flocks of over a hundred birds and was recorded during February, March, April, August, September, November, and December.

The call was a rising *chirup*.

HIRUNDO RUSTICA ERYTHROGASTER Boddaert

Hirundo erythrogaster BODDAERT, Table des planches enluminées, 1783, p. 45 (Cayenne).

SPECIMEN COLLECTED

1 ♂, Cantaura, March 21, 1948; gonads small; iris dark; gizzard contained small beetles; molting from juvenal into adult plumage.

Apparently the molt is a very slow and prolonged affair, as in another collection a similar male, in postjuvenal molt, was taken on the Rio Negro in northern Brazil, on October 10 (Friedmann, Proc. U. S. Nat. Mus., vol. 97, 1948, p. 524).

The barn swallow was quite common at Cantaura and Caicara during April, May, August, September, and October. It was seen customarily in small flocks of less than 20 birds, the maximum being about 40. Particularly in the fall the flocks would come over flying

straight and fast, generally between 20 and 40 feet above ground. They traveled silently; only an occasional chirp could be heard. There could be no doubt that the birds were on migration. There was something so purposeful, so determined about their direct, silent, and very rapid flight that even the most casual observer could scarcely doubt that they were birds of passage in the area. To those familiar with the birds' graceful circling over the meadows in the United States the difference was indeed striking.

On two days over a week apart the collector found a flock of these birds passing the night at a certain place on the open treeless savanna. He had often watched the flocks following the same route over the plains and wondered how and why they followed the same local "trail" so closely, but he was even more surprised to find what must have been two different flocks staying overnight in the very same place, when there was apparently absolutely nothing there that could make that particular spot more desirable than any other for miles around.

IRIDOPROCNE ALBIVENTER (Boddaert)

Hirundo albiventer BODDAERT, Table des planches enluminées, 1783, p. 32 (Cayenne).

SPECIMEN COLLECTED

1 ♂, Cantaura, December 30, 1947; gonads very much enlarged; iris brown; plumage somewhat abraded.

This swallow was very irregular in the study area, being encountered at bodies of water in all types of habitat, but never for extended periods. Small flocks of less than 10 birds would be encountered at a pond one day, but would be gone the next. The bird was recorded in March, April, June, July, October, November, and December, the December male being in breeding condition.

Family CORVIDAE: Crows, Jays

CYANOCORAX VIOLACEUS Du Bus

Cyanocorax violaceus DU BUS, Bull. Acad. Roy. Sci., Lettr. et Beaux-Arts Belgique, vol. 14, 1847, p. 103 (Peru).

SPECIMEN COLLECTED

1 ♀, Cantaura, April 19, 1946; gonads slightly enlarged; iris brown; gizzard contained seeds; plumage fresh.

As pointed out by the senior author in another paper (Proc. U. S. Nat. Mus., vol. 97, 1948, p. 525), it may be that Venezuelan and Guianan birds will prove to be separable from toponymical *violaceus*, in which case the name *hyacinthinus* Cabanis will be available for them.

This handsome jay was fairly common locally in the dry woods around Cantaura (February to October), where it showed some preference for localities near water. Curiously enough, it was not observed

around Caicara, although the dry woods were very similar to those of Cantaura, nor was the bird known to the residents there.

These jays were usually encountered in roving flocks of 5 to 10 individuals. In flight and call the bird is typically jaylike, and the call note, a loud *peeow peeow*, is frequently given. The local name, "piarra," is in imitation of this call.

XANTHOURA YNCAS CAERULEOCEPHALA (Dubois)

Cyanocorax yncas var. *caeruleocephala* DUBOIS, Bull. Acad. Roy. Belgique, ser. 2, vol. 38, 1874, p. 493 (Caracas, Venezuela).

SPECIMENS COLLECTED

1 unsexed, Mundo Nuevo, near San Antonio de Maturfn, Monagas, February 1946.

1 ♀, Cantaura, May 25, 1947; gonads slightly enlarged; iris bright yellow; gizzard contained small tree snails.

Our examples of this jay are unfortunately not in very good plumage condition.

This striking jay was not encountered in the area during 1944, 1945, or 1946. However, it was fairly common in the deciduous seasonal forest at Cantaura during May and June 1947 and was generally seen in small flocks of less than 10 individuals. Stragglers were recorded in July of the same year, and again, on April 1, 1949, several were encountered. These invasions occurred at the termination of the two driest seasons recorded in nine years, at the very time when the woods were most barren. This was particularly surprising to the collector, who had known the bird previously only in the cool woods of the mountains around Caracas.

The commonest call was a jaylike *keen-keen*.

The local name for this jay is given as "quin-quin," obviously a variant spelling of the name "kinkin" recorded by Wetmore (Proc. U. S. Nat. Mus., vol. 87, 1939, p. 237).

Family TROGLODYTIDAE: Wrens

HELEODYTES MINOR MINOR Cabanis

Heleodytes minor CABANIS, Museum Heineanum, vol. 1, 1851, p. 80 (Venezuela).

SPECIMEN COLLECTED

1 ♀, Cantaura, January 31, 1946; gonads slightly enlarged; iris reddish brown, tarsi and toes light blue-gray; plumage worn.

Cantaura appears to be about the easternmost locality from which the lesser cactus wren has been recorded. It was known previously from as far east as Caripe, Monagas.

This species was fairly common locally in bushy places on the open savanna, especially in the vicinity of savanna lagoons, both around Caicara and Cantaura. It was noted that the bird was able to estab-

lish itself in the deciduous seasonal woods-edge habitat at Cantaura, after a camp was established there. This was apparently due to the increase of available water used for watering lawns and gardens, as the birds were not present previous to that time.

A decided increase in the numbers of these wrens around Cantaura was noted during the first week of February. A fledgling, just out of the nest, was found during the first week of February. The marked increase in numbers during early February was perhaps due to the young birds making their appearance, rather than to local movement.

It is most difficult to describe their unbirdlike notes; they might be written as a harsh *glawp glawp boo-chuk boo-chuk*.

At times this bird is called locally "pavita," apparently being confused with the local Formicariidae.

HELEODYTES NUCHALIS BREVIPENNIS (Lawrence)

Campylorhynchus brevipennis LAWRENCE, Ann. Lyc. Nat. Hist. New York, vol. 8, 1867, p. 344 (Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, April 17, 1945; gonads not enlarged; iris pale yellow; feathering rather abraded.

The specimen collected was one of two birds (a pair?) seen together.

Wetmore (Proc. U. S. Nat. Mus., vol. 87, 1939, pp. 237-238) has indicated that *brevipennis* is distinct from *pardus*. Study of the same material convinces us of the correctness of his conclusions. The present example fits in clearly with *brevipennis* and not with *pardus*.

This wren was common in the lowland seasonal forest at Caicara; it was uncommon in the deciduous seasonal woods throughout the area, especially in localities near water. It was recorded in March, April, May, July, November, and December.

In July the birds were seen entering their large nest of twigs, fashioned at the end of a hanging branch about 10 feet above ground.

Many of the calls of this species resembled those of *Heleodytes minor minor*, although not so harsh and somewhat more wrenlike in tone. The bird also gave a low, wrenlike *chrrr*.

THRYOTHORUS RUFALBUS CUMANENSIS (Cabanis)

Troglodytes cumanensis (ex Lichtenstein MS.) CABANIS, Journ. für Orn., vol. 8, 1860, p. 408, in text (Cartagena, Colombia).

SPECIMEN COLLECTED

1 ♂, Caicara, December 17, 1945; gonads enlarged; iris brown; fairly fresh plumage.

Caicara appears to be the easternmost locality from which this

form has been recorded, the previous eastern limit being at Cumaná, Sucre.

This shy wren preferred the wet woods wherever heavy underbrush was to be found. It was fairly common around Caicara and was observed occasionally at Cantaura. It was recorded in April, May, November, and December. The call notes were a *chunk*, somewhat similar to the scolding note of a squirrel, and a pebbly *crrrrit crrrit* scolding note when the bird was aroused by the collector's "squeaking". The song was a series of hollow notes, generally descending the scale, often followed by a hollow trill. Through one rarely obtained a glimpse of the bird, these hollow notes were typical sounds of the habitat.

TROGLODYTES MUSCULUS CLARUS Berlepsch and Hartert

Troglodytes musculus clarus BERLEPSCH and HARTERT, Nov. Zool., vol. 9, 1902, p. 8 (Bartica Grove, British Guiana).

SPECIMEN COLLECTED

1, unsexed, Cantaura, February 18, 1946; gonads "decomposed"; iris brown; plumage fairly fresh.

The single example of the pale-bellied house wren collected agrees with others from northern Venezuela.

The house wren was common at the edges of the wet woods and around the town of Caicara itself, where it was recorded throughout the year. It was not common around Cantaura, being found only near water. The call and song of this wren were quite similar to those of the house wren of the Eastern United States (*Troglodytes aëdon aëdon*). This species was observed at Cantaura carrying nesting material during the last week of April and in November.

Family MIMIDAE: Mockingbirds, Thrashers

MIMUS GILVUS MELANOPTERUS Lawrence

Mimus melanopterus LAWRENCE, Ann. Lyc. Nat. Hist. New York, vol. 5, 1849, p. 35, pl. 2 (Venezuela).

SPECIMEN COLLECTED

1 unsexed juvenal, Cantaura, April 15, 1946; gonads "decomposed"; iris pale yellow:

Our specimen is rather pale, both in the ventral spots and in its dorsal coloration, but this is purely an individual variation, as is demonstrated by other specimens in similar plumage.

This mockingbird was common on the open savanna wherever a few "chaparro" trees were found together and in the overgrown fields both around Cantaura and Caicara.

Through this species was often observed capturing insects, small fruits and berries also form an important part of its diet.

These birds were nesting at least from the end of January to May, July, and September.

The collector was able to observe a pair of these mockers throughout their nesting. The nest was placed about 5 feet above ground in a bush just outside the office in which he worked.

A series of observations was made on these birds. The résumé is as follows:

July 8-9. Pair come to bush repeatedly, apparently inspecting site.

July 10. Skeleton base of nest of perhaps 20 small twigs at 8 a. m. Both birds come to nest with twigs, generally at about 5-minute intervals. At times, both come together. Both sit in nest to form it. At times birds come to nest without twig. Male often sings away from nest. Birds cease coming at 3 p. m.

July 11. At 7 a. m. nest is already well built, with a good layer of fairly fine grasses in place. Work must have been done between 4 p. m. and 7 a. m. In the morning the birds come several times with grass and then remain away for rest of day. The nest is now completed.

July 12. A bird comes to nest four times in the morning, apparently for inspection only.

July 13. No observation.

July 14. Two eggs in nest at 7 a. m. Bird comes several times and settles over eggs.

July 15. Both birds come in and settle over eggs, at least one coming and leaving about every 10 minutes. At 1 p. m. nest contains three eggs, the third having been laid sometime after 7 a. m. Bird brooding for short periods, leaving nest for approximately half-hour periods.

July 16-26. Brooding. Never could be certain that both birds brooded but presume so as on July 15 both were definitely seen to settle over eggs. The birds (or bird) invariably followed same route through bush to nest, and almost always sat facing the same direction, possibly an indication that only one bird brooded. One was seen chasing a tanager, *Thraupis sayaca glaucocolpa* that approached nest site. (This tanager was apparently quite given to destroying other birds' nests; see remarks under *Coereba flaveola luteola*, p. 522.) On July 22 the bird developed a curious display which it repeated three or four times before entering nest. With body held stiff, it bowed, head down, tail up, wings partially open, usually raised.

July 27. No observation.

July 28. Three young hatched. All appear dry and "cold", don't appear to have hatched before 7 this morning but must have hatched in afternoon of 26th or on 27th, probably both. Bird brooding young at frequent intervals throughout day. Young covered with sparse black down.

July 29. "Peeping" of young audible at 10 feet. Parent observed coming in with food for first time at 2 p. m. Birds generally display (July 22) when entering nest.

July 30. Both parents feeding young. One still broods for short periods and when raining.

August 1. Primaries beginning to appear as pinfeathers on young.

August 2. Pinfeathers beginning to show on wings and back of young.

August 5. Pinfeathers on wings and back about $\frac{3}{4}$ of an inch long, broken through sheath at tips.

August 8. Young with wings fairly well developed, tail about 1 inch long. Giving chipping note. One can stand on edge of nest. By afternoon all are very

active, fluttering their wings briskly, preening themselves, and even hopping out of nest on nearby twigs and then returning. They utter a soft *peee peee* while being fed. Can't make out what the food is. Young uttering a loud *cheeup* note. Parents removing fecal matter from nest, at times apparently actually eating it. Iris of young is dark brown. Parents still giving display when entering bush. One young taken from nest; parents apparently did not notice difference.

August 9. All gone (remaining two were taken from nest for cage birds). One adult comes twice to nest. No alarm given or special excitement shown. Believe young would have left nest today anyway.

The call notes and song were similar to those of the mockingbird of the Eastern United States (*Mimus p. polyglottos*), although the quality and volume of the song are markedly inferior. Moreover, the collector never heard the present species imitate any other bird.

The local name is "paraulata."

Family TURDIDAE: Thrushes

TURDUS NUDIGENIS NUDIGENIS Lafresnaye

Turdus nudigenis LAFRESNAYE, Rev. Zool., vol. 11, 1848, p. 4 (Caracas).

SPECIMENS COLLECTED

1 ♂, Caicara, December 26, 1945, gonads not enlarged; iris russet-brown, eye ring rich yellow, bill dark olive shading to yellow-green at tip.

1 ♂, Cantaura, December 29, 1947; gonads small; iris brown, eye ring orange, bill dull yellow-brown, feet gray-brown; gizzard contained berries.

Our examples, in slightly worn plumage, agree fairly well with one from Ciudad Bolívar.

This thrush was common in the lowland seasonal forest at Caicara; it was present, but rare, in the deciduous seasonal woods at Cantaura and then always near water. It was recorded in the months of January through April, July, September, November, and December.

A nest of mud mixed with a few fine twigs was found at Caicara the first week of July, about 6 feet up in a crotch formed by a big branch; it was so covered with moss as to be most inconspicuous. It contained four blue-green eggs, heavily blotched with russet.

The bird has a variety of calls, some quite thrushlike and some decidedly not. Among the common calls was a catlike *meow* and a rising *cha-ray-rah* (charera). The song was melodious and thrushlike.

Known locally as "charera."

TURDUS LEUCOMELAS ALBIVENTER Spix

Turdus albiventer SPIX, Avium species novae . . . Brasiliam . . . , vol. 1, 1824, p. 70, pl. 69, fig. 2 (Pará, Brazil).

SPECIMENS COLLECTED

1 ♂, Cantaura, April 20, 1946; gonads enlarged; iris brown.

1, unsexed, fledgling, Cantaura, August 10, 1947; iris gray-brown.

The adult is in somewhat worn plumage; the fledgling has the wing and tail feathers only partly grown and probably could hardly fly.

As indicated by the senior author in another report (Proc. U. S. Nat. Mus., vol. 97, 1948, pp. 532-533) *ephippialis* Sclater (Proc. Zool. Soc. London, 1882, p. 109, Bogotá, Colombia) is not separable from *albiventer*.

This thrush was relatively common in the wetter portions of the deciduous seasonal woods at Cantaura. It was recorded from February through October. It was not observed at Caicara. The gonads of the April example were enlarged and the bird was in full song. It was also nesting in July as evidenced by the August fledgling collected.

The song is clear, melodious, and typically thrushlike. The bird also has a harsh scolding call note.

Family SYLVIIDAE: Warblers, Gnatcatchers, and Kinglets

POLIOPTILA PLUMBEA PLUMBICEPS Lawrence

Polioptila plumbeiceps LAWRENCE, Proc. Acad. Nat. Sci. Philadelphia, vol. 17, 1865, p. 37 (Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, February 10, 1946; gonads slightly enlarged; iris dark brown; plumage fresh and in good condition.

The specimen differs from examples from Ocumare de la Costa, La Trilla, Independencia, and Maracay, and agrees with others from Soledad, Ciudad Bolívar, and the Upper Orinoco, in having no whitish feathers (all blackish) behind the nostrils.

This gnatcatcher was common locally at the edge of the dry and wet woods around Cantaura and Caicara, often in small flocks of three or four individuals; recorded throughout the year.

The call of this bird was a loud *eeeah*, which reminded the collector of one of the notes of the catbird (*Dumetella carolinensis*) of the Eastern United States. The song was an even series of clear, spaced *chee-chee-chees*, sometimes running slightly up or down the scale.

RAMPHOCAENUS MELANURUS TRINITATIS Lesson

Ramphocaenus trinitatis LESSON, Rev. Zool., vol. 2, 1839, p. 42 ("in insula Trinitatis").

SPECIMEN COLLECTED

1 ♂, Caicara, February 22, 1948; gonads small; iris light brown; bill light brown, feet dark blue gray; gizzard contained insects; plumage fairly fresh.

Zimmer (Amer. Mus. Nov., No. 917, 1937, pp. 14-15) has outlined the not-too-clear present status of *trinitatis*. Without further material it is not feasible to attempt to go beyond his presentation of the case. The present specimen is clearly like those that Zimmer calls "*trinitatis* (near *pallidus*)."

The specimen was collected in the deciduous seasonal woods at Caicara; it was not otherwise recorded. The bird was uttering a chattering note. At the same time its tail was spread fanwise, cocked straight up and vigorously swinging from side to side while in that position. This action was a striking field mark, not likely to be overlooked in spite of the small size of the bird.

Family MOTACILLIDAE: Pipits

ANTHUS LUTESCENS LUTESCENS Pucheran

Anthus lutescens (Cuvier MS.) PUCHERAN, Arch. Mus. Hist. Nat. Paris, vol. 7, 1855, p. 343 ("Brésil," vicinity of Rio de Janeiro).

SPECIMEN COLLECTED

1 ♂, Caicara, December 20, 1945; gonads not enlarged; iris brown.

Our single example is in molt and is therefore not so useful for critical study as it otherwise might have been, but it agrees very well with a good series from Brazil. Specimens from Argentina are somewhat darker, but the difference is not great. Hellmayr (Catalogue of the birds of the Americas, pt. 8, 1935, p. 91, footnote) cautions against further "splitting" of this "notoriously variable" species, and it is true that larger series are needed before the whole matter can be straightened out.

Caicara appears to be the northeasternmost Venezuelan locality from which the yellowish pipit has been recorded. Hellmayr does not include British Guiana in its range; it may therefore be worth while to record a specimen in the United States National Museum from "Demerara" (No. 70695). If the admittedly general locality on the label be accurate it is the northeasternmost record for the species; if not, our present bird from Caicara would seem to have that honor.

This pipit was abundant on the open savanna at least during March, May through October, and December.

It was in full song in June. The bird would rise to a considerable height, often until it appeared a speck in the sky, and utter its four notes again and again. The song may be written *tsit, tsit, tsit, zeeeeeee*, the pipit uttering one weak *tsit* with each successive wing beat, then falling with outspread wings as it utters the penetrating *zeeeeeee*. In the middle of June the collector timed one singing bird. It sang approximately once every 9 seconds for about 20 minutes.

One neat, ovenlike nest of this species was found in the short grass late in June. It contained five young.

Family CYCLARHIDAE: Pepper Shrikes

CYCLARHIS GUJANENSIS FLAVIPECTUS Sclater

Cyclarhis flavipectus SCLATER, Proc. Zool. Soc. London, 1858, p. 448, part (Trinidad).

SPECIMEN COLLECTED

1 ♂, Cantaura, April 15, 1945; gonads very small; iris bright orange; plumage rather worn.

The specimen collected has very little buffy tone on the abdomen but appears nevertheless to be of the race *flavipectus* in its other characters.

This bird was rather common in the deciduous seasonal woods throughout the area during the months of March through November, with a record of a single in January. There was considerable movement during April and May, "waves" of the birds occasionally being observed, with the bird abundant in places where a short time before it was totally absent. It was very much more abundant late in April and early in May than during the rest of the year.

The song of the bird was unmistakable. It consisted of a rapid *cheeee-che-chrrrr*, the first note high and accented, the second lower, and the third still lower. This combination was usually repeated three times, each set being lower and slightly faster than the preceding one.

Family VIREONIDAE: Vireos

VIREO VIRESCENS VIVIDIOR Hellmayr and Seilern

Vireo chivi vividior HELLMAYR and SEILERN, Verh. Orn. Ges. Bay., vol. 12, 1913, p. 315 (Caparo, Trinidad).

SPECIMEN COLLECTED

1 ♂, Cantaura, April 18, 1945; gonads enlarged; iris dull red, bill and feet blue-gray.

The present example of the Caribbean vireo collected was quite fat and had several large seeds and small insects in its gizzard. It was found in fairly open woods, where the collector noted that its song was very similar to that of the North American red-eyed vireo (*Vireo virescens virescens*), a welcome bit of evidence for their conspecificity.

This vireo was common in the dry woods around Cantaura, March through August, and in the wet woods around Caicara, March to December. A marked increase in numbers around Cantaura about the middle of April was noted both in 1945 and 1946, suggestive of at least local movement of the species.

HYLOPHILUS AURANTIFRONS SATURATUS (Hellmayr)

Pachysylvia aurantiifrons saturatus HELLMAYR, Nov. Zool., vol. 13, 1906, p. 12 (Rincón de San Antonio, state of Sucre, northeastern Venezuela).

SPECIMEN COLLECTED

1 ♀, Caicara, November 6, 1947; gonads small; iris brown, feet pale blue-gray; maxilla gray, mandible flesh color; gizzard contained insects.

Agrees with other specimens from Ocumare de la Costa and El Sombrero, farther to the west in northern Venezuela.

HYLOPHILUS FLAVIPES ACUTICAUDA Lawrence

Hylophilus acuticauda LAWRENCE, Proc. Acad. Nat. Sci. Philadelphia, 1865, p. 37 (Venezuela; Puerto La Cruz, Carabobo, suggested as restricted type locality by Todd, Proc. Biol. Soc. Washington, vol. 42, 1929, p. 198).

SPECIMEN COLLECTED

1 ♂ (?), Cantaura, January 9, 1946; gonads not enlarged; iris brown; tarsi and toes bluish.

The specimen collected agrees with a series from Soledad and Ciudad Bolívar.

This small vireo was common at the edge of the dry woods around Cantaura. It was not recorded from Caicara, possibly having been overlooked by the collector. The bird was heard to utter two different call notes, a high *seeeeeep* and a soft *chick-chick*. At Cantaura it was recorded in January, March, and December.

Family COEREBIDAE: Honeycreepers

CYANERPES CYANEUS CYANEUS (Linnaeus)

Certhia cyanea LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 188 (based on "The Black and Blue Creeper" Edwards, Gleanings of natural history, vol. 2, p. 114, pl. 264, Surinam).

SPECIMEN COLLECTED

1 unsexed (♂ by plumage), Mundo Nuevo near San Antonio de Maturín, Monagas, February 1946.

The only example collected is in a rather disarranged condition but is obviously an adult male as far as its plumage may be taken as a criterion. The example was presented to the collector by Pedro Montes. The species was not present around Cantaura or at Caicara.

COEREBIA FLAVEOLA LUTEOLA (Cabanis)

Certhiola luteola CABANIS, Museum Heineanum, vol. 1, 1851, p. 96 (Puerto Cabello [?], Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, April 15, 1945; gonads greatly enlarged; iris dark brown; plumage somewhat worn.

The present specimen agrees with others examined. It has the white alar speculum well developed.

The Caribbean bananaquit occurs in northern Venezuela south to the Orinoco Valley. It was common locally at the edge of the woods both at Cantaura and at Caicara and was recorded during every month of the year. It was observed building its little ovenlike grass

nest as early as February 2, but eggs were not found until the latter half of April. One nest that appeared finished on March 2 was still being worked on by both birds on March 7, and at that date it still contained no eggs. This is rather interesting when one considers the nesting record of the mockingbird (*Mimus gilvus melanopterus*) and when the much smaller size of the present bird is taken into account. The nests were usually placed at less than 10-feet above ground, often in the crotch of a nettle. An April nest was destroyed by a pair of tanagers (*Thraupis sayaca glaucocolpa*), which tore out most of the top and entrance. They did not touch the young at the time, but two days later the nest was empty.

This species has a variety of simple, unmelodious songs. Some may be written as follows: *seeeeep*, *chu-chu-chu*; *chu-weeet*; *chuwheet*; and *chreee*, *whitzy-whitzy-whitzy* repeated rapidly over and over again.

Family PARULIDAE: Wood Warblers

PARULA PITIAYUMI ELEGANS (Todd)

Compsothlypis pitiayumi elegans TODD, Ann. Carnegie Mus., vol. 8, 1912, p. 204 (Anzoátegui, Lara, Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, December 2, 1945; gonads not enlarged; feathering somewhat abraded.

This race ranges from Trinidad and Tobago south across Venezuela to northern Brazil.

This little warbler was fairly common both in the dry woods around Cantaura and the wet woods around Caicara, from November through May. The song heard in Caicara in December may be written as *sip, sip, sip, sip, crrrrr*, the "sips" being on the same pitch, the "crrrrr" a rapidly rising note. The song was harsher than that of the North American parula warbler (*Parula a. americana*), especially the last note, which was a distinct *cr, rr, r*, not a smooth, rising buzz as in the North American species. The present species also sang *crrrrr*, *cheee*, *cheee*, *cheee*, *cheee*.

DENDROICA PETECHIA AESTIVA (Gmelin)

Motacilla aestiva GMELIN, Systema naturae, vol. 1, pt. 2, 1879, p. 996 (Canada accepted as type locality).

SPECIMENS COLLECTED

1 unsexed (=♂), 1 imm. ♂, Cantaura, October 1 and December 29, 1947; iris dark, bill and feet brownish.

The immature bird is almost dark enough above to be *amnicola* Batchelder of Newfoundland but is matched by other examples of *aestiva* of comparable season, sex, age, and wear. Birds in this plumage are very unsatisfactory for subspecific identification.

This warbler was recorded in the deciduous seasonal woods edge both at Cantaura and Caicara from September through January. It was generally seen in singles or pairs. The October specimen uttered a twittering scolding note. It was one of a pair seen together.

DENDROICA PETECHIA RUFOPILEATA Ridgway

Dendroica rufopileata RIDGWAY, Proc. U. S. Nat. Mus., vol. 7, 1884, p. 173 (Curaçao, Dutch West Indies).

SPECIMEN COLLECTED

1 ♂, Barcelona, July 12, 1948; gonads very greatly enlarged; iris dark, bill black, feet pale tan; bird in constant song when taken.

This specimen has been compared with the type and found to agree very closely, but it has the orange-brick ventral stripes somewhat heavier and more produced caudally, with the upper back slightly paler, more yellowish, less greenish.

Hellmayr (Catalogue of the birds of the Americas, pt. 8, 1935, pp. 377-378) gives the range of this race of the golden warbler as the "islands off the north coast of Venezuela" and gives no race as occurring on the mainland. However, Zimmer and Phelps (Amer. Mus. Nov., No. 1270, 1944, p. 15) list specimens from several mainland localities, including Puerto La Cruz, Anzoátegui. In their description of *D. p. cienagae* (*loc. cit.*, p. 14) from La Ciénaga, between Ocumare de la Costa and Turiamo, state of Aragua, Venezuela, they inform us that this race is similar to *rufopileata*, "but the stripes, in the male, extend over the throat and chin, instead of being confined to the breast." The present specimen has the chin and throat unstriped as in the type of *rufopileata*, and it is in no way an intermediate between the two races.

This warbler was common in the sparse woods within a hundred yards of the seashore at Barcelona. It was not recorded elsewhere. The specimen collected was in full song.

SETOPHAGA RUTICILLA RUTICILLA (Linnaeus)

Motacilla ruticilla LINNAEUS, Systema naturae, ed. 10, vol. 1, 1758, p. 186 (based on "The Redstart" Catesby: Virginia).

SPECIMEN COLLECTED

1 ♀, Cantaura, April 13, 1946; gonads definitely enlarged; iris brown.

Judged by the well-developed yellow alar speculum and the olive-green color of the back, this example must be considered true *ruticilla*. Both this form and *tricolora* occur together in winter in Venezuela.

The bird collected was one of a flock of several females, the first ones seen in the spring. No males were seen. Our specimen is in rather worn feathering.

This bird was recorded in the deciduous seasonal woods at Cantaura during March, April, and May, generally seen in small flocks. The collector did not observe it at Caicara.

Family ICTERIDAE: Troupials

XANTHORNUS DECUMANUS DECUMANUS Pallas

Xanthornus decumanus PALLAS, Spicilegia zoologica, fasc. 6, 1769, p. 1, pl. 1 (Surinam).

SPECIMEN COLLECTED

1 unsexed (apparently ♂), Caicara, December 21, 1945; iris blue.

The feathers of the back and lower back in this specimen are faintly edged with deep bay, agreeing in this respect with examples from Ocumare de la Costa and El Sombrero. Our bird is definitely not *insularis* (Dalmas), which must have a very restricted range on the mainland of northeastern Venezuela.

This bird was fairly common in the wet woods around Caicara, generally encountered in flocks of 10 to 20 individuals, March to December. It was not present around Cantaura.

The call was a rattle (vocal?), followed by a hollow *chu ki chu ki clo coooo*.

Local name, "conoto."

XANTHORNUS VIRIDIS (P. L. S. Müller)

Oriolus viridis P. L. S. MÜLLER, Natursystem, Suppl., 1776, p. 87 (based on "Cassique vert de Cayenne" Daubenton, Planches enlum., pl. 328; Cayenne).

SPECIMEN COLLECTED

1 ♂, Caicara, July 5, 1947; gonads enlarged; iris blue, bill yellow with orange tip; gizzard contained large insects; an adult bird in worn plumage.

This bird was found only in the lowland seasonal forest at Caicara, where it was somewhat less common than *Xanthornus decumanus decumanus*. It was recorded in March and July.

Local name, "conoto real."

CACICUS CELA CELA (Linnaeus)

Parus Cella LINNAEUS, Systema naturae, ed. 10, vol. 1, 1758, p. 191 ("in India"; error = Surinam).

SPECIMEN COLLECTED

1 ♂, Caicara, December 20, 1945; gonads not enlarged; iris milk white; specimen in fine fresh plumage.

This specimen was compared with a good series from various parts of the range of this widely distributed form and found to be in close agreement in every way.

This caique was rather common in the lowland seasonal forest at Caicara, being recorded in March, April, July, August, and December.

Though the bird was not recorded in the deciduous seasonal woods within the area, it was observed in similar woods near water to the north of the study area, proof that the species was not closely confined to the lowland seasonal forest.

In June and July colonies of 5 to 30 pairs swung their pendant nests from the tops of dead trees throughout the forest. Locally they are reputed to build their nests near large wasp nests for protection. Whatever the reason, it was often found that a wasp nest would occupy one of the upper branches of the tree in which the birds were nesting.

The commonest call was a rising *croruck* followed by three whistled notes, *weeo*, *whow*, *wu*, each lower than the preceding note.

Local name, "arrendajo."

MOLOTHRUS BONARIENSIS VENEZUELENSIS Stone

Molothrus venezuelensis STONE, Auk, vol. 8, 1891, p. 347 (Venezuela=Lake Valencia).

SPECIMEN COLLECTED

1 ♂, Caicara, January 1, 1946; gonads not enlarged; iris brown.

The single specimen collected is in fairly fresh plumage.

The example collected of the Venezuelan shiny cowbird was one of a pair that were eating blossoms on the top of a tall tree at the edge of the wet woods. The bird was fairly common in open fields around Cantaura; rare during the winter months, increasing in numbers toward the end of February. Flocks of more than about 10 individuals were not observed.

HOLOQUISCALUS LUGUBRIS LUGUBRIS (Swainson)

Quiscalus lugubris SWAINSON, Animals in menageries, 1837, p. 299 ("Brazil"; error = British Guiana).

SPECIMEN COLLECTED

1 ♀, Caicara, December 20, 1945; gonads not enlarged; iris white; plumage fairly fresh.

The bird was taken in open mesa type of country. Comparison of it with other examples of *lugubris* and with *insularis* shows no trend toward the latter form. It follows that *insularis* is wholly confined to Margarita Island as far as present evidence goes.

This grackle was fairly common locally at the edge of the open savanna both around Cantaura and Caicara, usually encountered in flocks of from 10 to 30 birds. The call note of this species was a gracklelike *check-check* and a high descending *cheeee*.

It was recorded throughout the year, nesting in February, March, and September. The nest was a well-built affair of twigs, fibers, string, and cotton and was often placed in the *Trinitaria* bushes growing against the houses.

The males were in continual song toward the end of January, one being timed at four songs per minute. The song consists of five or six evenly spaced notes, each one a little higher than the last, *chee, chee, chee, chee, chee*. The males sang on the ground as they fed in small flocks, often without the presence of females, and this song was usually accompanied by a curious display. The singing bird would lower its head, lift its outspread tail almost straight up, and utter its song, jumping slightly and fluttering its wings with each consecutive "chee."

Local name, "tordo."

LEISTES MILITARIS MILITARIS (Linnaeus)

Emberiza militaris LINNAEUS, *Systema naturae*, ed. 10, vol. 1, 1758, p. 178 (based on "Turdus ater, pectore coccineo" Linnaeus; Surinam suggested by Berlepsch and Hartert, *Nov. Zool.*, vol. 9, 1902, p. 33).

SPECIMEN COLLECTED

1 ♂, San Ramón, July 23, 1944; gonads enlarged; iris brown; plumage very worn.

The "sangre de toro lagunero," as this bird was called locally, was found in wet meadows in the bottomlands of the river valleys.

It was rare in the study area, being recorded as singles or pairs in wet meadows during June, July, August, and September.

ICTERUS AURICAPILLUS (Cassin)

Icterus auricapillus CASSIN, *Proc. Acad. Nat. Sci. Philadelphia*, vol. 3, 1847 (1848), p. 332 ("Mexico," error; and "South America").

SPECIMEN COLLECTED

1 ♂, Cantaura, January 31, 1945; gonads very small; plumage somewhat worn.

The orange-crowned oriole was common at the edge of the wet woods around Caicara in December, usually seen in small flocks of four to six individuals. It was rare around Cantaura in December and January and was not seen at Caicara except in December.

The call note is a dull, oriolelike *cherrr*. Some of its other notes were similar to those of *I. n. nigrogularis*.

Local name, "toche."

ICTERUS NIGROGULARIS NIGROGULARIS (Hahn)

Xanthornus nigrogularis HAHN, *Vögel aus Asien, Africa . . .*, livr. 5, 1819, pl. 1 ("Jamaica, Mexico, and Cayenne" = Brazil).

SPECIMEN COLLECTED

1 ♀, Cantaura, February 11, 1945; gonads not enlarged; iris yellow; plumage fairly fresh.

Although its habitat is well up in the northeastern part of Venezuela, the present specimen shows no approach toward *trinitatis*

Hartert. Hellmayr's statement (Catalogue of the Birds of the Americas, pt. 10, 1937, p. 133, footnote) that birds from northeastern Venezuela help bridge the gap between true *nigrogularis* and *trinitatis* must therefore be restricted to the birds of the Paria coastal areas.

This yellow oriole was common in the dry bushy fields and dry woods edge around both Cantaura and Caicara. It was not common near the wet woods and was rarely seen in the same places as the preceding species. During the winter months these birds wandered about, usually in small, rather quiet flocks of three to five birds. The flocks tended to break up as April approached and by the middle of that month the males were in full song. By the second week in May the hanging yellowish fiber nests were common; although an individual was observed making a nest as early as April 4. Nests were found in April, May, June, September, and October.

The call note of this species is a loud, harsh *cheek*. The song is composed of four to eight clear, whistled notes, each note remaining on the pitch at which it began and not slurring from one to the other as in the more striking notes of the "turpial" (*I. i. icterus*), which was also fairly common in the area.

Local name, "pespes."

ICTERUS ICTERUS ICTERUS (Linnaeus)

Oriolus icterus LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 161 (based primarily on "Le Troupiale" Brisson, Ornithologia, vol. 2, p. 86, pl. 8, fig. 1, "in America calidiore"="Cayenne" *ex* Brisson).

SPECIMEN COLLECTED

1 ♂, Cantaura, July 2, 1947; gonads greatly enlarged; iris yellow, eye ring blue, feet and base of bill blue-gray; gizzard contained insects; plumage very worn.

This beautiful oriole was rather strictly limited to the deciduous seasonal woods-edge habitat, where it was rather common, being recorded throughout the year.

The gonads of the July male were greatly enlarged. Locally, this oriole is supposed to use the nest of the *Phacellodomus rufifrons inornatus* rather than build a nest of its own. The collector can neither confirm nor deny this belief, but in April he did observe the bird on two occasions, in different localities, entering and leaving one of these nests.

The commonest call is a clear, loud, whistled *tur-pee-al*, the second syllable high and accented, usually repeated many times.

Local name, "turpial."

GYMNOMYSTAX MEXICANUS (Linnaeus)

Oriolus mexicanus LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 162 ("Cayenne").

SPECIMEN COLLECTED

1 ♂, Cantaura, September 1, 1947; gonads enlarged; iris brown, skin around eyes and bill black; gizzard contained seeds and insects; plumage somewhat worn.

This large yellow-breasted blackbird was common at the savanna ponds and occasional throughout the deciduous seasonal woods and edge in the vicinity of water. It was recorded in January, February, March, April, May, July, August, September, November, and December, generally in small flocks. In August a bird was seen carrying food in its bill, presumably to feed young.

The collector never observed it in cornfields, as the local name would indicate.

Local name, "tordo maicero," corn blackbird.

STURNELLA MAGNA PRATICOLA Chubb

Sturnella magna praticola CHUBB, Ann. Mag. Nat. Hist., ser. 9, vol. 8, 1921, p. 445 (Abary River, British Guiana).

SPECIMEN COLLECTED

1 ♀, Cantaura, February 9, 1946; gonads greatly enlarged; iris brown, bill light blue-gray.

The small size (wing 91 mm.) of our specimen leaves no doubt as to its being *praticola* and not *paralios*. It differs from two male specimens of *praticola* from Puerto Ayacucho on the Upper Orinoco in having the nape and upper back more brownish, the dark centers of the feathers less blackish, and also in having the two stripes on the head more brownish, less blackish.

The Guianan meadowlark was common on the open savanna; it was rarely seen in small fields similar to those which, in the eastern United States, would have supported a pair of North American meadowlarks (*S. m. magna*). The song was similar to but more rapid than that of *S. m. magna*.

It was recorded throughout the year, nesting in May and November.

A fledgling was brought to the collector on May 5, 1945.

The bird was commonly known locally as "mochila vacia" in imitation of its song. It was known also as "perdigón."

Family THRAUPIDAE: Tanagers

TANAGRA CHLOROTICA TRINITATIS (Strickland)

Euphonia trinitatis STRICKLAND, Contr. Orn., pt. 2, 1851, p. 72 (Trinidad).

SPECIMENS COLLECTED

1 ♂, Caicara, December 23, 1945; gonads slightly enlarged; iris brown; a young bird molting into adult plumage.

1 ♂, 1 ♀, Cantaura, January 9, 1946 and February 17, 1945; gonads of January ♀ slightly enlarged, of February ♂ very much so; iris brown in ♀, black in ♂; feet of ♂ black.

The collector found this little tanager in open wooded areas, around both Caicara and Cantaura, throughout the year, generally encountered in small flocks of from 6 to 10 individuals. The clear high whistle, usually uttered twice, was one of the typical calls in the habitat. The bird also uttered a thin clear twitter.

Local name, "fin fin," in imitation of the call.

TANAGRA LANHIROSTRIS CRASSIROSTRIS (Sclater)

Euphonia crassirostris SCLATER, Proc. Zool. Soc. London, 1856 (1857), p. 277 ("New Grenada, Bogotá").

SPECIMEN COLLECTED

1 ♀, Caicara, December 19, 1945; gonads not enlarged; iris brown, tarsi and toes dull blue, soles of feet flesh color; plumage abraded.

The collector observed this bird only once, when the present example was taken in the deciduous seasonal woods at Caicara.

CALOSPIZA CAYANA CAYANA (Linnaeus)

Tanagra cayana LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 315 (based on "Le Tangara nord, de Cayenne" Brisson, Ornithologia, vol. 3, 1760, p. 21, pl. 4, fig. 3; Cayeane).

SPECIMEN COLLECTED

1 ♂, Cantaura, August 17, 1947; gonads small; iris brown; gizzard contained seeds; plumage somewhat abraded.

This specimen agrees with others from southern and central Venezuela reported on elsewhere by the senior author (Proc. U. S. Nat. Mus., vol. 97, 1948, pp. 553-554). Judged by the range given by Hellmayr [Catalogue of the birds of the Americas, pt. 9, 1936, p. 159 (French, Dutch, and British Guiana, southern Venezuela (Orinoco and Caura Valleys), northern Brazil, eastern Peru)] this bird must be from near the northern edge of the distribution of its race.

This tanager was recorded on the savanna in groves of "moriche" palms during April and August, when small flocks of about five individuals were seen.

THRAUPIS EPISCOPUS CANA (Swainson)

Tanagra cana SWAINSON, Ornithological drawings, pt. 3, 1836, pl. 37 (no locality indicated; "Venezuela" suggested by Berlepsch, restricted to Caracas by Hellmayr, Arch. Naturg., vol. 90A, No. 2, 1924, p. 185).

SPECIMEN COLLECTED

1 ♂, Cantaura, December 30, 1947; gonads small; iris brown, maxilla black, mandible blue-gray, feet black. The bird is in quite fresh plumage.

Hellmayr (Catalogue of the birds of the Americas, pt. 9, 1936, p. 213, footnote) writes that birds of northeastern Venezuela (Sucre) and the Orinoco Basin are intermediate between typical *cana* and *neso-*

philus of Trinidad but nearer to the former race. This is borne out by the present specimen. The picture is not altogether clear, however, as is indicated by some of the Venezuelan localities from which Zimmer (Amer. Mus. Nov., No. 1262, 1944, pp. 14-15) lists specimens of both of these races.

This bird was recorded twice, in April and December, both times near Cantaura in groves of "moriche" palms on the open savanna.

THRAUPIS SAYACA GLAUCOCOLPA Cabanis

Thraupis glaucocolpa CABANIS, Museum Heineanum, vol. 1, 1851, p. 28 ("Caracas," Venezuela).

SPECIMEN COLLECTED

1 ♂, Cantaura, March 17, 1945; gonads slightly enlarged; iris brown; plumage worn.

Study of a small series raises the possibility that the birds inhabiting Margarita Island are a separable race, on the basis of slightly larger size, or, at least, longer wing. Thus, a female from that island has a wing length of 87.2 mm.; a male 91 mm. The present male from the Venezuelan mainland has a wing measuring 81 mm., while two unsexed birds from Savanilla, Colombia, measure 82.5 and 86.2 mm., respectively.

This tanager was common in the wet and dry woods around Caicara and Cantaura, usually encountered in groups of two to five birds.

It appeared to the collector that the local distribution of this species was rather closely limited by the size of the trees in the area. Given two or three large trees (40 to 50 feet high) in a bushy field or in a village park, he could be fairly certain of finding one or two birds of this species. However, in his experience the bird was rare in deciduous seasonal woods composed only of trees 15 to 30 feet high.

The call note was a smooth sibilant *seeeep*; the song was weak and rambling.

Local name, "azulejo."

THRAUPIS PALMARUM MELANOPTERA (Sclater)

Tanager melanoptera SCLATER, Proc. Zool. Soc. London, vol. 24, 1856 (Jan. 1857), p. 235 (eastern Peru).

SPECIMEN COLLECTED

1 ♀, Cantaura, October 12, 1947; gonads slightly enlarged; iris dark brown; gizzard contained one large seed; plumage very abraded, molting in the wings and tail.

This species was encountered in groves of "moriche" palms on the savanna at Cantaura during the months of March through May and September. It was fairly common, often in flocks of 5 to 10 individuals.

It was heard to utter a soft *whit-whit* and a rising *seeeep*.

RAMPHOCELUS CARBO CAPITALIS Allen

Ramphocoelus astrosericeus capitalis ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 4, 1892, p. 51 (El Pilar, near Carúpano, Sucre, Venezuela).

SPECIMEN COLLECTED

1 ♀, Caicara, July 5, 1947; gonads greatly enlarged (small yolks); iris red-brown; gizzard contained a large caterpillar; in adult breeding condition; plumage fairly fresh.

This specimen is identified to the present subspecies largely on geographic grounds, as the race *capitalis* is one of those forms in which the distinguishing characters are to be seen only in the males. Hellmayr (Catalogue of the birds of the Americas, pt. 9, 1936, p. 255, footnote) gives no diagnostic characters for the females, and it is not surprising, therefore, to find that the present example does not differ appreciably from the female of the race *venezuelensis*.

This tanager was encountered only in the lowland seasonal forest at Caicara, where it was rather common. It was recorded in March, April, July, September, and November. Although the collector searched for the bird in December, he was unable to record it in that month.

TACHYPHONUS RUFUS (Boddaert)

Tangara rufa BODDAERT, Table des planches enluminées, 1783, p. 44 (based on "Le Tangaroux de Cayenne" Daubenton: Cayenne).

SPECIMEN EXAMINED

1 ♂, Caicara, December 23, 1945; gonads not enlarged; iris brown; fairly fresh plumage.

The bird collected was found in moist woodlands. This species was common at clearings in or near the lowland seasonal forest at Caicara, where it was recorded throughout the year. It was not observed at Cantaura. It was very fond of the over-ripe fruit of the papaya (*Carica papaya*). Flocks of more than 10 individuals often were seen feeding.

NEMOSIA PILEATA PILEATA (Boddaert)

Tanagra pileata BODDAERT, Table des planches enluminées, 1783, p. 45 (based on "Tangara à coëffe noire, de Cayenne" Daubenton: Cayenne).

SPECIMENS COLLECTED

2 ♂, Cantaura, February 2, 1945 and April 13, 1946; gonads not enlarged in the February bird, greatly so in the April one; iris bright yellow, tarsi and toes dull yellow, bill black.

These two specimens agree with a fair series from various parts of the range of this tanager. The April bird is slightly darker above than the February one.

This bird was seen around Cantaura at the edge of the dry woods from December until May. It was encountered singly at rare intervals

until the middle of April, when several were seen daily for about a week, after which it was rarely seen. The call note is a sharp, loud *chip*.

HEMITHRAUPIS GUIRA NIGRIGULA (Boddaert)

Tanagra nigrigula BODDAERT, Table des planches enluminées, 1783, p. 45 (based on "Tangara olive à gorge noire, de Cayenne" Daubenton: Cayenne).

SPECIMEN COLLECTED

1 ♂, Cantaura, April 8, 1945; gonads very small; iris brown.

The bird collected had apparently lost its rectrices sometime earlier and the new ones were still in the pinfeather stage, and were lost in the process of preparing the specimen. Fortunately, however, the characters of the race are not in the tail feathers, and our bird agrees very well with *nigrigula*, both by description and by comparison with named material.

The species was found at the woods edge.

Family FRINGILLIDAE: Finches, Sparrows, and Buntings

SALTATOR COERULESCENS BREWSTERI Bangs and Penard

Saltator olivascens brewsteri BANGS AND PENARD, Bull. Mus. Comp. Zool., vol. 42, 1918, p. 91 (Caparo, Trinidad).

SPECIMENS COLLECTED

2 ♀, Caicara, December 22–27, 1945; gonads not enlarged; iris brown.

The specimen obtained December 27 is in molt, but it matches another similar bird from near El Sombrero. The other one is an immature greenish-backed bird, very different in appearance from the gray-backed adult.

Seeds and fruit pulp were found in the gizzard of the adult.

This species was common at the edge of the wet woods around Caicara; it was not present around Cantaura. The only note recorded was a short song, which might be written *errrr*, *cheechu*, *cheechu*, *cheechu*, the *cheechu* slurring from a high *chee* to a low *chee*. Although similar to the song of the following species, that of the present one was readily distinguishable.

SALTATOR ORENOCENSIS ORENOCENSIS Lafresnaye

Saltator orenocensis LAFRESNAYE, Rev. Zool., vol. 9, 1846, p. 274 ("l'embouchure de l'Orénoque," Venezuela).

SPECIMEN COLLECTED

1 ♂, Caicara, December 23, 1945; gonads not enlarged; iris brown.

This example has the underparts unusually heavily suffused with tawny-rufescent, almost as in *rufescens* Todd, of northwestern Vene-

zuela, but in size it agrees with *orenocensis*, to which race it should belong on geographic grounds.

This saltator was common at the edge of the dry woods around Cantaura and Caicara; it was present, but not common, at the edge of the wet woods. In its actions, this was a rather quiet bird. It could often be seen sitting quietly eating blossoms of papaya (*Carica papaya*) or cundiamor (*Momordica charantia*) slowly, one after the other.

Two calls were noted for this species, a sharp *cheep* and a scolding *chew-chew-chew*. The song varied, but two typical ones were recorded—a rhythmic rapid *wee-chee-chrrr* repeated over and over, the *chee* being the highest and accented note, the *chrrr* the lowest, and a *peee-chu* repeated again and again.

Local name, "pichu-pichu," in imitation of the song.

SPIZA AMERICANA (Gmelin)

Emberiza americana GMELIN, Systema naturae, vol. 1, pt. 2, 1789, p. 872 (based on "Black-throated Bunting" Pennant, Arctic zoology, vol. 2, p. 364, pl. 17: New York).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Cantaura, February 2 and 20, 1948; gonads small; iris brown, bill light brown darkening at tip and top, feet brown.

The dickcissel is a common winter visitor in Venezuela. It was recorded in the deciduous seasonal wood-edge habitat at Cantaura during the months of January through April, and November. In season it was the commonest bird in the habitat, at least 500 being seen in a day, probably considerably more, as it was difficult to estimate their numbers. Toward evening these birds could be seen flying over high, in flocks of about 50 individuals. At times the pebbly *chrrri* note could be heard, even when the birds were flying rather high.

SPOROPHILA INTERMEDIA Cabanis

Sporophila intermedia CABANIS, Museum Heineanum, vol. 1, 1851, p. 149 (Venezuela).

SPECIMENS COLLECTED

1 ♂ (juv.), 1 ad. ♂, Cantaura, March 17 and April 11, 1946; gonads very small; iris brown.

The young bird, which is in a plumage resembling that of the adult female, has a dark bill; the adult has a pale beak. The adult has only a few whitish feathers on the throat. Both birds are in worn plumage.

This finch was seen occasionally in bushy fields around Cantaura and Caicara, never more than two individuals at a time. It was fairly common in the deciduous seasonal woods habitat, at times being seen in small flocks of less than 10 individuals. It was recorded throughout the year.

A pair raised two broods in front of the collector's home. When the two fledglings left the nest in the third week of September, the female began on the same day to brood at another nest, a small, well-built, cuplike affair of grasses placed about 15 feet above the ground. The female apparently did all the incubating while the male attended to the young. Perhaps understandably enough, he was heard to sing very little at that time.

The song reminded the collector greatly of the song of the North American indigo bunting (*Passerina cyanea*).

Local name, "pico de plata," silver-bill, referring to the bird's pale beak.

SPOROPHILA LINEOLA (Linnaeus)

Loxia lineola LINNAEUS, *Systema naturae*, ed. 3, vol. 10, pt. 1, 1758, p. 174 ("Asia"=Surinam, Berlepsch and Hartert, *Nov. Zool.*, vol. 9, 1902, p. 26).

SPECIMEN COLLECTED

1 ♂, Cantaura, July 27, 1947; gonads very small; iris dark brown; gizzard contained small seeds; plumage somewhat abraded.

Judged by the data given by Hellmayr (*Catalogue of the birds of the Americas*, pt. 11, 1938, pp. 209-211) the lined seedeater is an uncommon bird in Venezuela; he lists but one record from Lake Valencia, Carabobo, and three from Caicara on the Orinoco.

On two occasions in July small flocks of this finch were seen at the same pond in the deciduous seasonal woods edge at Cantaura.

SPOROPHILA BOUVRONIDES (Lesson)

Pyrrhula bouvronides LESSON, *Traité d'ornithologie*, livr. 6, 1831, p. 450 (Trinidad).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Caicara, July 5, and November 6, 1947; gonads of July ♂ enlarged, of November ♀ small; iris dark brown to black, bill of ♀ light brown with the base of mandible yellowish, feet blackish; gizzards contained small seeds; ♂ in fairly fresh plumage, ♀ much abraded.

The male has no whitish flecks on the forehead, agreeing in this respect with others from Ciudad Bolívar (*Proc. U. S. Nat. Mus.*, vol. 97, 1948, p. 565).

This little finch was recorded in the months of April through September. It was present in the deciduous seasonal woods both at Cantaura and Caicara and in the lowland seasonal forest at Caicara, being much commoner at Caicara. Careful search for this species in other months failed to record the bird, except for one somewhat doubtful record at Cantaura in January. In September at Caicara the bird was abundant, in flocks of 10 to 15 individuals, where before only singles and pairs had been recorded. This was apparently premigration flocking, as the bird was absent or very rare in October.

To judge from gonadal condition of the specimen taken, pair formation, and song, this finch was apparently breeding in July. The song was a hard, loud, rising trill.

SPOROPHILA MINUTA MINUTA (Linnaeus)

Loxia minuta LINNAEUS, *Systema naturae*, ed. 10, vol. 1, 1758, p. 176 (Surinam).

SPECIMENS COLLECTED

1 ♂, Caicara, December 18, 1945; gonads very small; iris dull brown; gizzard contained small seeds.

1 ♂, Cantaura, April 17, 1947; gonads slightly enlarged; iris black.

The Caicara bird, although sexed as a male, is in female plumage, and may therefore be young. Both specimens are in worn plumage. There is a great deal of unexplained variation in the plumages of this seedeater.

This species was rather common locally in the deciduous seasonal woods edge at Cantaura and Caicara, being recorded in small flocks throughout the year. Birds in the adult male plumage were extremely rare, and curiously enough, many in female plumage were often heard in what was apparently full song.

VOLATINIA JACARINA SPLENDENS (Vieillot)

Fringilla splendens VIEILLOT, *Nouv. Dict. Hist. Nat.*, nouv. ed., vol. 12, 1817, p. 173 (based on "Moineau de Cayenne" Daubenton, *Planches enluminées*, pl. 224, fig. 3: Cayenne).

SPECIMENS COLLECTED

1 ♀, Caicara, December 19, 1945; gonads not enlarged; iris dull brown; gizzard contained small seeds.

1 ♂, Cantaura, February 16, 1946; gonads very small; iris dark.

The male is molting into the blue-black plumage. Both examples have white axillars.

This species was encountered in twos and threes, invariably in overgrown weedy (not bushy) fields, especially in stands of 3- to 4-foot-high sedge (?) locally called "carrizo". It was a common bird.

Local name, "carricero," referring to the species' preference for "carrizo."

SPINUS PSALTRIA COLOMBIANUS (Lafresnaye)

Carduelis colombianus LAFRESNAYE, *Rev. Zool.*, vol. 6, 1843, p. 292 (Bogotá, Colombia).

SPECIMENS COLLECTED

1 ♂, 1 unsexed, Cantaura, December 29, 1947, and January 19, 1948; gonads of ♂ small; iris dark brown; bill blue-gray, feet black.

1 ♂, Caicara, November 4, 1947; gonads enlarged; gizzard contained seeds.

The Caicara male is in very worn plumage and lacks the white longitudinal markings on the inner secondaries; the Cantaura male is

molting the remiges and has fresh, new inner secondaries with large white markings.

This goldfinch was recorded in the deciduous seasonal woods-edge habitat both at Cantaura and Caicara during the months of November through March, generally in flocks of about 10 birds. It was never common.

SICALIS LUTEOLA LUTEOLA (Sparrman)

Emberiza luteola SPARRMAN, Museum Carsonianum, fasc. 4, 1789, pl. 93 (habitat not stated; probably Surinam).

SPECIMEN COLLECTED

1 ♂, San Ramón, July 24, 1944; gonads very much enlarged; iris brown; plumage somewhat abraded.

This specimen is small, having a wing length of only 62 mm., and this is just under the minimum (63 mm.) given by Hellmayr (Catalogue of the birds of the Americas, pt. 11, 1938, p. 328, footnote).

This little finch was abundant locally on the open savanna in the vicinity of San Ramón and Caicara. It was unaccountably rare on similar savannas at Cantaura and El Tigre. It was seen in flocks of 5 to 10 birds in June; by the end of August flocks of more than 100 individuals were seen around the savanna lagoons. The example collected was in full song when obtained.

SICALIS FLAVEOLA FLAVEOLA (Linnaeus)

Fringilla flaveola LINNAEUS, Systema naturae, ed. 12, vol. 1, 1766, p. 321 (Surinam).

SPECIMEN COLLECTED

1 ♂ (?), Cantaura, February 20, 1945; gonads decomposed; iris black or very dark brown, feet dull brown; gizzard contained small seeds; plumage fresh.

The bird is in fine, very bright color, and is therefore probably correctly sexed in spite of the lack of autopsic evidence.

This beautiful yellow finch was abundant in bushy fields and at the woods edge both around Cantaura and Caicara. It was usually found in flocks of 10 to 30 individuals. The example collected was taken from a flock of about 40 individuals seen in an open bushy field. It was recorded during every month of the year, generally in flocks of over 10 individuals. From February through April the flocks increased in size. Often 50 to 100 birds would come in at evening to roost in favorite trees.

The collector was informed locally that this bird nested in holes in trees. Though he never found a nest, in October he saw a pair placing twigs and grass inside a pipe that served as a crossarm on a telephone pole. This crossarm was over 20 feet above the ground. Again, in April, he observed a pair repeatedly inspecting a hollow branch.

The call was a rather loud, rising *chee-eeep*. The birds were in full song in August, the song being rambling, finchlike, rather melodious, although not strong.

CORYPHOSPINGUS PILEATUS BREVICAUDUS Cory

Coryphospingus pileatus brevicaudus CORY, Publ. Field Mus. Nat. Hist., orn. ser., vol. 1, 1916, p. 346 (Margarita Island, off Venezuela).

SPECIMENS COLLECTED

1 ♂, 1 ♀, Cantaura, February 2, 1945, and January 14, 1946; gonads not enlarged; iris dark brown, feet of ♂ brownish gray; gizzard contained small seeds; both specimens in fairly fresh feathering.

This red-crested finch was common in the dry open woods and bushy fields both around Cantaura and Caicara throughout the year. The collector failed to record the call note of the species, but he noted that it was singing a rambling song toward the end of January and July.

MYIOSPIZA HUMERALIS HUMERALIS (Bosc)

Tanagra humeralis Bosc, Journ. Hist. Nat. (Choix de Mémoires), vol. 2, No. 17, 1792, p. 179, pl. 34, fig. 4 (Cayenne).

SPECIMEN COLLECTED

1 ♀, Cantaura, January 5, 1945; gonads not enlarged; iris brown, tarsi and toes light flesh color; plumage fairly fresh.

The single specimen collected agrees with others from other parts of the range of this race.

This little sparrow was fairly common on the open savanna and in open bushy fields both around Cantaura and Caicara. Its song reminded the collector of that of the North American song sparrow (*Melospiza m. melodia*) although appreciably weaker, a weak *che chreeee* (trill) repeated at spaced intervals.