

THE AUK

A QUARTERLY JOURNAL OF

ORNITHOLOGY

VOL. 59

JANUARY, 1942

No. 1

BIRDS OF THE GOMEZ FARIAS REGION, SOUTHWESTERN TAMAULIPAS

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Plates 1-6

THE senior author first visited southwestern Tamaulipas in the spring of 1938 when, as a member of that year's John B. Semple Expedition, he participated in a cursory survey of the bird life of the Rancho Rinconada, a partly cultivated stretch of flood-plain on the east bank of the Rio Sabinas, not far from the hill village of Gomez Farias (see Sutton and Burleigh, 1939). So impressed was he with the tropical aspect of the region, so puzzled by the dissimilarities between it and that of Victoria, only fifty miles to the north, and so convinced that what he had seen was but a faint indication of what might be discovered, that he resolved to return, as soon as possible, to undertake a thoroughgoing study of the breeding birds.

Opportunity came in the spring of 1941. He and the junior author, co-leaders of the Cornell University-Carleton College Ornithological Expedition, wishing to establish headquarters at a place where original work could be done, decided upon the Rancho Rinconada. Here, at an elevation of about 500 feet, they and their assistants, Dwain W. Warner and Robert B. Lea, resided from March 12 to May 4. Their abode was only a hundred yards or so from the Rio Sabinas. West of them rose a steep, well-forested foothill, which they called 'the mountain.' Beyond this towered the lofty Sierra Madre Oriental. The four-man party worked the nearer slope of their mountain thoroughly, thrashing about a good deal in the tangled vegetation half to three-quarters of the way to the top. Weekly trips for mail and provisions were made to Mante, about twenty



MEXICAN MASKED TITYRA, MALE

*From a painting in water-color made in the field by George Miksch Sutton. The tree is Tabebuia pentaphylla in full flower.
(one-fourth life size)*

miles to the south. Warner made one trip to a mesa six or seven miles north of the Rancho and, on one occasion, attempted to reach the headwaters of the Rio Frio. Lea visited Gomez Farias once. The area most frequently traversed was, however, that extending three or four miles upstream and downstream from the Rancho itself. All this was, of course, low country.

The vegetation and the animal life they found to be distinctly tropical; many of the identified forms were characteristic of, though not necessarily restricted to, the Veracruzian Biotic Province as defined by Smith (1940: 101). Among the common trees were the bald cypress (*Taxodium mucronatum*), *higuerón* or strangling fig (*Ficus cotinifolia*), ear-tree (*Enterolobium cyclocarpum*), *palo de rosa* (*Tabebuia pentaphylla*), false ebony (*Pithecellobium dulce*), and such thorny or scrubby trees as the mesquite (*Prosopis*), and various *Cassias*, *Leucaenas*, and *Acacias*. The *pata de vaca*, or cow-hoof plant (*Bauhinia mexicana*) and the shrubby nightshade (*Solanum verbascifolium*) were common. In the low country, as well as on the mountain-side, grew extensive stands of *huipilla* or wild pineapple (*Bromelia pinguin*) and tangles of *Smilax subpubescens*. The showy flower-sprays of the verbenaceous climbing purple-wreath (*Petrea arborea*) were a familiar sight. Bamboo grew in profusion along the river. In well-shaded places black-spotted orchids (probably *Oncidium* sp.) flowered. Throughout the more open woodland brightly colored epiphytes, many of them of the genus *Tillandsia*, flourished. To the branches of certain willows, mesquites, and other thinly leaved trees clung great clumps of an orange-berried mistletoe, *Phoradendron tamaulipense*.

Heliconiid butterflies were abundant. At least one species of the nymphalid genus *Morpho* was frequently seen. Scorpions were something of a pest about the house. Ticks swarmed, especially where cattle ranged, the adult stage being known as the *garrapata*, the young as the *pinolilla*. Tarantulas seen in certain caves were not especially large. Turtles and garpike were common in the river. Snakes were uncommon—a slender green species was seen once or twice and a coral snake (*Micruurus fulvius tenere*) was captured. Of the lizards collected—*Ctenosaura acanthura*, *Anolis sericeus*, *Sceloporus variabilis variabilis* and *Cnemidophorus gularis*—the first three are considered by Dr. Hobart M. Smith to be neotropical in distribution, the last nearctic. At least one member of the tropical genus *Iguana* also was seen. A barking frog, probably of the genus *Eleutherodactylus*, was vociferous during rains, but no specimen was captured.

Among the mammals were the jaguar (*Felis onca*) and the ocelot (*Felis pardalis*), as well as peccaries, white-tailed deer, opossums, armadillos, and various well-known rodents and smaller carnivores whose ranges extend northward into the United States. One exclusively tropical form that was frequently encountered was the *tejón* or coati mondi (*Nasua narica*). Close study of the mammalian fauna would doubtless disclose the presence of several other comparably Central American genera and species.

Among the birds four distinctly tropical families were represented—the Boat-billed Herons, or Cochleariidae; Potoos, or Nyctibiidae; Ant-birds, or Formicariidae; and Pepper-shrikes, or Cyclarhidae; as well as the following distinctly tropical genera: *Crypturellus*, *Cairina*, *Spizaëtus*, *Geranospiza*, *Micrastur*, *Herpetotheres*, *Crax*, *Penelope*, *Dactylortyx*, *Ara*, *Aratinga*, *Amazona*, *Piaya*, *Anthracothorax*, *Scapaneus*, *Veniliornis*, *Tityra*, *Megarynchus*, *Myiozetetes*, *Amblycercus*, *Saltator*, and *Volatinia*. It is the authors' belief that most of the above-named groups reach about their northern limit of range in the Gomez Farias region, for only about half of them are found in the vicinity of Victoria, fifty miles to the north, just above the Tropic of Cancer; three or four—such as *Ara*, *Aratinga*, and *Amazona*—are seen occasionally as far north as Linares, Nuevo Leon, at about latitude 25° N.; a few (*Ara*, *Amazona*, *Piaya*, etc.) are found in Sonora, considerably to the northwestward (see van Rossem, 1931); and none is found (save perhaps as a straggler) as far north as Matamoros, at the mouth of the Rio Grande.

On and about the Rancho there were five principal plant associations or, to use a vernacular phrase, five 'sorts of country': (1) scrubby, somewhat xerophytic thicket, loosely termed *huisache*, back from the river a way, occupying flat, uncleared areas such as that between the Rancho and the highway. Characteristic of this thick growth were various sennas (*Cassia*), crotons (*Croton*), a yellow-flowered vine of the Apocynaceae, *Traeachelospermum* sp., thorn-bearing shrubs of the genera *Acacia* and *Leucaena*, such vines as the cat's claw and a yellow-flowered *Bignonia*, or trumpet-vine, and the savagely barbed *huipilla*, or wild pineapple, *Bromelia*. (2) Cypress timber, invariably near the river, but sometimes extending back from the water a hundred yards or more. Here grew other large trees, some of them so umbrageous that little in the way of plant life lived under them, and tough native bamboo. One characteristic plant was the scendent shrub *Petrea*. (3) Heavy woodland not near the river; this sort of forest (without any cypress) was to be found principally on the mountainside southwest of the Rancho. Several species of

drupe-bearing trees thrrove where the soil was good. Beneath these grew shrubbery of an open sort. Where there was little soil, *huipilla* thickets and vine-tangles flourished. (4) Palmetto forest. There were scattered palmettos (*Sabal* sp.) on the Rancho, but no area where that type of vegetation dominated, as it did in certain extensive stretches along the highway farther south. (5) Farmlands. Cleared areas were responsible for the presence of many species of birds. About the Rancho the tilled sections were given over to corn, oranges, sugar cane, Napier grass, and various vegetables. Grazing areas were only partly cleared. The cultivated acreage about El Limon and Mante was extensive.

The authors were disappointed in finding no marshes near the Rancho. The banks of the Sabinas were clear-cut and drainage was thorough. Along the highway rainwater pools formed, but these came and went before aquatic plants could establish themselves. The river rose considerably after heavy rains in late April and early May, but no flood-pools formed.

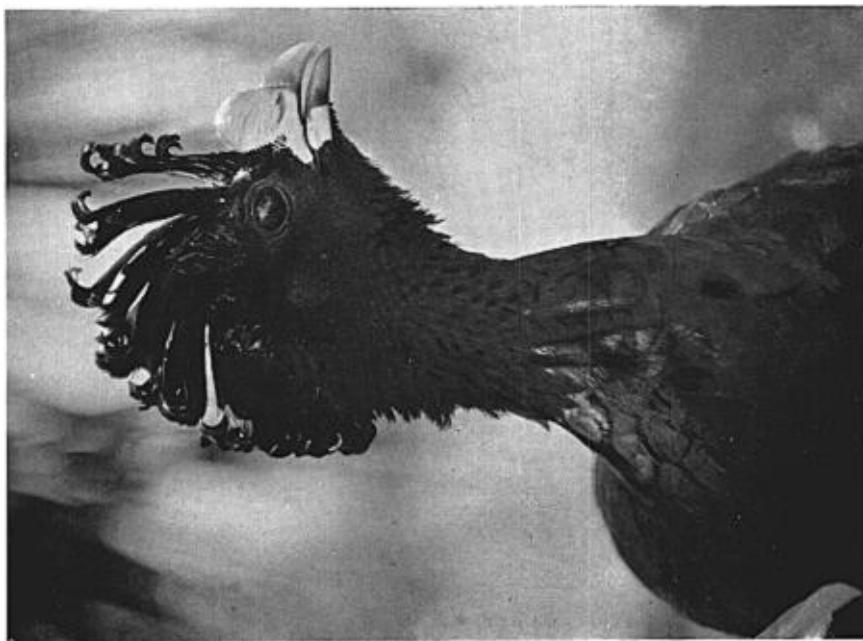
As for the climate—the Rancho will long be remembered for its wet, misty, cloud-hung weather. Bright, sunny days were enjoyed March 20 and 25, from March 30 to April 10, and April 21, April 29, and May 2. The rest of the period was described (in various notebooks) as 'gray,' 'dirty,' 'drizzly,' 'mean,' 'ugly,' and so forth. The season was not supposed to be rainy, but rain fell. Most of this was light, at any rate not heavy enough to cause the river to rise and fall; but on April 30 a three-day rain started which washed the 'bridge' out, dug away the road across the arroyo between the Rancho and the highway, prevented observation of all nests on the opposite side of the river, and threatened general flood.

Not all the Rancho's gray days furnished a correct index to general weather conditions. This was proved repeatedly on the authors' weekly trips to Mante. Now, looking 'homeward' from the highway, they could see a cloud covering the very mountainside where they had hunted quail morning after morning. The weather, in other words, was good, but at the Rancho there was no means of knowing this because the cloud was so low and dense. That this cloud has influenced the plant-life and therefore the birds there can be little doubt. Certain of the more tropical species may exist in the Gomez Farias region primarily or *only* because this cloud so retards the rate of evaporation as to make the luxuriant growth of certain food-bearing or shelter-affording plants possible.

The low parts of southwestern Tamaulipas lie within what has traditionally been called the *tierra caliente*, or 'hot land,' of Mexico,



NEST OF MEXICAN CURASSOW



MALE MEXICAN CURASSOW

throughout which thermal region the average annual temperature is between 70 and 75 degrees F. Along the Sabinas the mean annual rainfall is said to be 30 to 40 inches; the period from November 1 to April 30 is relatively dry, 70 to 80 per cent of the rain falls from May to October, and the heaviest precipitation takes place in June, when, according to isohyet maps in Bartholomew's 'Physical Atlas' (1899, vol. 3, Meteorology) over 16 inches of rain falls. According to isoneph maps in the same work, southwestern Tamaulipas is more or less shaded by clouds most of the year, September and October being the brightest months. The Gomez Farias cloud above described is, however, more in the nature of a local cloud-banner, caused by the sudden cooling to the dewpoint of warm air that rises from the Sabinas valley. It clings to the foothills especially during hot weather, its position changing little from day to day because the wind is almost invariably from the east.

The Gomez Farias region lies within what Pope has denominated the 'northern Gulf Coast' temperature province of Mexico, but since statements pertaining to this province appear to be based on records kept at very few points (Monterrey and Tampico, principally), it is feared that they may not very accurately apply to southwestern Tamaulipas (see Page, 1929). The authors noted that the temperature at the Rancho varied greatly with the coming and going of the sun. On bright days it was very hot between 10.30 a.m. and 4.30 p. m., when relief came because the sierra to the west cut off the fierce rays. The night of March 13 was so cool that all available bedding was used. On the whole the nights were warm.

Most of the bird species encountered were sedentary, some of them (the tinamous, for example) decidedly so. Certain supposedly permanent-resident forms were, on the other hand, found to be migratory. That is to say, they were not in evidence when the expedition began its work but put in their appearance as spring advanced. Among these were *Saltator atriceps*, *Myiodynastes luteiventris*, *Myiarchus tyrannulus nelsoni*, and *Vireo olivaceus flavoviridis*. Several species were winter visitants, among them *Dumetella carolinensis*, *Empidonax minimus*, and *Sayornis phoebe*. Other United States species, noted principally in late April and May, were transients en route northward from their winter home in Central or South America.

All but seven of the species and subspecies listed below were recorded by the Cornell University-Carleton College Expedition in 1941. The seven not recorded by them—*Geranospiza nigra*, *Pionus senilis*, *Empidonax flaviventris*, *Empidonax wrighti*, *Melanotis caerulescens*, *Hylocichla ustulata*, and *Piranga leucoptera*—were taken by the

Semple Expedition three years previously or by Warner during the midsummer of 1941. The taxonomic work on the 1941 collection was done by the senior author, who alone must be held responsible for errors. The order and nomenclature of the first part of the list (through the swifts) follow those of James L. Peters's 'Check-list of Birds of the World,' vols. 1-4. Virtually all 1941 specimens referred to are now at Cornell University.

For assistance in the preparation of this paper the authors are indebted to staff members of the American Museum of Natural History; the Museum of Zoology at the University of Michigan; the U. S. National Museum and Fish and Wildlife Service of the U. S. Department of the Interior; and the Field Museum of Natural History. They are especially grateful to Mr. J. L. Peters of the Museum of Comparative Zoölogy at Harvard, for identifying the swifts, potoos, wood owls, and Yellow Warblers; to Mr. Adriaan J. van Rossem, of Los Angeles, for identifying the Bat Falcons; to Dr. Alden H. Miller, of the Museum of Vertebrate Zoology at the University of California, for identifying the Lincoln's Sparrows; to Mr. Robert T. Moore, of Pasadena, for his great courtesy in sending East the type and his one other specimen of *Otus guatemalae fuscus*; to Mr. Boardman H. Conover, of Chicago, for lending certain quail specimens; to Dean Liberty H. Bailey and Dr. Robert T. Clausen, of Cornell University, for identifying plants; to Dr. Paul C. Standley, of the Field Museum, for editing all paragraphs pertaining to botanical matters; to Mr. Allan R. Phillips, now majoring with the senior author at Cornell, for his expression of opinion concerning certain *Ammodramus*, *Empidonax*, and *Piranga* specimens; and to Dr. Hobart Smith, of the University of Rochester, for identifying several reptiles.

They also wish to thank Mr. John B. Semple, of Sewickley, Pennsylvania, for ammunition; Dr. Norman G. Moore, of Ithaca, New York, for medicine and counsel; the officials of the Forestry and Game Branch of Mexico's Department of Agriculture, for issuing scientific collecting permits; and Miss Marion Patton and Mrs. M. N. Beebe for secretarial help.

LIST OF SPECIES

MEXICAN TINAMOU or *Perdiz*, *Crypturellus cinnamomeus mexicanus*.—Common in wild-pineapple thickets and less dense woodland at river-level as well as on mountain up to possibly 1500 feet. Heard almost constantly, though infrequently seen. Began whistling early, 3.45 to 4 a.m., save when the wind was high or the rain heavy. Sang throughout the hottest days, often until well after dark. During early April when the moon was full and the nights were clear its mellow

whee-oo-ee sounded at all hours. Night-singing birds did not walk about, and their whistling lacked ebullience.

Whether both males and females whistle we cannot say. Certainly it is possible to call males up by whistling, for we did so repeatedly. They approached us stealthily, craning their necks. Their whistling was accompanied by a swelling of the throat and jerking of the head. Frequently, while waiting for such birds to appear, we would hear a muffled beating of wings. It is our belief that this drumming was a regular part of the courtship.

Several male specimens (no females) were taken March 22–April 30. In all these the testes were greatly enlarged (about 20 × 35 mm.), so egg-laying probably was going on during our entire stay. April 20, we learned that a nest with three eggs had been found “at the foot of a tree on the mountain,” but when we asked to be led to the spot we were told that the young had already hatched and run away.

The birds were exceedingly sedentary. We could count on finding certain individuals resting or feeding in certain places at any time of day. The sound of our footfalls often incited them to whistling. In every crop or stomach examined we found whole or partly digested seeds of the *huipilla* (*Bromelia*).

April 9, Warner whistled a tinamou up to within a few feet. Curious as to what the bewildered creature would do, he struck a fence wire sharply with his gun. The bird crouched *with wings spread*. He struck the wire again and the bird whirred up noisily, making straight off through the forest.

Our series of specimens exhibits considerable variation as to back-color and buffy tipping and barring of the tertials and wing coverts. The more heavily marked individuals may be younger birds.

PIED-BILLED GREBE, *Podilymbus podiceps*.—Noted at two places: at a roadside pond south of Mante, a single bird, March 12; and along the Rio Sabinas, not far from the Rancho, a single bird, daily from March 18 to 30.

WHITE PELICAN, *Pelecanus erythrorhynchos*.—Noted but once: a V-shaped flock of nine birds flying southeastward above the Rio Sabinas, April 15 (Lea).

OLIVACEOUS CORMORANT, *Phalacrocorax olivaceus*.—Noted daily along the Sabinas March 15–April 30. One or two birds regularly fished or sunned themselves not far from our swimming hole near the Rancho.

WATER-TURKEY, *Anhinga anhinga*.—Noted twice in 1941—a single bird April 9 and a single bird April 30, along the Sabinas. Noted by the senior author's party on March 3 in 1938 (Sutton and Burleigh, 1939: 24).

LITTLE BLUE HERON, *Florida caerulea*.—Noted daily along the Sabinas March 14–April 19: one in white plumage, with two Snowy Egrets, March 14–26; two in white plumage (with no egret), March 27–April 19. They fed extensively on Dobsonfly larvae which they caught in the shallows. Single bird in blue plumage seen March 22 (Lea).

AMERICAN EGRET, *Casmerodias albus egretta*.—Single bird noted along the Rio Sabinas, near the Rancho, March 25 and 26. Adult female, with long nuptial plumes, taken one mile south of El Limon, April 5 (Lea).

SNOWY HERON, *Leucophoyx thula*.—Two in nuptial plumage noted daily along the Rio Sabinas, March 14 to 26.

CABANIS'S TIGER BITTERN, *Heterocnus cabanisi*.—One or two noted daily along the Sabinas, March 17 to May 1. Fed in shadowy places at river's edge or in fields some distance back from the water. May 1 a nest was found on an almost horizontal branch fifty feet above the water in a huge, moss-hung cypress (Lea). Apparently the species is not colonial, for no other pairs were seen in that vicinity.

MEXICAN BOAT-BILLED HERON, *Cochlearius cochlearius zeledoni*.—Noted but once—an adult male (testes slightly enlarged) taken along the Sabinas near the Rancho, April 8 (Lea).

According to Peters (1931: 125), *C. c. zeledoni* ranges "from Sinaloa and Veracruz south to northern Costa Rica." We have knowledge of at least three Tamaulipas specimens aside from that mentioned above—two at the American Museum (taken May 21, 1888, at Tampico, by George B. Sennett); and one at the U. S. National Museum, taken by Frank B. Armstrong at Alta Mira, in November, 1894 (Richmond, 1896: 627). The British Museum Catalogue (1898: 26, 165) also lists a specimen of '*Cancroma zeledoni*' from Tampico. This is said to be a juvenal male taken by W. B. Richardson.

MUSCOVY DUCK, or *Pato Real*, *Cairina moschata*.—Noted daily along the river and in fields well back from the water. Seen frequently in trees. Fair-sized flocks encountered as late as April 14, pairs or single birds thereafter. Testes of two males taken by Warner, March 23, were greatly enlarged, but our Mexican friends assured us that nesting did not begin until much later in the season. We did not see a nest or young birds.

A courting male swam about the female wagging his tail, thrusting his head far forward and drawing it back slowly, uttering throaty grunts; or pursued her in flight, keeping close behind or to one side, calling amorously.

BLACK VULTURE or *Zopilote*, *Coragyps atratus*.—Abundant. At Mante, where scores of these scavengers fed regularly at the hotel's refuse cans, incoming and outgoing birds often flew into wires and clothes lines. So far as we could see they did not injure themselves.

March 19, an incubating bird was flushed from its nest in a *huipilla* thicket. It ran about in narrow circles, grunted once or twice, then flapped off noisily. While being watched from the blind March 23, it poked its two eggs roughly with its bill, turning them over, then abruptly fell forward on them. Bits of shell remained in the nest, March 30 (Lea).

TURKEY VULTURE, *Cathartes aura*.—Less common than the Black Vulture and less frequently seen in the towns. At the Rancho the former was so abundant we gave up counting it. Not so the latter. Rarely were more than three or four seen during the course of a day unless, along the highway, several chanced to gather about the carcass of a burro, pig or dog. Pettingill saw one come to drink at a certain spot along the river each evening, March 19 to 26.

WHITE-TAILED KITE, *Elanus leucurus*.—One or two birds noted March 31 to April 20 along the Sabinas. Noted once thereafter, a single bird circling above the village of Sante Ines, April 20 (Lea). Seen, as a rule, early in the morning or just before nightfall. One, watched for fifteen minutes at dusk on April 7, was hunting. It flew gracefully, treading the air with wings beating high above its back and tail pointed down, plunging swiftly earthward when it sighted prey.

PLUMBEOUS KITE, *Ictinia plumbea*.—Female with greatly swollen oviduct and male with somewhat enlarged testes taken respectively April 18 and 19, about half a mile downstream from the Rancho (Lea). These were almost certainly a mated pair. Peters (1931: 201) gives "southern Mexico" as the northern limit of this species' range. So far as we have been able to ascertain, it has not been recorded heretofore from Tamaulipas.

COOPER'S HAWK, *Accipiter cooperi*.—Noted near the Rancho daily March 31—April 3, a single bird (thought to be the same highly colored individual) each day.

SHARP-SHINNED HAWK, *Accipiter striatus*.—Noted occasionally along the Sabinas, in thickets rather than dense woodland, March 22 to April 8. All that were clearly seen were in immature plumage.

RED-TAILED HAWK, *Buteo jamaicensis*.—Identified with certainty only once in the Gomez Farias region—an adult, perched along the highway in open country a short distance north of El Limon, March 12.

SWAINSON'S HAWK, *Buteo swainsoni*.—Great flocks seen high in air March 25, 27, and 28 near Rancho; on April 1, near the Rio Frio; and April 3, two miles upstream from the Rancho. Small flock seen drifting northward, April 15. Loose flock flying just above treetops and five birds perched on dead tree near Rancho seen April 25. Two seen soaring over Rancho, April 30. Two seen soaring over El Limon, May 3. Female in 'normal' plumage taken by Lea from a large flock, April 3. Insect remains were found in the stomach.

GRAY-TAILED HAWK, *Buteo magnirostris griseocauda*.—Noted several times, March 12, along highway from Victoria to Mante. Several mated pairs observed daily along the Sabinas, March 14 to May 2. Some mated birds (thought to be actually nesting) were brown-eyed, though most were yellow-eyed. Adult female taken April 12, 1941 (Warner). The ovary in this specimen was not paired.

MEXICAN GOSHAWK, *Asturina nitida plagiata*.—Noted daily, March 14 to April 29, along the Sabinas, most birds seen being mated adults. Two gray-eyed sub-adult males (with gray feathers in back and gray-barred plumage on chest and belly) taken, respectively, April 15 and 21. Adult female taken March 30. Brown Jays mobbed young Mexican Goshawks on several occasions, but did not disturb the adults. In 1938, a pair were seen courting on March 3 (Sutton and Burleigh, 1939: 26).

RIDGWAY'S BLACK HAWK, *Hypromorphus urubitinga ridgwayi*.—Clearly marked adult seen several times along the Sabinas, March 18. Identified by white upper tail-coverts, which were distinctly visible when bird flew. Probably seen on other occasions also, but not certainly identified. A mottled immature female, taken along the Sabinas by the senior author on March 2, 1938, was misidentified, being listed as *Buteogallus a. anthracinus* (Sutton and Burleigh, 1939: 26).

MEXICAN BLACK HAWK, *Buteogallus anthracinus*.—Dark-rumped black hawks noted along the Sabinas March 18 to April 8 were of this species, but no specimen was actually collected south of Güemes (near Victoria), where Sutton took an adult male, March 10. The 'immature female . . . taken March 2 along the Rio Sabinas' in 1938 (Sutton and Burleigh, 1939: 26) was actually an example of *Hypomorphus urubitinga ridgwayi* (see above).

ORNATE HAWK-EAGLE, *Spizaetus ornatus*.—Noted infrequently on mountain above the Rio Sabinas, March 19 to 27. Pair encountered March 19 acted as if they were on their nesting territory, for they kept up a thin, clear screaming and evinced more than casual interest in a certain dense part of the forest. The male, which was noticeably the smaller, was seen to carry about and eat some small mammal, probably a squirrel. Both birds held their crests erect most of the time.

Sutton collected the female that day. Stomach and crop were found to be empty; the ovary was paired but unenlarged. To a claw hung a green feather, probably that of a Red-crowned Parrot. March 21, one was seen to strike at, but miss, a quail (*Dactylortyx*) that was crouching at the edge of a rockside.

MARSH HAWK, *Circus cyaneus*.—Noted March 12 to April 24. On some days several individuals (recognizable from differences in plumage) were seen. About

one in every six was a gray adult male. Especially common about sugar-cane fields near Mante and El Limon. March 23, a brown individual that circled a field near the Rancho cackled vigorously.

April 1, Pettingill saw a Marsh Hawk chasing a Spotted Sandpiper down river. The hard-pressed sandpiper suddenly flew *into* the water, bewildering its pursuer, reappeared an instant later, and flew off. The hawk did not resume the chase.

BLACKISH CRANE HAWK, *Geranospiza nigra nigra*.—Not seen in 1941. In 1938, however, John B. Semple took an immature male along the Sabinas on March 1 (Sutton and Burleigh, 1939: 27).

OSPREY, *Pandion haliaetus*.—Single bird seen flying over the Sabinas, March 20, March 24, and frequently from April 15 to 29.

LAUGHING FALCON, *Herpetotheres cachinnans*.—Noted but once: a fully adult bird, circling over the Rancho not very high in air, April 11.

LESSON'S COLLARED MIGRASTUR, *Micrastur semitorquatus naso*.—Noted daily near the Rancho, usually in the early morning or at nightfall when, from some thicket near the river, its loud, half-human *ah-ow, ah-ow, ah-ow* would sound.

March 31, one was seen eating an Alta Mira Oriole. Again, on April 3, one was frightened from the ground where it had been feeding on a Chachalaca. Adult male taken April 1; immature male, with heavily barred under parts, taken April 13.

CARACARA, *Polyborus cheriway*.—Noted almost daily about the Rancho, though not common there. One or two came occasionally with the vultures to feed on garbage. Birds carrying food in their mouths seen April 2. Pair seen copulating April 3 (Warner).

BAT FALCON, *Falco albicularis*.—On April 5 a pair of Bat Falcons were encountered two miles down-river from the Rancho in precisely the spot where, on March 3, 1938, a breeding pair were taken by the senior author (Sutton and Burleigh, 1932: 27). Here Warner saw the female fly into a hole high in a dead tree and found feathers of many small birds, including rectrices of the Prevost's Mango, *Anthracothorax prevostii*, underneath the eyrie. The male was taken April 8, the female April 10. The oviduct of the latter was greatly swollen and there were distinct brood-patches on the belly.

All our specimens have been carefully identified by Mr. Adriaan J. van Rossem, who finds them to be intermediate between *F. a. albicularis* and *F. a. petrophilus*, the latter in size, close to the former in color.

SPARROW HAWK, *Falco sparverius*.—Noted daily, March 12 to April 4. Several seen in open country about Mante, March 12. One seen diving at pair of Mexican Goshawks, March 14. In a dead tree near the Rancho three birds perched almost constantly, March 15 to 25. Thereafter one bird a day was seen until April 4, when the species disappeared.

MEXICAN CURASSOW or *Faisano Real*, *Crax rubra*.—Seen and heard repeatedly in big timber half way up the mountain southwest of the Rancho. Males heard booming virtually every day, March 15 to April 14. This call, a deep, resonant *oomp*, best imitated in the throat with the lips closed, was nearly always given from some large tree in the depths of the forest. Though impressive, it did not carry far. More than once we were surprised at discovering booming birds directly overhead.

The neck-skin of a male taken March 15 was thick and flabby. The subcutaneous tissues were muscular, being supplied with a considerable network of blood vessels.

The gizzard lining was exceedingly tough and deeply corrugated. Large caeca were noted.

March 17, two nests were discovered on the mountain southwest of the Rancho. One of these (unoccupied) was made entirely of green leaves. It was flimsy, though supported by an ample crotch, and was about fifteen feet from the ground. The other was in a vine-covered clump of slender trees some distance farther up the mountain, and twenty feet from the ground. Here the female was incubating. From the slope we could see her dark tail and tousled crest.

When Pettingill and Lea returned for photographs, both parents protested volubly, scampering about on the ground, giving thin screams, peculiar grunts, and wails. There were two huge, white eggs (see Plate 2). These remained in the nest until the night of March 23, when they were destroyed by some predator. Unless agitated by our being near their nests or young, the birds kept high in the trees.

On two occasions (March 21 and April 14) Sutton came suddenly upon females that must have had young. One mother bird ran back and forth through the brush calling *kwut, kwut*, and giving a thin, penetrating squeal. The other flopped from a tree to the ground, spread and shook her tail, and limped away groaning loudly.

PURPLISH GUAN or *Ajol*, *Penelope purpurascens purpurascens*.—Fairly common in heavily wooded sections at river level as well as at greater elevations. One pair nested in the 'tropical corner'—a dense, tangled woodland at a bend of the Sabinas a quarter of a mile upstream from the Rancho.

Early in the morning and at nightfall mated birds frequently called to each other in plaintive *keeps* which could be heard a long way. From March 21 to the end of the month courtship antics were observed, especially in the deep woods half way up the mountain. Here the males sparred, threatening their rivals with harsh, throaty cackles; pursued each other through the tops of the big trees; and *drummed* by flying from perch to perch with wings beating rapidly. They were surprisingly nimble. Often they leaped from bough to bough without spreading their wings, or moved into a new tree with an easy glide. In *drumming* they flew slowly with wings beating furiously, sometimes moving upward, sometimes turning from side to side in mid-air, as if in a daze.

The birds fed almost exclusively on the ripe *xoxotl* plums (probably *Spondias mombin*) which at this season were abundant. This fruit they plucked directly from the branches. Not once did we see an adult Purplish Guan on or near the ground.

April 26, Pettingill and Lea came upon a downy young one in the 'tropical corner.' Though obviously only a few days old, it flew up from the ground, alighted on a branch, ran into a tangle of vines, and disappeared. Sutton was fortunate enough to find this (or another) young bird the following day. This time the little thing was fifty or sixty feet from the ground, running briskly along a naked limb. The parents, still higher in the trees, were giving a doleful outcry. Reaching the end of the branch, the baby flew lightly to another tree. Shooting it was difficult, for the branches hid it remarkably well. It was about the size of a Bob-white Quail, with long, thin neck. Though downy, its remiges were well developed, and its tail about $2\frac{1}{4}$ inches long. Above, it was rich chestnut mottled with buffy and black. The median part of the crown, nape, and hind neck was chestnut, bordered at either side with a band of black, a line of white,

then a dark area that faded into the white of the throat and neck-front. The chest and sides were reddish brown, the belly was white. The eyes were clear gray, the bare area about them olive, the feet reddish brown. In its crop were bits of tender leaves.

A male and a female were taken above the Sabinas on February 28, 1938, by the senior author (Sutton and Burleigh, 1939: 28).

CHACHALACA, *Ortalis vetula vetula*.—Abundant in thicketed parts of the low country and, where the forest was open or brushy, on mountains up to about 2000 feet. Nearly always seen (or heard) in companies of from four to six or seven, probably family groups. Called loudly before rains (especially thunderstorms) and sometimes, when the moon was bright, at night. Alarmed by the presence of some enemy it sometimes gave a harsh *churr, churr*, rather than the usual *cha-cha-lac*.

Groups of nests discovered by us in the *huisache* thickets indicated that this species may be somewhat colonial at times.

BOB-WHITE, *Colinus virginianus*.—Fairly common in open country on and about the Rancho. Pairs noted almost daily, March 18 to May 3. Heard only infrequently, presumably because there were few unmated males. April 24, a nest containing seven eggs was found in a field close by the house. Though weeds were cut leaving the nest exposed, the female laid two more eggs, deserting on the 27th.

Three adults taken (male and female, El Limon, March 29; male, Rancho, April 3) differ widely *inter se*, especially as regards the markings of the chest and belly. These, in turn, are different from two San Luis Potosí males (Valles and Matlapa), and quite unlike four topotypical *C. v. maculatus* from Alta Mira, Tamaulipas, in being gray rather than black-crowned and in being much more heavily spotted with black below. For the present we may call Gomez Farias birds intermediate between *texanus* and *maculatus*.

SINGING QUAIL, *Dactylortyx thoracicus thoracicus*.—The name 'Long-clawed Quail,' by which this species is sometimes known, is inadequate. The unforgettable thing about *Dactylortyx* is its song—a loud, rhythmical outburst that makes one think of a large wren, thrasher, or solitaire. We were puzzled by this 'singing bird of the mountain' literally for weeks. Since Sutton had seen *Dactylortyx* near the Rancho in 1938, he expected to obtain specimens. But not until Warner chanced to hear part of the song just as a quail flew up did any of us suspect that two of our 'mystery birds'—the quail that no one ever had a chance to shoot, and the 'singing bird' that no one ever saw—were one and the same species!

The birds inhabited steep, thicketed slopes. With a pretty twittering they would burst from underfoot, to rocket off up, or down, or across the mountain-side. Following them often meant climbing from ledge to ledge. We usually encountered them in pairs. The males might sing at any time of the day, but they seemed to prefer rainy or foggy mornings. Frequently they sang at nightfall. The song began uncertainly, with an experimental whistle. After a pause the whistle was repeated. Gaining strength, it came more rapidly, three times, four times, five times—full-throated, sure of itself, even defiant—then broke into a rollicking *pitch wheeler! pitch wheeler! pitch wheeler!* and trailed off with low twittering.

Pettingill took the first specimens—a breeding male and female with well-defined brood patch, April 11. April 16, Sutton collected a female and her brood of two newly hatched young. The circumstances were interesting. Making his way along a rocky ledge, he heard a quail near him. Suddenly a bird flew out,



BLACK VULTURE ON NEST



DOWNY YOUNG SINGING QUAIL

giving him no shot. Looking down he spied another bird crouched *not more than a yard* from his foot. Backing slowly, he eventually shot. Picking up the female bird he found two young ones, obviously just hatched. They were dark chestnut above, with a buffy line along either side of the rump, bright buffy superciliary area, dark line through the eye, red-brown bill, and somewhat clouded or mottled under parts (see Plate 3). He did not find the nest itself.

WILD TURKEY, *Meleagris gallopavo*.—On April 8, Warner and our Mexican campman, Maclovio Rodriguez, travelled by horseback to a mesa six or seven miles northeast of the Rancho. Here in clumps of trees that dotted the grassy table-land, they heard the gobbling of turkeys. A single turkey seen near the Rancho behaved like a wild bird, for it flew well, but it was thought to be partly domesticated.

WESTERN SOLITARY SANDPIPER, *Tringa solitaria cinnamomea*.—The Solitary Sandpiper was recorded twice along the Sabinas, a male taken April 9 (Pettingill) and a single bird seen April 27. Though without marbling on the inner web of the outermost primary, our specimen is too large for the eastern form, the wing measuring 137 mm., the culmen 29.5.

SPOTTED SANDPIPER, *Actitis macularia*.—Noted along the Sabinas March 14 to May 3, usually one or two, but occasionally as many as four birds each day. One was seen to escape from a Marsh Hawk by flying *into* the water, April 1 (Pettingill).

RED-BILLED PIGEON, *Columba flavirostris flavirostris*.—Noted daily, usually near the river. A flock (ten to thirty individuals) gathered near the Rancho each morning. After feeding and drinking they sat quietly in a clump of bamboo or on dead cypress branches. The usual call-note was a long-drawn-out *ooooooh*, followed by the syllables *up-cup-a-coo*. The first sign of nest-building was noted March 18, a bird with a twig in its bill (Lea). Male with slightly enlarged testes taken April 21 (Warner).

EASTERN MOURNING DOVE, *Zenaidura macroura carolinensis*.—The Mourning Dove was noted throughout our stay, infrequently from March 12 to April 21, in great numbers thereafter. With the clearing of certain fields on April 20 and 21 large flocks (from one to two hundred birds) suddenly appeared. Though no nest was found, courtship behavior was noted on several occasions. A male taken by Warner, April 16, represents the eastern race (wing, 147 mm.; tail, 136).

EASTERN WHITE-WINGED DOVE, *Zenaida asiatica asiatica*.—Heard infrequently, April 5 to April 21. Seen first in the Rio Frio district where, on April 18, Warner took two males (testes 6×10.5 mm.). Became steadily more common near the Rancho after April 21. Noted as 'abundant' April 30. These dates probably indicate the progress of the species' spring migration.

The two above-mentioned males and a male taken at the Rancho April 27 (Lea) measure respectively, wing, 159, 156, 163 mm.; tail, 112, 111, and 106, and are, therefore, too small for the western race, *Z. a. mearnsi*. Furthermore, no bird of the three is pale enough for that subspecies.

INCA DOVE, *Scardafella inca*.—Fairly common about the Rancho buildings, where it was seen daily. March 30, a nest with two heavily incubated eggs was found in a small orange tree. The following day both the male and the female were seen sitting on this nest (Pettingill). The eggs hatched April 2. The young disappeared a few days thereafter, probably victims of a house cat.

May 2, two males were seen sparring over a female. The three birds sat close side by side on a twig, the female in the middle, with wings closed. The males,

fluttering, struggled with each other, locking bills, striking with their wings, and jumping on to and off the female repeatedly (Sutton and Lea).

GROUND DOVE, *Columbigallina passerina*.—Noted daily. Commoner in open country in the vicinity of El Limon and Mante than along the Sabinas. A few pairs nested in the cleared area around the Rancho buildings. Here a nest with one egg was found March 26.

BLUE GROUND DOVE, *Claravis pretiosa*.—Identified with certainty but once—a male, flushed from the roadway between the Rancho buildings and the highway and very clearly seen, April 1 (Sutton and Warner).

WHITE-FRONTED DOVE, *Leptotila verreauxi angelica*.—Seen and heard daily in brushy woodland at river-level as well as on the mountain up to about 2000 feet. Most birds seen were flushed from the ground in thickets. Alighting, they expressed curiosity or alarm by lifting their tails and bobbing their heads. Several nests were found, those on the mountainside invariably among boulders, those at river-level near the ground, in trees or vines. Two sets of eggs discovered March 29 were heavily incubated. One of these sets hatched the following day. Nest with fresh eggs found April 15.

A male taken April 23 is a trifle more vinaceous on the chest than Texas examples of *angelica* at hand, but the under tail-coverts are only slightly washed with buffy along the edges, and the middle of the belly is almost pure white.

EASTERN MEXICAN MILITARY MACAW, *Ara militaris mexicana*.—Noted almost daily. Pairs, or flocks of up to sixty individuals, flew over the Rancho mornings and evenings, occasionally alighting close by. They usually flew abreast, their squawks being audible a mile or more on calm days. They fed on various fruits and seeds, and were considered a pest by the farmers. According to our camp-man, they nest in August.

Two males (testes slightly enlarged) were obtained: March 27; April 27. The latter was molting extensively, the longest rectrices being broken at the tip. In the perfect specimen the tail measures 408 mm.

GREEN PARAKEET, *Aratinga holochlora holochlora*.—Seen daily, fluctuating in abundance with the food supply. Usually flew high in air, racing back and forth above the wooded mountainside, shrieking noisily. From April 15 on, most flocks were composed of mated birds. April 30, Sutton watched a single bird fly silently to a large cavity high in a cypress near the river, climb along the edge using bill as well as feet, and disappear inside. Mated pair (molting; gonads not enlarged) taken April 16, at Rancho (Pettingill). Female taken by Sutton on March 1, 1938 (Sutton and Burleigh, 1939: 29).

AZTEC PARAKEET, *Aratinga astec vicinalis*.—Identified with certainty only once in 1941—two, at close range, at the foot of the mountain, April 16 (Sutton). Seen repeatedly February 28 to March 5, 1938; a male specimen was taken by Burleigh, March 1 (Sutton and Burleigh, 1939: 29).

WHITE-CROWNED PARROT, *Pionus senilis senilis*.—Not recorded during the course of our expedition; but Warner took a solitary male on the mountain back from the Sabinas on August 13, 1941. This species apparently has not heretofore been recorded from Tamaulipas.

RED-CROWNED PARROT, *Amazona viridigenalis*.—Noted daily wherever we went. Noisy in the morning, when feeding, and in the evening just before roosting. Usual cry a harsh *kee-ee, craw, craw, craw*. Fed on nuts, berries, buds and flowers, and various larger fruits, taking them in season. Very wasteful, biting only a small chunk from a fruit or pod and dropping the rest.

Courtship was going on at the time of our arrival, many birds being paired, others sparring and chasing (March 12). Such birds sometimes came to grips in mid-air, fluttering upward as if climbing an invisible wire. Devoted males were seen to walk the entire length of a branch in presenting some tidbit to their mates. In late March there was considerable bickering over nest cavities. March 31, Sutton watched one pair finally win out over contenders and settle down in an old Lineated Woodpecker's nest in a big cypress, sixty feet from the ground. Here a parrot's head popped out whenever any of our party made a commotion under the tree.

In our night hunting we occasionally disturbed roosting flocks of Red-crowns, and once (April 7) a flock that we had not disturbed flew screeching past us in the moonlight.

Among the enemies of this species must be mentioned the Ornate Hawk-eagle, which more than once we saw bearing down upon the screaming flocks, and under whose favorite trees we occasionally found bunches of parrot feathers.

YELLOW-HEADED PARROT, *Amazona ochrocephala oratrix*.—Noted only as follows: March 17, three seen in cypress near river; April 1, four seen and one breeding male in fine plumage collected half a mile south of the Rancho (Lea); April 18, several seen in the Rio Frio district, fifteen miles south of the Rancho (Warner). Not seen by senior author's party in 1938.

BLACK-BILLED CUCKOO, *Coccyzus erythrophthalmus*.—Noted twice—April 30, one in brushy woodland three miles north of the Rancho (Pettingill); and May 3, two seen and male (testes somewhat enlarged; tail in irregular molt) taken two miles north of the Rancho (Sutton).

CENTRAL AMERICAN SQUIRREL CUCKOO, *Piaya cayana thermophila*.—Noted daily, March 14 to April 26, at considerable elevation on the mountain (2000 feet) as well as at river-level. Sprightly for a cuckoo, and equipped with a variety of call-notes, the commonest being an imperative *creep-rear*, or *keep-rear*, like one of the Derby Flycatcher's cries but louder; another—something in the nature of a song—a loud *kweep, kweep, kweep, kweep*. Little seen after April 26, perhaps because of nesting activities. Specimens collected March 20 and 28, 1941, and by senior author's party March 1-4, 1938 (Sutton and Burleigh, 1939: 30).

GROOVE-BILLED ANI, *Crotophaga sulcirostris*.—Seen first, April 7—five birds perched near a hut along the main highway. Noted often thereafter. Female (with enlarged ovary) taken April 11 (Lea). Male and female taken by senior author's party, March 1, 1938 (Sutton and Burleigh, 1939: 30).

ROAD-RUNNER, *Geococcyx californianus*.—Noted several times along the highway between Victoria and Mante, but seen near the Rancho only once—a single bird running along a road about two miles east, March 27 (Sutton).

GUATEMALA SCREECH OWL, *Otus guatemalae*.—Trilling sounds which were accredited to Screech Owls were heard on several occasions, by day as well as by night, and at river-level as well as on the mountain, but the genus *Otus* was recorded with certainty only once—on April 11, when a female was shot at the entrance to her nest (Pettingill). The nest tree was at about 1500 feet elevation. The cavity was fifteen feet from the ground. The bird's oviduct was swollen and the ova ranged in size from that of a BB shot to $\frac{1}{4}$ inch in diameter. The bird had pale-yellow eyes. It was very fat; and the featherless condition of the toes was at once apparent. The contents of the nest was not determined.

So far as we have been able to determine, *Otus guatemalae* has not heretofore been taken anywhere in Tamaulipas. Our specimen is like the type of *O. g.*

cassini (U. S. National Museum no. 27115) in size, but grayer throughout the upper parts.

MAYAN HORNED OWL, *Bubo virginianus mayensis*.—Recorded but once—a female, with unenlarged ovary and no sign of brood-patch, taken April 10 along the Sabinas near the Rancho (Sutton). This specimen is of the brown, rather than the gray phase. It is large, having a wing of 334 mm. (the wing of the type of *mayensis*, a female, measures only 315 mm.), and may, therefore, if we follow Griscom's concept (see *Ibis*, 1935: 546), be considered intermediate between *mayensis* and *pallescens*.

FERRUGINOUS PYGMY OWL, *Glaucidium brasilianum ridgwayi*.—Recorded daily and nightly, March 14–April 25, on mountainside in opener woodland, as well as at river-level. Five specimens taken, March 20–April 24. Three of these are gray-phase males, one a grayish-brown male, and one a very brown female. Two males taken by senior author's party March 3, 1938 (Sutton and Burleigh, 1939: 30).

TAMAULIPAS WOOD OWL, *Ciccaba virgata tamaulipensis*.—Fairly common at river-level and along the foot of the mountain. Seen and heard principally on moonlit nights. Seemed to prefer brushier woodland for its hunting, spending much of its time near the ground. Characteristic cry an exhalant *boob, boob, boob, boob, boob*, loudest in the middle of the series.

Three specimens were taken—a female, April 8 (Lea); a male, April 11 (Warner); and a male, April 24 (Sutton). These have been directly compared with the type of *C. v. tamaulipensis* by Mr. James L. Peters, who reports that the second, while "a little buffier below" is nevertheless "very close to the type"; that the third is "also clearly *tamaulipensis*"; but that the first is "not certainly distinguishable from average *centralis*." With the present series (together with two birds from Linares, Nuevo Leon) in hand, he believes *tamaulipensis* to have "dark and pale phases"—a concept Phillips (1911: 76), in naming the race from a single specimen, probably did not entertain.

MEXICAN POTOO, *Nyctibius griseus mexicanus*.—First recorded March 17 when, just after nightfall, Sutton took a breeding male at the foot of the mountain half a mile southwest of the Rancho. Taken thereafter April 8 (female with ova up to $\frac{1}{4}$ inch in diameter); April 11 (male with much enlarged testes); and April 13 (female with much enlarged ovary). Noted twice at about 1500 feet elevation.

At nightfall these wide-winged birds flapped up from the *huipilla* thickets to prominent perches where, sitting upright, they looked about for prey. Their calls were rough squawks, screams, and hoots, often human in quality, none resembling the word *potoo* very closely. Their eyes shone brilliantly in the rays of our flashlights. They were not particularly wary but we did not succeed in luring them by 'squeaking' or by our ludicrous imitations of their cries.

TEXAS NIGHTHAWK, *Chordeiles acutipennis texensis*.—Noted early in the morning or at nightfall in the vicinity of the Rancho, as follows: a few, April 5; one, April 6; several, above recently cleared fields, April 17; a loose flock moving northward, April 18; two, April 21; and four, April 22. A male and a female taken by Warner, April 17, are of this race, the wing of the male measuring 189 mm., that of the female, 176.

NIGHTHAWK, *Chordeiles minor*.—Included in the list wholly on the basis of a single bird's *pee-ee* call-note. Distinctly heard several times on the evening of April 15. The senior author, during several seasons of field work in the southwestern United States and Mexico, has never heard *Chordeiles acutipennis* give any such cry.



INCA DOVE ON NEST



BUFF-BELLIED HUMMINGBIRD ON NEST

YUCATAN PAURAQUE, *Nyctidromus albicollis yucatanensis*.—Not common. Noted infrequently (never more than one bird at a time) March 15–April 11, in brush-land at river-level. Our only specimen, a breeding male taken by Lea, April 7, is very gray above in comparison with *N. a. merrilli* at hand, and is too small for that race (wing, 171 mm.; tail, 158). We follow Peters (1940: 193) in considering *nelsoni* and *sumichrasti* as synonyms of *yucatanensis*.

SALVIN'S WHIPPOORWILL, *Caprimulgus serico-caudatus salvini*.—First recorded early in the morning, April 1, when its readily recognizable *chip-will-low* song was heard. Noted almost constantly on clearer nights, April 6 to 25. Hard to see, for its favorite song-perches frequently were far from roads or trails, in the very thickest of the low-country woodlands. The only alarm note heard was a low *quert*. April 11, two males, with greatly enlarged testes, were taken (Sutton and Warner).

EASTERN WHIPPOORWILL, *Caprimulgus vociferus vociferus*.—Recorded with certainty only on March 30, when a male (with slightly enlarged testes) was taken along the trail at the foot of the mountain; and on April 21, when a male and a female (with somewhat enlarged gonads) were taken at about river-level south of the Rancho (Sutton). The stomachs of all three specimens were packed with insect remains. The first had eaten a huge moth whose abdomen was full of pale green eggs. Not a sound was heard from any of these birds, though on April 21 the allied species, *Caprimulgus serico-caudatus*, which must breed commonly in the region, was in full song.

CHIMNEY SWIFT, *Chaetura pelagica*.—Male (with slightly enlarged testes) taken from loose flocks of swifts along the Sabinas, April 15. Female (ovary not enlarged) taken from small, northward-circling flock of *pelagica* above open field at Rancho, April 27. Probably present in the region between these two dates, since small, dark swifts were seen repeatedly.

TAMAULIPAS VAUX'S SWIFT, *Chaetura vauxi tamaulipensis*.—Small swifts were observed daily along the Sabinas from March 17 to the end of our stay. Most of these probably were of the present form, though specimens were actually collected only on April 11 (male with greatly enlarged testes) and on April 15 (male and two females, each with much enlarged gonads). On fine days the birds flew high, in misty weather low, at about tree-top level. What we took to be copulating was observed from April 11 on, 'pairs' coming to grips in mid-air and falling almost to the ground together. On two occasions birds were seen to fly into hollow trees near the river (Sutton).

CURVED-WINGED SABRE-WING, *Pampa pampa curvipennis*.—Rare. Recorded seven times, March 19–April 10, a singing male being collected March 19 (Sutton). Encountered only in tangles of vines on mountainside southwest of the Rancho, at from 1000 to 1500 feet.

BUFF-BELLIED HUMMINGBIRD, *Amazilia yucatanensis chalconota*.—Common. Noted daily from river-level to highest points reached on mountain (about 2000 feet), in brushy rather than deep woodland. Male taken March 27 (Warner).

Males appeared to have individual feeding territories which they defended vigorously. Courtship observed during latter part of March. First signs of nest-building noted March 30 when, on a rocky slope, a female was seen to gather downy material and spiderweb from a tall cactus. April 22, a nest (two eggs) was found only a few feet from the ground near a woodland road. Here the female remained motionless while Pettingill and Lea placed their cameras within

twelve inches (see Plate 4). April 26, a female was watched as, with sudden upward jerks of her bill, she pulled lichens from a great tree.

BROAD-BILLED HUMMINGBIRD, *Cynanthus latirostris*.—March 30, while making his way along the foot of a cliff southwest of the Rancho (at about 1500 feet), Pettingill discovered a Broad-billed Hummer's nest. It was fastened near the tip of a slender, leafless twig about four feet from the ground. Striking the nest before seeing it, he knocked the two heavily incubated eggs out. Both were broken, one only slightly. The female continued to incubate this damaged egg for a day, then deserted. All of our party had abundant opportunity to observe and identify her. Several photographs were taken. The species was not otherwise recorded during our stay.

PREVOST'S MANGO, *Anthracothorax prevosti prevosti*.—Common. Not seen before April 1, hence thought to be migratory. Males perched on naked, slender twigs in exposed places (usually not far from the ground) when not feeding or wrangling with other males. Along the road between the Rancho buildings and the 'gate' (a quarter of a mile away) eleven males were seen regularly throughout April. In flight they bounded along, chipping noisily. Males and females sometimes fed together about flowering epiphytes growing on trees near the river.

Females were often seen gathering nest material from April 5 on. Only one nest was found, however. This was near the end of a slender dead stub, about fifty feet from the ground, in a solitary cypress near the river. The female worked at least eight days in building this nest.

RUBY-THROATED HUMMINGBIRD, *Archilochus colubris*.—Adult males seen repeatedly about blossoming orange-trees and in patches of bright-red *Salvia*, March 23–27. Male collected March 23 (Pettingill). In April noted on the 22d (male taken by Warner) and from the 28th to the 30th (several females about flowering tree near the river). Molting female taken April 30 (Sutton).

BLACK-CHINNED HUMMINGBIRD, *Archilochus alexandri*.—Recorded with certainty but once—March 19, a male seen clearly at close range in thicket at river-level (Pettingill). Some female hummingbirds seen April 28–30 possibly were of this species also.

COPPERY-TAILED TROCON, *Trogon ambiguus ambiguus*.—Noted daily, sometimes in flocks, more often in groups of three or four. Certain males and females went about as if paired, but flocks composed largely of males were noted as late as May 2; little was seen that could be interpreted as courtship; and the gonads of specimens taken were unenlarged. Our failure to record any other species of trogon is worthy of note.

RINGED KINGFISHER, *Megaceryle torquata*.—Noted infrequently, March 27 to April 25, along the Sabinas. Birds appeared to be mated, and several large burrows were examined, but no occupied nest was discovered.

BELTED KINGFISHER, *Megaceryle alcyon*.—Noted along the Sabinas, March 14–April 8. Male and female seen April 4, appeared to be courting. Some of their cries, uttered in flight, were repeated phrases somewhat in the nature of song. There is no description of such a performance in Bent's thoroughgoing account of this species (1940: 111–129).

GREEN KINGFISHER, *Chloroceryle americana*.—One to four birds fished regularly at shallows along the Sabinas near the Rancho. Upstream from these shallows, in a vertical bank, an occupied nest-burrow was discovered March 26 (Sutton). Young were still being fed here when last we visited the place, May 2.

BLUE-CROWNED MOTMOT, *Momotus coeruliceps*.—Noted daily, its owlish *poot*, *poot* being a familiar sound. Commonest along the river, though several pairs lived in gullies on the mountain at some distance from the water. Male taken March 24 not in breeding condition (Lea). Female with much enlarged ovary taken and partly finished nest-burrow discovered in chunk of earth adhering to roots of overturned tree the following day (Sutton). Two other occupied nests found subsequently—in shadowy banks, among great roots. The birds squawked and grunted when we invaded their nest-territories. One bird, observed near its nest April 30, was bob-tailed, all the rectrices having been worn or broken off, presumably in the burrow.

GOLDEN-FRONTED WOODPECKER, *Centurus aurifrons*.—Fairly common in opener woodland. Pair found working on nest, April 4. Half finished with their excavating, they were beset by a pair of Tityras, who were determined to occupy the cavity themselves. The quarrel lasted several days, but the woodpeckers finally won. Another nest, found April 11, was in a large stub near the river, twenty feet from the ground.

MEXICAN GREEN WOODPECKER, *Chloronerpes aeruginosus*.—Noted on the mountain as well as at river-level; not common. March 27, Warner took a male (with much enlarged testes but no brood-patch) at a recently finished nest, twenty-five feet from the ground, at the top of a stub in mixed woodland. April 18, Sutton observed flicker-like courtship behavior—prancing, bowing, and spreading of wings and tail. April 24, Pettingill discovered a nest. Here, after a perilous trip across the flooded river, he obtained photographs of the parent birds.

Breeding specimens from the Gomez Farias region appear to be the same as strictly comparable material from the Mesa de Chipinque, near Monterrey, Nuevo Leon. This is difficult for one who has worked at both places to comprehend. At Gomez Farias the bird's habitat is tropical. At the Mesa de Chipinque (5000 to 7000 feet elevation) the summer nights are cool and the woods are of oak and pine!

LINEATED WOODPECKER, *Ceophloeus lineatus*.—About as common as *Scapaneus guatemalensis* and found in the same habitat. Distinctly more flicker-like than that species, however, especially as regards courtship behavior and call-notes. Partly finished nest found April 13, in huge cypress along the Sabinas, about ninety feet from the ground.

VERACRUZ IVORY-BILLED WOODPECKER, *Scapaneus guatemalensis regius*.—Fairly common, especially in heavier woodland at river-level. Usual call-note a bleat, distinctly reminiscent of the *kint* of the United States Ivory-bill, *Campetherus principalis*, as heard by the senior author in Louisiana in 1935. Sharp double-rap also like that of *Campetherus*. Two nests found—one (partly finished) halfway up the mountain, at about 1500 feet, April 12; the other, ready for eggs, about fifteen feet from the ground, in leaning dead tree near the river, April 30. Two females, taken April 8, represent the present large subspecies (wing, 198; 201 mm.).

OLEAGINOUS WOODPECKER, *Veniliornis oleagineus oleagineus*.—Recorded on three occasions: March 14, one in small-bird flock, at foot of mountain a mile southwest of the Rancho; March 15, two birds, in the same place; and March 27, a single male collected by Warner at 1500 feet on the ridge between the Rancho and Gomez Farias. Apparently this woodpecker has not heretofore been recorded in Tamaulipas.

TEXAS LADDER-BACKED WOODPECKER, *Dryobates scalaris sympectus*.—Fairly common in brushy woodland at river-level. Courtship noted in early and mid-April.

Nest with eggs found April 26. A female taken by Warner, March 19, is neither very large (wing, 98 mm.) nor strikingly white on the back, but it is pale below and we are convinced that it represents *D. s. symplectus* rather than *D. s. scalaris*, the latter being the race assigned by Ridgway, Hellmayr and others to "southern Tamaulipas."

IVORY-BILLED WOODHEWER, *Xiphorhynchus flavigaster eburneirostris*.—Common in all sorts of woodland and at all elevations visited. Often seen feeding about epiphytes on horizontal branches. What appeared to be mated birds seen as early as March 14, but a female taken that day and one taken March 21 showed no sign of breeding activity. No nest found. Customary call-note *chee-leer*, or *whee-leer*. Song strongly suggested that of the Canyon Wren, *Catherpes mexicanus*.

MEXICAN ANT-SHRIKE, *Thamnophilus doliatus mexicanus*.—Noted daily, March 31–May 2, always in dense tangles near river. The first one seen was a fully adult male. *No other fully adult bird of either sex was seen.* Three males taken (April 12, 15 and 28) were subadult, with gray eyes and slightly enlarged testes. Song a rapidly descending series of hoots, almost rolled, not loud but noticeable, and sometimes terminated by an accented, inhalant note.

Our three males are long-winged and -tailed, hence represent the race *mexicanus* (see Sutton and Burleigh, 1940: 228). They measure: wing, 73, 72, 71 mm.; tail, 73, 74, 70.5. *Thamnophilus doliatus* apparently has not heretofore been recorded north of Alta Mira, Tamaulipas (Richmond, 1896: 630). The senior author's party did not see it in the Gomez Farias region in 1938.

ROSE-THROATED COTINGA, *Platyparis aglaiae gravis*.—Common. Courtship behavior (crest-lifting and jerky bowing) noted from day of our arrival on. Nest-building first observed April 3, other nests being found virtually every day thereafter in trees near the river, at or near the end of a long swaying branch, from forty to seventy feet from the ground or water. Nests incredibly bulky, one that we collected being a mass of Spanish moss, roughly 12.5 inches wide and 15.5 inches deep, with 2.5-inch-wide entrance at one side, and with masses of moss hanging below and to one side (see Plate 6).

Males and females built nests together. Twittering constantly, they gathered material near and far, flying in with big loads trailing. One of their special cries was a thin *kew*, followed by an odd sputtering. From five to nine days were spent in building a nest.

Occupied nests of the Giraud's Flycatcher, *Myiozetetes similis*, frequently were found within a few feet of, or on the same branch with, the Cotinga nests. The flycatchers followed the Cotingas about, alighting near them with wings fluttering, calling petulantly, sometimes stealing wisps of moss from them. At least six Cotinga nests under close observation during latter April were near nests of this interesting flycatcher.

Watching a pair of Cotingas for two hours on the morning of April 25, Sutton saw both birds add mouthful after mouthful of moss to their already enormous nest; watched the female enter (to lay an egg or incubate); and followed the male to a treetop hung with vines, where the bird proceeded to sing uninteruptedly for over half an hour. The song was a conversational *chi-zoo, wheez-oo, chi-zoo, kee-zoo*, repeated over and over, with pauses of a second or more after each group of four syllables.

MEXICAN MASKED TITYRA, *Tityra semifasciata personata*.—Common. Some birds mated at time of our arrival, others going about in threes or fours, perching drowsily in a leafless treetop for a time, then suddenly chasing each other, giving



Texas Derby Flycatcher at Nest



Nests of Texas Derby Flycatcher (left, *in situ*) and
Boat-billed Flycatcher

a dry *quert, quert* call-note. Courtship included snapping off and presentation of twigs accompanied by head-wagging.

Nest-hunting first observed April 1. Thereafter pairs at nests were the rule. April 10, a female was seen to carry forty-two twigs to her nest (an old wood-pecker hole) in half an hour. During this time she received no direct assistance from her mate. April 17, at another stub, both the male and the female were seen to carry twigs *out of* their nest. April 4 to 8, a pair at the Rancho sparred fiercely with a pair of Golden-fronted Woodpeckers who were doing their best to finish a nest for their own use.

April 25, a pair were collected at the Rancho. The female was laying eggs. Within two hours the deserted nest was claimed by a pair of Sulphur-bellied Flycatchers, who in turn were forced to expel three other pairs of Tityras!

EASTERN PHOEBE, *Sayornis phoebe*.—Single bird noted near the Rancho, March 20–23.

MEXICAN VERMILION FLYCATCHER, *Pyrocephalus rubinus mexicanus*.—On the senior author's first visit to the Gomez Farias region this species was fairly common along the Sabinas (Sutton and Burleigh, 1939: 33). In 1941 it was rare. Lone male and three females noted March 24. Single male seen April 5. Male collected April 14 (Lea).

COUCH'S KINGBIRD, *Tyrannus melancholicus couchi*.—Seen nowhere before April 18, hence probably arrived from the south on that date. From the 18th to the 27th, uncommon; thereafter abundant, several pairs taking up their residence near the Rancho. Territorial disputes settled by about the end of the month. Most song-like utterance a loud *fit-breer*, the latter syllable a rolled chatter.

SULPHUR-BELLIED FLYCATCHER, *Myiodynastes luteiventris luteiventris*.—First seen April 4, a single bird. Male (slightly enlarged testes) taken the following day. Four birds seen April 7. By April 10, the species had arrived in full force, courtship activity and noisy fighting over nest-cavities being constantly observable. Did not settle down to nesting until considerably later, however, egg-laying females being taken April 21 and May 3. Usual cry a sharp *his-eéce* or *whee-zeé-ah*. Song a softer *chu-eer*. Alarm cry a woodpecker-like *puck*.

Our specimens are more richly colored throughout than two virtually topotypical *M. l. swarthy* from the Santa Rita Mountains, Arizona.

MEXICAN BOAT-BILLED FLYCATCHER, *Megarynchus pitangua mexicanus*.—Common. Some pairs established on territories at time of our arrival, but nest-building did not commence until April 7. Several nests found. These were shallow, made of twigs, thinly lined with finer material, placed in stout crotches, and wholly unlike the bulky, spherical nests of the Derby Flycatcher (see Plate 5). The senior author was careful to note these differences time after time, and is now convinced that the "very bulky" *Megarynchus* nest reported from Tamazunchale, San Luis Potosí, was that of *Pitangus* (Sutton and Burleigh, 1940: 228). Pairs that lived near the Rancho proceeded deliberately with nidification. One nest almost completed April 13, held its first egg ten days later.

The song of this noisy, pugnacious species was a clearly enunciated *cree-kill-rick*, repeated sometimes thirty or forty times at a sitting. Familiar call-notes were a sharp *kee-wick*, and a rough, petulant *hair-r-r-r-r*.

GIRAUD'S OR SOCIAL FLYCATCHER, *Myiozetetes similis texensis*.—Abundant. Some birds paired at the time of our arrival though the ovary of a female taken March 22 was only slightly enlarged. Nest-building first noted April 4, the nest being high in a tree near the river, close to a partly finished Rose-throated Cotinga's

nest. Like the Cotingas, the flycatchers continued building for several days, adding material even after the eggs had been laid. Nest roughly spherical, with entrance at the side.

By the end of April, twelve nests were under observation. Each of these was near the nest of some other species—six near Rose-throated Cotingas' nests, one near a Boat-billed Flycatcher's, one near a Derby Flycatcher's, and four near Alta Mira Orioles' nests. The flycatchers were constantly on the move, fanning their wings even while perching, looking about as if for trouble, and uttering peevish cries, one of which resembled the *cheep* of a barnyard chick whose toe has been pecked!

TEXAS DERBY FLYCATCHER, *Pitangus sulphuratus texanus*.—Noisy and noticeable, hence thought of as common. By actual count less common than the Boat-billed Flycatcher, there being but two pairs of *Pitangus* near the Rancho to six pairs of *Megarynchus*. Mated at time of our arrival. A pair living near us started their nest April 1, completing it April 14. Egg-laying began April 23, and incubation started April 29. The birds showed surprisingly little concern. We frequently saw them along the river, a quarter of a mile away, but our approaching the nest rarely incited them to outcry. Perhaps this was because they were accustomed to our comings and goings (Plate 5).

Call-note was a sharp *geep*, sometimes elaborated into *geep career!* or *geep, geep, career!* *Megarynchus* had no call-note resembling this, so pairs of either species were easily located from cries alone.

CRESTED FLYCATCHER, *Myiarchus crinitus*.—Identified with certainty but once, March 25, when a female (ovary unenlarged) was taken two miles south of the Rancho in open woodland along the foot of the mountain (Sutton).

MEXICAN CRESTED FLYCATCHER, *Myiarchus tyrannulus nelsoni*.—Noted first April 5, when several arrived simultaneously, two males (testes somewhat enlarged) being collected that day. Common thereafter, pairs establishing themselves on territories by April 22 (male with greatly enlarged testes taken). A pair began their nest in a horizontal stovepipe that stuck out from one of the Rancho buildings, April 26. Construction work continued until May 1. We could not see into the nest hence did not determine when egg-laying began.

ASH-THROATED FLYCATCHER, *Myiarchus cinerascens cinerascens*.—Identified with certainty but once, March 18, when a female (ovary unenlarged) was taken along the Sabinas (Warner). This specimen agrees with other *M. c. cinerascens* at hand in having the tenth (outermost) primary equal in length to the fourth.

LAWRENCE'S DUSKY-CAPPED FLYCATCHER, *Myiarchus tuberculifer lawrencei*.—Noted March 14–24, during which period four specimens (a single male, a 'pair,' and a single female) were collected. In none of these did we find evidence of breeding activity. After March 24, recorded as follows: April 8, four in a thicket near the river; April 12, one at foot of mountain; April 26, one near Rancho buildings.

OLIVE-SIDED FLYCATCHER, *Nuttallornis borealis*.—Male (fat; testes unenlarged) taken April 27 (Lea). One seen in low tree near Rancho buildings, May 2.

EASTERN WOOD PEWEE, *Myiochanes virens*.—Male (with somewhat enlarged testes) collected along the Sabinas, April 25 (Sutton). Single birds seen and heard, April 30 and May 1.

WESTERN WOOD PEWEE, *Myiochanes richardsoni richardsoni*.—Singing birds noted repeatedly in brushy woodlot near the Rancho, May 1–3. Male, with testes somewhat enlarged, taken May 1 (Sutton).

SWAINSON'S PEWEE or *José Maria*, *Myiochanes pertinax pertinax*.—Noted March 14–28. Two females taken: March 24; March 28. In 1938, a female was taken March 1 and a male March 3 (Sutton and Burleigh, 1939: 34). Gomez Farias birds are not quite so dark as topotypical *M. p. pertinax*, but they are green-backed in comparison with freshly plumaged *M. p. pallidiventris* from the Santa Rita Mountains of Arizona.

YELLOW-BELLIED FLYCATCHER, *Empidonax flaviventris*.—Not recorded during the course of our expedition; but Warner took an adult male near the Rancho on August 13, 1941.

LEAST FLYCATCHER, *Empidonax minimus*.—Noted March 22–May 2. Six specimens taken, all in prenuptial molt. In three of these the outer primary is distinctly shorter than the sixth (counting from the outside); in three it is either shorter than or equal to the sixth; in none is it "longer than 6," a character considered by Taverner (*Birds of Western Canada*, 1926: 251) to be diagnostic of this species. Measurements of males: wing, 60.5 mm., 63.5, 64, 57; tail, 54, 53, 57, 50; of females, wing, 59, 59; tail, 51, 50. A living bird examined May 2 appeared to be in perfect breeding plumage.

HAMMOND'S FLYCATCHER, *Empidonax hammondi*.—A puzzling *Empidonax* (sex not satisfactorily determined) taken March 25 apparently is closer to *hammondi* than to any other species. It is darker on the throat and breast and yellower on the belly than any of the six *minimus* above described. Its measurements (wing, 64 mm.; tail, 50.5) suggest that it is probably a female. The outermost primary is shorter than the sixth, counting from the outside.

WRIGHT'S FLYCATCHER, *Empidonax wrighti*.—Specimen taken in Gomez Farias region on March 5, 1938 (Sutton and Burleigh, 1939: 34). Not recorded by us in 1941.

BEARDLESS FLYCATCHER, *Campstostoma imberbe imberbe*.—Fairly common about the Rancho, where we heard its finely lisped cry occasionally, March 15–April 5; took a male (testes slightly enlarged) April 6; and observed courtship and nest-building in latter April.

April 21, at sun-up, we traced an unfamiliar bird-sound to the top of a thin-leaved tree where, perched on an exposed twig, a Beardless Flycatcher was singing as it looked sharply about. The six-syllabled performance, written down at the time as *chew-did-ee, chew-did-see*, was repeated over and over, thirty times or more. During the last week in April and early in May such sunrise singing was noted daily.

April 21, a pair were discovered at work upon their nest twenty-five feet up in a big cypress at the river's edge. It was invisible from the ground, being in a festoon of moss (Sutton).

ROUGH-WINGED SWALLOW, *Stelgidopteryx ruficollis serripennis*.—Noted throughout our stay, a large flock flying over a sugar-cane field south of Mante, March 12; smaller flocks, or pairs, along the Sabinas thereafter. By April 7, two pairs had established themselves near the Rancho. Here nest-digging began about April 15. Female and male specimens taken April 11 and 21, respectively.

VIOLET-GREEN SWALLOW, *Tachycineta thalassina*.—Small flocks noted along the Sabinas March 18 and April 1.

MEXICAN CROW, *Corvus imparatus*.—Abundant at Mante. Fairly common three miles south of the Rancho, in farming district. Uncommon about the Rancho proper. Call-note a hollow, wholly unmusical *gar-lic* or *cow-rah*.

PALE-BELLIED BROWN JAY, *Psilorhinus morio palliatus*.—Noted in flocks as well as in pairs throughout our stay. Bird seen building nest March 21, but this nest was not completed. Twig-carrying observed almost daily throughout April, though only one finished nest was found. This held three eggs April 21, six eggs April 23. It was about fifteen feet from the ground at the edge of the forest. The eggs were buffy gray, spotted with brown. The brooding female (?) was surprisingly wary.

One of our three specimens (male, April 21) is quite as pale on the belly as a topotypical *palliatus* at hand; the other two (females: March 23, April 14) are a trifle darker, though not by any means dark enough for *P. m. morio*.

GREEN JAY, *Xanthoura luxuosa luxuosa*.—Fairly common, especially in brushy woodland at river-level. Noted in small flocks in latter half of March and throughout April. Neither a male taken March 26 nor a female taken April 10 showed signs of breeding activity. Two birds encountered May 2 acted as if they might have been a pair with nest.

Our specimens show no trace of the pale blue that is evident in some topotypical *X. l. glaucescens* at hand. The female is small, however (wing, 111 mm.; tail, 127), having almost exactly the average measurements of the seven female specimens of this northern race handled by Ridgway (wing, 112; tail, 127.5).

BLACK-CRESTED TITMOUSE, *Parus atricristatus atricristatus*.—Fairly common in wooded country, on the mountain as well as at river-level. Seen in small-bird flocks at late as March 29, though at least one pair was known to be nesting March 27. Female, with slightly enlarged ovary, taken March 25 (wing, 69 mm.; tail, 60.5).

BERLANDIER'S WREN, *Thryothorus ludovicianus berlandieri*.—Heard infrequently March 19–April 15, always on the mountain west or southwest of the Rancho, and not once at river-level. Breeding male taken at about 1500 feet, April 15 (Sutton).

TAMAULIPAS SPOTTED-BREASTED WREN, *Thryothorus maculipectus microstictus*.—Fairly common in dense tangles, especially along the river. Almost always seen in pairs. Three males taken: March 26, April 10, April 20. In none of these were the testes greatly enlarged.

WESTERN HOUSE WREN, *Troglodytes domesticus parkmani*.—House Wrens lived about the Rancho buildings throughout our stay. Several of these sang vigorously; some occasionally scolded; and one was seen even to carry a twig in its bill (Pettingill, April 3). Two specimens collected (male, April 28, Sutton; and male ?, April 21, Warner) were not in breeding condition, however. The former of these is clearly *parkmani*; the latter is rather buffy on the chest and rufescent on the flanks for that form, but more like *parkmani* than the "lighter, more grayish phase" of *T. d. baldwini* mentioned by its describer (see Oberholser, H. C., 'A Revision of North American House Wrens,' Ohio Journ. Science, 34: 91, 1934).

WHITE-BELLIED WREN, *Nannorchilus leucogaster leucogaster*.—Fairly common at river-level in *huipilla* thickets; almost never seen elsewhere. Observed in pairs at time of our arrival. Presence usually made known by the dainty, tinkling song which was sometimes so faint as to suggest the 'whisper song' of some other species. Testes of males taken March 25–27 greatly enlarged.

With our fresh breeding series from the Gomez Farias region we now have sixteen *Nannorchilus leucogaster* specimens in the Cornell collection. Two of these, from Valles, San Luis Potosí, should represent the race *N. l. grisescens*; but there are individuals in our Gomez Farias series just as gray above and just as pale-flanked as the Valles birds, and we therefore feel that *grisescens* merely

represents the gray extreme of *N. l. leucogaster*, and that it probably is to be found in any breeding population of that race.

CANYON WREN, *Catherpes mexicanus*.—Found only about cliffs west and southwest of the Rancho. A male, with somewhat enlarged testes, taken by Warner, March 25, is the darkest-backed individual in a series of eight eastern Mexican specimens at hand (three from Hidalgo, four from the Mesa de Chipinque, Nuevo Leon), and we should not hesitate to call it a richly colored example of *C. m. mexicanus* but for the fact that it is too small for that race, its wing measuring 62 mm., its tail, 50. Our three Hidalgo *mexicanus* (virtually topotypes) measure: males, wing, 68, 64; tail, 57.5, 54; female, wing, 65; tail, 56. For the present we can hardly call the Gomez Farias bird anything but intermediate between *mexicanus* and *albifrons*, though such a disposition unfortunately is based almost wholly on size.

LONG-BILLED THRASHER, *Toxostoma longirostre*.—Fairly common in thickets in low country and on mountain. Occasional singing heard in latter March and early half of April. Specimens taken March 30 to April 10 not in breeding condition. Brilliant, long-continued singing from definite song-perches heard from April 25 on.

Our three specimens are intermediate between *longirostre* and *sennetti*. They are perceptibly buffier below and more rufescence above than comparable *sennetti* from Brownsville, Texas, and Monterrey, Nuevo Leon; but they are short-billed, and their wing and tail measurements are those of *sennetti*: male, wing, 99 mm., tail, 128; females, wing, 95, 94; tail, 124, 122.

BLUE MOCKINGBIRD, *Melanotis caerulescens caerulescens*.—Male taken along the Sabinas near the Rancho by the senior author's party, March 2, 1938 (Sutton and Burleigh, 1939: 37). Obviously a rare bird in Tamaulipas for we find no mention in Ridgway or Hellmayr of its occurrence north of Veracruz. Not seen by us in 1941.

CATBIRD, *Dumetella carolinensis*.—Seen daily throughout our stay, as many as twelve or thirteen being counted March 22, when a wave of transients may have passed through. Two males and a female taken, March 25—April 21. In none of these were the gonads enlarged.

MOCKINGBIRD, *Mimus polyglottos*.—Rare about the Rancho proper, being seen there but once (March 19, Pettingill). Common along the highway to the south, especially between the Sabinas and Frio Rivers. One of the few birds seen regularly at the edge of the extensive palmetto forests.

JALAPA ROBIN, *Turdus assimilis assimilis*.—Recorded frequently, March 14 to April 1, less frequently during first half of April. Last seen (two birds, probably not a pair) April 20. Usually encountered in heavy woods on mountainside rather than in cypresses along river. Call-notes a low *cluck* or *chuck* and a fine *seet*, the latter quite unlike any call-note of *Turdus migratorius*. Male and female (with slightly enlarged sex organs) taken March 22 and 23, respectively (Sutton).

TAMAULIPAS GRAY'S ROBIN, *Turdus grayi tamaulipensis*.—Seen throughout our stay, infrequently from March 14 to 21, more commonly thereafter; usually in mixed flocks of small birds up to April 11, in pairs thereafter. Male with slightly enlarged testes taken by Warner, March 27. Breeding male (testes 13×7.5 mm.) taken April 16 (Sutton). Breeding pairs encountered at river-level as well as on mountain.

The song was deliberate, repetitious, meditative rather than declamatory, alto in general effect.

BROWN-BACKED SOLITAIRE, *Myadestes obscurus*.—Noted March 21–24, at river-level and on mountain. Full songs heard several times during this period. A female was taken along the Sabinas on March 4, 1938 (Sutton and Burleigh, 1939: 38).

RUSSET-BACKED THRUSH, *Hylocichla ustulata ustulata*.—A male specimen taken by the senior author, February 28, 1938, was erroneously identified as *H. fuscescens salicicola* (Sutton and Burleigh, 1939: 38). A correction was published (Sutton, Auk, 58: 584, 1941). No thrush of the genus *Hylocichla* was recorded in 1941.

BLUE-GRAY GNATCATCHER, *Polioptila caerulea caerulea*.—Gnatcatchers were seen daily, usually in brushy woodland at river-level, but sometimes high on the mountain. Our only specimen, a female taken April 16 (Warner), is very white below; the exposed part of the outermost rectrices is wholly white; and the measurements clearly indicate the familiar eastern United States, rather than the Mexican, race (wing, 52 mm.; tail, 52).

RUBY-CROWNED KINGLET, *Corthylio calendula*.—Seen only once, a single bird in mixed bird flock along the Sabinas, March 14. In 1938, the senior author's party recorded it several times, February 26–March 5 (Sutton and Burleigh, 1939: 38).

CEDAR WAXWING, *Bombycilla cedrorum*.—Noted March 14–April 15, always in flocks, at river-level. Male taken March 30 (Warner).

SOUTHERN SHRIKE, *Lanius ludovicianus*.—Noted in open country between El Limon and Mante on our weekly trips for provisions. Not seen at the Rancho.

MEXICAN PEPPER-SHRIKE, *Cyclarhis gujanensis flaviventris*.—Female, with unenlarged ovary, collected in brushy woodland a mile north of the Rancho, March 19 (Pettingill). Apparently this bird has never before been taken in Tamaulipas, so our record may well be the northernmost for the family Cyclarhidae.

WHITE-EYED VIREO, *Vireo griseus griseus*.—White-eyed Vireos were recorded daily, pairs on their nest-territories from April 22 on. Partly finished nest found April 30. Breeding birds probably *V. g. micrus*. A female specimen (ovary unenlarged; wing, 62 mm.) taken by Warner, March 23, belongs to the northern race, *V. g. griseus*, however.

BELL'S VIREO, *Vireo belli belli*.—Single bird seen in roving band of gnatcatchers, March 23. Full songs heard April 23–May 1. A singing male (wing, 56; tail, 44 mm.) collected at Rancho, April 23 (Sutton), is too brightly colored for *V. b. mediuss*.

BLUE-HEADED VIREO, *Vireo solitarius solitarius*.—Noted throughout our stay, usually in roving flocks of small birds. Singing heard first March 27, again April 3, daily from April 6 on. Three molting females taken: March 20, March 23, April 11. These are too brightly colored for any western race, and their bill-size and wing-length (72, 73, 74.5 mm.) indicate *V. s. solitarius* rather than *V. s. altilicola*.

YELLOW-GREEN VIREO, *Vireo olivaceus flavoviridis*.—Obviously not resident, for we did not encounter it before April 9. That day one bird was seen. During mid-April, it became steadily commoner until, by the 20th, it was abundant. Singing noted from April 9 on. Males taken April 9, 10, 14, 20 and 28, showed steady increase in testis-size, those of the last-named specimen measuring about 6×7 mm. Scolding in defense of nest-territory noted from April 27 on.

EASTERN WARBLING VIREO, *Vireo gilvus gilvus*.—Singing male, with somewhat enlarged testes, taken at Rancho, April 29 (Sutton).

BLACK AND WHITE WARBLER, *Mniotilla varia*.—Noted throughout our stay at all elevations. Most individuals seen in latter March and first half of April were molting. Migratory wave probably passed through May 2 when about thirty birds were seen.

TENNESSEE WARBLER, *Vermivora peregrina*.—Noted April 26–May 2, principally in leafless trees near the Rancho. Female taken April 27 (Sutton).

EASTERN ORANGE-CROWNED WARBLER, *Vermivora celata celata*.—Noted March 14–31 and April 7–8. Our only specimen, a male taken March 24, is in fresh plumage (signs of molt about head). While strongly yellowish both above and below, it is too small for *V. c. orestera* (wing, 59; tail, 48 mm.).

NASHVILLE WARBLER, *Vermivora ruficapilla ruficapilla*.—Abundant March 27–31, especially on the 29th, when loose, roving flocks were seen on the mountain above the Sabinas. Less common in early April, one to three birds a day being the rule. Common April 29–May 3. Our three specimens (female, March 27; molting male, March 31; male, April 30) all are of the eastern race.

SENNETT'S WARBLER, *Compsothlypis pitiyumi nigrilora*.—Common. In full song March 14. Pair seen copulating March 20. Nesting pairs noted along river as well as on mountain up to about 2,000 feet. Brooding female taken April 30. Certain individuals seen by Pettingill in flocks of transient warblers in latter April may have been *C. americana* rather than the present species.

EASTERN YELLOW WARBLER, *Dendroica aestiva aestiva*.—The Yellow Warbler was noted April 23–May 3, singing males April 23–28, males and females thereafter. Our three specimens, all males, were sent to James L. Peters for direct comparison with the type of "*Dendroica aestiva ineditus*." Mr. Peters reports them all "too small . . . too green above and too heavily streaked beneath" for that form, identifies one (May 1) as *D. a. amnicola*, and expresses the opinion that the two others (April 23, April 26) may possibly represent that "involved population" of the Great Basin slope of the Sierra Nevada and Cascade ranges that is considered by van Rossem (1931: 283) to be *D. a. morcomi*. In view of the fact that breeding birds from Ithaca, New York, obviously vary so *inter se*, we prefer to call these two birds *D. a. aestiva* until it becomes clearer to us what the characters of *morcomi* really are.

"*Dendroica aestiva ineditus*" is a very unsatisfactory race. Described from Matamoros, Tamaulipas, a point at which no Yellow Warbler breeds, and from fall specimens which may well represent several breeding populations, if not actual races, it cannot be placed geographically; the guess that it breeds "in the mountains of western Tamaulipas" is, in our opinion, a wholly unjustifiable one (see Griscom and Crosby, 1926: 29, and Hellmayr, 1935: 367).

NEWFOUNDLAND YELLOW WARBLER, *Dendroica aestiva amnicola*.—According to Mr. Peters our male specimen taken May 1 (see above) is "almost an exact match for the type of *amnicola*" except for the concealed reddish shaft streaks of the crown, a character which is not present in the type itself but "present to a lesser degree" in two other Newfoundland specimens in the M. C. Z. collection. It measures: wing, 62 mm.; tail, 47.

MAGNOLIA WARBLER, *Dendroica magnolia*.—Male with unenlarged testes taken April 2 (Pettingill).

MYRTLE WARBLER, *Dendroica coronata*.—Male seen at close range near the Sabinas, March 17. Molting, but white of throat obvious (Sutton).

AUDUBON'S WARBLER, *Dendroica auduboni*.—Several seen in thicket north of Rancho, March 19 (Pettingill).

BLACK-THROATED GREEN WARBLER, *Dendroica virens virens*.—Seen daily. Most birds seen in March and first week of April, molting about head. Noticeably more common and more inclined to singing from April 4 on. Male and two females taken March 16, 27 and 29, respectively.

BLACKBURNIAN WARBLER, *Dendroica fusca*.—Male taken May 1 in high tree along river (Pettingill).

YELLOW-THROATED WARBLER, *Dendroica dominica*.—Recorded March 13, a singing male in ceiba tree in Mante (Sutton); and March 25, male in cypress tree along the Sabinas (Lea). Color of superciliary stripe not satisfactorily determined in either case.

CHESTNUT-SIDED WARBLER, *Dendroica pensylvanica*.—Noted May 1 and 2. Male taken May 1 (Pettingill).

BAY-BREASTED WARBLER, *Dendroica castanea*.—Male with slightly enlarged testes taken April 2 (Pettingill).

LOUISIANA WATER-THRUSH, *Seiurus motacilla*.—One or two seen daily along the Sabinas, March 19—April 11. Recorded once thereafter, April 22. Full song heard but once, March 28. Two males taken: March 28 (Lea); April 4 (Pettingill).

MCGILLIVRAY'S WARBLER, *Oporornis tolmiei*.—Male seen near Rancho, April 14, 18, and 19. Male (fat; testes slightly enlarged) taken May 1 (Pettingill). Several seen and female taken, May 2 (Pettingill). Two males seen in thickets a mile or so north of Rancho, May 3. No songs heard.

YELLOW-THROAT, *Geothlypis trichas*.—Recorded March 21 to April 30, chiefly about ditches along highway near El Limon and Mante, less frequently about the Rancho. A male (no evidence of molt; testes slightly enlarged) taken April 30 by Sutton, belongs to the race at present known as *G. t. occidentalis*.

GROUND-CHAT, *Chamaethlypis poliocephala*.—Single bird noted April 27–28, in Napier grass between Rancho buildings and river (Sutton).

YELLOW-BREASTED CHAT, *Icteria virens virens*.—Chats were seen infrequently, in thickets, usually not far from the river. Noticeably commoner from April 27 on. Singing noted May 2. No molting birds observed. Two specimens of the eastern race were taken, a female, April 13 (Warner), and a male, May 2 (Pettingill). The former is strikingly small (wing, 70 mm.; tail, 67; culmen, 13.1; tarsus, 23.2), the latter average (wing, 75 mm.; tail, 73).

LONG-TAILED CHAT, *Icteria virens auricollis*.—A male chat taken by Pettingill March 23 belongs to this western race. Though small-billed (culmen, 13 mm.) its wing measures 77, its tail 86.

WILSON'S WARBLER, *Wilsonia pusilla*.—Recorded in brushy woodland at river-level, from four to twenty individuals daily. No molting birds observed.

FAN-TAILED WARBLER, *Euthlypis lachrymosa lachrymosa*.—Found only in tangles of vines and shrubbery on steep, rocky slopes. Female with unenlarged ovary taken March 29 (Pettingill). Two males with much enlarged testes taken April 6 (Sutton). Singing males and mated pairs noted from April 15 on. Song bright and varied, rather like that of *Basileuterus culicivorus* but louder, and ending on a down-stroke rather than an up-stroke.

BRASHER'S WARBLER, *Basileuterus culicivorus brasheri*.—Fairly common on mountain west of Rancho, especially in shaded *huipilla* thickets near base; not often encountered elsewhere. Pairs noted throughout our stay, full songs and alarm notes (indicating nest-territories) being heard from March 14 on. Song suggestive of Chestnut-sided Warbler's: *wich-y, chi-pit, peechy*. Alarm-note a feeble



NEST OF RIDGWAY'S ARREMONOPS



NEST OF ROSE-THROATED COTINGA

disyllable: *chi-chit*. Our two specimens (males, March 28, Pettingill) show only a trace of rufous in the crown patch.

HOUSE SPARROW, *Passer domesticus*.—Common at Mante and El Limon, and in villages along the main highway. Not seen at the Rancho proper nor in Gomez Farias (Lea).

PREVOST'S CACIQUE, *Amblycercus holosericeus holosericeus*.—Noted infrequently March 24–May 3, always near ground, in dense tangles along the river. Call-note most frequently heard, a low bleat. April 21, Pettingill saw three, one of which sang. Mated pair collected May 3 (Sutton).

RED-EYED COWBIRD, *Tangavirius aeneus aeneus*.—Noted in mixed flocks of blackbirds that frequented the streets and roosted in ornamental trees in the plaza at Mante, March 11–13. Recorded often at the Rancho, usually in clumps of bamboo near the river. Male with somewhat enlarged testes taken April 3 (Sutton). Displaying of males observed from April 11 on. Nest-hunting female seen slipping through undergrowth, April 27.

COWBIRD, *Molothrus ater*.—Common in Mante March 11–13. Individuals closely observed appeared to be small, hence were thought to be *M. a. obscurus*. Our only specimen, a solitary male taken at the Rancho, April 29 (Sutton), proves to be of the stubby-billed eastern race, however (wing, 109; tail, 76; culmen, 16).

MESQUITE GREAT-TAILED GRACKLE, *Cassidix mexicanus prosopidicola*.—Common. Most birds seen March 14–April 10, were flying over, though four males performed constantly in palmettos near the Rancho. Ovary of female taken April 11 considerably enlarged. Females seen building nest in cypress tree at river's edge, April 14. The colony here numbered about forty birds. Our female specimen (wing, 151 mm.; tail, 150; culmen, 34) is darker below than topotypical *prosopidicola* at hand. Females from the Tamesi River, in extreme southern Tamaulipas, and from Tamazunchale, San Luis Potosí, are still darker, indicating that we may expect to find gradual deepening of color as we approach Veracruz, the restricted type locality of *C. m. mexicanus*.

BREWER'S BLACKBIRD, *Euphagus cyanocephalus*.—Flocks of middle-sized blackbirds seen flying over the Rancho during latter March probably were of this species. Identified with certainty only at Mante, however, where several males were seen walking about the streets with mixed flocks of Cowbirds, March 12 and 13.

BULLOCK'S ORIOLE, *Icterus bullocki*.—Middle-sized, dull-colored orioles were seen near the Rancho several times, April 16–May 2. Two specimens (female, April 16, Warner; subadult male, April 30, Sutton) prove to be *bullocki*, both being decidedly gray-backed, light-bellied, and pale in general appearance.

ORCHARD ORIOLE, *Icterus spurius*.—Adult and subadult male taken from company of three along river, April 28 (Sutton). Adult male noted April 29 (Pettingill).

BLACK-HEADED ORIOLE, *Icterus graduacauda graduacauda*.—Seen frequently in latter March in small-bird flocks. First sign of pairing noted April 3. Half-finished nest found April 19, twelve feet from ground toward end of drooping bough at edge of clearing. Female very secretive while gathering palmetto fibers, but bold in defense of her nest when Brown Jays approached. Six pairs thought to be nesting near Rancho May 1.

ALTA MIRA ORIOLE, *Icterus gularis tamaulipensis*.—Common at river-level and, during latter March before nest-building started, at higher elevations, in mixed bird flocks. Definite pairs first observed April 1. First nest (high in cypress along river) found April 3. Partly finished nests found almost daily thereafter,

invariably in exposed situations, often in leafless trees. Nest examined May 2 held one fresh egg (Lea).

SENNETT'S HOODED ORIOLE, *Icterus cucullatus sennetti*.—A pale, probably subadult female oriole taken by Lea, May 1, is so short-winged and -tailed that, even allowing for wear, we can hardly call it anything but *I. c. sennetti* (wing, 76 mm.; tail, 82). Five female *sennetti* handled by Ridgway averaged: wing, 79.5; tail, 86.4.

HOODED ORIOLE, *Icterus cucullatus cucullatus*.—Noted daily sipping nectar from blossoms, March 14–29. Appeared to be mated during this period. Female seen carrying nest-material, April 1. Completed nest found under palmetto leaf April 6. Nest at Rancho built in ten days, the female doing the work. Male taken at Rancho by senior author, March 5, 1938 (Sutton and Burleigh, 1939: 42).

RED-WINGED BLACKBIRD, *Agelaius phoeniceus*.—Seen weekly in vicinity of Mante and El Limon, but not at Rancho.

EASTERN MEADOWLARK, *Sturnella magna*.—Noted in open country about Mante and El Limon, songs being invariably those of *magna* rather than of *neglecta*. Not recorded at the Rancho in 1941, though seen there (species uncertain) in 1938 (Sutton and Burleigh, 1939: 42).

LESSON'S EUPHONIA, *Tanagra affinis*.—Seen daily, usually about clumps of mistletoe. Females with well-defined brood-patches collected March 20 and 22. Young just out of nest seen March 22. Nest with young found March 27. Noisy young seen with parents from March 28 on. Male in first stages of postjuvenile molt taken April 30. Birds seen gathering nest-material as late as April 14. One call-note of the adult, a high *see-see-see, dewd-see*, was usually given from the very top of a tree.

BONAPARTE'S EUPHONIA, *Tanagra lauta lauta*.—Small flocks (probably family groups) seen March 21–April 13, usually in thinly leaved trees not far from the ground. Subadult males, with olive-green backs and somewhat-enlarged testes, taken March 21 and 24 (Pettingill). Adult male in high plumage taken April 13 (Warner). Usual call-notes suggested certain flock-calls of the Chickadee, *Penthestes atricapillus*.

SUMMER TANAGER, *Piranga rubra rubra*.—Seen infrequently, April 5–May 2. Male in high plumage (testes somewhat enlarged) taken April 5. Subadult male, with sprinkling of red on face, throat, crown and back, taken April 13. Subadult male, with foreparts largely rose-red, taken April 17. These measure, respectively, wing, 100, 94, 94 mm.; tail, 78, 76, 79. The first is large enough for *P. r. cooperi*, but altogether too dark a red both above and below for that race. A male in the Cornell University collection (Langtry, Valverde County, Texas, April 26, 1901) is precisely the same sort of bird, *P. r. cooperi* in size (wing, 100; tail, 80), but *P. r. rubra* in color.

WHITE-WINGED TANAGER, *Piranga leucoptera leucoptera*.—Brightly plumaged male taken along foot of mountain one mile southwest of Rancho, March 4, 1938 (Sutton and Burleigh, 1939: 43). Not seen in 1941.

WESTERN TANAGER, *Piranga ludoviciana*.—Recorded repeatedly at all elevations. Most birds seen in latter March appeared to be females or subadult males. Thirty birds, in loose flock, seen on mountain above river, March 29. Call-note heard that day a Bobolink-like *wit* or *weet*. Males in high plumage noted in latter part of April and early May. Male in mixed plumage taken in Rio Frio district, April 18 (Warner).

LAFRESNAYE'S TANAGER, *Piranga bidentata sanguinolenta*.—Probably fairly common in deeper woodlands though not often seen. Subadult male, with slightly

enlarged testes, taken on mountain, March 28 (Pettingill). Adult male (testes about 4×5 mm.) taken March 29 (Sutton). Subadult male with much enlarged testes taken in Rio Frio district, April 5 (Warner). Song instantly recognizable as a tanager's, somewhat husky, though not especially low in pitch nor drawled. Call-note: *per-dick-er*.

BLACK-HEADED SALTATOR, *Saltator atriceps atriceps*.—Single bird seen March 15. One or two birds noted daily, March 16–19. Flock of seven seen March 20. Fairly common thereafter, especially in bamboo tangles near the river. Ovaries of females taken March 20–April 4 only slightly enlarged. Males taken April 14–22, had greatly enlarged testes (16×8 mm.). Call-notes loud and clearly enunciated: *chuck*, *chu-eep*, *chu-eek*, and combinations of these, with a harsh *chur-r-r-r* at end. Flight song an elaborate outpouring of these same sounds, given above tree-tops with wings and tail flopping.

This bird must be migratory. We did not see it before March 15, nor did the senior author encounter it during his visit in early March of 1938. It is our belief that the Sabinas Valley marks about the northern limit of its range.

CRIMSON-COLLARED GROSBEAK, *Rhodothraupis celaeno*.—Seen daily. Often encountered in clumps of the shrubby nightshade, *Solanum verbascifolium*, on the leaves of which it regularly fed. Singing first heard March 29. Song rich and varied, though less fluid than a Rose-breasted Grosbeak's. Flight song frequently observed. Most characteristic call-note a high, thin squeal, not unlike that of the Broad-winged Hawk, *Buteo platypterus*.

In one of our adult male specimens (April 11) all the tertials, several proximal greater coverts, and one primary of the right wing are green-edged.

GRAY-TAILED CARDINAL, *Richmondena cardinalis canicauda*.—Fairly common. Established on nest-territories at time of our arrival, one pair living in the shrubbery about the house. Parent birds were seen carrying food here during latter April and early May.

Our two male specimens do not agree in size (wing, 90, 86; tail, 103, 93 mm.), but both have a good deal of gray on the back and both are small-billed as compared with *R. c. coccinea*. That Cardinals of southern Tamaulipas do show a tendency toward *coccinea* (as Ridgway long ago pointed out) is clearly shown, however, by the largeness of bill in a specimen in the Cornell University collection taken 70 miles upstream from the mouth of the Tamesi River by Fuertes, April 7, 1910.

ROSE-BREASTED GROSBEAK, *Hedymeles ludovicianus*.—Two males in mixed plumage seen on mountain southwest of Rancho, March 29. Male in breeding plumage seen at base of mountain, April 19.

BLACK-HEADED GROSBEAK, *Hedymeles melanocephalus*.—Noted several times along the Sabinas, March 15–27. Full song heard several times.

WESTERN BLUE GROSBEAK, *Guiraca caerulea interfusa*.—One or two seen daily, April 17–May 2. Two males (testes somewhat enlarged; wing in both specimens 91 mm.) taken by Sutton, April 17. Female (wing, 86 mm.) taken by Lea, May 1.

BRIGHT BLUE BUNTING, *Cyanocompsa parellina lucida*.—Presumably nests in the Gomez Farias region but we did not handle a specimen that was in breeding condition. Singing noted throughout our stay, and some pairs seemed to be established on nest-territories. Five males taken: two parti-colored subadults with comparatively large bills, April 4 and 9; two small-billed adults with slightly greenish cast below, March 24 and 25; average adult, March 27. With the type and three topotypical male *C. p. lucida* before us, we perceive considerable variation in the

color of the under parts. Two are bright blue on the belly as well as on the chest. One is perceptibly more purplish-blue throughout. All agree in being small-billed and much brighter blue below than *C. p. parellina*.

INDIGO BUNTING, *Passerina cyanea*.—Flocks of fifty or more seen repeatedly along edges of fields. Most birds in mixed feather; many molting. No adult male in completely blue dress seen, and no full song heard. Of five specimens taken, only one (female, April 27) was in complete plumage.

VARIED BUNTING, *Passerina versicolor versicolor*.—Seen several times near the Rancho, March 29–May 2, only two adult males being among these (March 29; April 16). Adult female (ovary somewhat enlarged) and two subadult males (testes about 2×3 mm.) taken April 23–28. Full song heard from subadult male, April 28.

EASTERN PAINTED BUNTING, *Passerina ciris ciris*.—Common. Singing heard from April 12 on. Abundance April 27 to May 2 interpreted as migratory wave. Three of our five specimens (March 20–April 29) are, like that collected by Burleigh in 1938, purple-headed adults; one is a richly colored male in first breeding plumage (wing, 67.5 mm.); and one is a pale-throated female. One of the adult males which is a trifle bluer-headed than the others, and the female may, upon further comparison, prove to represent the western race, *P. c. pallidior*.

MEXICAN GRASSQUIT, *Tiaris olivacea pusilla*.—A few pairs noted throughout our stay. Singing male collected March 27 near half-finished nest, about two miles south of the Rancho (Sutton). Breeding male taken in Rio Frio district April 18 (Warner).

DICKCISSEL, *Spiza americana*.—First seen April 15, a single bird (Pettingill). Noted daily near Rancho, April 22 to May 1, usually in small flocks in weed-grown fields. Singing heard from April 27 on. Male (with considerably enlarged testes) taken by Lea, April 27.

TAMAULIPAS ABEILLE'S GROSBEAK, *Hesperiphona abeillii saturata*.—The senior author's party encountered several of these birds in 1938. Upon the three specimens collected that year the description of the present race was based. In 1941, the species was recorded only on March 29, a single male in the top of a tree on the mountain, and a flock of about thirty flying restlessly about (Sutton).

HOUSE FINCH, *Carpodacus mexicanus*.—Bright male seen at Mante, March 12. Dull birds with streaked under parts noted at Rancho twice, March 14 and 29.

SHARPE'S SEEDEATER, *Sporophila torqueola sharpei*.—Noted daily at lower elevations, especially along edges of fields. Singing from definite song-perches heard from May 12 on. Large flocks of molting birds seen in late March and early April, especially along river, where they bathed frequently. Song: *wee-zer, wee-zer, wee-zer, chip, chip, chip, chup, chup, chup, chip-per* (Sutton). Male with much enlarged testes taken March 29 (Lea).

NORTHERN BLUE-BLACK GRASSQUIT, *Volatinia jacarina splendens*.—A few encountered in weed-grown fields and patches of Napier grass from April 27 on. Molting males (testes somewhat enlarged) taken April 29 and 30. To the best of our knowledge these are the northernmost records for the species and genus. Armstrong did not take it at Alta Mira (Richmond, 1896) nor at other points in Tamaulipas (Phillips, 1911).

ARKANSAS GOLDFINCH, *Spinus psaltria psaltria*.—Flocks seen now and then, usually near the river. Two males and a female taken March 21–April 14, and all individuals clearly seen in March and April were molting. A male and a female observed near the Rancho May 1 and 2, appeared to be in complete breeding plumage.

RIDGWAY'S ARREMONOPS, *Arremonops rufivirgatus ridgwayi*.—Full songs heard from March 14 on. Pairs seen going about together from March 22 on. Bird seen with nest-material in bill, April 8. Males taken April 12 and 14 had greatly enlarged testes. Nest with somewhat incubated, pure-white eggs found in *huipilla* thicket April 26 (see Plate 6). These were still unhatched on May 3.

The above-mentioned male specimens are obviously too short-tailed and large-billed for *A. r. rufivirgatus*. One is more buffy on the chest and sides, heavier-billed, and more olive on the back than the other, but both compare favorably with the type of *ridgwayi*. They measure: wing, 64, 61 mm.; tail, 63, 61; exposed culmen, 14.5, 18.

WESTERN GRASSHOPPER SPARROW, *Ammodramus savannarum perpallidus*.—What we took to be Grasshopper Sparrows were seen in a field north of the Rancho buildings several times during mid- and latter April. A female taken there by Sutton, April 29, has been identified as *perpallidus*, though its measurements (wing, 60.5 mm.; tail, 45) fall between those of eastern and western United States birds; its bill is only a little more slender than that of a female *A. s. pratensis* in first-winter plumage taken at Ithaca, New York, October 23, 1938 (Cornell University collection no. 10170); and the darkness of its back indicates an approach to *pratensis*.

WESTERN VESPER SPARROW, *Pooecetes gramineus confinis*.—One to six birds noted in opener country about Rancho, April 16–May 2. Male of present race (wing, 83 mm.; tail, 67) in worn plumage taken April 16 (Warner).

WESTERN LARK SPARROW, *Chondestes grammacus strigatus*.—Noted daily near Rancho, April 3–May 2, in flocks of forty to sixty individuals. The only specimen taken, a female (April 3, Pettingill), is considerably worn, but the back-streaking is obviously narrow.

WESTERN CHIPPING SPARROW, *Spizella passerina arizonae*.—Noted infrequently, March 12–May 2. Male in winter plumage (molting slightly about head) taken from flock of six, March 24 (Warner). This specimen measures: wing, 73 mm.; tail, 62.

CLAY-COLORED SPARROW, *Spizella pallida*.—Seen daily in small flocks March 19–May 3, in weed-grown fields. Two males taken by Pettingill (March 23, April 16) were molting about the head.

EASTERN LINCOLN'S SPARROW, *Melospiza lincolni lincolni*.—The Lincoln's Sparrow is probably a fairly common winter bird of the region though we recorded it only infrequently. Two of three specimens taken in 1941 (female, March 21; female, May 1) have been identified by Dr. Alden H. Miller as *M. l. lincolni*. They measure: wing, 59.5, 59; tail, 59, 55 mm.

ROCKY MOUNTAIN LINCOLN'S SPARROW, *Melospiza lincolni alticola*.—Dr. Miller, who has compared all our Gomez Farias Lincoln's Sparrows directly with the type of *M. l. alticola*, considers a female taken there by Burleigh on March 1, 1938 (Sutton and Burleigh, 1939: 46) and a male (?) taken by Lea April 11, 1941, to be of this race. They measure, respectively: wing, 64.5, 64; tail, 59, 65 mm.

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