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A FURTHER CONTRIBUTION TO THE ORNITHOLOGY OF NORTHEASTERN VENEZUELA

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In 1950 we published an account of the birds collected by the junior author in northeastern Venezuela. The present paper contains a report on additional forms collected by him in the same region, with his field notes on them and additional notes on birds previously reported. At the same time, we include a complete list of the avifauna recorded from the region, with a summary of the months in which the forms were observed as present or as breeding. Although other forms may have to be added from time to time, this regional list is now reasonably complete. We have no illusions as to the completeness of the data on monthly occurrence and breeding. Part-time observations by one man, even over a period of approximately 8 years, cannot equal the accumulated work of the number of observers who have been available for the northeastern United States. Nevertheless, we believe the data are of interest, for information based on year-round observations over a period of years is still all too scarce in the scientific literature of tropical faunas. The reported presence or nonpresence of the commoner or more conspicuous birds within a given month is probably quite correct, but a form that is rare within the area, of difficult field identification, or shy and retiring, may be reported in only one, two, or more scattered months without implying absence from the study area during the remaining months.

The breeding dates have been based as far as possible on the time of egg-laying although, in addition to the actual discovery of nests and eggs, they have also been based on such evidence as female

gonadal condition, copulation, the carrying of nesting material or food by the birds, and the observation of fledglings. In estimating avian breeding activity by time of year, we use as a criterion the number of species found breeding. While this appears to give to one nest found in December the same value as to 50 nests of the same species found in June, the results obtained appear to reflect accurately

FIGURE 103.—Breeding activity of birds actually recorded in the study area (dash line) and probable total breeding activity for birds in northeastern Venezuela (solid line).

the yearly fluctuation in total breeding activity. In this connection we note that in Skutch's (1950, pp. 191–194) excellent report on the breeding cycle of Central American birds the seasonal change in the number of nests found followed with similar fidelity the number of species nesting.

In figure 103 we show the number of species recorded by the junior author as breeding in the study area. Although this graph gives an idea of the increased April–July breeding activity, it is obvious from the truncated shape of the curve that we lack complete data. Especially do we lack May–June data, due in part to the collector's frequent absences from Venezuela during those months. The breeding species curve for northeastern Venezuela is probably better represented by the solid lines in figure 103, in which, for those forms recorded by

us (Tropic-Zone birds, mainly of the savanna and seasonally deciduous forest), we have combined our breeding records with those of Cherrie (1916, upper Orinoco region) and of Belcher and Smooker (1934–37, Trinidad). While the procedure of combining data from different localities is open to criticism, the places are similar in their ecological features, and the entire area involved is only slightly larger than that of the States of Pennsylvania and New Jersey.

It will be noted that while some breeding activity continues throughout the year, it increases sharply in March, reaches a peak in April, May, and June, and then drops to a minimum in December. The strongly cyclic nature of avian breeding rhythm in our area of South America agrees generally with Skutch's graph of the species breeding at approximately the same latitude in El General, Costa Rica, which shows a sharp peak of activity in April and May, with a corresponding low in October and November. The slight difference may be due either to the different faunal zones involved (he was reporting on subtropical birds at 2,000 to 3,000 feet above sea level whereas we are reporting on lowland Tropic-Zone birds) or to insufficient observations.

The peak breeding months in our area correspond with those of the North Temperate Zone perhaps more than climatic or photoperiodic conditions would lead one to expect, although it appears that the causes for the pronounced rhythm may be different than those for that of the Temperate Zone. Temperature can hardly be a factor, for the temperature in northeastern Venezuela fluctuates very slightly from the mean of 80° F. For example, in 1944 the approximate average mean temperature (F.) at Cantaura, Anzoátegui, were: Jan. 75, Feb. 79, Mar. 80, Apr. 82, May 83, June 79, July 80, Aug. 83, Sept. 82, Oct. 82, Nov. 81, and Dec. 80.

While an increase in total hours of daylight might appear to be the stimulus, or one of the stimuli, for increased gonadal activity, the rate of daily change in length of daylight at latitude 10° N. is slight (about 15 seconds) and does not correlate with the rapid increase in breeding activity that takes place (fig. 104). And, although our area of the Tropic Zone has nothing directly comparable to the overcast days of the more northern latitudes, some of this slight increase in daylight during May, June, and July may be offset, so far as effect on birds is concerned, by the heavy rains characteristic of the period. It must be remembered, too, that migration, which is intimately connected with the breeding cycle, may cause considerable variation between the total hours of daylight experienced by different species (fig. 105), particularly for birds migrating to nesting grounds at latitudes of 40° N. and beyond. Yet the breeding seasons of these different species apparently remain remarkably uniform, even though

the annual fluctuation in hours of daylight differs according to their various migratory habits.

Further complicating any attempt to correlate the migration and breeding cycle with changes in the hours of daylight experienced by any particular species is the fact that even in northeastern Venezuela, where the majority of breeding forms have no known migration, a seasonal fluctuation in numbers indicates at least local and perhaps extended movement. Here it must further be noted that while we may have a logical explanation for a limited seasonal north-south

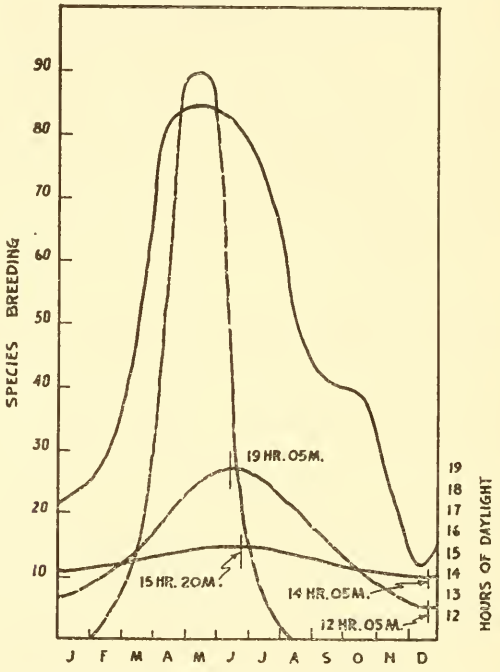

FIGURE 104.— Approximate avian breeding periods for northeastern Venezuela (solid line) and for northeastern United States (dash line) compared with length of day from twilight through twilight at lat. 10° N. (solid line) and at lat. 40° N. (dash line).

movement, we have little explanation for the extended and at times trans-equatorial migrations of some races, as well as for the astonishing temporal precision with which they are effected. In fact, some of the races which breed farthest north are among those which winter farthest south, as for example the fox sparrow *Passerella iliaca* (see Wetmore, 1926, p. 121, map). Also the general migratory pattern appears to be much the same whether the migrant is of presumed Holarctic origin (such as *Hirundo rustica erythrogaster*) or of Neotropical origin (such as *Piranga rubra*).

Thus, while for certain northern birds of limited migration the increasing hours of light per day may be an important factor stimu-

lating the physiological reactions governing the migration and breeding cycle, it hardly appears to be an important factor for migrants which "winter" in the tropics close to the equator, where the length of daylight is so constant. One is indeed hard put to postulate a periodic, external stimulus capable of initiating the migration of birds "wintering" near the equator. For example, at approximately latitude 9°30′ N. in Venezuela the regular northward withdrawal in the spring of such migrants as the dickcissel (*Spiza americana*) and the

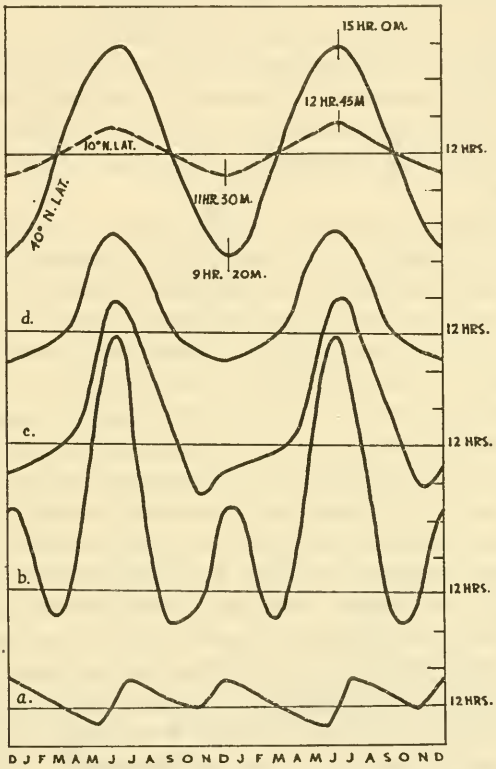

FIGURE 105.—Approximate hours of daylight for certain migrant birds compared to hours of daylight (sunrise to sunset) at lat. 40° N. and lat. 10° N. (vertical scale, 10 mm. equals 1 hr.): ***a***, *Muscivora t. tyrannus;* ***b***, *Pluvialis d. dominica;* ***c***, *Dendroica striata;* ***d***, *d. petechia aestiva.*

yellow warbler (*Dendroica petechia aestiva*) appears to be without observable external "cause" and in spite of increasingly favorable conditions at the wintering grounds. By the first of May, the hours of light per day have increased but little (around 53 minutes) over the December minimum; there is nothing obvious about the climate that would induce the birds to leave; and their departure comes at a time close to the peak breeding season of the resident population. Moreover, the closely allied yellow warbler (*Dendroica petechia rufopileata*) remains in the same general area throughout the year.

In contrast, the autumnal southward journey of North Temperate Zone migrants is begun in the face of increasingly unfavorable conditions: lessening hours of daylight, decreasing food supply, and lowering temperatures.

It is interesting to note the very slight morphological differences, as opposed to great behavioristic and possibly great physiological differences, between some migratory and nonmigratory races of the same species, for example: *Dendroica petechia aestiva* and *rufopileata; Vireo virescens virescens*, *vividior*, and *chivi; Capella gallinago delicata* and *paraguayae; Muscivora tyrannus tyrannus* and *monachus*. Where a species breaks up into highly migratory and relatively sedentary races, an experimental, comparative study of the physiological differences should prove of great interest, particularly as the breeding cycle has apparently remained, or has evolved to be, about the same.

Although a clear-cut external stimulus capable of initiating migration appears to be lacking, it seems that the annual cycle of wet and dry seasons is an important factor affecting breeding. From December through April the woods become increasingly bare and parched until the advent of the rains of May (often the latter half) and June causes the woods to leaf out again. At first glance it might seem that the breeding species curve closely approximates the rainfall curve, as does the upward curve of trees in leaf (fig. 106). However, the upward curve of breeding species precedes those of rainfall and vegetation. Both November and December rainfall is higher than that of February, March, and April, and much surface water is still present, whereas breeding activity is much greater in March and April, although the climate and soil have become extremely dry. In fact, the April peak represents many forms nesting in arid, still barren woods which will not be well in leaf before June.

During March and April the junior author made repeated trips by air from Cantaura (Anaco) to Caracas, both direct by way of Valle de La Pascua, and coastwise by way of Barcelona. With minor exceptions, he found the area covered with sparse, seasonally deciduous forest, the aridity and generally barren appearance of which was very marked during March, April, and at least the first half of May. In the region between Cantaura and Barcelona, the dominant tree is the "püi" (*Tabebuia serratifolia*), which, with the less common "araguaney" (*Tabebuia chrysantha*), makes up an estimated 75 percent of this woods. From the air it appears that it continues to be the dominant tree between Cantaura, Valle de la Pascua, and the foothills of the coastal mountain range before Caracas. On the whole, these *Tabebuia* do not come into leaf before June. Throughout the area observed on these flights at least 90 percent of the woods was leafless except at the rivers (generally without surface water) where a narrow line of trees in leaf paralleled the water courses. More rarely, there was a

gentle rise in the percentage of green trees, usually a thin veil of partially opened buds, caused by local showers, subsurface water, or a local concentration of nondeciduous trees. In the region below the point of sharp change from the seasonally deciduous forest of the lowlands to the subtropical montane forest of the coastal mountain range the estimated percentage of trees in leaf nowhere attained 20 percent.

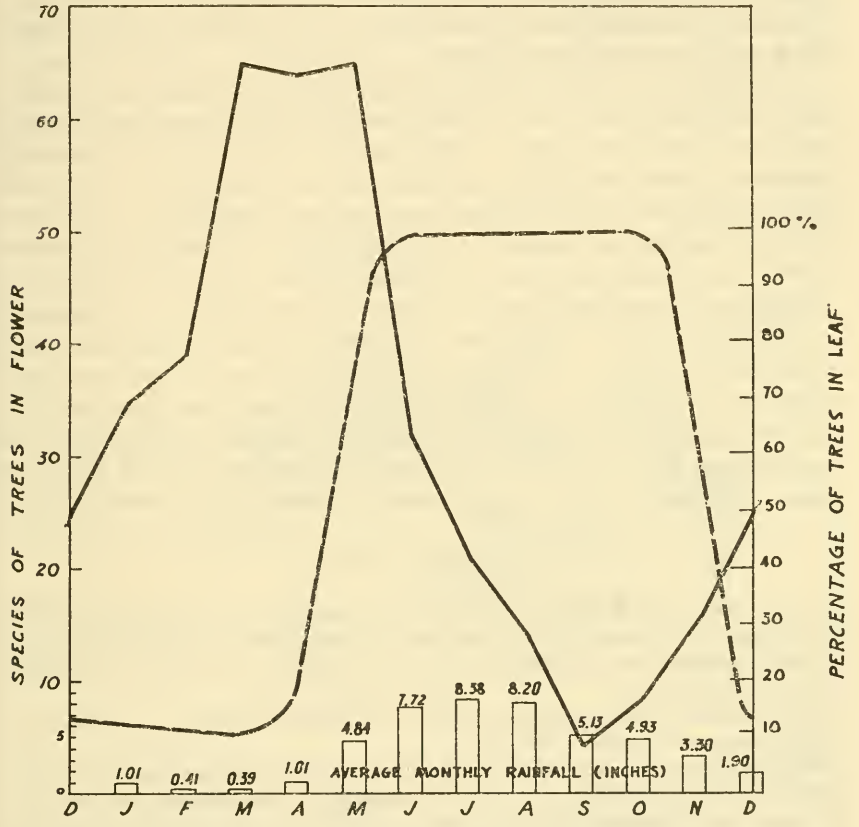

FIGURE 106.—Average rainfall (bars), number of species of trees in flower (solid line), and percentage of trees in leaf (dash line) in study area.

This area (fig. 107) stands in sharp contrast with the northeastern United States, where in spring the trees come into leaf with the gradually increasing warmth. Moisture is available from melting snow and from frozen interstitial water in the soil, and the rains, governed for the most part by extensive "lows," cover wide areas, so that at any given date the woods are at approximately the same stage of development throughout the region. In our area, on the other hand, temperature is presumably not a factor, as it fluctuates so little throughout the year, and "spring" comes at the end of the dry season, when the soil is extremely dry (at Cantaura, Anzoátegui, April 20,

1952, the interstitial water was less than one percent by weight at the surface and at 2- and 4-foot depths). With rare local exceptions moisture becomes available only with the oncoming rains, which, unlike those of northeastern United States, consist of very local showers of short duration. Thus, not before the middle of July has enough rain fallen to bring all the deciduous forest into full leaf; in May and June local areas characteristically remain undeveloped and practically without foliage, while but a few miles away in the same type of woods the trees have come into full leaf.

In addition to this "spotty" development, the leafing of the trees and herbaceous plants in our area may actually occur later than in the New York City area. At the end of April 1953 the seasonally deciduous forest was still approximately 90 percent bare, with rare local exceptions where repeated local showers had fallen in sufficient quantity to open the swollen buds. On May 2 of that year the woods of the New York City area were slightly more in leaf than those of northeastern Venezuela; they developed rapidly and were in apparent full leaf by June 1. However, on June 10, the Venezuelan woods were still quite bare; while most of the buds were swollen, over great areas not more than 25 to 35 percent of the trees had come into leaf, and the herbaceous plants were still undeveloped. Not before the end of June were most of the woods in apparent full leaf, and local areas, perhaps 2 to 10 square miles in extent, still remained bare,

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Description of Region

General location: Northeastern Venezuela, approximately lat. 9°30′ N., long. 64° W. in the States of Anzoátegui and Monagas and roughly forming a triangle between San Mateo (Anzoátegui) on the north, San Tomé (Anzoátegui) on the south, and Caicara (Monongas) on the east.

Principal collecting stations: Cantaura, Anzoátegui, elevation c. 815 feet; and Caicara, Monagas, elevation c. 590 feet.

Principal habitats: (1) Seasonally deciduous forest (approximately 90 percent deciduous during dry season), an extensive sparse woods composed of trees averaging less than 30 feet in height, with occasional taller trees scattered throughout; palms, heliconia, and ferns absent; vines and arboreal epiphytes rare; cactus generally confined to scattered individuals. (2) Savanna, an extensive short-grass plain, dotted with occasional scrubby trees. (3) Lowland seasonal forest, a limited intrusion along the Guarapiche River at Caicara of rather luxuriant forest, composed of trees averaging over 50 feet in height, somewhat over 50 percent of the trees being deciduous at the peak of the dry season although often only for a short time; palms, heliconia, and ferns present; arboreal epiphytes common. Characteristic of the study area is the absence of other habitats, such as seacoast, mountains, extensive marshes, or large lakes. Elevation within the area ranges roughly from 350 to 1,500 feet.

Mean temperature: Approximately 80° F. throughout the year, with very little fluctuation, either day to day or month to month, daily temperatures running roughly from a minimum of 70° to a maximum of 90° F. Extremes over a 10-year period were minimum 55° F. and maximum 101° F.

Rainfall: Averages approximately 47 inches (10-year average), with marked seasonal fluctuation and also considerable year-to-year fluctuation. The wet season extends from May to November and in it approximately 90 percent of the rainfall occurs.

presumably missed by the local showers. Likewise, over most of the savanna the grass was still short by June 15, being approximately 4 to 6 inches high in sparse, scattered bunches, although locally near Caicara, Monagas, and El Tigre, Anzoátegui, it had grown to about a foot in height.

We are not certain what effect this "spotty" development of vegetation has on the local breeding bird population. Some forms (*Icterus nigrogularis, Scardafella squammata, Columbigallina passerina*) appear to nest in the retarded barren portions without waiting for

FIGURE 107.—Map of region in which observations and collections were made. Opposite is a brief resume of the detailed description given in our previous (1950) report.

better conditions, but others (*Vireo virescens, Cyclarhis gujanensis*) may perhaps shift into the more advanced portions to nest. In any event, the local conditions differ from those of the Temperate Zone (New York City region), and further data on the breeding behavior of birds under these conditions should prove of interest.

Another factor that may affect the breeding seasons is abundance of food. This would appear to be most important when the young are still in the nest, because the nestlings possibly eat more during this period of rapid development than afterward, and because the parents must secure sufficient food for several, whereas later each bird fends for itself. We should, therefore, expect few insectivorous birds to nest before June. Our records are especially weak in respect to May and June, but it appears that many insectivorous birds commence nesting well before June.

Regarding insect abundance, counts at the collector's door-light at Anaco, Anzoátegui, will give a rough idea of the increasing numbers.

April 10–20: 1 cicada; 1 small moth.

May: no record.

June 10: 5 cicadas; 1 small scarab; 1 small hemiptera; 3 small moths.

June 15: 3 cicadas; 1 small scarab; 5 small, other beetles; 5 small moths; 1 ichneumon (?).

June 17: first swarm of tiny beetles (thousands).

June 20: swarm of small insects, mostly moths and beetles; 6 large moths; 3 cicadas; about 20 larger Coleoptera of at least six families (Cicindelidae, Carabidae, Scarabaeidae, Hydrophilidae (?), Cerambycidae, Elateridae); about 10 Hemiptera of at least two families (Reduviidae, Pentatomidae); about 20 Hymenoptera (winged ants and Cephidae (?)).

Since the foregoing paragraphs were written Pinto (1953, pp. 111–222, especially pp. 118–129) has published less complete but pertinent data from the region of Belém, Pará, Brazil, and Davis (1953, pp. 450–467) has reported more detailed and more complete data on conditions in British Guiana. In the latter country the seasonal distribution of rainfall differs from that of northeastern Venezuela; precipitation reaches a high peak in May, drops steadily to a low in September and October, and then rises to a prominent, though secondary, peak in December, whereas in Venezuela the high peak occurs in June–August, after which the rainfall declines steadily to a low in February and March, with a slight decrease in the rate of decline in September and October. In other words, there are two definite rainy and two dry seasons in British Guiana, while in Venezuela, as in Trinidad, there is but one of each. In this connection, it may be noted that the curve we have shown of actual recorded avian breeding activity in our study area (fig. 103) shows a slight secondary peak in September and October, which agrees better with the picture presented by Davis for British Guiana than does our second curve (fig. 104) in which this secondary peak has been smoothed down. However, there appears

to be little evidence in our area of the two separate breeding seasons for any species of birds reported by Davis for British Guiana. It is possible that insufficient field observations may be the cause of this apparent discrepancy for some dozen forms, and it cannot be ruled out as impossible that occasional pairs may nest months before or after the customary breeding season.

Although there is some breeding activity throughout the year in northeastern Venezuela, it is perhaps significant that the breeding in the minimum months of November–February is confined to species nesting principally in prior or subsequent months. We find only one apparent exception to this "rule," the hummingbird *Amazilia fimbriata maculicauda*, which breeds from August through January. This confirms Skutch's (1950, pp. 197–204) observation that the hummers' main breeding season was during the months when other birds' breeding activity was at a minimum. Since in Central America those months are the months of maximum abundance of flowers, Skutch postulated a close connection between breeding season and maximum amount of food available. We have too little data to be able to comment in this regard, but we would like to record the following information:

The trees of our area, many of which have abundant, showy flowers, mainly bloom in the months of March, April, and May, just before the rainy season (fig. 106). Most of the herbaceous plants come into bloom later, with the advent of the rains. While the hummers are strong fliers, those of our area show restrictive preference for the type of flowers at which they feed; *Polytmus guainumbi*, *Glaucis hirsuta*, *Phaethornis anthophilus*, and perhaps to a somewhat lesser extent *Amazilia fimbriata* are low feeders, whereas *Chrysolampis mosquitus*, *Chlorostilbon canivettii*, and *Amazilia tobaci* prefer to feed at the tree flowers. If the breeding season of these hummers depended more on abundance of food than on other factors, then we should expect the high flying forms to nest in March, April, and May, with the low feeders breeding months later. Hummers as a group would then show a split breeding season, depending upon the food preferences of the forms involved. Field observations in this connection should prove of interest.

In this connection, further breeding data for tropical races of the horned owl *Bubo virginianus* would also be of interest. The breeding race of northeastern United States nests well in advance of the general breeding season of other birds. Were tropical races also to be found nesting early in the season, it would suggest that, provided food or other factors are not of prime importance, the breeding season itself may be a phylogenetically conservative character of the group, in common with certain other biological characters such as pair formation and display.

The status of North American migrants calls for some comment here. Davis (1954, p. 441) reports that in an inland area of British Guiana northern migrants are scarce both in numbers and in kinds. Only some 40 North American species, excluding rare or accidental vagrants, are known from all of British Guiana, nearly half of them being shore birds. Comparing observations with those in our earlier report, Davis rightly concludes that in this respect his part of British Guiana is essentially similar to our area in northeastern Venezuela. He adds that the reason why the South American tropics are not a more important wintering area for northern migrant land birds may be that Central America, where these migrants swarm in great numbers, provides sufficient suitable winter quarters to take care of most of these northern wanderers. ". . . It is improbable that suitable habitats are not available in tropical South America, for even if the heavy rain forest is avoided, there are savannas, cultivation, and the forest edge, both in conjunction with such open areas, and along thousands of miles of river. . . ."

It should be kept in mind, however, that seasonal suitability of terrain is a factor to be considered with, although not in place of, that suggested by Davis. In our area the time of year when the northern birds are wintering, roughly September through April, is the dry season when the lowlands are parched and the greenery is confined to a very thin strip along the rivers. Thus, although in the wet season many places would seemingly be suitable for these northern visitors, they would be not at all suitable during the dry season.

The junior author notes that in western Venezuela (upper Apure, Barinas) the blue-winged teal is very numerous, apparently because the habitat there is suitable, while in the east, where the land is so much dryer, it is much scarcer. Our area is one where, because of the unfavorable nature of the countryside during the dry season, most migrant land birds would not or could not stay. The one important exception to this rule is the dickcissel *Spiza americana*, which occurs in flocks of 500 to 1,000 in the dry-brush savanna-edge habitat. However, in its breeding range it is a bird of fairly dry fields and bush-lined roads and thus may be better adapted to the Venezuelan lowlands during the northern winter than are most other North American migrants. Numerically, it may be one of the most important Nearctic migrants to Venezuela, but curiously it seems not to have been recorded from the part of British Guiana studied by Davis, perhaps because that area is east of its winter range (there is but a single record for the bird in British Guiana, the Abary River).

This same area of northeastern Venezuela, which seems so unsuitable to northern migrant land birds in the dry season, supports during the wet months (July through September) vast numbers of a migrant from south of the tropics, the fork-tailed flycatcher *Muscivora tyrannus*

tyrannus. This fact further suggests that the suitability or unsuitability of the area is something determined by seasonal precipitation.

In the following annotated catalog are listed only such specimens as have been collected subsequent to those recorded in our 1950 paper.

Family Tinamidae: Tinamous

Tinamus major zuliensis Osgood and Conover

Tinamus major zuliensis Osgood and Conover, Field Mus. Nat. Hist., Zool. Ser., vol. 12, August 28, 1922, p. 24 (Río Cogollo, Perijá, State of Zulia, Venezuela).

1 unsexed, Caripito, Monagas, December 15, 1953; gonads small; iris brown, bill brown, feet dull blue green.

This is the tinamou typical of the heavy tropical forest at Caripito, Monagas. The collector never saw or heard of it at Caicara or Cantaura, nor would he have expected to find it there, as the woods are very different from those at Caripito.

Crypturellus soui andrei (Brabourne and Chubb)

Crypturus soui andrei Brabourne and Chubb, Ann. Mag. Nat. Hist., ser. 8, vol. 14, 1914, p. 321 (Caparo, Trinidad).

1 ♀, Caicara, captured alive in March 1950, died on August 10, 1950; ovary somewhat enlarged; iris tan, bill gray with the base of mandible flesh, feet olive.

2 sets of 2 eggs each, Caicara, August 6, 1950, and April 10, 1951.

This specimen is much darker and less rufescent above than a female of the nominate race from São Gabriel, Rio Negro, northern Brazil, and therefore agrees with the description of the subspecies *andrei* of Trinidad and the northern coastal belt of Venezuela. Below it is also darker but hardly less rufescent than typical *soui*. Its bill is not larger than that of the latter, disagreeing in this respect with the statement of Hellmayr and Conover (Catalogue of the birds of the Americas, pt. 1, No. 1, 1942, p. 38) that *andrei* generally has a larger bill than *soui*. The present specimen appears to be subadult, as it still has the strikingly barred under-tail coverts of immaturity.

This extremely secretive little tinamou was fairly common in the overgrown clearings around Caicara. It was never recorded at Cantaura, and was unknown there to the local residents. Were it not for the lovely, almost bell-like calls of early morning and evening the bird would pass unnoticed. The call is best likened to that produced by dragging the hammer up the upper keys of a xylophone, perhaps seven notes, and then, commencing with the same note at which the upward series began, running down the scale about five notes; or put vocally, *churreee-churoo*. The bird also utters a low *wup-wup* very similar to that of *Crypturellus noctivagus*, audible for perhaps ten feet.

This tinamou is much less active than the *Crypturellus noctivagus;* when approached it crouches motionless and does not move for considerable time thereafter. (See notes under *Crypturellus noctivagus.*) Also, it appears to travel singly or at most, in pairs, rather than in loose groups. Due to the difficulty in securing it, the bird is not hunted, although it is occasionally trapped.

The captive bird had the curious habit of rapidly raising and lowering the upper-tail coverts. This might be a sign of excitement or fear, or perhaps part of the mating ritual, as it was observed particularly in May.

The two sets of two eggs each are apparently full clutches, judging by information obtained from local farmers and hunters. In this connection it was observed that, upon preparation of the skin of the captive female, the specimen had absolutely no brood patch, although the gonads were somewhat enlarged.

***Crypturellus noctivagus* (Wied)**

Tinamus noctivagus Wied, Reise Nach Brasilien in den Jahern 1815–17, vol. 1, 1820, p. 160, note (Muribecca, Espírito Santo [Brazil].)

Two races of this tinamou were collected, one at Caicara and the other at Cantaura. The specimens are listed separately by subspecific allocation, but our discussion of the two is united below.

***Crypturellus noctivagus spencei* (Brabourne and Chubb)**

Crypturus cinnamomeus spencei Brabourne and Chubb, Ann. Mag. Nat. Hist., ser. 8, vol. 14, 1914, pp. 320, 322 (Venezuela; restricted type locality, Caracas).

5 ♂, 1 ♀, Cantaura, May 15–June 12, 1950.

2 chicks, Cantaura, July 29, 1951.

***Crypturellus noctivagus erythropus* (Pelzeln)**

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

2 ♂, 2 ♀, Caicara, March 19–June 6, 1950.

1 set of 6 eggs, Caicara, May 3, 1951.

In our 1950 paper the Cantaura birds were considered as eastern extremes of *idoneus.* The problems raised in our discussion were subsequently studied with ampler material by Wetmore and Phelps (1950, pp. 115–116), who revived the name *spencei* for this eastern population. Our subsequent material, listed above, was used by Wetmore and Phelps and, in fact, was collected for this express purpose. We are in full accord with their conclusions.

The six specimens of *spencei* taken from May 15 to June 12 were all in breeding condition, the female taken on June 12 even had a fully formed but still shell-less egg in the oviduct.

As might be expected, the habits of the two races are similar, and, as the birds could not be distinguished in the field, the following observations are based on both forms. The Cantaura birds proved all to be *spencei*, while those taken at Caicara were all assignable to the race *erythropus*. Insofar as could be determined, their habits and habitat preferences were identical, and it seems that the puzzling existence of two very similar forms with such similar habits at stations approximately 50 miles apart is probably explained by the isolating effect of the intervening shortgrass savanna. However, to the north, in the woods between San Mateo and Urica, the habitats of the two forms appear to come in contact. Collecting at this point should prove of interest.

At first acquaintance, the name *noctivagus* appears to be well chosen. The birds begin to call in the late afternoon and decoy most readily in that brief space of time before the woods become too dark to see. Shortly thereafter the calling falls off, but individuals keep uttering their clear whistled *soy-so-la* on and off throughout the night. The collector-author had thought that the birds were rather nocturnal, as the name and the nightly calls would suggest. However, a captive, kept for several months, while very nervous and restless during the day, slept so soundly at night that it often could be approached without awakening. It seems that the night calls are of the same nature as those of the domestic rooster, and that the tinamous are not otherwise active at night.

It is certain that both males and females call, as both were decoyed in by whistled imitation of the call, were observed calling, and were collected in the act. However, of about twenty birds taken in this manner, only one was a female. It appears that the females either call less or decoy less readily. The call of the female thus taken was identical to that of the males, although the collector had the impression that the sound was a little weaker than usual. He reports that the trachea of the male bears a slight bulbous enlargement, while that of the female is unmodified.

Inasmuch as Osgood and Conover (1922, p. 25) reported collecting a male of a related species of tinamou (*Crypturellus obsoletus cerviniventris*) as it was flushed from its nest, it was thought that incubation might be performed by the male. With this in mind, the present male birds were examined, but were found to show no sign of any brood patches. Furthermore, the female taken with a well-developed egg in the oviduct revealed almost no brood patch either, and showed only a very small denuded area well forward on the breast. However, it was noted that the June birds, collected at the peak of the breeding season, were actively molting the body feathers, with many pin-

feathers on the lower abdomen. This was more observable before preparing the specimens than in the resulting study skins.

The young chicks collected on July 20 had dark brown irides, brown bills, the mandible paler than the maxilla, and pale flesh-colored feet. The juvenal plumage of this tinamou appears to be undescribed, and to fill this gap in our recorded knowledge the following description is appended: Forehead and anterior part of crown back to middle of the eye between pinkish buff and cinnamon buff, this same color extending over the eyes, the lores, the auriculars, and the sides of the occiput as a broad band, the two bands narrowing and meeting transversely on the nape, where, however, the dark bases of the feathers show through and produce a broken, mottled appearance; top and middle of crown and occiput argus brown to Brussels brown, a blackish line from the forward end of the eye to the base of the maxilla; on the posterolateral part of the cheeks a patch of argus brown narrowly edged with blackish above and also below; the upper back and mantle mottled transversely, the feathers dark fuscous to fuscous black, with narrow, widely spaced bars of cinnamon buff; wings in our specimens with no remiges as yet, otherwise like the upper back; back, median and lower back, and rump argus brown to Brussels brown; no rectrices as yet in our birds; chin and upper throat white; lower throat, breast, sides, flanks, and tibiae cinnamon buff with an effect of dusky barring due to the dark bases showing through; middle of abdomen cinnamon buff with no suggestion of bars, paling posteriorly to pale pinkish buff.

The chicks collected at the end of July were very active, chasing every little insect that passed their way. The call was a low *wup-wup,* very similar to the nonwhistled (perhaps flocking call?) of the adults. An attempt to raise the chicks failed, but the collector was told that they are occasionally raised in captivity, although the birds never become tame, as does, for example, the Cayenne lapwing *Belonopterus chilensis.* The captive bird mentioned above was caught in a fall trap. It and a captive *Crypturellus soui* remained in apparent good health for four months on a diet of cracked corn and occasional small snails, which were usually refused. Both died within several days of one another, apparently from diet deficiency or disease.

These tinamous wander considerably, although within the same general area. They are local, not to be encountered at all in some parts, while often common in other parts of the same type of woods. Nor can one count on finding them at a favorite locality. One week they may be very much in evidence, while the following week they are apparently absent. To some extent, this may be due to whether or not the birds are calling, for they are most difficult to find when silent; but it may also be that the group has simply moved off to another spot.

They are typically birds of the dry, sparse, deciduous woods. Within these woods they roam in loose groups of rather widely scattered individuals. Thus, while the group does apparently exist in reality, all the individuals which compose it are rarely seen at the same time. The main factor in the distribution of these flocks throughout the woods appears to be the existence of patches of the pineapplelike "maya," *Bromelia pinguin*. Although not restricted to these "mayales," the birds do show great preference for this habitat. They show no other marked preference, and appear to be quite independent of surface water.

While shy and difficult to observe, these tinamous are quite inquisitive. If the observer remains still, as when waiting for deer, the birds may approach to investigate. Often, the patter of its feet over the leaves is clearly audible, although the bird is most adept at keeping out of sight. It tries to keep under cover or behind fallen logs but, instead of observing in a crouched position, it stands on "tiptoe" with its neck stretched upwards as straight as possible, often moving its head from side to side. The difference between the captive *C. noctivagus erythropus* and the *C. soui andrei* was striking. Upon being frightened, as at the approach of a dog, both would crouch, but shortly thereafter the *noctivagus* would stand, raise its head until the neck actually appeared to stretch, and, still unsatisfied, would move to get a better view. When the cause for alarm had left and the *noctivagus* had long since returned to its eating or preening, the *soui* was often still quietly crouched.

The 6-egg clutch of *erythropus* must be close to the maximum number of eggs, if one may judge by the size of the covering bird's breast. These eggs are pale ecru drab with a slight gloss, and are markedly different from the very light bluish white *spencei* egg reported by us in 1950 (*T. idoneus=spencei*). It may be recalled that the latter was laid by a bird in badly injured condition. It now appears that the pathological state of that bird may have been reflected in the lack of further pigmentation in its egg; recently another hen *spencei* was taken with a fully shelled egg in its oviduct. The latter was smashed by the shot, but the pieces of the shell are even more highly colored than the eggs of *erythropus*, not less so as in the case of the lone egg previously recorded. They match very closely the hydrangea pink of Ridgway's color nomenclature.

The gizzard contents of five specimens of *C. n. spencei* consisted of 109 seeds of three sizes, 5 berries, 25 snails of two sizes, 37 lepidopteran chrysalids, 2 caterpillars, 11 beetles, 1 hymenopteran, 1 insect egg, 2 unidentified insect remains, and some small stones. A specimen of *C. n. erythropus* had in its gizzard 24 seeds (including a very large one 19 by 19 by 6 mm.), 1 cicada, and 1 beetle.

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Family Colymbidae: Grebes

Colymbus dominicus speciosus (Lynch Arribalzaga)

Podiceps speciosus Lynch Arribalzaga, La Ley, Buenos Aires, July 2, 1877, p. 1 (Baradero, Buenos Aires, Argentina).

In addition to the data recorded in our earlier paper, the collector reports two apparently undescribed call notes of this grebe, a nasal *yank* surprisingly similar to that of the red-breasted nuthatch (*Sitta canadensis*), and a weak chattering note.

Family Ardeidae: Herons, Egrets, and Bitterns

Bubulcus ibis ibis (Linnaeus)

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

We recorded a Venezuelan example of this heron in our earlier paper. It has since been steadily increasing around the collecting stations. From 1945 through 1950 only one flock of 4 individuals was seen, that recorded by us. In 1951 the bird was recorded three times: 2 individuals, February, Caicara; a single, August, Cantaura; a single, October, Caicara. The 1952 records are: 10, August, about 10 kilometers south of Urica; a single, September, Cantaura; 5, October, Caicara; 10, December, Caicara. In January 1953 a flock of 6 was seen at Caicara and a flock of 8 about 10 kilometers south of Urica, Anzoátegui.

The compact flock formation, the short necks, and the rapid running of the members of the flocks as they chase their prey (generally grasshoppers?) serve to identify this bird at a glance. Usually, but not always, it was found in the vicinity of water, but always on the dry land; it was never observed hunting or wading in the water. On two occasions the birds were seen following cattle.

Cochlearius cochlearius cochlearius (Linnaeus)

Cancroma Cochlearia Linnaeus, Systema naturae, ed. 12, vol. 1, 1766, p. 233 (Guiana).

1, unsexed, Caicara, March 8, 1952.

Taken at Caicara; bill, foot, and wing saved to establish the record. Considered a very rare and strange heron by all local hunters who examined the bird. Otherwise unrecorded in the study area, although widely distributed throughout the American tropics.

Family Ciconiidae: Storks

Euxenura galatea (Molina)

Ardea galatea Molima, Sagg. Stor. Nat. Chili, 1782, p. 235 in text, 344 (Chile).

1, unsexed, Caicara, June 4, 1951; gonads small; iris brown, bill gray, feet dull red.

This stork was occasionally recorded on the savanna lagunes, generally in pairs, more rarely in singles. It was uncommon; more than two birds were never seen in any one month.

Another even larger stork, the jabiru (*Jabiru mycteria*) also occurs in the study area, but has not yet been collected. The collector saw occasional individuals but was never able to crawl within shotgun range, even at night.

Family Cathartidae: New World Vultures

Sarcoramphus papa (Linnaeus)

Vultur Papa Linnaeus, Systema naturae, ed. 10, vol. 1, 1758, p. 86 ("India occidentalis"=Surinam, designated by Berlepsch, Nov. Zool., vol. 15, 1908, p. 289).

One unsexed, Caicara, March 30, 1950; adult in good plumage.

The king vulture was seen occasionally, one bird at a time, at Caicara, except for one time when a flock of six was noted. It was not recorded at Cantaura.

Coragyps atratus (Bechstein)

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

In our earlier paper we recorded a chick hatched about August 1. That the breeding season is prolonged, as might be expected, is shown by a "nest" of the black vulture, with two freshly laid bluish eggs mottled with reddish, found at Cantaura on March 29, 1952. The nest was simply a slight clearing on the ground; it was placed in a thicket under a large tree, within 300 yards of a house and within 10 yards of a travelled lane The eggs were destroyed by some animal within days after their discovery by the collector. A vulture was again flushed from this site on December 6, but no nest or eggs could be found.

Cathartes aura ruficollis Spix

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

The junior author adds to our earlier account of this vulture his report of seeing single immature birds on June 4, 1950, and again on June 5, 1952. These were young dark-headed individuals, fully

able to fly yet giving the impression of having but recently left the nest. If this were true, then this turkey vulture must nest in April or May.

Family Accipitridae: Hawks, Eagles, Kites

Leptodon cayanensis (Latham)

Falco cayanensis Latham, Index ornithologicus, vol. 1, 1790, p. 28 (Bahia, Brazil).

1 ♂, Caicara, May 26, 1952; gonads very small; iris brown, bill and cere black, facial skin and feet dull blue gray; gizzard contained hymenopterous adults and larvae and a large quantity of pulpy material; apparently it had eaten a whole wasps' nest! A fully adult bird in fairly fresh plumage.

A rare, quite *Buteo*-like hawk, typically encountered in pairs along the Guarapiche River at Caicara. It was not heard to utter a sound. The gizzard contents of the example collected proved quite a surprise to the collector; the bird had obviously eaten a wasps' nest—paper, wasps, larvae, and all. Stresemann (1940, p. 144) has already reported on this food habit.

Gampsonyx swainsonii leonae Chubb

Gampsonyx swainsonii leonae Chubb, Bull. British Orn. Club, vol. 39, 1918, p. 22 (León, western Nicaragua).

Whereas the collector previously found this little hawk to be very silent, in recent years he has occasionally seen it soaring in circles with much flapping, and often uttering a high-pitched scolding *kitt-y, kitt-y, kitt-y* note.

Rostrhamus sociabilis sociabilis (Vieillot)

Herpetotheres sociabilis Vieillot, Nouv. Dict. Hist. Nat., vol. 18, 1817, p. 318 (Corriente and Río de la Plata).

1 ♀, Caicara, May 26, 1952; gonads enlarged; iris yellow, feet and facial skin orange, bill and nails black; gizzard contained snails.

Although the snail kite was known to local hunters, only one was seen and taken by the collector on the Guarapiche River at Caicara.

Accipiter bicolor bicolor (Vieillot)

Sparvius bicolor Vieillot, Nouv. Dict. Hist. Nat., vol. 10, 1817, p. 325 (Cayenne).

1 ♀, Caicara, April 15, 1950; skull well ossified; gonads enlarged, the largest ovum 11 mm. in diameter; iris bright yellow; facial skin and feet greenish yellow; bill black, bluish basally; plumage worn.

This accipiter, while uncommon, was typical of the deciduous seasonal woods, both at Cantaura and Caicara. The female collected was uttering a series of loud *cak-cak-cak-cak* notes as it approached the collector. Judging from the condition of the gonads, the bird may have been breeding nearby and may have been scolding as the nest site was neared. The bird has the habit of perching quietly on the

inner branches, whence it darts out in typical accipiter fashion. One was seen feeding on a mockingbird, *Mimus gilvus melanopterus*, while another struck a full-grown yellow-headed parrot *(Amazona ochrocephala ochrocephala)*, pet of the collector, and carried the protesting parrot about fifty feet from its perch before releasing it. The birds were not weighed, but the parrot probably weighed more than the hawk.

***Heterospizias meridionalis meridionalis* (Latham)**

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

To the data previously recorded by us may now be added some definite breeding observations.

Two nests of this hawk were found each about 25 feet up in spiny trees in semiopen fields, and both at Cantaura. The nest found March 30, 1950, was large and well built, as if it had been used for many years. It contained one young, almost ready to fly, which gave a whistle similar to but weaker than the adult call. The parents were never seen. The second nest, found on October 30, 1951, was much smaller; it was well constructed and contained one half-grown young. One parent bird remained in the vicinity of the nest, calling as the collector approached, but did not offer to attack.

***Buteo albicaudatus colonus* Berlepsch**

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

No further examples of this hawk were taken, but one was seen on April 12, 1952, feeding on a blue-winged teal (*Anas discors*), possibly one that had been wounded by hunters.

***Buteo albonotatus abbreviatus* Cabanis**

Buteo abbreviatus Cabanis, *in* Schomburgk, Reisen im Britisch-Guiana . . . , pt. 3, 1848, p. 739 (upper Pomeroon River, British Guiana).

Since our earlier report, the collector added this hawk to the fauna known to breed in the study area. A nest was found at San Mateo, Anzoátegui, on May 1, 1950. It was well constructed, and was placed about 40 feet up in a tall tree in the deciduous woods. It contained at least one young, rather large, but still covered with grayish down. One of the parent birds at the nest protested closer examination with a typical *Buteo*-like, whistled scream.

***Hypomorphnus urubitinga urubitinga* (Gmelin)**

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

Additional observations were made on this hawk. Usually it was very quiet, but on January 12, 1952, three were observed soaring together and uttering a rapidly repeated whistle very similar to that of the osprey *Pandion haliaetus* but somewhat weaker.

Spizaëtus ornatus ornatus (Daudin)

Falco ornatus Daudin, Traité élémentaire et complet d'ornithologie, vol. 2, 1800, p. 77 (Cayenne).

1, unsexed, Caicara, October 6, 1951 (only head and feet saved).

Although not previously taken in the study area, this magnificent crested eagle-hawk was rare but well known at Caicara. It was not recorded at Cantaura. One raided a farm at Caicara during the months of March and April 1951, carrying off half-grown chickens. The one collected had been eating a full-grown guan (*Ortalis ruficauda*).

Spizaëtus tyrannus serus Friedmann

Spizaetus tyrannus serus Friedmann, Smithsonian Misc. Coll., vol. 111, No. 16, 1950, p. 1 (Río Indio, near Gatún, Canal Zone, Panamá).

1 ♀, Caicara, January 5, 1952; gonads slightly enlarged, bird very fat; iris rich yellow, feet yellow, nails black; bill black, bluish at base; cere dull green; facial skin black; gizzard contained mammal hair (opossum ? or monkey ?) only, no bones. A fully adult bird in somewhat abraded plumage.

This specimen is referable to the subspecies *serus*, but is definitely intermediate between that form and the nominate race of eastern and southeastern Brazil in the preponderance of black over white in the under wing coverts, in which character it is like *tyrannus* although in size it is *serus* and in the amount of white barring on the thighs it is intermediate between the two. It is the first truly intermediate specimen seen, but it comes from a locality that is far from intermediate. The range of *serus* as known at present is from southern México to Colombia, Ecuador, Perú, Venezuela, Trinidad, the Guianas, to northern and western Brazil and to Bolivia, while the range of *tyrannus* is eastern and southeastern Brazil, probably to northeastern Argentina. Our one specimen of the tyrant eagle-hawk was wounded by Sr. Romualdo Ramos, who, recognizing the rarity of the bird, carried it in alive to the collector. The bird was reported to utter a loud scream, *frio-frio*. A splendid example of this species was seen quietly perched on a low branch overlooking the Guarapiche River at Carcara. It continued peering intently into the water for perhaps ten minutes, apparently actively following the movements of a school of fish below, but did not attempt to capture one. At close range the feathered tarsi were very evident. Otherwise, at a little distance, the bird could easily have been mistaken for *Hypomorphnus urubitinga*.

Circus brasiliensis (Gmelin)

Falco brasiliensis Gmelin, Systema naturae, vol. 1, pt. 1, 1788, p. 262 (based on "Caracara" Marcgravius, Historiae rerum naturalium Brasiliae, 1648, p. 211, northeastern Brazil=Pernambuco).

1 ♂, Cantaura, July 31, 1950; gonads small; skull not well ossified; iris light yellowish brown; bill blue gray with black tip; cere dull blue green; feet rich yellow. A very worn bird, in molt in the wings and tail.

The immature example collected was evidently very hungry; it attempted time after time to capture a Cayenne lapwing (*Belonopterus chilensis*) out of a flock of these birds. They were obviously too large for the harrier and it was quite unsuccessful. In his turn, the collector followed the harrier over a large expanse of savanna, with equal lack of success. Finally, in desperation, crouching behind a bush as near as he dared approach the bird, he tossed out, one after another, his three white handkerchiefs. At the third handkerchief, the harrier flew in at top speed to investigate and was taken. The hawk is rare in the area, but occasional singles are seen, always on the open savanna.

***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).

Some observations, additional to those in our earlier report, are here added to the recorded data on this crane hawk.

The common call note of this crane hawk is a typical sound of the sparse woods at late evening and early morning, but it is so different from the calls expected of a hawk that for years the collector never suspected this bird was its author. The call, a loud hollow *how* uttered singly and repeated at perhaps one or two minute intervals, carries for a long distance but is rather hard to place. When thus calling, the bird is usually quietly perched near the trunk in a well foliaged tree. To locate it in the poor light of the late evening, before the approach of the observer causes it to cease calling, is an extremely difficult task. This hawk also utters a *Buteo*-like *shreeuu* call, quite similar to that of *Buteo magnirostris* and *B. nitida*.

On January 11, 1952, at Caicara, one was observed in what might be considered a display. It flapped and soared in rather tight circles. After several circles, the bird would climb abruptly and immediately thereafter drop sharply, describing an inverted V rather like the courtship display of the marsh hawk *Circus cyaneus*.

Family Pandionidae: Ospreys

***Pandion haliaetus carolinensis* (Gmelin)**

Falco carolinensis Gmelin, Systema naturae, vol. 1, pt. 1, 1788, p. 263 (no locality given = Carolina, ex references).

Because of the unusual interest attached to the observations and because of the collector's long familiarity with this bird in life in eastern North America, we depart from our usual custom and include this hawk even though as yet no actual specimens have been collected in the study area. The allocation of these observations to the subspecies *carolinensis* is only inferential.

The collector's field notes for Barcelona, Anzoátegui (seacoast), are as follows:

February 19, 1950: One seen.
May 28, 1950: Pair seen together several times. Nesting here?
May 25, 1951: One—apparently nesting? Flew off nest or from branch near nest; however, did not scold.
January 26, 1952: One seen. Suspected nest examined, no sign of use.

Although it was not possible to take specimens, the identifications are positive—in each case the bird was observed with binoculars and in good light. To date the collector has not been able to offer definite information, but it does appear possible that this form may be breeding on the Venezuelan mainland. The pair together, the relatively late dates, and the presence near a large, ospreylike nest, which was not situated in the open where the bird might normally perch, all suggest this possibility. Otherwise the osprey is known to breed no farther south (in the Western Hemisphere) than Yucatán and British Honduras, although it has been recorded as wintering as far south as Perú, Paraguay, and Argentina. However, in Colombia, it has been observed practically throughout the year, but no indications of its breeding there are reported (de Schauensee, 1949, p. 403).

Occasional singles of this form were seen at Cantaura and Caicara.

Family Falconidae: Falcons

Daptrius americanus americanus (Boddaert)

Falco americanus Boddaert, Table des planches enluminéez d'histoire naturelle, 1783, p. 25 (ex Daubenton, pl. 417; no type locality = Cayenne, ex Buffon).

1 ♀, Caicara, June 5, 1952; gonads slightly enlarged; iris brown; bill dull yellow; cere dull blue; face and feet dull red; gizzard contained some small, sticky, red-orange fruit (strangler fig? or mistletoe?).

This hawk was found in roving bands in the sparse deciduous seasonal forest and the denser lowland seasonal forest at Caicara; it was unknown at Cantaura. The flocks were very irregular in their appearance, present in one area for a short period and then absent again. They are birds of the treetops, difficult to find except when calling, but the presence of a flock is soon betrayed by the loud calls repeated by one and then another *cacao-ca-ca-ca-cao*. The local name is "cacao."

The gizzard contents of hawks are interesting as their food habits cover a wide range. Our example of this species was found to have eaten fruit, that of *Leptodon* had eaten an entire wasps' nest; a *Milvago chimachima* often came to the collector's food station to eat bread soaked in milk, not to mention such well known examples as *Rostrhamus* eating snails, and *Busarellus* feeding on fish.

***Polyborus cheriway cheriway* (Jacquin)**

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

Additional observations by the collector add to our knowledge of this caracara.

A nest of this caracara was found at Cantaura on March 25, 1950. It was a large, well built nest of fine sticks, with no lining, placed about 30 feet up on a horizontal branch and contained two brown, heavily mottled eggs. Both parents came to scold the collector, perching about ten feet from him and uttering a pebbly *eh-eh-eh-eh* note.

In December 1952 a flock of about 75 birds assembled on the golf course to eat "caterpillars" (beetle larvae) which had reached plague proportions in the grass there. At this time one was observed to capture a wounded fork-tailed flycatcher (*Muscivora tyrannus*). The flycatcher was perched on a small clod and the caracara, about fifty feet away, did not appear to notice it. A passing car frightened the smaller bird, which tried to fly. The caracara noticed the bird's flutterings immediately and, flying about a yard above the ground, captured the flycatcher with its feet. The bill was used only to kill the bird. On another occasion, two were seen eating a dead lizard (*Iguana*). At the approach of the collector, one of the birds grasped the lizard with its feet and flew off about 50 yards with it. These two instances are unusual in that the birds are commonly seen carrying objects in their bills.

***Falco femoralis femoralis* Temminck**

Falco femoralis Temminck, Nouveau recueil de planches coloriées d'oiseaux, livr. 21, pl. 343, and livr. 50, pl. 121, 1822 (Brazil, ex Natterer).

Although no additional specimens were obtained, the following notes add to what we recorded earlier of the aplomado falcon: This falcon often hunted in pairs and, like the pigeon hawk *Falco columbarius*, was often seen hunting in the late evening after sunset. The bird was recorded eating the small doves *Scardafella squammata* and *Columbigallina talpacoti*. One was seen trying to capture a pigeon, *Columba cayennensis*, a bird about as large as the domestic pigeon we (1950, p. 451) reported taken by this falcon. On September 18, 1950, another was seen hunting shore birds on the open savanna. These birds would take to the air each time the falcon appeared, except for the Cayenne lapwing (*Belonopterus chilensis*) which refused to flush and, in fact, appeared to take slight notice of the danger. The flock of shore birds included golden plover (*Pluvialis dominica*), greater and lesser yellowlegs (*Totanus melanoleucus* and *T. flavipes*), pectoral sandpiper (*Erolia melanotus*), and unidentified "peep" sandpipers.

Falco sparverius isabellinus Swainson

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

Further notes on the breeding of this race of the sparrow hawk are as follows: On March 20, 1950, a nest was discovered about 10 feet up under the eaves of a house. The female was either incubating well-developed eggs or brooding very young chicks (several days later very young chicks were removed by workmen cleaning the house). The male brought food, generally small lizards, to a treetop about 100 feet away and called the female by using a call like the juvenal food-begging note. The female then came out of the nest and ate, occasionally taking food back with her. At times, when the female did not appear, the male would take food to the nest site but apparently did not incubate. Another nest, found on April first about 15 feet up on a hollow tree, contained an incubating bird, again a female.

Once, in January, a small male sparrow hawk was seen attacking a *Falco femoralis*, keeping above the larger bird and diving at it. Knowing the powers of flight of the aplomado falcon, it did not seem possible to the collector that the bird, if it so desired, could not turn the tables on the little sparrow hawk.

Family Cracidae: Guans

Ortalis ruficauda (Jardine)

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

Since our previous report we are able to record the following notes on the breeding of this species: Four nests of this chachalaca, all with eggs, were seen during the period between May 1 and June 4. They were well made of twigs and many leaves, including fresh green ones. One contained four white eggs with a rough pebbly surface; although no record was kept of the number of eggs per clutch in the other nests, it is doubted that the clutches could be much larger, because the eggs were large and completely filled the nest. One nest was placed about 10 feet up in a tangle of vine, another was 3 feet up in a many-branched tree trunk, two were on the ground. Normally this guan is almost strictly arboreal, preferring the heavier wooded portions of the deciduous seasonal woods. Yet in each case, the nest was located in the savanna-edge habitant far from surface water and within 10 yards of grassy openings, in places where one would never expect to find the bird. It would seem that these were originally birds of the open country and had relatively recently acquired their present arboreal habits.

Family Phasianidae: Pheasants, Quail, and Their Allies

Colinus cristatus mocquerysi (Hartert)

Eupsychortyx mocquerysi Hartert, Bull. British Orn. Club, vol. 3, 1894, p. xxxvii (Cumaná, Departamento de Sucre, Venezuela).

1 ♀, Caicara, March 19, 1950; gonads very small; iris brown; bill very dark brown; feet light blue gray; skull well ossified; gizzard contained seeds, one ant, and flowers.

This specimen agrees with the two recorded in our earlier paper. We are still of the opinion that *mocquerysi* is a valid race.

Family Rallidae: Rails, Coots, Gallinules

Neocrex erythrops olivascens Chubb

Neocrex erythrops olivascens Chubb, Bull. British Orn. Club, vol. 38, 1917, p. 33 (Venezuela).

1 ♂, Caicara, July 20, 1950; gonads enlarged; bill dull green with the base bright red; feet red; eyes shine red at night when illuminated by hunting lantern.

Two careful observers of local wildlife assured the collector that the red-faced crake nested in the cornfields around Caicara. This appears to be in agreement with the fact that the present specimen had enlarged gonads, and was probably a breeding bird.

Family Heliornithidae: Finfoots

Heliornis fulica (Boddaert)

Colymbus fulica Boddaert, Table des planches enluminéez d'histoire naturelle, 1783, p. 54 (Cayenne, ex Daubenton, pl. 803).

Whereas we had previously (1950) recorded this bird only from Caicara, during October four of these peculiar birds were subsequently observed on a little artificial lake near Cantaura, as they swam quietly about among the drowned trees and the overhanging underbrush. A very loud *wak-wak-wak* call, almost certainly made by these birds, was heard.

Family Charadriidae: Plovers

Hoploxypterus cayanus (Latham)

Charadrius cayanus Latham, Index ornithologicus, vol. 2, 1790, p. 749 (Cayenne).

1 unsexed, Cantaura, July 31, 1950; iris dark, bill black with base of mandible dull orange; feet bright orange; skull well ossified. Adult bird, molting the remiges.

This beautiful little spur-winged plover, rare in the area (not more than two were ever seen at one time), was recorded at savanna ponds in June, July, and August. The call is a clear, pleasant whistle, consisting of two separate notes, one high, the other quite low, in tone somewhat like that of the spring call of the greater yellowlegs

(*Totanus melanoleucus*). Rendered vocally, the call is a series of separate notes, *whee, whoo, whee, whoo.*

***Pluvialis dominica dominica* (P. L. S. Müller)**

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

No additional specimens were taken, but further observations extend our knowledge of this migrant plover. Extreme dates recorded for the golden plover were September 18 and December 5. The form was seemingly rare at the seacoast, perhaps due to the collector's limited time there, but common at the savanna ponds and burnt-over areas on the savanna. For the past 3 years these birds have taken to feeding at night on the well-watered lawns of the oil company camps at Anaco, Anzoátegui. Their presence would have passed unnoticed were it not for their startlingly loud *queedelee* whistle.

***Squatarola squatarola* (Linnaeus)**

Tringa Squatarola Linnaeus, Systema naturae, ed. 10, vol. 1, 1758, p. 149 (Europe, restricted type locality Sweden).

1 ♀, Barcelona, February 20, 1950; gonads small; iris dark; feet blue gray; bird not fat.

The black-bellied plover was recorded only at the coast, and there in small flocks of four or five individuals.

Family Scolopacidae: Sandpipers, Curlews, Godwits

***Bartramia longicauda* (Bechstein)**

Tringa longicauda Bechstein, *in* Latham, Allgemeine Uebersicht der Vögel, vol. 4, pt. 2, 1912, p. 453 (North America).

Because of the paucity of Venezuelan data, the following expansion of our earlier notes may be recorded. Extreme dates for the upland plover are September 11 to October 17 and (rarer) March 25 to April 2. In September the bird is quite common on the lawns of the oil company camps at Anaco.

***Capella gallinago delicata* (Ord)**

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

In our 1950 report we indicated a wide spread of this species in Venezuela. The collector's subsequent field observations deal not as much with distributional occurrences as with slight but generally overlooked details of habits, based on a captive bird. At Anaco, on October 12, 1952, a slightly wounded snipe was brought in to him. He identified it as *delicata* by measuring the bill, wing, and outer rectrices:

. . . The bird walked mincingly across the room, with delicate uplifted steps. When it wanted, it could compress its tail so that it looked about as wide as the central two rectrices. Usually, however, when the bird crossed in front of me it spread its tail fanshaped like a strutting turkey gobbler, but strongly twisted in line with its body, not at right angles to it. When the bird changed directions and crossed in front of me from the opposite side, the tail was immediately reversed so as to continue to present the upper side to me. The bird almost appeared to be strutting in front of me, a thing not to be expected under the circumstances, although I could not rule out the thought of camouflage in the sense that the spread tail looked somewhat like the head with the dark central spot (central coverts) as the eye spot. At this time the bird did not crouch preparatory to flying.

When I tried to recapture the bird, however, I noted that each time it crouched preparatory to taking off (it could but barely lift itself off the floor, as the pectoral muscles had been injured) it fanned its tail in exactly the manner described above. It might be mentioned that this is not just a slight fanning of the rectrices, but an extreme position—a very wide open fan, strongly cocked to the side of the observer. The bird appeared to take off with the tail so cocked. This may be the reason for the "corkscrew" flight of the snipe when flushed.

***Crocethia alba* (Pallas)**

Trynga alba Pallas, *in* Vroeg, Catalogue . . . , 1764, Adumbr., p. 7 (coast of the North Sea).

1 unsexed, Barcelona, December 10, 1951; bill and feet black.

The sanderling was recorded only on the coast at Barcelona during December through February. It was not common; usually not more then five birds were seen at one time.

Family Laridae: Gulls, Terns

***Sterna albifrons antillarum* (Lesson)**

Sternula antillarum Lesson, Description de mammifères et d'oiseaux récemment découverts (*in* Complément aux oeuvres de Buffon), vol. 20, 1847, p. 256 (Guadeloupe, West Indies).

1 ♀, 10 kilometers south of Urica, Monagas, April 27, 1952; gonads very small; skull soft, immature; iris dark; bill yellow with tip black; feet yellow, nails black.

1 unsexed, Barcelona, May 25, 1951 (wing and feet only); bill yellow with black tip; feet yellow.

The female taken is the only one known to have been seen within the study area; the Barcelona specimen was collected from a flock of five.

***Thalasseus sandvicensis acuflavidus* (Cabot)**

Sterna acuflavida Cabot, Proc. Boston Soc. Nat. Hist., vol. 2 (1848), 1847, p. 257 (Tancah, Yucatán).

1 ♀, Barcelona, May 25, 1951; gonads enlarged (small yolks); iris brown; bill and feet black.

This specimen was collected out of a flock of eight birds. The enlarged gonads and the pugnacious, "attacking" behavior of the bird made it seem likely that the species was nesting nearby. The gull-billed tern was recorded only on the coast.

Family Columbidae: Pigeons, Doves

Columba speciosa Gmelin

Columba speciosa Gmelin, Systema naturae, vol. 1, pt. 2, 1789, p. 783 (Cayenne, ex Daubenton, Planches enluminées, pl. 215).

1 ♂, Caicara, May 30, 1950; gonads enlarged (17 mm. long); iris brown; bill bright red, the tip flesh color; eye ring red; feet dull purple; skull well ossified; bird molting the rectrices.

The large-scaled pigeon was apparently present at Caicara only during April, May, and June when small flocks of less than 10 individuals were seen, always in the rather heavy woods of the "quebradas" which cut back into the savanna of the mesa. The call was a very low *cooo* like that of distant cattle; for this reason the bird was known locally as "paloma tora" (bull pigeon). A cup-shaped nest of twigs, without lining, was found in late April, placed only about 10 feet up in a "chaparro" (*Curatella americana*) on the savanna in the immediate vicinity of a "quebrada" frequented by these birds. A fledgling was seen on May 22.

Columba corensis Jacquin

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

In our 1950 report we recorded this bare-eyed pigeon from Cantaura, but not from Caicara. Subsequently it has been seen at the latter locality.

Zenaidura auriculata stenura (Bonaparte)

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

The following field notes on the breeding habits of this dove extend the data in our earlier (1950) report: At least during the months of January through August, a type of display is given. Shortly after sunrise, an occasional single is seen to take off from a treetop and fly upwards with deep, rapid wing-beats. The flight upwards is at a steep angle, perhaps 30 to 40 degrees. When a height of perhaps 100 to 150 feet is reached, the bird glides down on rigid, downspread wings, describing, in the process, a large semicircle, which ends at, or in the immediate vicinity of, the starting point. This display is given only by birds in fully adult plumage and is apparently given by breeding birds, or at least by birds which have not joined a flock. Also, it is usually given, day after day, from the same starting point, perhaps because the bird is on territory, or perhaps merely because the bird habitually spends the night in the same spot. It was noted that the pair generally bills several times, in the manner of domestic pigeons, before the male mounts to copulate.

July 6: Pair seen together at nest site. Several twigs placed in position.

July 7: One sits on nest and slowly revolves, forming nest shape, while other brings in twigs in spurts, at times as fast as one every 20 seconds, laying them beside the dove in the nest, which accepts each one in its turn, placing it in position. Pair made no noise except a wing whistle (controlable?).

July 8: Bird on nest all day—must have laid first egg either late yesterday or early this morning.

July 9, 7 a. m.: One egg in nest.

July 10, 4 p. m.: Two eggs in nest.

The young were brooded until quite well feathered and large enough to fill the nest to such an extent as to make further brooding physically impossible. During this period the female (?) did not leave the nest to search for food, the male (?) bringing food for the young. On one occasion the female (?) begged food from him and then later fed the young by regurgitation.

In addition to a soft *coooo* rising very slightly at the end, this dove also utters a low *oooo-ah-oooo*, reminiscent of the mourning dove (*Zenaidura macroura*), but very low in pitch, as well as in volume, scarcely audible at 50 feet.

Scardafella squammata ridgwayi Richmond

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

Two additional crumbs of information: copulation is preceded by the briefest of preliminaries, a split-second billing before the male mounts; also, at least on one occasion both parents roosted with the young for two nights after they had left the nest.

Columbigallina passerina albivitta (Bonaparte)

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

Since our previous report, this dove has also been observed nesting on the ground, the nests being very meager affairs when compared to the bulky nests built in bushes. This form had a wing-twitching "display" identical to that described under *Columbigallina talpacoti rufipennis*, except that, in this case, the display is accompanied by a low, froglike *aaack* note, barely audible at 20 feet.

Columbigallina talpacoti rufipennis (Bonaparte)

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

In our 1950 publication, this form was reported as rare around Cantaura. It has since become common in the nearby well-watered oil company camps at Anaco. Within these camps, it has become commoner than the *C. passerina albivitta* as a breeding bird. On September 24, 1952, three occupied nests were found in a triangular area not more than 50 feet apart; there was an occupied nest of *Scarda-*

fella squammata not 15 feet from one of these. Two of the *talpacoti* nests contained eggs, while the third contained well-grown young. One of these nests was used a second time, while another was used three times in August, September, and October of the same year. Each successive time the nest was relined by the birds. Nests were found in bushes and trees, from 2 to 20 feet above the ground, and were composed mostly of grasses, not twigs, as are those of *passerina albivitta*. The nest-building is carried on in very much the same manner as that described for *Zenaidura auriculata*. In one case the male (redder bird) *talpacoti* brought in all the nesting material, while the female (paler bird) did all the actual construction, the major portion being done in 1 day.

The following notes were made:

August 21: Nest contained one egg, bird brooding (noon).

August 22: Nest contained two eggs at 4 p.m. Thus, second egg laid between 12 noon August 21 and about 3 p. m. August 22.

September 2: Eggs not yet hatched at 4 p.m.

September 3: One chick recently hatched. 9 a.m.

September 4: Remaining chick hatched. 7 a.m. Is dry, appears to have hatched yesterday, or during the night. Thus, hatched between 9 a. m. and about midnight September 3. Incubation period of second egg was, therefore, between 13¼ and 14½ days. (All clutches seen were composed of two eggs.)

September 14: Young left nest, remained in bush.

September 15: Still in bush, parent feeding.

September 16: Left nest site.

During the breeding season the male (?) would chase the female (?) and, when perched alongside, would indulge in a curious, nervous, wing-twitching motion; with wing folded in normal position, the bird would alternately jerk the tip slightly above and then slightly below the normal position.

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).

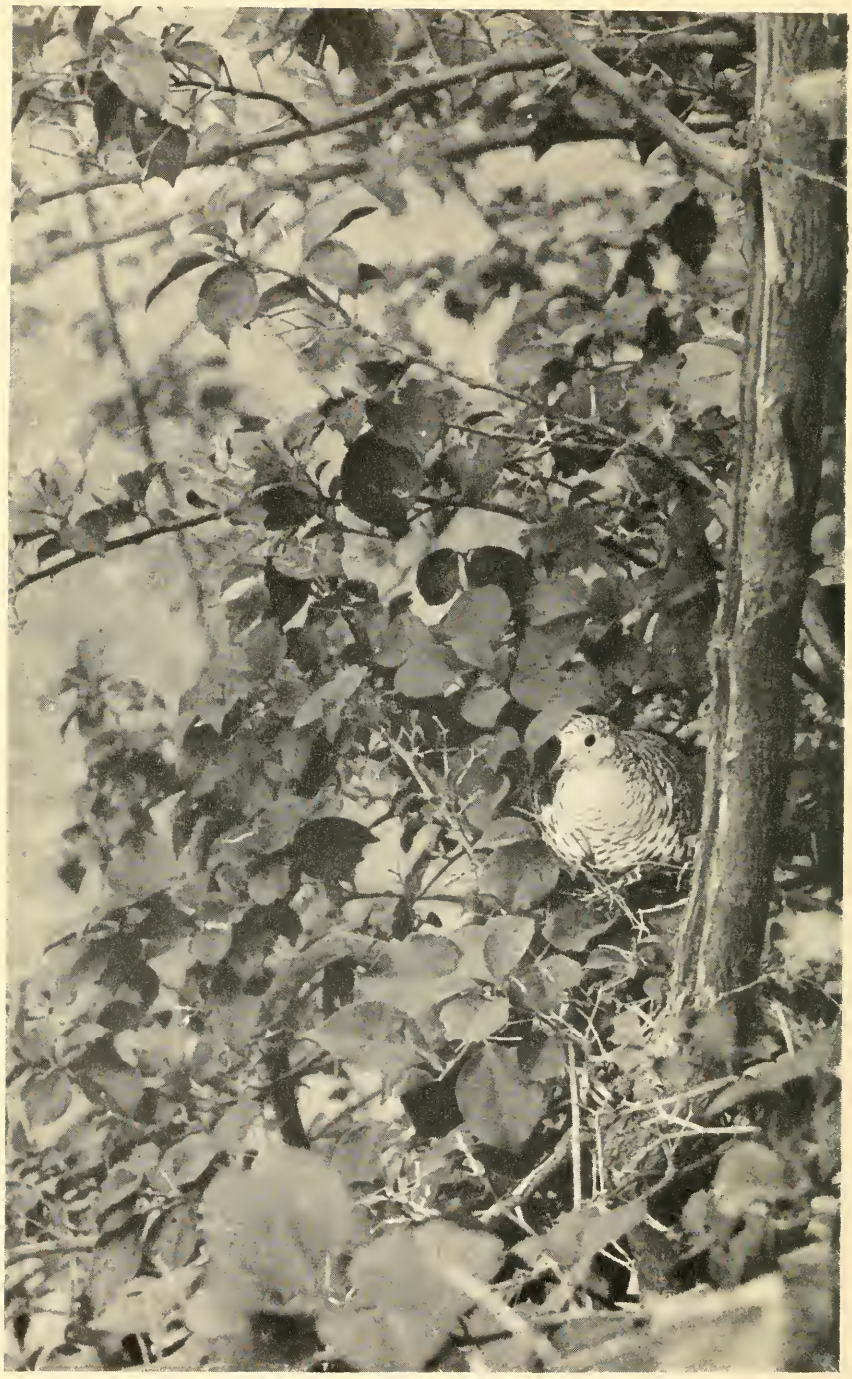
Since our previous report, the vocalisms of this dove have been identified, a resonant *woop-woop-woop-woop* frequently heard in the deeper woods in May and June.

Leptoptila verreauxi verreauxi Bonaparte

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

1 ♀, Caicara, March 10, 1950; gonads somewhat enlarged; eye ring dark blue, iris yellow; feet red, bill black; skull well ossified.

Zenaidura auriculata stenura, young about to leave the nest, Cantaura, Aug. 7, 1949.



Scardafella squamata ridgwayi on nest, Cantaura, Aug. 7, 1949.

Nyctibius griseus, adult.

Amazilia fimbrieta maculicauda: top, adult; lower, nest and young.

Family Psittacidae: Parrots

Ara manilata (Boddaert)

Psittacus manilatus Boddaert, Table des planches enluminéez d'histoire naturelle, 1783, p. 52 (Cayenne; ex Daubenton, pl. 864).

1 ♀ El Tigre, August 20, 1950; gonads somewhat enlarged; feet and bill black; iris dark brown; facial skin lemon yellow; feeding on fruit of moriche palm, *Mauritia minor* (fide H. Pittier, La Mesa de Guanipe, ensayo de fitogeografía, Caracas, 1942).

This little macaw is found near groves of the "moriche" palm (*Mauritia minor*) on the savanna between El Tigre, Anzoátegui, and Ciudad Bolívar on the Orinoco River, often in flocks of well over 100 individuals. Small flocks were occasionally recorded near Cantaura. The call was very similar to that of *Aratinga acuticauda*, quite different from that of *Aratinga leucophthalmus*. The slightly larger size is not easily discernible in the field; this *Ara* looked very much like the larger *Aratinga*, only the relatively longer wings and somewhat different wingbeat aroused the collector's suspicions enough for him to take one as the flock passed by. Obviously, the yellow facial skin sets this bird off from the *Aratinga*, but this is not often visible when the bird is flying. When perched in the tops of the palms these macaws are, in spite of their size, often very difficult to find.

Aratinga leucophthalmus leucophthalmus (P. L. S. Müller)

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

Upon better acquaintance, the collector was able to distinguish this bird quite readily from the very similar *acuticaudata* by a dry *che-chek* note often, but not always, given by the present species. A flock was seen at Caicara, feeding on the flowers of the tree *Erythrina glauca*.

Forpus passerinus viridissimus (Lafresnaye)

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

During the last week of July, a pair of these parrotlets was found nesting in the end of a piece of 3-inch pipe used as the cross arm of a clothesline support, 6 feet above the ground, while a pair of *Sicalis flaveola* nested in the other cross arm, 30 feet away. The nest was composed of twigs which, however, may have been rearranged by the inhabitants from a previous *Sicalis* nest. The pair had a well-established morning ritual. Within a very few minutes before or after 6:30 a. m. the incubating bird would leave the nest, and, accompanied by its mate, would circle the area at top speed, with much twittering. The pair would then disappear, returning in about ten minutes. One bird entered the nest hole immediately, while the other remained beside the entrance for a short period and then also entered,

often spending five to ten minutes inside before taking leave. The nest was destroyed about a week later, making further observations impossible.

***Brotogeris chrysopterus chrysopterus* (Linnaeus)**

Psittacus chrysopterus Linnaeus, Systema naturae, ed. 12, vol. 1, 1766, p. 149 (India, error, Guiana designated as type locality by Brabourne and Chubb, Birds of South America, 1912, p. 88).

1 ♂, Quiriquire, September 11, 1949; gonads small; bill flesh color; iris dark; eye ring whitish; feet pale blue-green; skull well ossified.

Adult bird, molting the outer remiges.

This little parrot was collected in the heavy lowland forest at Quiriquire, the only place where it was encountered.

***Pionus menstruus* (Linnaeus)**

Psittacus menstruus Linnaeus, Systema naturae, ed. 12, vol. 1 1766, p. 148 (Surinam).

1 adult ♂, Caicara, October 4, 1949; gonads small; bill black with a small spot of flesh color at base of maxilla; eye ring and feet black; gizzard contained corn.

The blue-headed parrot was usually seen in the heaviest woods around Caicara, in small flocks of less than 10 birds. Like the blue-and-yellow macaw (*Ara ararauna*), this form appears to be at the extreme edge of its preferred habitat, the heavy lowland forest of Quiriquire and Caripito. However, in spite of being a bird of the heavy woods, it is quite partial to cultivated corn. Although in life the bird was quite similar in general appearance and call notes to *Amazona amazonica*, the red under-tail coverts of the present species were often visible as the bird passed overhead and the wings appeared relatively longer than those of the *Amazona*.

***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).

The collector raised a pair of these parrots from nestlings. Although their primaries were clipped from time to time, the birds were otherwise at liberty in the trees around the house. These notes are offered on the breeding habits of this pair:

Nestlings received during first half of February 1945.

First breeding activity noted in late February 1951; believe it quite certain that such activity would not have gone unnoticed during prior years, as birds were under careful observation. Thus this pair was 6 years old when first copulation and egg-laying took place.

	First copulation	*Complete clutch*	*Number of eggs*
1951	c. Feb. 25	c. Mar. 20	3
1952	c. Feb. 8	c. Mar. 25	3
1953	c. Feb. 10	c. Mar. 3	3

Copulation proceeds as follows: Both sit close together side by side for periods of 20 to 45 minutes; caress one another, run bill through neck and crown feathers. Both begin to utter a soft, somewhat modified, nestling food-begging note and to agitate the wings in the manner of young when being fed. Female assumes position, hanging head down at approximately a 45 degree angle. Male with one foot on branch, places other foot on back of female, tails brought together with undersurfaces touching; body of male horizontal, but not covering female, being directed off at an angle of approximately 30 degrees; wings agitated more or less continuously throughout copulation (1–2 minutes?). Female remains motionless throughout copulation, hanging head down as described; wings not agitated. Both continue the modified food-begging note throughout. Copulation is carried on daily, often three or four times a day, throughout February, March, and April, generally in the early morning hours.

Work on the nest cavity was commenced within 3 days after copulation began. Generally female works while male remains outside, but at times both work together. Work continued sporadically, usually in the morning, until eggs are laid, about a month later.

During this time, the parrots become quite ill-tempered toward people, dogs, etc. The (threat?) display used particularly at this time by both may be described as follows: Body erect to horizontal, rarely hanging down from branch, crest and neck feathers erected, wings opened at leading edge, but with flight feathers still folded in near-normal manner over back, tail outspread showing red of inner webs, head often twisted so that yellow crown patch is directed at intruder. Continuous loud calling.

Female does all the incubation, male generally remains in immediate vicinity, often at the entrance itself, but was not seen to enter cavity after incubation began. Female leaves nest in early morning and late afternoon, pair flies in circles around nest site with much loud calling. At times before incubation, and continuously thereafter, the male feeds the female by regurgitation, the female begging food by using the same note as that used by both during copulation, and by agitating the wings. Even when standing beside a plate of food, she commonly begs and receives food from the male, although at times she will eat by herself. The eggs themselves were not fertile and never hatched.

While the foregoing notes are on captive birds, field observations (generally brief glimpses) on nesting dates, nest-building activity, and early morning and late afternoon flights confirm the above observations. Display was observed in the field, but never at the nest site—presumably this is not characteristic. Copulation and feeding of the female were not observed in the field, although fledglings were seen being fed. In this connection, this parrot was observed eating the ripe fruit of *Pereskia guamacho* and *Curatella americana*.

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).

1 ♂, Caicara, May 1. 1950; gonads small; iris orange; bill horn color; extremities dark gray; feet gray; skull well ossified; gizzard contained seeds of *Curatella americana*.

We previously recorded a specimen from Cantaura, and sight records from Caicara. A bird was taken at Caicara chiefly because it seemed

to the collector that the call notes of the Caicara birds were lower in pitch than those of the Cantaura area. However, the Caicara specimen differs neither in size nor in coloration from the Cantaura bird.

Family Cuculidae: Cuckoos

Coccyzus melacoryphus Vieillot

Coccyzus melacoryphus Vieillot, Nouv. Dict. Hist. Nat., vol. 8, 1817, p. 271 (Paraguay).

1 immature ♀, Cantaura, August 21, 1949; gonads small; iris dark; bill black; feet dull blue-gray; gizzard contained large grasshoppers and caterpillars; bird in very worn plumage.

This cuckoo was generally seen in two's and three's, and invariably its habitat was the edge of the deciduous seasonal woods. One rainy afternoon a pair were heard uttering a call somewhat similar to that of the yellow-billed cuckoo (*Coccyzus americanus*) but not as loud, and perhaps more rapid. The call may be written *ca-ca-ca-ca-ca-cow-cow-cow.*

Piaya cayana mehleri Bonaparte

Piaya mehleri Bonaparte, Conspectus generum avium, vol. 1, 1850, p. 110 (Santa Fé de Bogotá; emended to Cartagena by Todd, Proc. Biol. Soc. Washington, vol. 60, 1947, p. 59).

Recorded in our earlier (1950) paper as *P. c. columbianus*, which name is now considered a synonym of *mehleri*. On April 17 an incubating bird was seen on a well-built nest of coarse twigs, placed about 15 feet up in a small tree. It was not possible to climb without dislodging the nest so the size of the clutch was not determined.

Crotophaga major Gmelin

Crotophaga major Gmelin, Systema naturae, vol. 1, pt. 1, 1788, p. 363 (Cayenne).

In addition to an aspirate hiss and a low chucking note recorded in our earlier (1950) paper, the greater ani utters a long series of bubbling calls, which reminded the collector of a heron rookery or a group of frogs. Perhaps this bubbling, "boiling" call is the reason for the local name of "hervidor" (hervir—to boil) given by Phelps (1944, p. 290).

Crotophaga sulcirostris sulcirostris Swainson

Crotophaga sulcirostris Swainson, Philos. Mag. (new ser.), vol. 1, 1827, p. 440. (Temascaltepec, México).

Additional observations on this bird are as follows: The groove-billed anis had a nest about 15 feet up in a dense mango tree, which was used off and on throughout the months of August through October. The nest was of twigs, lined with fresh green leaves which the birds brought in even while the nest contained eggs. The eggs were always destroyed prior to hatching, probably by the southern mockingbird

(*Mimus gilvus*) or the Swainson's grackle (*Quiscalus lugubris*) which frequented the tree. Several eggs were found on the ground under the nest site, apparently laid there, as they would have broken in a fall from the nest.

A fledgling was found on September 16; it could barely fly, but could run very well. It uttered a *check-check* note and the *kt-cheeeu* typical of the adults. When a band of adults passed nearby it called frantically and, when released, rejoined the flock without difficulty.

These anis are very active ground feeders. They walk and run rapidly, occasionally giving two or three big hops and run, twisting and turning with the aid of their long tail. At times they fly up to catch an insect a yard above the ground. The flock is generally silent while on the ground, except for strays that have to fly to rejoin the flock. However, when the band takes to flight, the members call repeatedly.

Family Strigidae: Owls

Otus choliba subspecies

1 juv. ♂, Caicara, May 1, 1953; gonads small; bill and feet blue-gray; iris bright yellow.

This specimen is unidentifiable to subspecies. Two possibilities have to be taken into consideration *O. c. crucigerus* (Spix) and *O. c. margaritae* Cory, but an adult bird in good plumage is needed to determine which form occurs at Caicara.

A pair of these owls were found nesting at Caicara, about 15 feet up in a hollow tree at the road edge in deciduous woods. On March 25 the nest contained three half-grown young. This is the only time this little owl was recorded by the collector. Apparently, the call note is not similar to that of the North American screech owl (*Otus asio naevius*) or he would scarcely have overlooked the bird during the past years. At the nest, the parent bird uttered a soft hoot, repeated at rare intervals. Since this owl's eyes do not shine at night in the light of a hunting lantern, the bird was very difficult to locate. The young bird, taken from the nest, gave an aspirate call very similar to that of the barn owl (*Tyto alba*). If the adults give this call, it may be that the collector has, at times, misidentified its author, and that some of his *Tyto* records actually belong to the present form.

Bubo virginianus scotinus Oberholser

Bubo virginianus scotinus Oberholser, Mus. Brooklyn Inst. Arts Sci., Sci. Bull., vol 1, 1908, p. 371 (Caicara, Río Orinoco, Venezuela).

1 ♂, Cantaura, September 20, 1949; skull well ossified; gonads small; iris yellow; bill black; feet pale blue-gray; gizzard contained a lizard about 12 inches long, and grasshoppers.

1 ♀, Cantaura, July 5, 1950; skull well ossified; gonads somewhat enlarged; iris dull yellow; bill black; gizzard contained a small snake.

In our 1950 report we recorded a young bird from Cantaura. Because of its immaturity it was not possible to ascertain to which race it belonged. The area of origin is more or less intermediate between the range of *B. v. scotinus* and *B. v. elutus*. For aiding us in critically determining the racial allocation of our present specimens we are indebted to Dr. John T. Zimmer, who informs us that they agree with the type and with four specimens of *scotinus* from British Guiana—two from Surinam, and one from Mérida, Venezuela.

At Cantaura, shortly before sunset one was heard and seen calling. The call was identical in tone with those of this owl in eastern North America but consisted of four notes, *hoo, hoohoo, hoo.* It is not certain that this is typical of the present race, as these owls are not common in the collector's area, and are rarely heard. Peterson (1947, p. 133) gives the call of the North American races of the great-horned owl as "three, five, or six uninflected hoots," usually five, *hoo, hoohoo, hoo, hoo.*

***Glaucidium brasilianum phaloenoides* (Daudin)**

Strix phaloenoides Daudin, Traité élémentaire et complet d'ornithologie, vol. 2, 1800, p. 206 (Trinidad).

No further specimens were collected, but three nests were found, all in hollowed-out termite nests. Two were found at Cantaura, one about 40 feet above the ground, containing young (March 25), and one about 20 feet up, containing three eggs (April 25). Both adults were at the latter nest site, one in the nest hole and the other either also in the hole or close to the entrance. The third nest was found at Barcelona about 100 yards from the seacoast and about 10 feet above the ground; it contained two eggs (May 28).

***Rhinoptynx clamator clamator* (Vieillot)**

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

1 ♀, Caicara, March 11, 1950; gonads small; skull well ossified.

The present example was taken at night in a large open field, near deciduous seasonal woods. It was quietly perched on top of a tall pole, apparently hunting in this manner rather than coursing back and forth across the field in the manner of the barn owls (*Tyto alba stictica*) which were also present.

Family Nyctibiidae: Potoos

***Nyctibius grandis* (Gmelin)**

Caprimulgus grandis Gmelin, Systema naturae, vol. 1, pt. 2, 1789, p. 1029 (Cayenne). Specimen collected.

1 ♀, Caicara, December 28, 1952; gonads somewhat enlarged (small ovarian yolks); skull not well ossified; bird very fat.

This specimen is in the pale phase and agrees very closely with one from the Rio Cauaburi in northern Brazil, less so with a darker bird from San Antonio, on the upper Orinoco.

The giant potoo is a rare bird in the study area as the present example is the only one seen in approximately 8 years of observing and collecting. It was taken in an open field in the midst of deciduous woods. When shown to experienced local hunters, quite familiar with the smaller *Nyctibius griseus*, all were agreed that they had never seen the species before.

Family Trochilidae: Hummingbirds

Phaethornis anthophilus anthophilus (Bourcier)

Trochilus anthophilus Bourcier, Rev. Zool., 1843, p. 71 (upper Magdalena Valley, Colombia).

1 ♀, Caicara, June 6, 1950; gonads enlarged, brood patch evident; iris dark; maxilla and tip of mandible black, rest of mandible bright orange.

1 ♀, Caicara, April 26, 1953; gonads somewhat enlarged, brood patch evident; iris dark, maxilla black, mandible dull orange with black tip.

In our earlier report we commented on the long median rectrices of a specimen from Caicara. Since then, two others from the eastern end of the range of this hummingbird have been examined and measured. The results suggest that in the birds from the eastern part of the range the central tail feathers tend to become longer, but the variation in Colombian birds is so great that until more abundant Venezuelan material is available it seems unwise to attempt to divide the eastern birds from typical *anthophilus*. Inasmuch as our three northeastern Venezuelan examples are all females, the measurements of specimens of that sex only are given below.

Venezuela: Caicara (3), median rectrices 60, 64, and 73.1 mm. Colombia: Lower Magdalena (1), 50 mm.; Magdalena, El Conejo (1), 43 mm.; Bolivar, Norosi (1), 42 mm., and La Raya, Río Cauca (1), 53 mm.; Guajira, Nazaret (2), 47, 50 mm.; Santander del Norte, Petrolea (1), 54.5 mm.; Río Tarra (1), 54 mm., and Villa Felissa (1), 76 mm.

The last specimen listed, from Villa Felissa, has the tail even longer than any of the northeast Venezuela birds. If one could discount it as wrongly sexed, the difference between typical *anthophilus* and the Caicara population would be striking indeed. However, it would be unusually long for males as well. Thus, a male from Santa Marta, Colombia, has the median rectrices 60 mm. long, another from Espinal, Tolima, Colombia, measures 57 mm., and a male from Ocumare de la Costa, central northern Venezuela, has these feathers 62 mm. long.

Anthracothorax prevostii viridicordatus Cory

Anthracothorax prevosti viridicordatus Cory, Field Mus. Nat. Hist., Publ. Orn. Ser., vol. 1, 1913, p. 286 (El Panorama, Río Aurare, Venezuela).

1 ♂, Cantaura, August 15, 1953; gonads small, skull well ossified; bird very fat; bill and feet entirely black; iris dark.

The single specimen obtained was sent to Dr. John T. Zimmer for identification, as no material of *viridicordatus* was available to us. He informs us that it is a somewhat immature male of *viridicordatus*, and agrees with adult males in his series except that the tail is bluer, less purplish, a difference that may be due to immaturity.

The crop of the bird contained 15 hemiptera, 3 gall wasps, 5 aphids, and 1 tiny spider.

***Polytmus guainumbi guainumbi* (Pallas)**

Trochilus guainumbi Pallas, *in* Vroeg, Catalogue . . ., Adumbr., 1764, p. 2 (Cape of Good Hope, error=Surinam, cf. Richmond, Smithsonian Misc. Coll., vol. 47, 1905, p. 344).

1 ♂, Cantaura, March 7, 1952; gonads small; iris dark.

At Cantaura and Caicara this low-flying hummingbird was typically encountered on the open savanna and in extensive clearings in the edge habitat, wherever the ground cover was composed of low grasses and other herbaceous plants. It was a rapid feeder, rarely remaining more than a brief moment at any one place, rapidly flying long distances (50 to 100 feet) between feeding stops. It was uncommon, or at least rarely recorded; perhaps, since it flew so close to the ground, it was often simply overlooked by the collector.

***Leucippus fallax richmondi* Cory**

Leucippus fallax richmondi Cory, Field Mus. Nat. Hist., Publ. Orn. Ser., vol. 1, 1915, p. 303 (new name for *Leucippus pallida* (Richmond) 1895, not of Taczanowski, 1874; Margarita Island).

1 unsexed, Barcelona, January 26, 1952; maxilla and tip of mandible black, rest of mandible pale red; feet black; iris dark.

This specimen, taken within a hundred yards of the seacoast, is unusually dark. It was kindly identified for us by Dr. Zimmer, who compared it with numerous examples of *richmondi* from the Cumaná region. It is more deeply colored than were the Cumaná birds, but not enough so to match *occidentalis*, and even more decidedly different from *fallax*, which occurs between the other two races. It is therefore best referred to *richmondi*.

***Amazilia chionopectus chionopectus* (Gould)**

Thaumatias chionopectus Gould, Monograph of the Trochilidae, pt. 18, September 1859, p. [8] and text [=5, pl. 293 of volume] (Trinidad).

1 ♀, Caicara, June 6, 1950; gonads enlarged, brood patch evident; iris dark; bill and feet black.

This little white-bellied hummingbird was common at times at Caicara, although only recorded in June, October, and November, probably having been overlooked in other months. The call is not at all that which one would expect of a tiny hummer; it was a rather loud *diddle-ee, diddlee, diddle-ee,* rather like that of *Euscarthmus*

meloryphus. Often three or four birds would be calling at the same time, generally while perched rather than while flying. The preferred habitat was groups of small trees at the savanna edge. The form was recorded only at Caicara.

***Amazilia fimbriata maculicauda* (Gould)**

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

The following observations add to our earlier notes: Six nests were found, two about 10 feet up, while the remainder were at less than 3 feet above the ground. Especially in January and February, groups of five and six birds could be seen chasing each other, and apparently copulating on the wing. In chasing each other, they uttered a very typical call, a loud *peep-peep* running up and down the scale, somewhat in the manner of contented chicks under a brooding hen. Of the four common hummingbirds of the deciduous woods, *Chrysolampis mosquitus*, *Chlorostilbon canivetii caribaeus*, *Amazilia tobaci aliciae*, and the present species, the first three feed typically at the flowers of high trees; the *Amazilia fimbriata* is a low feeder.

Family Trogonidae: Trogons

***Trogon strigilatus strigilatus* Linnaeus**

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

In addition to the specimen recorded by us earlier, a female was shot on May 25, but was too damaged to be saved. The gonads were slightly enlarged, but not as much as in a breeding bird. The specimen was actively molting.

Family Alcedinidae: Kingfishers

***Ceryle torquata torquata* (Linnaeus)**

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

No additional specimens were collected, but a pair was observed digging a nest hole during the middle of January. There were four or five of the tunnels about 30 feet up in a 50-foot perpendicular bank at the river's edge.

The commonest call of this kingfisher was a harsh, rapidly repeated *kit-ti, kit-ti*.

Family Galbulidae: Jacamars

Galbula ruficauda ruficauda Cuvier

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

This jacamar, a specimen of which was included in our earlier report, has a decided preference for the deeper woods, especially gullies and river bank areas. However, its distribution during the nesting season shows that then the need for approximately perpendicular banks becomes great; these need be no higher than from 3 to 6 feet. No nesting holes were ever seen in higher banks (from 10 to 20 feet) frequented by kingfishers. On April 20 a pair were found nesting almost at the top of a barren hill near Puerto La Cruz, where, in the course of construction of a new road, a sharp bank had been cut in the side of the hill.

Family Bucconidae: Puffbirds

Hypnelus bicinctus bicinctus (Gould)

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

To our earlier statements about this puffbird the following notes are added: This 2-banded puffbird has a very curious manner of swinging its tail; it perches quietly, motionless, and then swings its tail from side to side in a series of three or four abrupt jerks. Thus, beginning at a 4-o'clock position, the tail is "clicked" into the 5-, 6-, 7-, and 8-o'clock positions, and then "clicked" back again to the 4-o'clock position. This was a quiet bird, but one was observed uttering a rhythmic *tak-ta-tooo* repeated over and over, with the accent on last syllable.

Family Picidae: Woodpeckers

Chrysoptilus punctigula punctipectus Cabanis and Heine

Chrysoptilus punctipectus Cabanis and Heine, Museum Heineanum, vol. 4, 1863, p. 163 (Venezuela).

Further familiarity with this woodpecker in life leads the collector to observe that it is reminiscent of the flicker (*Colaptes auratus*) not only in coloration but also in habits, as it is commonly seen on the ground, feeding at ant-hills. In addition to a low harsh *peeek*, this bird utters a loud, whistled *tu-tu-tu-tu-tu-tu*, also rather flickerlike.

Phlococeastes melanoleucos melanoleucos (Gmelin)

Picus melanoleucos Gmelin, Systema naturae, vol. 1, pt. 1, 1788, p. 426 (Surinam).

1 ♀, Cantaura, October 15, 1951; gonads small; iris yellow; feet gray-green; bill blue-gray; adult bird in worn plumage.

This woodpecker is so similar in general appearance to *Dryocopus lineatus*, previously recorded by us from Cantaura that the relative abundance of each in the study area is uncertain, since too large a percentage of the sight records are thereby put in doubt. The somewhat lighter colored bill of *Phloeoceastes* appears to be its best field mark.

Family Furnariidae: Spinetails, Ovenbirds

Xenops rutilus heterurus Cabanis and Heine

Xenops heterurus Cabanis and Heine, Museum Heineanum, vol. 2, 1859, p. 33 ("Columbia"? Bogotá, Salvin, Ibis, 1809, p. 319).

1 juvenal unsexed, Caicara, May 25, 1952; gonads very small; skull soft; maxilla brown, mandible horn color; feet dark gray; gizzard contained (wood-boring?) beetle larvae.

While the specimen reported in our previous publication was taken in the densest part of the lowland seasonal forest, the present example was found in very sparse deciduous seasonal woods, near the open savanna.

Family Formicariidae: Ant-thrushes

Thamnophilus doliatus fraterculus Berlepsch and Hartert

Thamnophilus doliatus fraterculus Berlepsch and Hartert, Nov. Zool., vol. 9, 1902, p. 70 (Altagracia, Venezuela).

The following observations by the collector add to our knowledge of the habits of this bird: On July 31, a male was observed about 10 feet up in a bush "displaying" to a *Volatinia jacarina* somewhat below. The display was very striking, even from a distance. Crest erect, body feathers fluffed out, body horizontal, the bird would "quiver" forward, somewhat as if in the act of copulation, tail being raised and lowered as body shifted forward. No sound was heard, (the collector was not very near) but the bill was opened. A white supercilliary line was very apparent when the crest was so raised.

Family Cotingidae: Chatterers

Pachyramphus polychopterus tristis (Kaup)

Psaris marginatus tristis Kaup, Proc. Zool. Soc. London, vol. 19, 1851 (October 1852), p. 48 (no locality stated; Cayene suggested by Bangs and Penard, Bull. Mus. Comp. Zool., vol. 64, 1921, p. 387).

1 ♂, Caicara, May 15, 1952; one testis enlarged, one atrophied; iris brown; bill blue-gray; feet black.

1 ♀, Cantaura, October 20, 1952.

This form was found in the dense lowland seasonal forest at Caicara and in the sparse deciduous seasonal woods at Cantaura. The two examples collected were the only ones seen.

***Tityra cayana cayana* (Linnaeus)**

Lanius cayanus Linnaeus, Systema naturae, ed. 12, vol. 1, 1766, p. 137 (based on "La Pie-griesche grise de Cayenne," Brisson, Ornithologia, vol. 2, 1760 p. 158, pl. 14, fig. 1 (=male); Cayenne).

1 ♂, Caicara, June 4, 1952; gonads slightly enlarged; iris brown; feet black, facial skin and bill red, the tip of the bill black.

The specimen collected, in the deciduous seasonal woods, was the only one seen. Local hunters believed it was the "campanero" (bell-ringer) supposedly common in the hills toward Caripe.

Family Pipridae: Manakins

***Chiroxiphia lanceolata* (Wagler)**

Pipra lanceolata Wagler, Isis, 1830, p. 931 ("Guiana sive Cajenna," error).

To what we recorded of this bird in 1950 may be added these notes: On May 25 two males were observed by the collector displaying in the immediate vicinity of a female, which, incidentally, appeared to show not the slightest interest. The males were perched about two feet apart on a branch about a foot above the ground. They faced each other, with raised crests, and, alternately, one would flutter up in a semisomersault in such a manner as to show the sky-blue back to his rival, uttering at the same time a peculiar insectlike buzz, quite different from the whistled *beni? toro-toro toro* usually given. The jet-black bodies, bright red crests, and powdery-blue backs formed a striking pattern as the birds displayed.

After checking other field notes, the collector believes he has seen portions of the same display, performed high in the trees.

Family Tyrannidae: Tyrant Flycatchers

***Machetornis rixosa flavigularis* Todd**

Machetornis rixosa flavigularis Todd, Ann. Carnegie Mus., vol. 8, 1912, p. 210 (Tocuyo, State of Lara, Venezuela).

Formerly this strange flycatcher was rather uncommon, remaining in the vicinity of water, rarely far from cattle and burros. Now it has become common in the well-watered oil company camps and, instead of following animals, it has taken to capturing disabled or freshly killed insects at parked automobiles and to capturing insects which were attracted to lights during the previous night. Like the groove-billed ani (*Crotophaga sulcirostris*), it has also taken to following men mowing the lawns. These birds are often seen in trios. During the period from April to July they were seen displaying and chasing one another. The birds face one another in a curious, hunched position, crown feathers spread to show the reddish concealed crest, and feathers of the upper back erected. Their bulky nests of grass

were placed under the eaves of houses, and in the crotch formed by the basal portion of palm leaves.

Muscivora tyrannus (Linnaeus)

Muscicapa tyrannus Linnaeus, Systema naturae, ed. 12, vol. 1, 1766, p. 325 (Surinam).

Two races of the fork-tailed flycatcher are here involved. For the sake of clarity and convenience we shall list the specimens under each of the two races and then combine the discussion of both.

Muscivora tyrannus tyrannus (Linnaeus)

Muscicapa tyrannus Linnaeus, Systema naturae, ed. 12, vol. 1, 1766, p. 325 (Surinam).

2 ♂, 3 ♀, Cantaura, August 4, 6, 12, 1950, and July 17, 1952; all birds are young; all with small gonads and incompletely ossified skulls; iris dark brown; bill black with the remnant of the gape dull yellow; feet black.

Muscivora tyrannus monachus (Hartlaub)

Tyrannus (*Milvulus*) *monachus* Hartlaub, Rev. Zool., vol. 7, 1844, p. 214 (Guatemala).

2 ♂ adults, Caicara, May 15, July 20, 1952; gonads small in July specimen; fairly enlarged in May bird.

1 nestling, partly grown, Caicara, May 26, 1952; iris brown; bill and feet brown.

1 nest, Caicara, May 26, 1952.

Apparently, there is little information in literature about the nesting of the fork-tailed flycatcher *M. tyrannus*, except in the southern part of its range in Argentina. In fact, even the breeding in Venezuela of the resident race, *M. tyrannus monachus* (Hartlaub), appears to be unsubstantiated. Cherrie (1916, p. 246) fails to include it in his long list of birds breeding in the Orinoco region. Chubb (1921, vol. 2, p. 237) states that its nesting is unknown in British Guiana. Belcher and Smooker (1937, p. 228) did not find it breeding in Trinidad. Zimmer (1937, p. 6) was unable to determine whether it breeds in Venezuela and, as a matter of fact, appears to have had at hand only one breeding record for Colombia, that of Salmon (no date). In discussing the breeding range of *M. tyrannus tyrannus* (Linnaeus), Zimmer based his conclusions on plumage and gonadal condition, as no eggs or nests were available. Dugand apparently has not treated the problem, nor, for that matter, has Phelps, except to consider *monachus* as the resident race of Venezuela, and *tyrannus* as the migrant race from austral South America (Phelps and Phelps, 1950). Considering the striking appearance and the relative abundance of this flycatcher, as well as the accessibility of its habitat, the paucity of information regarding its breeding habits is indeed surprising.

Therefore, we believe it of interest to record that a nest of the resident race, *M. tyrannus monachus*, was found at Caicara, Monagas,

Venezuela, on May 25, 1952, a date which corresponds with that given by Cherrie as the breeding date for the same race in Costa Rica (Zimmer, 1937, p. 6).

The nest was found on the savanna, in a locality sparsely covered with "chaparro" trees (*Curatella americana* L.). It was placed in one of these trees, at the end of a branch, about four feet above the ground. The nest was of bulky construction, approximately 15 cm. outside diameter, 6 cm. inside diameter, and 8 cm. deep, composed of coarse grasses with many feathers woven into it, and lined with slightly finer grasses. At the time of discovery, it contained three well-feathered nestlings.

Through the courtesy of Mr. William Phelps, the junior author has examined the magnificant collection of Venezuelan birds in the Colección Phelps at Caracas, Venezuela. Of the series of *monachus*, collected throughout the year, the June specimens had enlarged gonads. One immature specimen, taken in October at Cerro Upuima, Bolivar, was so young it could almost be classified as a nestling. This fact, in conjunction with the nestling skin of May 25, appears to substantiate a breeding period of May through September. In the same collection, *M. tyrannus tyrannus* is represented by skins from May through October inclusive, with one immature specimen taken in March. Thus, *tyrannus* is present in Venezuela, and in approximately the same habitat, during the breeding season of *monachus*. Actually, while both are birds of the open country and are occasionally encountered together, the concentrations of typical *tyrannus* in eastern Venezuela are found in the vicinity of wooded country, whereas *monachus* prefers the open short-grass savanna dotted here and there with stunted "chaparro." As a rule, the flocks do not have an opportunity to mix with one another. A perhaps extreme example of the seasonal concentration of *tyrannus* occurs at Carpito, Monagas, where the Creole Petroleum Corporation has established a large camp in the lowland seasonal forest, with the resultant clearing of the surrounding woods. This area, particularly the golf course, is regularly visited by a large concentration of *tyrannus*, whereas *monachus* has apparently not been able to invade the area.

The race *tyrannus* is abundant locally on the northeastern Venezuelan plains from July through September, generally in flocks of 1,000 to 5,000 birds; in contrast *monachus* is rarely found in flocks of more than 50 individuals. During this time the gonads of the adult *tyrannus* are small, while those of *monachus* are enlarged. It is to be noted that the young *tyrannus* arrive with the adults and form a large percentage of the July concentrations. Zimmer (1937, p. 3), speaking of the birds of Argentina and Paraguay, places the breeding season as November through January. However, the collector believes the immature birds present in his region in July may be younger

than the minimum of 6 months Zimmer's estimate would necessitate. He bases this opinion on the general appearance of fresh-killed birds, especially the appearance of the gape. Such a conclusion, if correct, would lead one to suspect that the breeding season of the *tyrannus* reaching Venezuela extends later than the season suggested by Zimmer, or that these migrants may be from a population breeding much closer to the equator (perhaps the east coast of Brazil), a population to which Zimmer has already drawn attention, or possibly even from the upper Orinoco region of Venezuela.

Thus, we have here an abundant species divided into extremely similar continental races, and we find two races in the same area during the breeding season of one. While Mayr (1942, pp. 199, 253) states that this is of fairly common occurrence in birds, the only examples he gives are of island races geographically isolated by water. The possibility exists that the breeding ranges of these two races are not geographically isolated, as we know of no effective barrier between the ranges. On the other hand, we know of no zone of integration, with intermediate populations. It is possible that at some point between the now-known breeding ranges both may be breeding races in the same area but during different months of the year, being reproductively isolated one from the other principally by different breeding seasons in the manner foreseen by Mayr (1942, page 199), who states: "It is thinkable that a race, whose range extends from the equator southward and which nests from September to November, overlaps near the equator the range of another subspecies, whose range extends from the equator northward and which breeds from February to May. No definite cases are known, but Dr. Chapin tells me that some indirect evidence points to its occurrence in two African species." We may here have a similar case in South America. In this connection, we point out that in the upper Orinoco region, near the Venezuelan-Brazilian border, the two races are present together in February and March (Friedmann, 1948, p. 500), and that in northeastern Venezuela during these months *tyrannus* is absent (or extremely casual) arriving there in late June to early July.

Even without direct breeding evidence, gonadal and plumage condition of additional specimens collected in southern Venezuela and north to central Brazil should shed light on the breeding seasons and ranges of these two races, and we look forward with interest to the findings of future expeditions.

Tyrannus melancholicus chloronotus Berlepsch

Tyrannus chloronotus Berlepsch, Ornis, vol. 14, 1907, p. 479 (Temax, Yucatán).

Inasmuch as this form presented no taxonomic problems, it was not considered necessary to collect additional specimens.

Members of this genus are noted for their habit of chasing hawks, and on one occasion the collector observed a pair attacking an aplomado falcon which had just attacked and badly wounded a ground dove (*Columbigallina passerina*). The dove had somehow escaped and had hidden under several weeds, leaving a trail of feathers behind. The falcon was waiting in a nearby tree when the kingbirds attacked it and finally forced it to leave the area. This falcon, which is capable of capturing pigeons in flight, attempted to fight off the kingbirds, but was apparently unsuccessful because it divided its efforts between the two birds. There appears to be no other reason why it could not have killed them.

On another occasion one was observed attacking a flock of swallow-tailed kites (*Elanoides forficatus*) soaring high above.

***Megarhynchus pitangua pitangua* (Linnaeus)**

Lanius pitangua Linnaeus, Systema naturae, ed. 12, vol. 1, 1766, p. 136 (based on Brisson (ex Marcgrave), eastern Brazil).

Further observation causes us to revise our previous estimate of this bird from "probably not uncommon" to common, in the deciduous woods-edge environment. It is not as strictly limited by the presence of surface water as is the "cristofue" (*Pitangus sulphuratus rufipennis*). Its call is a harsh, insectlike *chreereererr*.

***Pitangus sulphuratus rufipennis* (Lafresnaye)**

Saurophagus rufipennis Lafresnaye, Rev. Mag. Zool., ser. 2, vol. 3, 1851, p. 471 (Caracas).

As we mentioned in our earlier report the birds of the study area are *rufipennis* and are not intermediate between this race and *trinitatis*.

These large flycatchers were not averse to coming to the collector's feeding station and eating cooked rice, bread and milk, bananas, and papaya. Their large, globular nests of grass are often seen in the telephone poles between Puerto La Cruz and San Tomé.

***Platyrinchus mystaceus insularis* Allen**

Platyrhynchus insularis Allen, Bull. Amer. Mus. Nat. Hist., vol. 2, 1889, p. 143 (Tobago).

1 ♂, immature, Caicara, October 12, 1949; gonads small; skull not well ossified; iris brown; bill dark brown with the base of the mandible dull yellow; feet pale tan.

This little flycatcher was not common in the deciduous seasonal woods at Caicara, it was not found around Cantaura. The call was a harsh, rather loud, but not at all flycatcher-like *squeeeek*.

***Tolmomyias sulphurescens exortivus* (Bangs)**

Rhynchocyclus sulphurescens exortivus Bangs, Proc. Biol. Soc. Washington, vol. 21, 1908, p. 163. (La Concepción, Santa Marta).

1 ♀, Caicara, May 20, 1952; gonads slightly enlarged; iris pale yellow-white; macilla black, mandible horn color; feet black.

An adult bird in fairly fresh plumage.

This flycatcher was fairly common locally in the deciduous seasonal woods at Caicara during May. Its call note was a weak *shree*.

***Sublegatus arenarum orinocensis* Zimmer**

Sublegatus glaber orinocensis Zimmer, Amer. Mus. Novitates No. 1109, May 15, 1941, p. 5 (Altagracia, Río Orinoco, Venezuela).

1 ♂ juvenal, Caicara, May 20, 1950; gonads small; skull not well ossified; base of bill soft; iris brown; feet and bill black.

Dr. J. T. Zimmer kindly identified this young bird for us. The posterior lower parts are whitish, not yellow as in the adults and the upperparts also lack the yellowish tone of mature birds, being dingy brown with narrow white tips to the feathers.

***Camptostoma obsoletum venezuelae* Zimmer**

Camptostoma obsoletum venezuelae Zimmer, Amer. Mus. Novitates No. 1109, May 15, 1941, p. 12 (La Cascabel, Río San Félix, Venezuela).

1 ♀, Caicara, March 15, 1953; gonads enlarged; skull well ossified; bird rather fat; iris brown; bill dark brown; feet black.

In our 1950 report we noted that the collector experienced difficulty in distinguishing the present form from *Phaeomyias murina incompta*. Further experience with both birds has greatly reduced the difficulty. The *Camptostoma* is an active little flycatcher, which may be readily observed in the upper portions of the leafless trees of March and April, repeatedly calling *swees-swees-sweesweeswees* on a descending scale. The *Phaeomyias*, on the other hand, is relatively quiet, preferring the lower bushes, often well inside the foliage. The call recorded was a thin, even *peeeet*.

Family Hirundinidae: Swallows

***Pygochelidon cyanoleuca patagonica* (Lafresnaye and d'Orbigny)**

Hirundo patagonica Lafresnaye and d'Orbigny, Synopsis avium, pt. 1, *in* Mag. de Zool., vol. 7, cl. 2, 1837, p. 69 (Patagonia=Río Negro).

1, unsexed, Barcelona, May 25, 1951; bird rather fat; iris, bill, and feet dark brown; a bird in worn plumage, molting the body feathers.

This specimen was collected on the seacoast at Barcelona, out of a flock of over a hundred birds. During the second week of June

1954, at Naricual, Anzoátegui, about 15 kilometers from where the specimen was taken, a flock of over 500 of these swallows roosted on the telephone lines crossing the Neverí River; June 15 was the last day they were seen. Some of the birds were approaching breeding plumage. The flock did not remain in the area and was apparently a nomadic, if not migrant, flock similar to that from which our specimen was collected.

Family Troglodytidae: Wrens

Thryothorus rutilus rutilus Vieillot

Thryothorus rutilus Vieillot, Nouv. Dict. Hist. Nat., nouv. ed., vol. 34, 1819, p. 55 ("l'Amérique septentrionale," error, = Trinidad).

1 ♂, Caicara, June 6, 1950, gonads greatly enlarged; broad patch evident; iris chestnut; bill and feet blue-gray; gizzard contained insects.

This striking wren was present in favored, overgrown spots on the Guarapiche River at Caicara, especially where tiny feeder streams or springs gave rise to a growth of ferns or *Heliconia*. The song is very different from that of *Thryothorus rufalbus*. Rather than a series of hollow, placeless notes, this form had a gay, loud whistle, *oooeeeeherrr-tiddlier*, commencing low and slurring rapidly upwards, and down again, followed by a trill.

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).

We add to the detailed observations recorded in our 1950 paper the following data: An example was captured alive and marked with India ink. Judged by its actions later, it was a male. Its territory was found to be a square, approximately 200 by 200 feet, which it was never seen to leave. Its favorite song perches were all in the central part of this square. At times it defended the territory against almost all other mockingbirds, while at other times it allowed trespassing. During the first week of March it was observed nest-building, gathering the material (often at the very base of the bush) and constructing the nest. While the female (?) accompanied the male at the feeding station, she was not observed building the nest. This is at variance with our previous report on the nest-building habits of this form, where both male and female took part in the work. The nest was destroyed before the eggs were laid, so further observations were not possible.

Family Turdidae: Thrushes

Turdus fumigatus aquilonalis (Cherrie)

Planesticus fumigatus aquilonalis Cherrie, Mus. Brooklyn Inst., Sci. Bull., vol. 1, 1909, p. 387 (heights of Aripo, Trinidad).

1, unsexed, Caicara, November 16, 1952; skull well ossified; iris, feet, and bill dark brown. Adult bird in somewhat worn plumage.

Recorded only in the heavy woods along the Guarapiche River at Caicara. The collector examined with binoculars every thrush he saw in the hopes of collecting this form. Finally, hearing an unknown rapidly repeated wrenlike *chickity-reckity-rik*, he made a squeaking noise; the bird flew up and was taken. Like many other forms (*Ara ararauna*, and *Myrmeciza longipes*, for examples) this bird appears to be at the very edge of its habitat at Caicara, presumably becoming more common in the lowland seasonal forest toward Quiriquire and Caripito.

Family Coerebidae: Honeycreepers

Conirostrum bicolor bicolor (Vieillot)

Sylvia bicolor Vieillot, Histoire naturelle des oiseaux de l'Amérique septentrionale, vol. 2, 1807, p. 32, pl. 90 bis (Cayenne; suggested by Hellmayr, Catalogue of the birds of America, pt. 8, 1935, p. 318).

1, unsexed, Barcelona, October 28, 1951.

1, unsexed, Barcelona, January 26, 1952; iris russet; bill dark gray; feet flesh color; gizzard contained fine seeds.

This species was recorded only on the coast at Barcelona.

Family Parulidae: Wood Warblers

Seiurus noveboracensis noveboracensis (Gmelin)

Motacilla noveboracensis Gmelin, Systema naturae, vol. 1, pt. 2, 1789, p. 958 (based on the New York warbler, Latham, General synopsis of birds, vol. 2, pt. 2, p. 436). (In Louisiana, et Noveboraci sepibus=New York.)

1 ♀, Caicara, December 15, 1952; gonads small; skull not well ossified; bird thin, not fat; iris and bill brown; feet light brown.

Judging by the olive tone of the upper parts, the amount of yellow on the underparts, and the size of the specimen, our bird appears to belong to the nominate subspecies. Both this form and the race *notabilis* winter in Venezuela; the races are not distinguishable in the field, and hence all that the collector can say is that the species was recorded on the Guarapiche River at Caicara from December through the first week of April.

Family Icteridae: Troupials

Psomocolax oryzivorus oryzivorus (Gmelin)

Oriolus oryzivorus Gmelin, Systema naturae, vol. 1, pt. 1, 1788, p. 366 (based on the rice oriole, Latham, General synopsis of birds, vol. 1, pt. 2, p. 423 (Cayenne).)

1 ♂, Caicara, May 1, 1950; gonads greatly enlarged; iris orange; feet and bill black; gizzard contained corn.

A pair was seen at the edge of a cornfield, and one of them, the present specimen, was taken. The species was not otherwise observed, although the local farmers appeared to know the bird.

Molothrus bonariensis venezuelensis Stone

Molothrus venezuelensis Stone, Auk, vol. 8, 1891, p. 347 (Venezuela; type from Lago de Valencia).

Since our 1950 report was written, more has been learned of the habits of this cowbird. It is another form which has become much commoner during the last few years, apparently due to the abundance of water at the oil company camps. Flocks of more than 10 birds were not reported up to 1950, whereas in the succeeding years flocks of over 100 individuals were not rare.

The male often displays by flying in tight circles (about 15 feet in diameter) around the female (in one case, around a dead *Sicalis flaveola*). Usually, the female is on the ground, and the male's circle is described about 2 or 3 feet above the ground. The female inclines slightly, raising the tail and at times walking toward the male. At times the male sings while displaying, and often sings while in flight. The song is quite pleasing, weak but musical.

The collector reports that this cowbird parasitizes the grackle *Quiscalus lugubris*. This is interesting because the parasitism reported is on a large scale, and apparently, at least locally, the *Quiscalus* seems to be the exclusive host. In this case the host is the slightly larger bird and belongs to the same family as the parasite. The *Quiscalus* come to the feeding station with their young, about 25 percent of which are *Molothrus*; these flock with their foster parents for a time and then, still in the same dress, slowly leave to join the flocks of *Molothrus*. Unfortunately, no specimens were taken.

Agelaius icterocephalus icterocephalus (Linnaeus)

Oriolus icterocephalus Linnaeus, Systema naturae, ed. 12, vol. 1, 1766, p. 163 (based on "Le Carouge à teste jaune de Cayenne" Brisson, Ornithologia, vol. 2, 1760, p. 124, pl. 12, fig. 4 (Cayenne).)

1 ♂, Quiriquire, October 1, 1949; gonads small; iris dark; bill and feet black; plumage abraded.

Small flocks of less than 10 individuals were observed in marshes at Quiriquire, Monagas, and between Barcelona and San Mateo, Anzoátegui. There are no suitable marshes around Cantaura or Caicara.

Family Thraupidae: Tanagers

Tanagra laniirostris crassirostris (Sclater)

Euphonia crassirostris Sclater, Proc. Zool. Soc. London, vol. 24 (1856), 1857, p. 277 (New Grenada, Bogotá).

1 ♂, Caicara, May 26, 1952; gonads enlarged; iris dark; feet black; bill black with base of mandible dull dark blue; gizzard contained very fine seeds (grass? or grains of pollen?), no mistletoe.

Previously recorded by us as apparently uncommon, this bird has been found subsequently to be quite common in the deciduous seasonal woods at Caicara. At Cantaura it was also present, but much less numerous. Its high whistled calls are very similar to those of *Tanagra chlorotica trinitatis*, and the two species are generally quite difficult to distinguish in the field.

A nest of this tanager was found at Caicara on April 25. It was a domed affair of fine twigs, placed about 6 feet up on the top of a fence post, a timber about 8 inches in diameter which had become sufficiently hollowed to allow the bird to build the nest on top. The bird was observed closely, for it remained in the immediate vicinity of the nest uttering its high whistled *feen feen* notes in protest. This is not the first time the collector has seen such nests in similar positions.

Ramphocelus carbo capitalis Allen

Ramphocoelus atrosericeus capitalis Allen, Bull. Amer. Mus. Nat. Hist., vol. 4, 1892, p. 51 (El Pilar, near Carupano, Sucre, Venezuela).

1 ♂, Caicara, May 15, 1952; gonads enlarged; iris red-brown; feet, maxilla, and top of mandible black, the rest of mandible blue-white.

Adult bird in somewhat worn plumage.

The collecting of an adult male makes it possible to identify the local population as definitely *capitalis;* in our 1950 report we were unable to be so definite as our only example was a young female.

This tanager was found only in or near the heavy lowland forest at Caicara, where it was locally fairly common.

Tachyphonus luctuosus luctuosus Lafresnaye and D'Orbigny

Tachyphonus luctuosus Lafresnaye and D'Orbigny, Synopsis avium, pt. 1, *in* Mag. de Zool., vol. 7, cl. 2, 1837, p. 29 (Guarayos, Bolivia).

1 ♀, Caicara, May 15, 1952; gonads small, but brood patch evident; iris brown; bill and feet dark blue-gray.

Due to lack of comparative material we are guided in our subspecific identification by the ranges given for this form and for the race *flaviventris* in Phelps and Phelps' (1950, pp. 335–336) list of the passerine birds of Venezuela.

A pair of these birds was seen and this one collected in a clearing in the heavy lowland seasonal forest at Caicara. This was the only time the species was encountered.

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).

Although in our previous paper this form was reported absent at Cantaura, it has since proved to be rather common there, particularly in the oil company camps. Either the bird was overlooked previously, or else this is another example of greatly increased abundance concurrent with the increased supply of surface water at these localities. In August and again in the first days of November the two parent birds accompanied a single fledgling to the collector's feeding station where one or possibly both of the parents fed the young bird. The call of the fledgling is a single very characteristic loud *peeeep* quite similar to that of a lost chick.

Richmondena phoenicea (Bonaparte)

Cardinalis phoeniceus Bonaparte, Proc. Zool. Soc. London, vol. 5 (1837), 1838, p. 111 ("the country south of the Bay of Honduras"; error = Venezuela, apud Hellmayr, 1938, p. 74; Cumaná suggested as restricted type locality by Phelps and Phelps, 1950, p. 349).

1, unsexed, Barcelona, May 25, 1951; gonads small; iris brown; bill and feet pale gray; adult bird in worn plumage.

This cardinal was found only in the very sparse thorny woods bordering the seacoast at Barcelona. Its song and call note were quite similar to those of the North American cardinal *Richmondena cardinalis*.

Cyanocompsa cyanea minor Cabanis

Cyanocompsa minor Cabanis, Journ. Orn., vol. 9, 1861, p. 4 (Caracas, Venezuela).

1 ♂, Caicara, December 12, 1949; gonads small; skull well ossified; iris dark brown; bill and feet black.

1, unsexed (♂ by plumage), Caicara, November 10, 1951.

The November specimen has the forehead, superciliary and malar areas much lighter blue than the rest of plumage, while the December bird does not show any such local paleness. As a matter of fact, the latter bird is generally darker everywhere than the former example. If the two birds came from different places they would look as though they were distinct forms.

This blue grosbeak was recorded only at Caicara, and it was a rare bird there, an occasional single or pair being found in overgrown places at the savanna edge. The song began with a characteristic loud *chuwee*, followed by rambling, typically finchlike notes.

***Tiaris bicolor omissa* Jardine**

Tiaris omissa Jardine, Ann. Mag. Nat. Hist., vol. 20, 1847, p. 332 (Isla de Tobago).

1 ♂, Barcelona, May 25, 1951; gonads greatly enlarged; iris dark; feet gray; bird in worn plumage.

The black-faced grassquit was common on the seacoast at Barcelona, but was not recorded further inland.

***Sporophila nigricollis nigricollis* (Vieillot)**

Pyrrhula nigricollis Vieillot, Tabl. Enc. Méth., Orn., livr. 93, July, 1823, p. 1027 ("Brésil").

1 ♂, Cantaura, August 10, 1952; gonads very much enlarged; iris brown; bill pale blue; feet black; adult bird in fairly fresh plumage.

The yellow-bellied seedeater was rather common in the deciduous seasonal woods-edge habitat, especially where the small clearings had depressions which occasionally contained pools of surface water. The collector had overlooked this form for years, apparently having confused it with *Sporophila intermedia*, which it resembled in general appearance, call and song, and habitat, although the present species appeared to show preference for more heavily overgrown spots.

***Sicalis flaveola flaveola* (Linnaeus)**

Fringilla flaveola Linnaeus, Systema naturae, ed. 12, vol. 1, 1766, p. 321 (Surinam).

Continued observation of this finch causes the junior author to consider that it has greatly increased in numbers around the oil company camps. A flight song was recorded in March and again in November, one a single male and once two males together. The singing bird rose almost vertically to a height of perhaps 80 feet, and still singing, fluttered down to the top of a tree, where the song was continued, the bird standing very upright, bill pointed straight up, wings still fluttering.

In the Anaco camp of the Socony-Vacuum Oil Co. this species was found nesting in the pipe crossarm of a clothesline support (see notes on *Forpus viridissimus*). The male and female gather nesting material, but the male often presents the material to the female for the actual construction. The nest is composed of grass lined with finer grasses and an occasional feather. The male commonly sings from 5 to 15 feet from the nest. Both parents feed the young, and by early November the insectlike *bzzzt* of the flocks of fledglings is to be heard on all the lawns in camp.

Sight records

In addition to the species in the foregoing list, a number of others were carefully observed, but, for one reason or another, not preserved as specimens. These must remain purely sight records for the present, but those that appear to have been adequately studied for purposes of identification may be listed here. It may be recalled that two perfectly unmistakable species have been referred to in our catalog even though neither was obtained for the collection. The additional birds tentatively recorded are as follows (in the absence of the possibility of subspecific determination binomials only are used).

Phimosus infuscatus (Lichtenstein)
Anas bahamensis (Linnaeus)
Accipiter superciliosus (Linnaeus)
Falco albigularis (Daudin)
Phaetusa simplex (Gmelin)
Dacnis cayana (Linnaeus)
Emberizoides herbicola (Vieillot)

Birds of the region

Inasmuch as field observing and collecting have now been pursued for over 8 years in the study area, we feel that the list of the birds inhabiting this portion of the tropical zone of northeastern Venezuela is fairly well worked out. It seems worthwhile to tabulate here the monthly occurrence and the known breeding activities of this avifauna in order to make the data more readily available for comparative studies of other tropical American areas. Probably few, if any, other local regions in all of tropical America are as completely known, save for an exceptional case such as Barro Colorado Island in the Panama Canal Zone. The study area here reported, lies partly in the States of Anzoategui and partly in Monagas; the elevation varies from 350 to 1500 feet above sea level; the region comprises savanna, deciduous seasonal woods, and lowland seasonal woods. An X signifies that the bird has been recorded as present in the month in question; a dash (—), not present; B means breeding. Sight records are marked with an asterisk.

Species	*Month*											
	J	*F*	*M*	*A*	*M*	*J*	*J*	*A*	*S*	*O*	*N*	*D*
Tinamus major zuliensis†	--	--	--	--	--	--	--	--	--	--	--	X
Crypturellus noctivagus erythropus	X	B	B	B	B	B	B	X	X	X	X	X
Crypturellus noctivagus spencei	X	X	X	X	B	B	X	X	X	B	X	X
Crypturellus soui	X	X	X	B	X	X	X	B	X	X	X	X
Colymbus dominicus speciosus	--	--	--	X	X	B	X	X	X	X	X	--
Podilymbus podiceps antarcticus	--	--	--	--	X	X	X	X	X	--	--	--
Phalacrocorax olivaceus olivaceus	X	X	X	X	X	X	X	--	--	--	--	--
Anhinga anhinga anhinga	X	X	X	X	X	--	--	--	--	B	X	X
Ardea cocoi	X	X	X	X	X	--	X	--	X	X	X	X
Philherodias pileatus	--	--	X	X	X	--	--	--	--	--	X	X
Butorides striatus striatus	X	X	X	B	X	X	X	X	X	X	X	X
Florida caerulea caerulescens	X	X	X	X	X	X	X	X	X	X	X	X
Bubulcus ibis ibis	X	X	--	--	--	--	--	X	X	X	--	X
Casmerodius albus egretta	X	X	X	X	X	X	X	X	X	X	X	X

†Caprito.

Species	*Month*											
	J	*F*	*M*	*A*	*M*	*J*	*J*	*A*	*S*	*O*	*N*	*D*
Leucophoyx thula thula	X	X	X	X	X	X	X	X	X	X	X	X
Syrigma sibilatrix fostersmithi	X	X	X	X	X	--	X	X	X	--	--	X
Nycticorax nycticorax hoactli	--	--	X	X	X	X	--	--	--	--	--	---
Tigrisoma lineatum lineatum	--	--	X	B	--	--	--	--	--	--	--	---
Cochlearius cochlearius	--	X	--	--	--	--	--	--	--	--	--	---
Mycteria americana	X	X	X	X	X	X	X	X	X	X	--	---
Jabiru mycteria*	X	X	--	X	X	--	--	--	--	X	--	---
Exenura maguari	--	X	--	--	X	--	--	--	--	X	X	X
Theristicus caudatus caudatus	X	--	--	X	X	X	X	X	X	X	--	--
Ajaia ajaja	X	X	--	X	X	X	X	X	X	X	--	---
Phimosus infuscatus*	--	--	X	X	--	--	--	--	--	--	--	---
Dendrocygna viduata	X	--	--	X	X	B	X	X	X	X	--	---
Dendrocygna autumnalis discolor	X	--	X	--	X	X	X	X	X	B	--	---
Sarkidiornis sylvicola	--	--	--	X	--	B	B	X	X	--	--	---
Cairina moschata	--	--	X	X	--	--	X	X	X	--	--	---
Anas discors	X	X	X	X	--	X	--	--	X	X	X	X
Oxyura dominica	--	--	--	X	--	--	X	X	X	X	--	---
Anas bahamensis*	--	--	--	--	--	--	--	--	X	--	--	---
Coragyps atratus	X	X	B	B	X	X	X	X	X	B	X	X
Cathartes aura ruficollis	X	X	X	B	X	X	X	X	X	X	X	X
Cathartes burrovianus	X	X	X	X	X	X	X	X	X	X	X	X
Sacroramphus papa	X	--	X	--	X	X	--	--	--	--	X	---
Elanus leucurus leucurus	X	X	X	X	X	X	X	X	X	X	X	X
Elanoides forficatus yetapa	--	--	X	X	X	X	X	X	X	--	--	---
Chondrohierax uncinatus uncinatus	--	--	X	--	--	--	X	--	X	--	X	---
Ictinea plumbea	--	--	B	X	X	X	X	--	X	--	--	---
Gampsonyx swainsonii leonae	X	X	X	X	X	X	X	X	X	X	X	X
Accipiter bicolor bicolor	--	X	X	B	--	X	--	--	--	--	--	---
Heterospizias meridionalis meridionalis	X	X	B	X	X	X	X	X	X	B	X	X
Buteo albicaudatus colonus	X	X	X	X	X	B	B	X	X	X	X	X
Buteo albinotatus abbreviatus	X	X	X	B	X	X	X	X	X	X	X	X
Buteo magnirostris magnirostris	X	X	X	B	X	X	B	X	X	X	X	X
Buteo nitidus nitidus	X	X	X	X	B	X	X	X	X	X	X	X
Parabuteo unicinctus unicinctus	B	X	X	X	X	B	X	X	X	B	X	X
Hypomorphnus urubitinga urubitinga	X	X	X	X	X	X	X	X	X	X	X	X
Busarellus nigricollis nigricollis	X	X	X	X	X	--	--	--	--	--	--	X
Geranospiza caerulescens	X	X	X	X	X	X	X	X	X	X	X	X
Accipiter supercilliosus*	--	--	X	--	--	--	--	--	--	--	--	---
Spizaëtus ornatus	--	--	X	X	X	--	--	--	--	X	--	---
Spizaëtus tyrannus	X	--	--	--	--	--	--	--	--	--	--	---
Circus brasiliensis	X	--	--	--	--	--	X	--	--	--	--	---
Leptodon cayanensis	X	X	X	X	X	--	--	--	--	--	--	---
Rostrhamus sociabilis	--	--	--	--	X	--	--	--	--	--	--	---
Pandion haliaetus carolinensis*	X	X	--	--	X	--	--	--	--	X	--	---
Herpetotheres cachinnans cachinnans	X	X	X	X	X	X	X	X	X	X	X	X
Daptrius ater	--	--	X	X	--	--	X	B	X	--	--	---
Daptrius americanus	--	--	--	X	X	X	--	--	--	--	X	X
Milvago chimachima cordatus	X	X	X	X	X	X	X	X	B	X	X	X
Polyborus cheriway cheriway	X	X	B	B	X	X	X	X	B	X	X	X
Falco femoralis femoralis	X	X	X	X	X	X	X	X	X	X	X	X
Falco columbarius columbarius	X	X	X	X	--	--	--	--	--	--	X	X
Falco spavarius isabellinus	B	B	B	B	X	X	X	X	X	X	X	X
Falco albigularis*	--	--	--	--	--	X	--	--	--	--	--	--
Ortalis ruficauda	X	X	X	B	B	B	X	X	X	X	X	X
Colinus cristatus mocquerysi	X	X	X	X	X	B	B	X	X	X	B	X
Opisthocomus hoazin	X	X	X	X	X	--	--	--	--	--	X	X
Aramus guarauna guarauna	--	--	X	X	X	X	X	--	X	--	--	---
Aramides cajanea cajanea	X	X	X	X	X	X	X	X	X	X	X	X
Neocrex erythrops olivascens	--	--	--	--	--	--	X	X	--	X	--	---
Gallinula chloropus pauxilla	--	--	--	X	X	X	X	X	--	--	X	---
Porphyrula martinica	--	--	--	--	--	--	--	X	X	--	X	---
Jacana spinosa intermedia	X	X	X	X	X	X	X	X	X	X	X	X

*Sight record.

Species	*Month*											
	J	*F*	*M*	*A*	*M*	*J*	*J*	*A*	*S*	*O*	*N*	*D*
Heliornis fulica	--	--	--	--	--	--	--	--	--	X	X	---
Belonopterus chilensis cayennensis	X	X	X	X	B	B	B	X	X	X	X	X
Pluvialis dominica dominica	--	--	--	--	--	--	--	--	X	X	X	X
Charadrius vociferus*	X	--	--	--	--	--	--	--	--	--	--	---
Charadrius hiaticula semipalmatus	X	X	--	--	--	--	--	--	--	X	X	---
Charadrius collaris	--	--	--	--	--	--	--	X	X	X	--	---
Hoploxypterus cayanus	--	--	--	--	--	X	X	X	--	--	--	---
Bartramia longicauda	--	--	X	X	--	--	--	--	X	X	--	---
Totanus flavipes	X	X	X	--	--	X	X	X	X	X	X	---
Totanus melanoleucus	X	X	X	X	--	--	X	X	X	X	X	X
Tringa solitaria	X	X	X	X	X	--	X	X	X	X	--	X
Actitis macularia	X	X	X	X	X	X	X	X	X	X	X	X
Capella gallinago	--	--	X	X	X	--	X	--	--	X	X	---
Ereunetes pusillus	X	--	--	--	--	--	--	--	X	X	--	---
Erolia minutilla	X	--	--	--	--	--	--	--	X	X	--	---
Erolia fuscicollis	--	--	--	X	--	--	--	--	X	X	X	---
Erolia melanotus	--	--	--	--	--	--	--	--	X	X	X	---
Phaetusa simplex*	--	--	--	X	X	--	--	--	--	--	--	---
Burhinus bistriatus vocifer	X	X	X	B	B	X	X	X	X	X	X	X
Sterna albifrons antillarum	--	--	--	X	X	--	--	--	--	--	--	--
Columba corensis	X	X	X	B	B	B	B	B	X	X	X	X
Columba cayenninsis pallidicrissa	X	X	X	B	B	B	B	B	X	X	X	X
Columba speciosa	--	--	X	B	B	X	--	--	--	--	--	---
Zenaidura auriculata stenura	X	X	B	B	B	B	B	B	B	B	B	X
Scardafella squammata ridgwayi	B	B	B	B	B	B	B	B	B	B	B	B
Columbigallina passerina albivitta	B	B	B	B	B	B	B	B	B	X	B	B
Columbigallina talpacoti rufipennis	X	X	B	X	X	B	B	B	B	B	B	X
Ciaravis pretiosa	X	X	X	X	X	X	X	X	X	X	X	X
Leptoptila verrauxi verrauxi	X	X	X	B	B	B	X	B	X	X	B	X
Ara manilata	--	--	--	--	--	--	--	X	--	X	X	---
Ara ararauna	--	X	X	X	X	--	X	X	X	X	X	---
Aratinga acuticaudata neoxena	X	X	X	X	X	X	X	X	X	X	X	X
Aratinga leucopthalmus leucopthalmus	X	X	X	X	X	X	--	--	--	X	--	X
Aratinga pertinax margaritensis	X	B	B	B	X	X	X	X	X	X	X	X
Forpus passerinus viridissimus	X	X	X	X	X	X	B	X	X	X	X	X
Pionus menstruus	--	--	--	--	X	X	--	X	X	X	--	---
Brotogeris chrysopterus chrysopterus†	--	--	--	--	--	--	--	--	X	--	--	---
Amazona ochrocephala ochrocephala	X	B	B	B	X	X	X	X	X	X	X	X
Amazona amazonica amazonica	X	X	X	X	X	X	X	X	X	X	X	X
Piaya cayana mehleri	X	X	X	B	X	X	X	X	X	X	X	X
Coccyzus melancoryphus	--	--	--	X	X	X	X	X	X	X	X	X
Crotophaga major	X	X	X	X	X	X	X	X	X	X	X	X
Crotophaga ani	X	X	X	X	X	X	B	B	B	X	X	X
Crotophaga sulcirostris	X	X	X	X	X	X	B	B	B	B	X	X
Tapera naevia naevia	--	X	X	X	X	X	X	X	X	X	X	---
Tyto alba stictica	--	X	X	--	--	X	X	X	X	B	B	X
Bubo virginianus scotinus	X	--	--	--	X	X	X	X	X	X	X	X
Glaucidium brasilianum phalocnoides	X	X	B	X	B	B	B	X	X	X	X	X
Pulsatrix perspicillata perspicillata	--	X	--	--	--	--	X	--	X	--	--	---
Speotyto cunicularia brachyptera	X	X	--	--	--	X	X	X	X	X	X	X
Rhinoptynx clamator clamator	--	--	X	X	X	--	X	--	--	--	--	---
Asio flammeus pallidicaudus	--	--	--	--	--	X	X	X	X	X	--	---
Otus choliba subsp	--	--	--	B	--	--	--	--	--	--	--	---
Nyctibius griseus griseus	--	X	X	X	B	B	X	X	X	X	X	---
Nyctibius grandis	--	--	--	--	--	--	--	--	--	--	--	X
Chordeiles pusillus septentrionalis	--	--	X	--	--	X	X	X	X	--	--	---
Chordeiles acutipennis acutipennis	X	X	X	X	B	B	X	X	X	X	X	X
Podager nacunda	--	--	--	--	X	X	X	X	X	X	X	---
Nyctidromus albicollis albicollis	X	X	B	B	B	B	X	X	X	X	X	X
Caprimulgus cayennensis cayennensis	X	X	X	X	X	X	X	X	X	X	X	X
Streptoprocne zonaris albicincta	--	X	X	X	X	X	X	X	X	X	X	X
Chaetura brachyura brachyura	X	X	X	X	X	X	X	X	X	--	X	X

*Sight record.
†Quiriquire.

Species	*Month*											
	J	*F*	*M*	*A*	*M*	*J*	*J*	*A*	*S*	*O*	*N*	*D*
Reinarda squamata squamata	X	X	X	B	X	X	X	B	X	X	X	X
Polytmus guainumbi	X	--	X	--	X	--	--	--	--	--	--	---
Glaucis hirsuta hirsuta	--	X	X	X	X	X	B	--	--	--	--	--
Phaethornis anthophilus anthophilus	X	X	--	X	X	X	--	--	--	--	--	X
Anthracothorax prevostii viridicordatus	--	--	--	--	--	--	X	--	--	--	--	--
Chrysolampis mosquitus	--	X	--	--	--	--	--	--	--	X	X	X
Chlorostilbon canivetii caribaeus	X	X	X	X	X	X	X	X	X	X	X	X
Amazilia fimbriata maculicauda	B	X	X	X	X	X	X	B	B	B	B	X
Amazilia tobaci aliciae	--	X	X	X	X	--	--	--	--	--	X	X
Amazilia chionopectus	--	--	--	--	--	X	--	--	--	X	X	---
Trogon viridis viridis	--	--	X	--	X	--	X	--	--	--	--	---
Ceryle torquata torquata	B	X	X	B	B	X	X	X	X	X	X	X
Chloroceryle amazona amazona	X	B	B	B	X	X	X	X	B	X	X	X
Chloroceryle americana americana	X	X	X	X	X	--	--	--	X	X	X	X
Galbula ruficauda ruficauda	X	X	B	B	X	X	X	X	X	X	X	X
Hypnelus bicinctus bicinctus	X	X	X	X	X	X	X	X	X	X	X	X
Chelidoptera tenebrosa tenebrosa	X	X	X	X	X	X	X	X	X	X	X	X
Ramphastos tucanus	X	X	X	X	X	X	B	X	X	X	X	X
Pteroglossus aracari roraimae	--	--	X	X	X	X	X	B	X	X	X	X
Melanerpes rubricapillus rubricapillus	X	X	X	X	X	X	X	X	X	X	X	X
Chrysoptilus punctigula punctipectus	X	X	X	X	X	X	X	X	X	X	X	X
Dryocopus lineatus lineatus	X	X	X	X	X	X	X	X	X	X	X	X
Veniliornis kirkii continentalis	--	--	--	X	X	--	--	--	--	--	--	---
Picumnus squamulatus röhli	X	X	X	X	X	X	X	--	--	--	X	---
Phloeocastes melanoleucos melanoleucos	--	--	--	--	--	--	--	--	--	X	X	---
Dendroplex picus phalara	X	X	X	B	B	B	X	X	X	X	X	X
Xiphorhynchus guttatus jardinei	--	--	--	--	--	--	--	--	--	X	X	--
Lepidocolaptes souleyetii littoralis	--	--	X	X	X	--	B	X	--	--	--	--
Campylorhamphus trochilirostris venezuelensis	--	--	--	--	X	--	--	X	--	--	--	X
Sittasomus griseicapillus griseus	--	--	--	X	--	--	--	--	--	--	--	--
Dendrocincla fuliginosa meruloides	--	--	--	--	X	X	--	--	X	X	X	--
Synallaxis albescens trinitatis	X	X	X	X	X	X	B	X	X	X	X	X
Phacellodomus rufifrons inornatus	B	X	X	X	X	X	X	X	X	B	X	X
Xenops rutilans heterurus	--	--	--	--	X	--	--	--	--	--	X	--
Taraba major semifasciatus	--	--	X	--	X	--	--	--	--	X	X	--
Sakesphorus canadensis trinitatis	X	X	X	X	X	X	X	X	X	X	X	X
Thamnophilus doliatus fraterculus	X	--	X	X	X	--	X	X	--	X	X	X
Formicivora grisea intermedia	X	X	X	X	X	X	X	X	X	X	X	X
Myrmeciza longipes longipes	--	--	--	--	--	--	--	--	--	X	--	X
Pachyramphus polychopterus tristis	--	--	--	--	X	--	--	--	--	X	--	--
Tityra cayana cayana	--	--	--	--	X	--	--	--	--	--	--	--
Tityra inquisitor erythrogenys	X	X	X	X	X	--	X	X	X	X	--	--
Chiroxiphia lanceolata	X	X	X	X	B	B	X	X	X	X	X	X
Fluvicola pica pica	X	X	X	X	X	--	B	--	X	X	X	--
Arundicola leucocephala	X	--	--	--	--	--	X	--	--	X	--	--
Pyrocephalus rubinus saturatus	B	X	B	B	B	X	X	X	X	B	B	X
Machetornis rixosa flavigularis	X	X	X	B	B	B	B	B	X	X	X	X
Muscivora tyrannus tyrannus	--	--	--	--	--	--	X	X	X	X	X	--
Muscivora tyrannus monachus	X	X	X	X	B	B	X	X	X	X	X	X
Tyrannus melancholicus chloronotus	X	X	X	X	B	B	X	X	B	X	X	X
Tyrannus dominicensis dominicensis	--	--	--	--	--	--	--	--	--	X	X	X
Empidonomus varius rufinus	X	--	--	X	X	X	X	--	X	--	X	--
Myiodynastes maculatus maculatus	X	X	X	X	X	X	X	X	X	X	X	X
Megarynchus pitangua pitangua	X	--	--	--	X	X	X	--	X	X	X	X
Myiozetetes cayannensis rufipennis	X	X	X	X	B	B	B	X	X	X	X	X
Myiozetetes similis columbianus	X	X	X	X	B	B	X	X	X	X	X	X
Pitangus sulphuratus rufipennis	X	X	B	B	B	X	X	X	X	X	X	B
Myiarchus tyrannulus tyrannulus	X	X	X	X	X	X	X	X	X	X	X	X
Platyrinchus mystaceus insularis	--	--	--	--	--	X	X	--	--	X	--	--
Tolmomyias sulphurescens exortinus	--	--	--	--	X	--	--	--	--	--	--	--
Tolmomyias flaviventris collingwoodi	X	X	X	--	B	--	--	--	--	X	X	X

Species	*Month*											
	J	*F*	*M*	*A*	*M*	*J*	*J*	*A*	*S*	*O*	*N*	*D*
Todirostrum cinereum cinereum	X	X	X	X	X	X	--	X	--	--	X	--
Euscarthmornis margaritaceiventer impiger	X	--	--	--	--	--	--	--	--	--	--	--
Atalotriccus pilaris venezuelensis	--	--	--	--	--	X	--	--	--	--	--	--
Euscarthmus meloryphus meloryphus	X	--	--	X	--	--	X	X	X	--	--	X
Xenopsaris albinucha minor	--	--	--	--	--	--	--	--	--	--	--	X
Elaenia parvirostris	--	--	--	--	X	X	X	--	--	--	--	--
Elaenia chiriquensis albivertex	--	--	--	--	X	X	X	X	X	--	--	--
Sublegatus arenarum orinocensis	X	X	X	X	X	X	X	X	X	X	X	X
Phaeomyias murina incomta	X	X	X	--	--	--	--	--	--	X	X	X
Camptostoma obsoletum venezuelae	X	--	X	B	--	--	--	--	--	--	X	--
Pipromorpha oleaginea chloronota	X	X	--	--	X	--	X	--	--	--	--	--
Progne chalybea chalybea	X	X	X	X	B	B	X	X	X	X	X	X
Phaeoprogne tapera tapera	--	--	--	--	--	--	--	X	--	--	--	--
Stelgidopteryx ruficollis aequalis	X	X	X	X	B	X	X	X	X	X	X	X
Atticora cyanoleuca patagonica	--	--	--	--	X	--	--	--	--	--	--	--
Hirundo rustica erythrogaster	--	--	--	X	X	--	--	X	X	X	X	--
Iridoprocne albiventer	X	X	X	X	--	X	X	--	--	X	X	X
Cyanocorax violaceus violaceus	X	X	X	X	B	X	X	X	X	X	X	X
Cyanocorax yncas guatimalensis	--	--	--	X	X	X	X	--	--	X	X	--
Campylorhynchus griseus minor	B	X	X	X	X	X	X	X	X	X	X	X
Campylorhynchus nuchalis brevipennis	X	X	X	X	B	B	B	X	X	X	X	X
Thryothorus rufalbus cumanensis	X	--	--	X	X	--	--	--	--	--	X	X
Thryothorus rutilus rutilus	X	--	X	X	X	X	--	--	--	--	--	--
Troglodytes musculus clarus	X	X	X	B	X	X	X	X	X	X	B	X
Mimus gilvus melanopterus	B	B	B	B	B	B	B	X	B	X	B	B
Turdus nudigenis nudigenis	X	X	X	X	B	B	B	X	X	X	X	X
Turdus fumigatus aquilonis	--	--	X	--	--	--	--	--	--	--	X	--
Turdus leucomelas albiventer	X	X	X	X	X	X	B	X	X	X	X	--
Polioptila plumbea plumbiceps	X	X	X	X	X	X	X	X	X	X	X	X
Ramphocaenus melanurus trinitatis	--	X	--	X	X	--	--	--	X	--	--	--
Anthus lutescens lutescens	--	--	X	X	X	B	X	X	X	X	--	X
Cyclarhis gujanensis flavipectus	X	X	X	X	X	X	X	X	X	X	X	X
Vireo virescens vividior	--	--	X	X	X	X	X	X	X	X	X	X
Hylophilus aurantifrons saturatus	--	--	--	--	--	--	--	--	--	--	X	--
Hylophilus flavipes acuticauda	X	X	X	--	--	--	--	--	--	X	X	X
Dacnis cayana*	--	--	--	X	--	--	--	--	--	--	--	--
Coereba flaveola luteola	B	B	B	B	X	X	X	X	X	X	X	X
Parula pitiayumi elegans	X	X	X	X	X	--	--	--	--	--	X	X
Dendroica petechia aestiva	X	X	X	X	--	--	--	--	X	X	X	X
Dendroica petechia rufopileata	X	X	--	--	X	--	B	--	--	--	--	--
Seiurus noveboracensis	X	--	X	X	--	--	--	--	--	--	--	X
Setophaga ruticilla ruticilla	--	--	X	X	X	--	--	--	--	--	--	--
Psarocolius decumanus decumanus	X	X	X	B	B	B	X	X	X	X	X	X
Psarocolius viridis viridis	--	--	X	--	X	B	X	--	--	--	--	--
Cacicus cela cela	X	X	X	B	B	B	B	X	X	X	X	X
Psomocolax oryzivorus oryzivorus	--	--	--	--	B	--	--	--	--	--	--	--
Molothrus bonariensis venezuelensis	X	X	X	B	B	B	B	X	X	X	X	X
Quiscalus lugubris lugubris	B	B	B	B	B	B	B	B	B	B	X	X
Icterus auricapillus	X	--	--	--	----	----	----	----	----	--	X	
Icterus nigrigularis nigrigularis	X	X	B	B	B	B	B	B	B	B	X	X
Icterus icterus icterus	X	X	B	X	X	X	B	X	X	X	X	X
Gymnomystax mexicanus	X	X	X	X	X	X	X	X	X	B	X	X
Agelaius icterocephalus icterocephalus	--	--	X	--	--	--	--	X	--	--	--	---
Leistes militaris militaris	--	--	--	X	X	X	B	B	B	--	X	---
Sturnella magna praticola	X	X	X	B	B	X	X	X	X	X	B	X
Tanagra chlorotica trinitatis	X	X	B	X	X	X	X	X	X	X	X	X
Tanagra laniirostris crassirostris	--	--	X	--	B	B	--	--	--	--	--	X
Tanagra cayana cayana	--	--	--	B	X	X	--	X	--	--	--	---
Thraupis virens cana	--	--	--	X	--	--	--	--	--	X	--	X
Thraupis sayaca glaucocolpa	X	X	X	X	X	X	B	X	X	X	X	X
Thraupis palmarum melanoptera	--	X	X	X	X	--	--	--	X	X	--	X

*Sight record.

Species	*Month*											
	J	*F*	*M*	*A*	*M*	*J*	*J*	*A*	*S*	*O*	*N*	*D*
Ramphocelus carbo capitalis	--	--	X	X	--	--	B	--	X	--	X	---
Tachyphonus rufus	X	X	X	X	X	X	X	X	X	X	X	X
Tachyphonus luctuosus luctuosus	--	--	--	--	X	--	--	--	--	--	--	---
Nemosia pileata pileata	X	X	X	X	X	--	--	--	--	X	X	X
Hemithraupis guira nigrigula	--	--	--	X	--	--	--	--	--	X	--	---
Saltator coerulescens brewsteri	X	X	X	X	X	X	B	B	X	B	X	X
Saltator orenocensis orenocensis	X	X	X	X	X	X	X	X	X	X	X	X
Cyanocompsa cyanea minor	--	--	X	--	--	X	--	--	--	X	X	X
Spiza americana	X	X	X	X	--	--	--	--	--	X	X	X
Sporophila intermedia intermedia	X	X	X	X	X	X	X	X	B	B	X	X
Sporophila nigricollis nigricollis	--	--	--	--	--	--	--	X	X	X	--	---
Sporophila lineola	--	--	--	--	--	--	X	--	--	--	--	---
Sporophila bouvronides	--	--	--	X	X	X	X	X	X	--	--	---
Sporophila minuta minuta	X	X	X	X	X	X	X	X	X	X	X	X
Volatinia jacarina splendens	X	X	X	X	X	X	X	X	X	X	X	X
Spinus psaltria columbianus	X	X	X	X	X	X	B	X	B	B	X	X
Sicalis flaveola flaveola	X	X	X	X	X	X	B	B	B	B	B	X
Sicalis luteola luteola	--	--	--	--	X	X	B	B	X	--	--	---
Coryphospingus pileatus brevicaudus	X	X	X	X	X	X	X	B	X	X	X	X
Myiospiza humeralis humeralis	X	X	X	X	X	X	X	X	X	X	X	X
Emberizoides herbicola*	--	--	--	--	--	--	--	--	--	--	X	---

*Sight record.

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