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# Birds of the Southern Pacific Lowlands of Guatemala With a Review of *Icterus gularis*

Robert W. Dickerman

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**Birds of the Southern Pacific Lowlands  
of Guatemala**

With a Review of *Icterus gularis*

ROBERT W. DICKERMAN<sup>1</sup>

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## PREFACE

The field work upon which this manuscript was based was completed largely by the late 1970s, and the manuscript was finished by 1984 after being partly or wholly reviewed by staff at the American Museum of Natural History. At that time, the Linnaean Society of New York was contemplating rejuvenation of their publication series, and I offered the manuscript to them. For various reasons (changes in editor, illness, etc.), the manuscript was never published. Several copies have been distributed to assist others in their research, but essentially the manuscript was shelved. A recent inquiry about it stimulated me to have it scanned—my electronic versions having long since disappeared—and to publish it electronically in the form before you. Full citations as “Trans. Linn. Soc. N. Y., [with or without Vol. 10] (in press)” were published in:

- Dickerman, R.W. 1987. Two new subspecies of birds from Guatemala. Occas. Papers West. Found. Vert. Zool. 3:1-6.
- Dickerman, R.W. 1987. Type localities of birds described from Guatemala. Proc. West. Found. Vert. Zool. 3:49-107.
- Thurber, W.A., J.F. Serrano, A. Serrano and M. Benetes. 1987. Status of uncommon and previously unreported birds of El Salvador. Proc. West. Found. Vert. Zool. 3:109-293.
- Howell, N. G. and S. Webb. 1993. A guide to the birds of Mexico and northern Central America. Oxford University Press.

And it has been mentioned without full citation two times:

- Dickerman, R.W. 1981. Geographic variation in the Scrub Euphonia. Occas. Papers Mus. Zool., LSU 59:1-6.
- Dickerman, R.W. Notes on the plumages of the Paramo Seedeater (*Catamenia homochroa*). *Auk* 103:431-432.

Also, one revision was pulled from the manuscript, that of the Lesser Nighthawk (*Chordeiles acutipennis*), which was published in a volume honoring Eugene Eisenmann, where the manuscript was not cited:

- Dickerman, R.W. 1985. Taxonomy of the Lesser Nighthawks (*Chordeiles acutipennis*) of North and Central America. *In* Neotropical Ornithology. AOU Ornith. Monog. 36:355-359.

Revision work, as needed, has been done, largely to rearrange species accounts to conform with the AOU Check-list, 7th edition (1998).

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# Birds of the Southern Pacific Lowlands of Guatemala

## With a Review of *Icterus gularis*

ROBERT W. DICKERMAN<sup>1</sup>

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### ABSTRACT

The avifauna of the southern Pacific lowlands of Guatemala was studied in conjunction with research on the ecology of mosquito-transmitted encephalitis viruses during the years 1967 to 1977. Studies were carried out in the vicinity of La Avellana, Santa Rosa Department, near the coastal village of Monterico. The occurrence and relative abundance of 224 species are documented here; 198 of those species are represented by specimens. Thirteen species were recorded for the first time in Guatemala, and 28 species for the first time in the Pacific lowlands. Relative abundance and dates of occurrence are presented for 85 species of migrants. The probable status of 78 additional species, which were listed by previous authors but not observed during this study, is discussed. Taxonomic comments are made on many species, especially when names used vary from current literature; several populations are recharacterized. *Icterus gularis* is revised.

### INTRODUCTION

Griscom (1932a) in reviewing the early history of ornithological exploration in Guatemala, reported on a large collection of birds made by A. W. Anthony in north-western and central Guatemala during the years 1924 to 1928, and provided a gazetteer of important collecting localities. Hugh C. Land (1970) greatly augmented our knowledge of the Guatemalan avifauna in his excellent field guide, *Birds of Guatemala*. He updated the history of ornithological research in Guatemala to about 1968 and provided a map indicating the amount of collecting done at each locality. (Localities 44 and 45, La Avellana and Papaturro, respectively, are transposed [see Land, 1970, map p. 20].) He noted the paucity of information for areas along the border with El Salvador, as well as the lack of any major collecting localities in the southern Pacific lowlands. The present report provides information based on records and collections made in the region of the Pacific lowlands of southern Guatemala.

#### Ornithological History of the Southern Pacific Lowlands

As indicated above, there has been little ornithological collecting in the southern Pacific lowlands. George B. Saunders made several brief visits to coastal areas while making an inventory of game and shorebirds from March to May of 1946 and 1947 (Saunders, 1950). Records obtained in January 1947 also were cited in species accounts, but that period was not included in his itinerary. For many species, his records are the earliest available.

Between 3 and 19 December 1950, Richard E. Tashian visited La Avellana and marshes between there

and Monterico, and collected at other Pacific lowland locations (Tashian 1953). William Schults, Robert Frankowaik, and Walter C. Peizel of the Milwaukee Public Museum spent 28 January to 8 February 1962 at Finca Santa Clara (seven kilometers east-northeast of Papaturro), Santa Rosa Department, and collected 32 specimens. No report was published. Lloyd F. Kiff collected at La Avellana 4 and 5 July 1963, and at Hacienda Cartage (16 km. southwest of Taxisco) 7 to 12 July 1963. Unfortunately, his field notes were destroyed by fire in 1968 (Kiff pers. comm.), but the specimens he collected are in the Museum of Zoology, Louisiana State University, Baton Rouge.

Hugh C. Land died on 23 December 1968 before he was able to see his manuscript through to publication. Eugene Eisenmann, with his extensive knowledge of the birds of Middle America, checked over the text and illustrations for Land. The extent of Eisenmann's additions and changes is not recorded. Thus, specific details of some distributions and records of occurrence may well be attributable to Eisenmann (see, for example, *Porzana flaviventer*).

In February 1968, on the recommendation of Hugh Land, I visited La Avellana to collect Red-winged Blackbirds (Dickerman 1974). Because of that visit, an investigation of mosquito-transmitted viruses (arbo-viruses) was initiated in July, 1968, in the region of La Avellana by the Department of Microbiology, Cornell University Medical College (Scherer et al. 1972a) (Fig. 1). Strains of Venezuelan encephalitis virus were isolated from sentinel hamsters exposed there (Scherer et al. 1976). Sub-

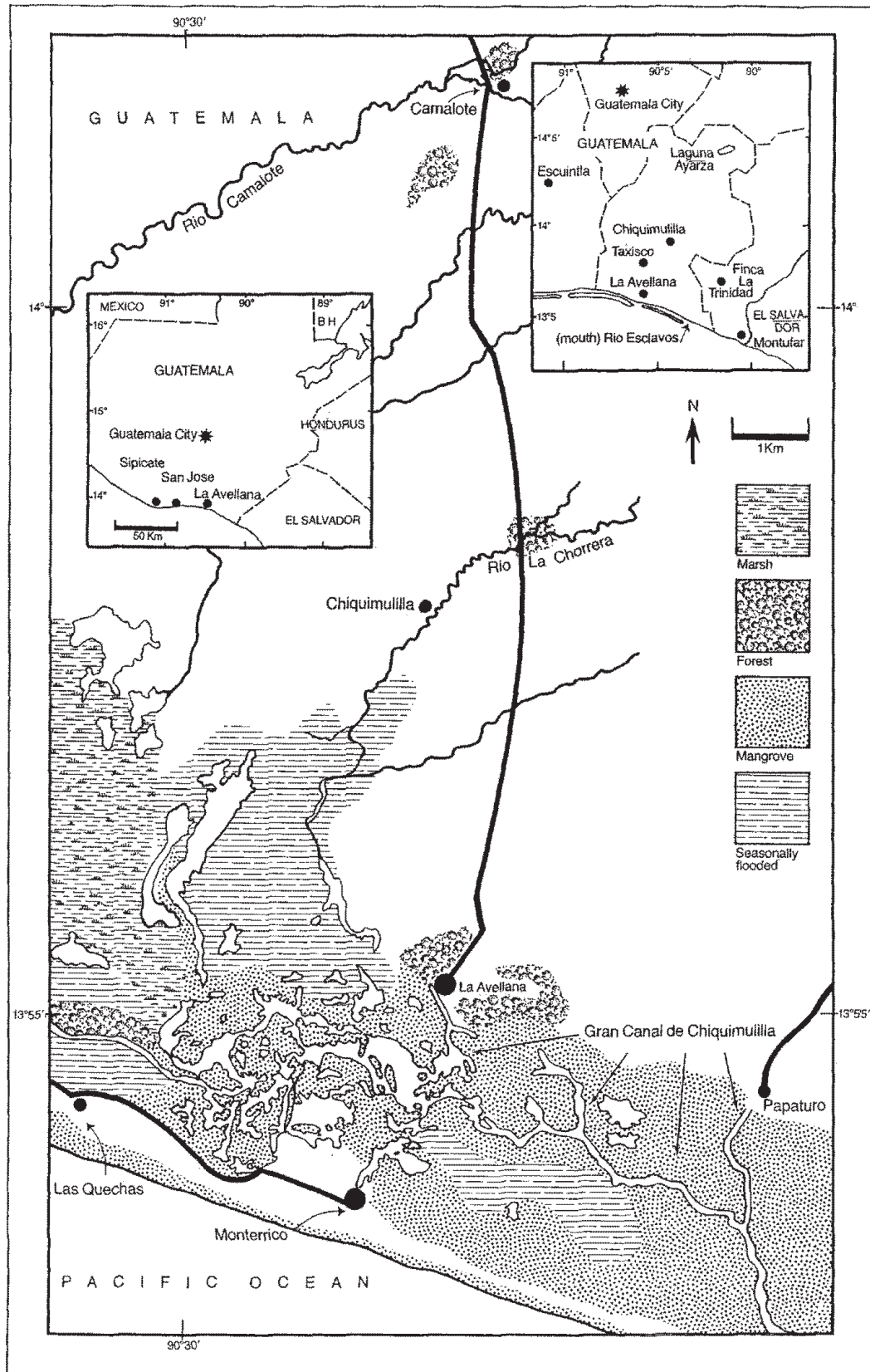


Figure 1. Map of study area on the Pacific lowlands of southern Guatemala, showing most of the localities mentioned in the text. (Scherer et al. 1976.)



sequently, during July and August of each year from 1970 through 1977, faculty with or without graduate students from Cornell University Medical College investigated the ecology of Venezuelan encephalitis virus in the vicinity of La Avellana. The potential for migrating birds to transport Venezuelan encephalitis virus over long distances was investigated at La Avellana from late March to early May during the years 1973 through 1975 (Dickerman et al. 1979). Directly related to that project, the seasonal occurrence of both migrant and resident birds in the region was studied. To obtain some migratory species for virus experiments, birds were netted at higher elevations above Escuintla and Chiquimulilla. Records from those stations are not included unless the species also was taken in the lowlands. During the course of these investigations, the first specimen records of 12 species (10 not included in Land) were reported (Dickerman 1975, 1977). A draft of the present manuscript was sent to Walter A. Thurber (and co-authors) to permit the incorporation of recent records from the Pacific lowlands of Guatemala in their major paper on uncommon and previously unreported species in adjacent El Salvador (Thurber et al. 1987).

The general ecological setting of La Avellana (Fig. 1) has been described briefly (Dickerman 1975). La Avellana is on the inland edge of a marsh that extends approximately 100 km along the Pacific coast. At La Avellana the marsh is about 2 km wide and is bordered on the seaward side by a barrier beach, on which is located the village of Monterico. The marsh is composed of extensive areas of cattail (*Typha*) and shallow (seasonally dry) lagoons, with mangroves along the major tidal channels. A narrow, interrupted band of swamp forest borders the inner edge of the marsh and extends in a narrow riparian band as a gallery-type forest along streams draining into the marsh. Inland from La Avellana and extending parallel to the coast southeast into El Salvador and northwest towards San José is a belt (at La Avellana 3-5 km wide) of dry tropical scrub forest. This narrow belt was not plotted on the map of Holdridge Life Zones of Guatemala [Land 1970, p. 71], but is evident on distributional maps of moist forest-inhabiting species such as the Long-tailed Manakin (*Chiroxiphia linearis*) [p. 202] or the Rufous-browed Peppershrike (*Cyclarhis gujanensis*) [p. 270]. Farther inland more mesic tropical dry forest grades into tropical moist forest of the foothills."Some of these habitats also were described and illustrated by Scherer et al. (1976).

It should be noted that the southern Pacific lowlands have been deforested severely within the last few decades for the establishment of grazing lands and croplands (corn and, more recently, cotton are grown). Slash-and-burn agriculture is still encroaching on the remaining patches of tropical dry forest and is rapidly destroying

much of the tropical arid scrub forest. Thus, the avifauna of the region is in a dynamic state of adjustment to this habitat destruction. Unfortunately, there are no early studies or accounts of the region to provide a baseline for documenting changes in the avifauna.

For the sake of convenience in the species accounts, species are listed in the taxonomic order of the 7th Edition of the American Ornithologists' Union Check-list of North American Birds (1998). Where scientific (and some English) names differ from those used in the 7th Edition, AOU nomenclature usually is presented in parentheses, and nomenclatural usages at variance with the 7th Edition are explained.

The present study was based largely on material obtained ancillary to other research, and areas outside of the immediate environs of La Avellana were not studied. Seventy-eight species previously recorded in the Pacific lowlands (although not necessarily in the southern Pacific lowlands) were not observed or collected during this study. Unfortunately, in the distribution maps in Land (1970), the ranges of 18 of those species were extended erroneously to cover the entire Pacific lowlands on the basis of one or two records from the forested foothills only (e.g., *Dendrocincla homochroa*), and/or whose range was probably more extensive prior to the extensive deforestation. Six species listed were seen only offshore. For nine other species, the most recent records are those of Salvin and Godman (1879-1904). The sources of those previous records, together with the probable status of the 78 species, are presented in Appendix A.

### Terminology

Three approaches have been used to define the status of a species. To denote the regularity of occurrence of a species from one year to the next in comparable seasons and habitats, I have used the following terms: *regular* – seen during four of my five field periods of several days duration; *irregular* – seen one to three times out of every five field periods; *casual* – recorded, but outside of its normal range; and *rare* – probably resident, but revealed only by diligent search. When a species was observed during three or fewer field periods, dates are given.

Terms of abundance are given for regularly occurring species: *abundant* – usually seen several times each day; *common* – usually seen (or heard) at least once on any day in the field; *fairly common* – usually recorded once or twice a week; and *uncommon* – recorded only once or twice a month.

The maximum number of individuals of a migrant species observed on any one day is given to augment the indication of frequency and abundance. For example, *Phalaropus tricolor* was irregular (seen during three April field periods) and uncommon, yet 200 individuals were



seen one morning in August. *Elanus leucurus* was regular and abundant, with a maximum of 8 to 10 individuals seen in one day. Terminology for abundance is as used by Land (1970), except that his "rare" category has been combined here with "uncommon." Rarity of records in many cases reflects inadequacy of ornithological work rather than an actual paucity in numbers.

Specimens collected during the present study were deposited in the American Museum of Natural History or at Cornell University. Daily species counts, while in the field from November 1969 to August 1977, were

deposited in the archives of the Division of Ornithology of the AMNH.

In the species accounts that follow, an asterisk (\*) indicates a species not represented by specimens from the Pacific lowlands; a dagger (†) indicates no specimen was taken during this study.

Measurements of wing chord and tail length of study specimens were taken with dividers and recorded to the nearest milli-meter. Culmen measurements under 100 mm were taken with dial calipers read to the nearest 0.1 mm.

## SPECIES ACCOUNTS

### TINAMIDAE

*Crypturellus cinnamomeus* (Lesson).

#### Thicket Tinamou

This species was regularly heard, but only rarely seen. Calling was less frequent during July and August. Two females taken in April were in general molt; one weighed 435.5 g. They were small and typical of the nominate subspecies *cinnamomeus* (Lesson) (wing chords 143 mm and 158 mm).

### ANATIDAE

*Dendrocygna autumnalis* (Linnaeus).

#### Black-bellied Whistling-Duck

Flocks of up to 100 or more birds were seen during the dry season. During the wet season, scattered pairs were relatively common, although nesting was not observed. Two males weighed 580 g and 668 g. Banks (1978) discussed the nomenclature of this species and recognized *D. a. fulgens* Friedmann (1947) as the name to be used for the populations from western Panama north to Texas.

† *Cairina moschata* (Linnaeus).

#### Muscovy Duck

Muscovy Ducks, in pairs and as individual birds, were seen on most trips along the edge of the marsh where patches of swamp forest or large mangroves occurred close to freshwater marsh.

† *Anas discors* Linnaeus.

#### Blue-winged Teal

Migrant: regular; fairly common: 35 max.; 3-9 April and 25 November.

*Anas clypeata* Linnaeus.

#### Northern Shoveler

Migrant: irregular; 1 max.; 3 April 1976. A female with the flight feathers of one wing clipped was the only record of the species during this study. Saunders (1950) saw 150 in the region in January.

### CRACIDAE

*Ortalis leucogastra* (Gould).

#### White-bellied Chachalaca

This species was common in the vicinity of La Avellana. They were heard daily and often were seen from the village streets, feeding in distant trees at the edge of the surrounding fields. They were hunted rarely by villagers, although nests were robbed of eggs to be placed under incubating hens; semi-domesticated birds were seen regularly in the village. A nest containing three eggs was found in early July about 4 m above the ground in a palm tree. A male weighed 590 g; a female 560 g. Foxing is a severe problem in old specimens of this species, the gray-olive colors changing to olive-brown.

### ODONTOPHORIDAE

*Colinus virginianus* (Linnaeus).

#### Northern Bobwhite

Neither nests nor young of this bobwhite were recorded at La Avellana. Specimens of the white-bellied subspecies *hypoleucus* (Gould) (also called the "Spot-bellied Bobwhite") taken in April and May were in fresh plumage; three of five were in general molt. Three males weighed 137.6-150 g; two females 143.7 g and 143.8 g. The 1998 AOU Check-list recognizes three species of bobwhite (*C. virginianus*, *C. nigrogularis* and *C. cristatus*), but I consider them all to be a single species. I cannot distinguish between their calls, and consider them well-marked local forms of one biological species.

### PODICIPEDIDAE

*Tachybaptus dominicus* (Linnaeus).

#### Least Grebe

At the end of the dry season (March-early May), when the small inland ponds had dried up, the Least Grebe was common on the Canal de Chiquimulilla, especially where the canal was bordered by tall mangroves. About 25 Least Grebes were seen on 4 May 1973 on Laguna Ayarza, in interior Santa Rosa Department. In July and

August, Least Grebes were found throughout the south-eastern Pacific lowlands wherever suitable bodies of water had accumulated. Land (1970) did not record this species in the southeastern section of the country. Four birds collected in April were all in winter plumage. They were identified as *brachypterus* (Chapman), the subspecies widespread in Middle America.

*Podilymbus podiceps* (Linnaeus).

**Pied-billed Grebe**

Although Land (1970) considered the Pied-billed Grebe to be rare in Guatemala, it was common in the marshes of La Avellana and, in the wet season, was found even on temporary bodies of water elsewhere in the Pacific lowlands. It was common also on Laguna Ayarza, in Santa Rosa Department, and on Lago Petén Itzá. Specimens were collected at the latter two localities. The status of Pied-billed Grebes in Guatemala should be changed from "resident rare" to "resident, common in suitable habitat." The throats of birds collected in late April and early May were from one-half to fully black; the testes of males measured between 18 x 11 mm and 20.5 x 8.5 mm. Specimens collected were identified as nominate *podiceps* and were deposited at the Museum of Zoology, University of Michigan.

PROCELLARIIDAE

*Puffinus griseus* (Gmelin).

**Sooty Shearwater**

The first Guatemala record of this pelagic migrant was a bird found dying on the beach at Monterico 8 May 1974 (Dickerman 1975).

PELECANIDAE

† *Pelecanus erythrorhynchos* (Linnaeus).

**American White Pelican**

Migrant: irregular; 4 max.; 15 April 1973.

† *Pelecanus occidentalis* Linnaeus.

**Brown Pelican**

Flocks of Brown Pelicans were observed regularly at dusk flying northwest along the coast, apparently going to a roost. On the evening of 26 August 1974, 300 were counted. At midday on 3 May 1974, 200-300 were seen roosting in mangroves near the mouth of the Rio Esclavos.

PHALACROCORACIDAE

*Phalacrocorax brasilianus* (Gmelin).

**Neotropic Cormorant**

The common Neotropic Cormorant is called the "pato buso" by fishermen at La Avellana and is considered a choice food item. One to two hundred were nesting 19 July 1970 in the large Great Egret colony approximately

14.5 km west of La Avellana along the Canal de Chiquimulilla. Evening roosts were seen containing several hundred to an estimated one thousand birds. An immature male taken 19 April was in general molt, and was identified on geographic grounds as *P. b. mexicanus* (Brandt).

ANHINGIDAE

† *Anhinga anhinga* (Linnaeus).

**Anhinga**

The "pato agudo" (needle-billed duck) was seen regularly in small numbers in the coastal marshes and soaring over the lowlands near the coast.

FREGATIDAE

† *Fregata magnificens* Mathews.

**Magnificent Frigatebird**

Frigatebirds were fairly common; they were seen regularly in small numbers soaring over the village or along the coast.

ARDEIDAE

*Ixobrychus exilis* (Gmelin).

**Least Bittern**

The Least Bittern was a permanent resident in La Avellana marshes. Specimens were collected in February, April, and August. Two nests with three young each were observed 11 August. A recently fledged male (weight 67.6 g) was collected 25 August. Two adult males weighed 79.0 g and 83.2 g; two adult females weighed 77.3 g and 107.6 g. The stomach of the latter contained three fish measuring 40-45 mm, as well as the remains of small shrimp. These specimens of nominate *exilis* were the first from the Pacific lowlands (Dickerman 1973a). Thurber et al. (1987) reported the species nesting at Laguna El Jocotal in El Salvador.

*Tigrisoma mexicanum* (Swainson).

**Bare-throated Tiger-Heron**

Bare-throated Tiger-Herons were seen regularly in small numbers along the forested edges of the marsh. An immature female weighed 892 g; an immature male 1252 g.

† *Ardea herodias* (Linnaeus).

**Great Blue Heron**

Migrant: regular; fairly common; 5 max.; 3-7 April, 7 May, 26 July and 25 November. Apparently, there are only two recent specimens of Great Blue Herons from Guatemala. An immature female in weakened condition was caught by hand sometime between 6 and 10 November 1964 at Tikal and presented to F. B. Smithe (AMNH 785895). It had been present since 25 October. Its measurements (wing 448 mm, tail 160 mm, and exposed culmen 126 mm) are all within the range of those

of an immature female *A. b. herodias* (sensu Oberholser 1912; Dickerman 2004). An adult *A. b. wardi* (Ridgway) (sensu Dickerman 2004) was collected at Lago Petén 20 February 1968. Its measurements were: wing 472 mm, tarsus 180 mm, and exposed culmen 136 mm. A nominate *herodias* banded at Dupage, Illinois, 27 June 1939 was “found” 27 March 1945 near Coatepeque, Quezaltenango, Guatemala (Cooke 1946).

*Ardea alba* (Linnaeus).

**Great Egret**

The Great Egret was the second-most abundant in the marshes at La Avellana. A small colony with fledged young was found about 4 km northwest of La Avellana on 30 April 1970. Young were seen in a colony of 200 to 300 nests along the Canal de Chiquimulilla on 19 July 1970. Nominate *alba* is the only subspecies found in the New World.

*Egretta thula* (Molina).

**Snowy Egret**

One or two Snowy Egrets were seen on nearly every trip through the marshes between La Avellana and Montecrico. An adult female weighed 323 g; the wing measured 234 mm. This specimen represents the smaller, widespread North American subspecies *candidissima* (Gmelin); see Rea (1983).

*Egretta caerulea* (Linnaeus).

**Little Blue Heron**

The Little Blue Heron was always present (up to 30 individuals) in the marshes of La Avellana. Nesting was not observed. A “calico” female weighed 328 g.

*Egretta tricolor* (Müller).

**Tricolored (Louisiana) Heron**

Like the Snowy Egret, a few Tricolored Herons were seen on almost every trip through the marshes. Although nesting was not observed near La Avellana, an adult male collected 29 April weighed 458.2 g and had testes measuring 24 x 13 mm and 21 x 12 mm. A few nests were found and nestlings were collected in a large colony of Cattle Egrets 2 km east of Sipacate (32 km west of Escuintla) on 3 September 1968. The subspecies *ruficollis* (Gosse) occurs throughout Central America.

*Egretta rufescens* (Gmelin).

**Reddish Egret**

An excessively fat immature female collected 7 April 1975 is the only Reddish Egret I saw in Guatemala. The species nests in Mexico at Isla Puntachal, Chiapas, near the Oaxaca-Chiapas border, and wandering birds from that colony might be expected in Guatemala.

*Bubulcus ibis* (Linnaeus).

**Cattle Egret**

A colony of approximately 1,000 nests was seen 2 km east of Sipacate, Escuintla Department, 3 September 1970. Birds with nesting plumes and red bills were seen near La Avellana in April and August; they must have been nesting in the vicinity. Only the nominate subspecies occurs in the New World.

*Butorides virescens* (Linnaeus).

**Green Heron**

The population of Green Herons at La Avellana consisted of migrant and resident birds. Nesting of this most-abundant ciconiiform species occurred from June to late August, in colonies of a few (6-8) to many (50-60) nests. Territorial calls were heard regularly in April. Nests with three eggs and with chicks a few days old were found 28 July. Two females, collected 28 April and 10 May (wings 174 mm and 177 mm, respectively), were identified as *B. v. virescens*. Both birds were very fat with extensive deposits in the body cavity. Three females collected in April, July and August (wings 166 mm, 167 mm and 167 mm) and one male collected in May (wing 168 mm, testes 16 x 8 mm) were identified as *B. v. maculatus* (Boddaert). Three birds collected in May, two females (wings 172 mm and 173 mm) and one male (wing 173 mm, testes 11 x 6 mm), could not be assigned to either subspecies because of the overlap in size of *virescens* and *maculatus*. The relationship of the sedentary nesting population to the migrant population must be elucidated and, indeed, a complete revision of the *Butorides* complex is needed.

*Nycticorax nycticorax* (Linnaeus).

**Black-crowned Night-Heron**

A diurnal roost of up to 30 individuals was observed repeatedly about 1 km west of the village of La Avellana in mangroves along the edge of the marsh. Nesting was not observed. Specimens represent the widespread subspecies *hoactli* (Gmelin) described from Chapultepec Park in Mexico City.

*Nyctanassa violacea* (Linnaeus).

**Yellow-crowned Night-Heron**

In La Avellana marshes, this species was more commonly seen than the Black-crowned Night-Heron, especially during the daytime. Nesting was not observed. Specimens were identified as the nominate subspecies.

*Cochlearius cochlearius* (Linnaeus).

**Boat-billed Heron**

This was the third most abundant ciconiiform bird in the La Avellana marshes. Adults with darkening or black gular pouches of the breeding period were collected, but

nests were not found. Diurnal roosts were encountered regularly in mangroves along the Canal de Chiquimulilla, and one roost was found in trees along the edge of a wet, grassy meadow at Finca La Trinidad, 13 km inland from the coastal marshes. Taxonomy, feeding behavior, and food habits have been discussed elsewhere (Dickerman 1973b; Biderman and Dickerman 1978; Willard 1979). Specimens from the Pacific coast of Guatemala were identified as *C. c. ridgwayi* Dickerman.

#### THRESKIORNITHIDAE

*Eudocimus albus* (Linnaeus).

##### White Ibis

Flocks of up to 50 individuals were seen regularly in the dry season, when there were extensive, shallowly-flooded mud flats. White Ibis were less common in the rainy season. They nested at Isla Puntachal, Chiapas, near the Oaxaca border.

*Platalea ajaja* Linnaeus.

##### Roseate Spoonbill

Like the White Ibis during the dry season, the spoonbill was seen regularly in flocks of up to 50 birds. An immature male was caught at night by a local fisherman using a headlamp and a throw net. The species nested at Isla Puntachal, Chiapas.

#### CICONIIDAE

*Mycteria americana* Linnaeus.

##### Wood Stork

About 20 Wood Storks were seen 30 July 1970, standing in an isolated clump of low (up to 7 m) trees containing large stick nests that appeared to be under construction about 4 km northeast of La Avellana. Groups of up to 100 individuals were seen regularly west of La Avellana where the marsh was more open, with large areas of seasonally flooded wet pasture adjacent to the canal. Young birds were considered choice food by the local people.

#### CATHARTIDAE

† *Coragyps atratus* (Bechstein).

##### Black Vulture

Ten to 30 Black Vultures roosted regularly in trees near the village of La Avellana.

† *Cathartes aura* (Linnaeus).

##### Turkey Vulture

The Turkey Vulture was seen regularly in small numbers throughout the region.

*Cathartes burrovianus* (Cassin).

##### Lesser Yellow-headed Vulture

This species was restricted to the extensive areas of open

marsh, where it was a fairly common resident. Groups of eight or more were seen in communal roosts with Turkey Vultures. Dickerman (1975) reported the first specimen for Guatemala. It represents *C. b. burrovianus*.

† *Sarcoramphus papa* (Linnaeus).

##### King Vulture

One was seen about halfway between Escuintla and Mazatenango 11 August 1970. Reported as common by Griscom (1932a), but now only occasional or rare.

#### ACCIPITRIDAE

*Pandion haliaetus* (Linnaeus).

##### Osprey

Migrant: regular; fairly common; 4 max.; 3-10 April, 26 July and 25 November. Although the Osprey appears to be present much of the year along the Pacific coast, there is no evidence of nesting. Both Griscom (1932a) and Land (1970) cited Salvin and Godman (1879-1904) as the authority for nesting reports. Salvin and Godman (vol. 2, p.41) wrote, "When visiting the Pacific coast in 1863 Salvin again found this species in numbers—every lagoon inside the beach was tenanted by a pair." This was from Puerto San José, and Champerico to Huamuchal near the frontier of Soconusco. Our observations at La Avellana were consistent with that report. An immature female of the nominate subspecies taken 28 May had an undeveloped ovary and was in general molt.

*Leptodon cayanensis* (Latham).

##### Gray-headed Kite

An immature male was found 15 April 1975 on the road 3 km north of La Avellana, shot moments earlier with a .22 rifle by Guatemalan tourists or road builders. Apparently, it is the third specimen record for Guatemala. Griscom (1932a) reported a female [= immature male?] from Hacienda California in northwestern Guatemala, and Land (1970) apparently overlooked an adult (AMNH 470578) received in the Rothschild Collection, labeled only as being from Cobán, Alta Verapaz. An adult was seen 16 April 1975, 8 kilometers north of La Avellana, and the same or another adult was seen at the village on 21 April of that same year. The three specimens represent the nominate subspecies *cayanensis*.

† *Elanus leucurus* (Vieillot).

##### White-tailed Kite

In the latter part of the dry season (March and April), White-tailed Kites were seen close to or within the borders of the marsh, whereas in the wet season they were more common and more widely distributed 8-10 km inland.



*Rostrhamus sociabilis* (Vieillot).

**Snail Kite**

The Snail Kite was fairly common to common in the marshes northwest of La Avellana along the Canal de Chiquimulilla. This is the first record of the species for the Pacific lowlands of Guatemala. An immature male (458.7 g) with the long, massive bill characteristic of the Mexican subspecies *major* Nelson and Godman was collected.

*Ictinia plumbea* (Gmelin).

**Plumbeous Kite**

Land wrote that the Plumbeous Kite had been recorded once from the Pacific lowlands. During this study, one to three were seen on regularly in the spring, 4 April–5 May, and on 13 August 1974 and 11 August 1977. The maximum number seen on one day was 10 on 24 April 1975. A male in general body molt and with small testes (7 x 4 mm) was collected 24 April. The ovary of a female taken 2 May was slightly enlarged. The crops of both birds contained insect remains. The female weighed 279 g.

† *Busarellus nigricollis* (Latham).

**Black-collared Hawk**

One was seen in a grassy freshwater marsh at Finca La Trinidad about 30 km southeast of Taxisco 30 August 1970.

*Buteogallus anthracinus* (Deppe).

**Common Black-hawk**

and *Buteogallus subtilis* (Thayer and Bangs)

**Mangrove Black-hawk**

The **Common Black-hawk**, *Buteogallus anthracinus* (Deppe), was long considered to be a wide-ranging species (Arizona and Texas to Peru) with several subspecies of smaller individuals restricted to coastal mangrove swamps. Monroe (1963) recognized the mangrove-nesting complex as a distinct species, *B. subtilis* and described *B. s. rhizophorae* as a new mangrove population from the Pacific coast of Central America. There was no overlap between measurements of *B. subtilis* and *B. anthracinus* as presented by Monroe (1963), except for the large island subspecies *B. subtilis utilensis* Twomey. This indicates that interbreeding does not occur where the ranges of the two species may abut along the inner edges of mangrove areas. Stresemann and Amadon (1979) followed Monroe in recognizing *B. subtilis* as a distinct species.

The **Mangrove Black-Hawk**, an ecologically restricted species, was relatively common (assuming all black-hawks seen in the mangroves were of this species). Although Mangrove Black-Hawks are thought to feed chiefly on crabs, one hawk, when startled, dropped a Green Heron. The heron, an adult, weighed 234.8 g. One adult male (*B. s. rhizophorae* Monroe) weighed 622.2 g.

*Buteogallus subtilis* may be added to the Guatemalan avifauna based on specimens from La Avellana and Ocos. The measurements of the adult male from La Avellana are typical of the small subspecies *rhizophorae*: wing 334 mm, tail 186 mm. I measured specimens from Guatemala in the AMNH reported as *B. anthracinus* by Griscom (1932a). One adult male from Ocos, San Marcos Department, was *B. s. rhizophorae*. The two specimens of *rhizophorae* from Guatemala differ from all adults of the subspecies *bangsi* (Swann), and of nominate *subtilis* in having the interscapular feathers entirely black, lacking any suggestion of the rufous coloration found in those forms. This character was not noted by Monroe (1963). Both, however, also have some rufous on the mottled edges of the secondaries, supposedly lacking in *rhizophorae*. Ten other adults from Ocos, Finca Cipres, Finca Sipicate, and La Montañita were *B. anthracinus*. Six adult females were measured: wing 361–384 mm, tail 209–221 mm; three adult males: wing 360–371 mm, tail 193–207 mm. One unsexed specimen was measured: wing 357 mm, tail 202 mm. Interestingly, the two species were found together in the post-nesting season at Ocos, where the predominant habitat is mangroves. All adults from Ocos were in general molt.

Monroe (1963) suggested that specimens from Chiapas, identified as *subtilis* in the literature, might represent his new subspecies *rhizophorae*. Two males and two females in the AMNH collection from “Tehuantepec, Oaxaca,” “Isthmus of Tehuantepec,” and “8 mi NW Tapanatepec,” all areas without mangroves, were *B. anthracinus* and were labeled as such. Their wings measured: males 371 mm and 376 mm; females 381 mm and 405 mm.

*Buteo nitida* (Latham).

**Gray Hawk**

One was seen at La Avellana 9 May 1974, and an immature female that had been shot recently was found hanging on a fence by the road 5 km east and 4 km south of Quilapa on 18 April 1976. These were the only lowland records obtained during this study. The immature female had just started molting into definitive plumage. The crop and stomach contained cicadas. All other Gray Hawks seen were at higher elevations in coffee-growing areas. Land (1970) mapped the species as an abundant resident throughout the Pacific lowlands.

*Buteo magnirostris* Bonaparte.

**Roadside Hawk**

The Roadside Hawk was a common resident species. *B. m. direptor* was described by Peters and Griscom (1929) as having the “pale interspaces on basal half or third of the tail strongly washed with bright rufous.” Dickey and van Rossem (1938) confirmed this as a char-

acter of Central American birds from Guatemala to Costa Rica, and I agree. Stresemann and Amadon (1979) placed *direptor* in the synonymy of the distinctive Mexican population *griseocauda* (Ridgway), which has uniformly gray tail bars. The two subspecies intergrade to some extent in northwestern Guatemala, where a few birds do have gray tail bars. However, the type of *direptor*, although from near the region of intergradation, is typical of the race as described.

\* *Buteo brachyurus* Vieillot.

#### Short-tailed Hawk

One seen by the author about 30 km southeast of Escuintla 12 August 1974 was apparently the second record for the species in Guatemala.

### FALCONIDAE

† *Polyborus cheriway* (Jaquin).

#### Crested Caracara

The "quebrata-hueso" or "rompe-hueso" was a regular, common resident in the arid Pacific lowland regions.

† *Herpetotheres cachinnans* (Linnaeus).

#### Laughing Falcon

Laughing Falcons were fairly common, more regularly heard than seen, in the vicinity of La Avellana.

† *Falco sparverius* (Linnaeus).

#### American Kestrel

Migrant: regular; fairly common; 4 max.; 2-12 April and 25 November. Tashian (1953) reported a specimen of the nominate subspecies collected at Finca Cachuito, Santa Rosa Department, 13 December.

### RALLIDAE

*Laterallus ruber* (Sclater and Salvin).

#### Ruddy Crane (Red Rail)

The Ruddy Crane was common to abundant in the marshes at La Avellana. Two nests containing three and two eggs were found in the edge of an extensive area of cattails 28 July and 11 August, respectively. One nest was an open cup; the other was roofed over with a side opening. Both were constructed entirely of dried cattails and were approximately 450 mm above water level. Two eggs measured 22.5 x 28.2 mm and 21.7 x 31.7 mm. The eggs were cream-colored with dull, reddish-brown spotting. These nests and eggs were similar to those I have described previously (Dickerman 1968); the nests were not like the unusual soggy nest described by Anthony (Griscom 1932a). Two black chicks that might have been from an earlier brood seemed to be accompanying the adults of the domed nest. An adult male in light, scattered molt, taken 14 April, weighed 38.5 g. The species is considered monotypic (Dickerman 1968).

*Aramides cajanea* (Müller).

#### Gray-necked Wood-Rail

The loud evening chorus of this species was regularly heard during the dry season coming from the forested edges of the swamp. It is not a wary species, and was occasionally seen from boats on the canal. One was seen in riparian forest 5 km north of La Avellana. A partially feathered chick was caught in the village by a dog 26 August.

*Porzana flaviventer* (Boddaert).

#### Yellow-breasted Crane

Two Yellow-breasted Crakes were seen; an adult female with a slightly enlarged ovary (weight 20.2 g) was collected in the marsh 29 April 1974 (Dickerman 1975). This was the first Guatemala record for the species. The species was inserted into Land's (1970) manuscript of *The Birds of Guatemala* by Eisenmann, based on specimens taken in Mexico near the Mexico-Guatemala border (Dickerman 1971).

*Porphyryla martinica* (Linnaeus).

#### Purple Gallinule

Although Lloyd Kiff (pers. comm.) found Purple Gallinules common at La Avellana in July 1963, during this study they were seen only occasionally and in small numbers. A female taken 30 August weighed 230 g and had ova measuring 9 mm and 10 mm.

*Gallinula chloropus* (Linnaeus).

#### Common Moorhen (Common Gallinule)

An adult female was taken at night with the use of a hunting lamp and a six-meter throw net. Saunders (1950) daily recorded up to 20 during the months of April, May and July, months for which he had extensive records. Thurber et al. (1987) reported the species nesting in El Salvador. The Central American subspecies is *cachinnans* (Bangs).

† *Fulica americana* Gmelin.

#### American Coot

Coots were seen in April, May and July, with up to 50 seen per day during each of those months. Nesting was not observed. Saunders (1950) recorded the species in the Pacific coastal area during January, February, April, and May.

### HELIORNITHIDAE

† *Heliornis fulica* (Boddaert).

#### Sungrebe

One Sungrebe was seen 11 August 1977 in an area of cattails near Monterico. Local fishermen described this species well, hence it must not have been uncommon in the area. Apparently, the species has not been recorded

for adjacent El Salvador (Dickey and van Rossem 1938; Thurber et al. 1987; Komar and Dominguez 2001).

#### ARAMIDAE

*Aramus guarauna* (Linnaeus).

##### Limpkin

The Limpkin was an uncommon, but regular, resident.

#### BURHINIDAE

† *Burhinus bistriatus* (Wagler).

##### Double-striped Thick-knee

Apparently, the Thick-knee was not uncommon. Our local field assistant reported seeing eight on pastures on a large ranch just inland from La Avellana. An evening chorus was heard at Papaturro on 29 April.

#### CHARADRIIDAE

*Pluvialis squatarola* (Linnaeus).

##### Black-bellied Plover

Migrant: regular; 50 max.; 4 April-10 May and 1 September. Land (1970) apparently overlooked the January, February, and April records by Saunders for the Pacific coast. A female taken 1 May was still in full winter plumage and had just started a general body molt.

*Pluvialis dominica* (Müller).

##### American Golden-Plover

Migrant: irregular; 35 max.; 27 April 1973, 16-28 April 1975 and 3-14 April 1976. The only previous record from Guatemala was from Dueñas.

*Charadrius alexandrinus* Linnaeus.

##### Snowy Plover

Migrant: irregular; 2 max.; 28 April 1973 and 14 April 1976. These are the first two specimens from Guatemala (Dickerman 1975). They were identified as *C. a. nivosus*. Monroe (1968) reversed the characters of the two subspecies, but recorded Honduras specimens as *nivosus*.

*Charadrius wilsonia* Ord.

##### Wilson's Plover

Migrant: regular; common; 12 max.; 7 April-4 May. Considered rare by Land (1970). Five specimens from La Avellana are nominate *wilsonia*, with short exposed culmens (20-22 mm) and 18 mm middle toes. Griscom (1932a) and Land (1970) followed Ridgway (1919) in using *beldingi* for Pacific coast birds without having examined specimens from Chiapam in the British Museum on which the subspecies was based. *C. w. beldingi* should be deleted from the list of Guatemalan avifauna.

*Charadrius vociferus* Linnaeus.

##### Killdeer

Migrant: irregular; 2 max.; 25 November. Tashian (1953) reported the species from La Avellana, 5 December. A wing from a kill was found on 6 April.

#### RECURVIROSTRIDAE

† *Himantopus mexicanus* (Müller).

##### Black-necked Stilt

The Black-necked Stilt was a common species in the marshes of La Avellana in the spring and fall, with 50-100 birds often seen in a day. These stilts were less common during the rainy season when the flats were flooded. Nesting was not observed.

#### JACANIDAE

*Jacana spinosa* (Linnaeus).

##### Northern Jacana

The Northern Jacana was common to abundant and gathered in flocks of up to 250 birds during the dry season. A chick a few days old, weighing 16.3 g, was collected 3 August. The subspecies that occurs in Guatemala is nominate *spinosa*.

#### SCOLOPACIDAE

*Tringa melanoleuca* (Gmelin).

##### Greater Yellowlegs

Migrant: fairly common; 4 max.; 4-29 April and 11 August. Considered rare by Land (1970).

*Tringa flavipes* (Gmelin).

##### Lesser Yellowlegs

Migrant: regular; abundant; 100 max.; 3 April-7 May and 11 August.

*Tringa solitaria* Wilson.

##### Solitary Sandpiper

Migrant: regular; fairly common; 3 max.; 3 April-7 May, 11 August, and November. Two males (7 and 9 April) with wings measuring 128 mm and 132 mm and with dark outer primaries were identified as nominate *solitaria*, while one specimen (7 April), sex unknown, with wing measuring 138.5 mm had mottled outer primaries and was characteristic of the subspecies *cinnamomea*.

*Catoptrophorus semipalmatus* (Gmelin).

##### Willet

Migrant: regular; common, 12 max.; 4 April-10 May and 11 August. Two females, with wings measuring 206 mm and 208 mm were identified as *C. s. inornatus*.



† *Actitis macularius* (Linnaeus).

**Spotted Sandpiper**

Migrant: regular; common; 100 max.; 3 April–7 May and 11 August.

*Numenius phaeopus* (Linnaeus).

**Whimbrel**

Migrant: regular; fairly common; 20 max.; 4 April–10 May and 28 August. *N. p. hudsonicus* Latham is the only subspecies that occurs in Central America.

*Limosa haemastica* (Linnaeus).

**Hudsonian Godwit**

Migrant: irregular; 14 max.; 26 and 29 April 1973, 24 April 1975, and 21 April 1976. First records for Guatemala (Dickerman 1974).

*Arenaria interpres* (Linnaeus).

**Ruddy Turnstone**

Regular; common; 4 max.; 14 April–10 May and 28 July. The subspecies represented was *morinella*.

† *Calidris alba* (Pallas).

**Sanderling**

Migrant: regular; abundant; 75 max.; 14 April–9 May. Considered rare by Land (1970). Saunders (1950) considered it common along the Pacific coast.

*Calidris pusilla* (Linnaeus).

**Semipalmated Sandpiper**

Migrant: regular; abundant; 49 max.; 7–21 April. Considered rare by Land. Saunders (1950) did not report the species. All specimens (8 April) are females.

*Calidris mauri* (Cabinis).

**Western Sandpiper**

Migrant: regular; fairly common; 2 max.; 8–29 April and 1 September.

*Calidris minutilla* (Vieillot).

**Least Sandpiper**

Migrant: regular; abundant; 50 max.; 3 April–3 May and 26 August.

*Calidris bairdii* (Coues).

**Baird's Sandpiper**

Migrant: irregular; 2 max.; 21 April 1976. First record for Guatemala (Dickerman 1977).

*Calidris melanotos* (Vieillot).

**Pectoral Sandpiper**

Migrant: regular; common; 300–500 max.; 4 April–10 May. Griscom (1932a) gave fall records for the Pacific coast.

*Calidris alpina* (Linnaeus).

**Dunlin.**

Migrant: irregular; 1 max.; 6 April 1976. First record for Guatemala. The specimen in fresh alternate plumage (wing 115 mm, culmen 36.5 mm), was identified as *C. a. pacifica* (Dickerman 1977).

*Calidris himantopus* (Bonaparte).

**Stilt Sandpiper**

Migrant: regular; common; 30 max.; 4–29 April. First record for Pacific lowlands.

*Philomachus pugnax* (Linnaeus).

**Ruff**

Migrant: accidental; 1 max.; 16 April 1974. First record for Guatemala (Dickerman 1977).

*Limnodromus griseus* (Gmelin).

**Short-billed Dowitcher**

Migrant: regular and common; 75–100 max.; 7 April–11 May, and 24 September. Three specimens taken 10–20 April were identified as *L. g. griseus*. Two specimens taken 24 August were identified as *L. g. hendersoni*. Saunders (1950) reported January and February records for “Short-billed Dowitchers,” but cited no specimens.

*Limnodromus scolopaceus* (Say).

**Long-billed Dowitcher**

Migrant: regular; uncommon; 6 max.; 8–12 April.

*Phalaropus tricolor* (Vieillot)

**Wilson's Phalarope**

Irregular; 200 max.; 21–28 April in 1973, 1975, and 1976. Only previous record for Guatemala was from Dueñas.

LARIDAE

All species of this family were migrants (at least none were found nesting during this study).

*Larus atricilla* Linnaeus

Migrant: regular; common; 1,000 max.; 8 April–10 May. Two immatures (1 female, 1 sex unknown) have tarsi measuring 47.4 mm and 50.0 mm. These tarsi are longer than tarsi of the largest adult males of the nominate subspecies of the Antilles, and typical of the northeastern continental population *megalopterus*. For use of *megalopterus* Bruch, see Parkes (1952).

*Larus pipixcan* Wagler.

**Franklin's Gull**

Migrant: regular; abundant; 1,000 max.; 10 April–10 May.

*Sterna nilotica* Gmelin.

**Gull-billed Tern**

Migrant: regular; uncommon; 20 max.; 4 April-10 May, 13 August. Considered rare by Land (1970). Measurements of an immature (wing 278 mm, tail 103 mm, and culmen 37 mm) are small, characteristic of the eastern North American subspecies *aranea*. Hellmayr and Conover (1948) reported two Pacific coastal birds (Chiapam) in the British Museum to be large, agreeing with measurements of *vanrossemi* Bancroft.

*Sterna caspia* Pallas.

**Caspian Tern**

Migrant: regular; fairly common; 49 max.; 4 April-6 May and 25 November. First specimen record for Guatemala (Dickerman 1975); previously known from sight records (Land 1970).

† *Sterna maxima* Boddert.

**Royal Tern**

Migrant: irregular; 8 max.; 24 April 1975 and 29 April 1976.

*Sterna sandvicensis* Latham.

**Sandwich Tern**

Migrant: irregular; 6 max.; 24 April 1975 and 29 April 1976.

*Sterna hirundo* Linnaeus.

**Common Tern**

Migrant: regular; uncommon; 6 max.; 10 April-6 May and 27 July. Considered rare by Land (Land 1970).

*Sterna antillarum* (Lesson).

**Least Tern**

Migrant: regular; uncommon; 3 max.; 2 and 4 May 1974, 24 April 1975, and 29 April 1976. These first specimen records from Guatemala were identified as *albifrons* (Dickerman 1977), but New World birds are now considered to be specifically distinct from *albifrons* (AOU 1998) and they have not been reexamined.

*Chlidonias niger* (Linnaeus).

**Black Tern**

Migrant: irregular; 75 max.; 18 April-10 May and 25 November. The North American subspecies, *surinamensis*, has been recorded in February, August, and October.

*Rynchops niger* Linnaeus.

**Black Skimmer**

Migrant: regular; fairly common; 50 max.; 4 April-4 May. One specimen from La Avellana is exactly matched by a specimen of nominate *niger* from Texas, and does

not fit characters ascribed to *oblita* Griscom (1935). That subspecies was described from six winter specimens taken by Salvin at Chiapam. Previously, they were the only specimens from the Pacific coast.

COLUMBIDAE

*Patagioenas flavirostris* (Wagler).

**Red-billed Pigeon**

This large dove was seen regularly in small numbers, especially in the mangrove forests. The single specimen was identified as nominate *flavirostris*.

*Zenaida asiatica* (Linnaeus).

**White-winged Dove**

Migrant: regular; 3,000 max., 6-13 April.

*Zenaida macroura* (Linnaeus).

**Mourning Dove**

Migrant: regular; 50 max., 4 April-4 May. One specimen, sex unknown, wing 137 mm, was identified as the eastern subspecies *carolinensis*.

*Columbina inca* (Lesson).

**Inca Dove**

Nests of this abundant species were found in May and July.

† *Columbina minuta* (Linnaeus).

**Plain-breasted Ground-Dove**

Ground-Doves, presumably this species, were seen occasionally 8-10 km north of La Avellana, but no specimens were taken. A female (Milwaukee Museum No. 19842) collected at Finca Santa Clara, near Papaturo, Santa Rosa Department, 31 January, is similar to the type of *interrupta* Griscom, but is more worn and thus is much paler and browner dorsally rather than olive-gray. The bases of the tertials and coverts are dead black, having lost the deep blue iridescence present in these areas on the type. It measured: wings 80 mm and 82 mm, tail 63.5 mm.

*Columbina talpacoti* (Temminck).

**Ruddy Ground-Dove**

The Ruddy Ground-Dove was as abundant as the Inca Dove. Fledged young were netted in April, August and November. The subspecies *rufipennis* (Bonaparte) ranges throughout Middle America.

† *Claravis pretiosa* (Ferrari-Perez).

**Blue Ground-dove**

A pair was seen 27 April 1975, just southeast of El Caobanal, about 20 km by road southeast of Escuintla. Apparently, this is the second record for the species in the Pacific lowlands, although the species was common in El Salvador during the same time period (Thurber et al. 1987).

*Leptotila verreauxi* (Bonaparte).

**White-tipped (White-fronted) Dove**

A nest with two eggs was found 2 May about 1 m above the ground in a vine-covered coffee tree above Escuintla. White-tipped Doves were fairly common at La Avellana. Specimens from La Avellana are pale and typical of the subspecies *bangsi*.

PSITTACIDAE

*Aratinga canicularis* (Linnaeus).

**Orange-fronted Parakeet**

A noisy evening roost of several hundred parakeets was noted in April, May and August at Las Quechas, 6 km southwest of La Avellana. The subspecies of the Pacific lowlands is nominate *canicularis*.

† *Brotogeris jugularis* (Müller).

**Orange-chinned Parakeet**

This fairly common resident was seen in flocks of up to 40 birds. A female collected by Lloyd Kiff weighed 58 g.

*Amazona albifrons* (Sparrrman).

**White-fronted Parrot**

The wing chords of a male and a female of this common species were 173 mm and 172 mm, respectively, and characteristic of the small subspecies *nana* W. de W. Miller. At least 200 were counted in the evenings, as pairs and small flocks flew to a roost northeast of La Avellana.

*Amazona auropalliata* (Lesson).

**Yellow-naped Parrot**

This large parrot was fairly common, with a maximum of six to eight seen in a day. A female (not examined) in the H. C. Land Collection at Louisiana State University was collected by Lloyd Kiff and weighed 460 g.

CUCULIDAE

*Coccyzus erythrophthalmus* (Wilson).

**Black-billed Cuckoo**

Migrant: regular, uncommon; 6 max., 30 April and 5, 11, and 20 August. Two taken in August (one labeled as adult) were fat and in general molt; an immature taken in August had little fat and no molt.

*Coccyzus americanus* (Linnaeus).

**Yellow-billed Cuckoo**

Migrant: uncommon; 8 max.; 28 April and 4 and 8 May. A female taken 10 May in coffee groves above Chiquimulilla is smaller (wing 142), as in *C. a. americanus*; a female taken 4 May along the coast is larger (wing 150 mm) and paler, as in *C. a. occidentalis*. Land (1970) had no spring records for the species.

Note Banks (1988) considered the species to be monotypic, although on recalculating the statistics

(1990), he found a valid difference in wing length between eastern and western populations. However, there is so much overlap in wing length, and bill length and depth, that he still concluded the species is monotypic. However, Pruett et al. (2001) showed a genetic marker difference between the two groups.

*Coccyzus minor* (Gmelin).

**Mangrove Cuckoo**

Land (1970) reported a single record of the Mangrove Cuckoo for Guatemala. One to three birds were seen on at least seven occasions, during four of the five April periods (1972-76) spent in the region of La Avellana. The cuckoos were seen in low, dense forest on the barrier beach, in mangroves, and in arid scrub forest several kilometers inland from La Avellana. Banks (1991) recognized only nominate *minor* as occurring throughout Central America.

*Piaya cayana* (Linnaeus).

**Squirrel Cuckoo**

The Squirrel Cuckoo was a fairly common resident, occurring in all habitats from mangrove forests and hot arid scrub to cool coffee plantations at 1,000 m elevation. An immature female weighed 88.7 g; a male 102.5 g.

In order to identify specimens collected at La Avellana, it was necessary to re-evaluate the extent of geographic variation in Middle America and, especially, the status of *P. c. stirtoni* van Rossem and *P. c. incincta* Griscom. Van Rossem (1930) described *stirtoni* as a pale subspecies from El Salvador, and stated that it ranged southeastward on the Pacific lowlands to Guanacaste, Costa Rica. Examination of six specimens from the type series now in the Field Museum of Natural History revealed that their tails are so worn that the white tips of some rectrices are almost entirely lost. Dorsally, they can be matched by the most faded and abraded specimens from Veracruz. Sassi (1939) recognized *stirtoni* from Costa Rica, but his specimens were collected in June and July, the period of maximum wear and fading. The paleness of specimens identified as *P. c. stirtoni* is due to wear and fading, and the name should be considered a synonym of *P. c. thermophila* Sclater, and that name used for the birds of the Pacific lowlands of Guatemala.

Griscom (1932b) described *incincta*, from eastern Panama, as having the underside of the tail more rufescent (less blackish) than *thermophila* and as having less extensive black tips on the upper side of the tail, especially on the central pair of rectrices. *P. c. incincta* differs from *mesura* (Cabanis), the adjacent form in Colombia, in being paler, especially on the tail. In *incincta*, the tail was described as lacking a black tip. Wetmore (1968) wrote, "Griscom proposed the name *incincta* for the paler birds" and did not recognize the subspecies because pale speci-

mens could be found throughout Panama. He did not comment on the characters actually proposed by Griscom (1932b). Wetmore (1968) also compared material from Tamaulipas, Mexico, south to Panama. The only morphological variation he noted was a slight cline in bill size increasing from south to north, but incongruously, he did recognize *stirtoni*!

In fact, as noted by Wetmore (1941), the characters used by Griscom to distinguish *incincta* from *thermophila* are of no value; the more rufescent underside of the tail appears to be due to foxing. *P. c. incincta*, however, is a well-marked subspecies characterized by dramatically larger terminal spots on the rectrices. It ranges from Costa Rica to Panama, intergrading with *thermophila* in Nicaragua.

Thirty-three of 37 males (89%) with unworn tails from Nicaragua north to Mexico have terminal spots on the third rectrix measuring less than 19 mm along the mid-vein, while 38 of 46 males (83%) from Costa Rica and Panama have terminal spots measuring 19–25 mm. Of 23 females from Honduras to Mexico, 21 have spots measuring 17 mm or less, while 19 of 24 females from Costa Rica and Panama had the spots measuring 18–26 mm. In measuring the extent of white, the apiculate extension of black along the mid-vein was ignored when it was less than 1 mm wide on the whiter side of the vein.

Note that neither del Hoyo et al (1997) nor Dickinson (2003) recognized *P. c. incincta*, but they are not taxonomic works.

#### *Tapera naevia* (Linnaeus).

##### Striped Cuckoo

Striped Cuckoos were far more often heard than seen and were probably a relatively common resident species. Two females collected in August had soft-shelled eggs in their oviducts. Two specimens from the southeastern Pacific lowlands—a male with a flat wing of 121 mm and a female with flat wings of 111 mm and 113 mm—are both large and both have narrow linear ventral shaft streaks on the uppertail coverts. They are identified as *T. n. major* (Brodkorb 1940; Parkes 1990).

#### *Morococcyx erythropygus* (Lesson).

##### Lesser Ground-Cuckoo

This species is probably far more common than visual observations indicate. In the arid scrub zone, occasionally several could be heard within a few minutes of each other. A recently fledged young was taken 28 August. Two adults weighed 55.6 g and 56.2 g.

Griscom (1930a) described *M. e. macrourus* from two males and three females from the central region of Guatemala in the Rio Motagua drainage (Progreso and Gualán), based on their longer tails (males 140 mm and 141 mm, females 138–140 mm). Nine males of nomi-

nate *erythropygus* from the Pacific lowlands from Costa Rica to Guatemala have tail measurements of 129–136 mm. The largest measurement for that population presented by Griscom was 130 mm.

Greenway (1978) incorrectly cited the number of specimens upon which Griscom based *macrourus* as two, not five, and as having the tail shorter, not longer, than in the nominate subspecies. Dickerman (1987) may have erred in considering *macrourus* a synonym of *erythropygus*.

#### *Crotophaga sulcirostris* Swainson.

##### Groove-billed Ani

This species was abundant. An active nest in a tree along the road was found 20 April. In late July, we watched a nest in a tree near the edge of a cleared pasture from a few days before the 11 young became ambulatory until they fledged. They were fed by at least three adults. Another active nest of young about to fledge was found in late July in a cattail marsh. Guatemalan specimens represent the widespread nominate subspecies.

### TYTONIDAE

#### *Tyto alba* (Scopoli).

##### Common Barn-Owl

Calls believed to be of this species were heard occasionally in the vicinity of La Avellana, but no Barn-Owls were seen; Land (1970) did not map the species as occurring in the Pacific lowlands. The only specimen records are bones from at least six adults and one young found when a giant hollow ceiba (*Ceiba pentandra*) was felled during the 1975–76 La Avellana-Taxisco road widening (Dickerman and Brash 1980).

### STRIGIDAE

#### *Megascops cooperi* (Ridgway).

##### Pacific Screech-Owl

Land (1970) predicted that the Pacific Screech-Owl would be found in Guatemala “in woodland fringing coastal mangrove swamps.” A female taken near Papaturro on 2 May 1974, from exactly that habitat, was the first record for the country (Dickerman 1975). Apparently, the species is a relatively uncommon resident at La Avellana. A nest with two nearly fledged young was found by a local farmer on 2 May about 4 m above the ground in the bole of a dead palm tree. One of those young birds, now preserved as a specimen, had rodent remains in the stomach; the other young bird was sold by the farmer to a Guatemalan tourist for a pet. Two females weighed 162.2 g and 181 g.

#### *Glaucidium brasilianum* (Gmelin).

##### Ferruginous Pygmy-Owl

This species was a common resident. Often, three to five were heard calling at one time. Three of four specimens



prepared in April had light, scattered molt; four taken in August were all in general molt. Three males weighed 58.8 g, 59.8 g, and 71.3 g.

Griscom (1932b) and Monroe (1968) identified all specimens from Guatemala and Honduras as *G. b. ridgwayi* Sharpe. It is obvious from preliminary examination that, except possibly for Caribbean coastal areas, *ridgwayi* does not reach Guatemala. It also is obvious that the Middle American populations are in need of revision. Brodkorb (1941) described *saturatum* as a darker form found on the humid slopes of southern Chiapas. I have not seen topotypes of *saturatum*, but specimens from Hacienda California and Finca Cipres, near the Chiapas border, are dark and probably represent *saturatum*. (Note: Friedmann et al. [1950] overlooked Brodkorb's [1941] description of *saturatum*.) Later, Phillips (1966) described *intermedium* from the arid Pacific lowlands of Oaxaca as paler than either *saturatum* or *ridgwayi*. Based on the material at hand, it is paler than *saturatum* and, except for one grayer individual, grayer than *ridgwayi*. Brodkorb (1941) restricted the type locality of *ridgwayi* to Merida, Yucatan. Six of seven specimens in the AMNH from Yucatan and Quintana Roo match series from Veracruz north to Texas in being grayish-brown; even the specimens in freshest plumage essentially lack reddish tones. The seventh bird from "Yucatan" is redder, but it is a specimen taken by G. F. Gaumer and is thus of dubious provenance and value (see Parkes 1970 for a discussion of the validity of locality data on Gaumer specimens). Apparently, there is a size cline, with the Yucatan population having shorter wings and smaller bills than the northern population. Thus, *saturatum* and *intermedium* are larger than at least southern *ridgwayi* where their ranges meet. Most Guatemala specimens represent *intermedium*. Specimens from Honduras are far too red to be identified as *ridgwayi*, but, as mentioned above, a revision is needed.

*Ciccaba virgata* (Cassin).

**Mottled Owl**

The Mottled Owl was the most common of the nocturnal owls in the La Avellana region. Four males weighed 290-313 g; one female weighed 377 g. Three birds were noted to have remains of grasshoppers, a "wood cockroach," and other insects in their stomachs. The subspecies *centralis* Griscom is found throughout most of Middle America.

*Pseudoscops clamator* (Vieillot).

**Striped Owl**

Field assistants tending nets set for bats collected two adult Striped Owls at La Avellana and reported hearing the species on several other occasions during April and May 1973-76. The two birds (one female and one of

unknown sex) weighed 339 g and 485 g, respectively. The species was known previously from Guatemala only from a single specimen without exact data. The two specimens from La Avellana are identified as *P. c. forbesi* Lowery and Burleigh. They have more narrow black streaking, both dorsally and ventrally, and have more narrow, dusky wing bars than nominate *clamator* of northern South America.

CAPRIMULGIDAE

*Chordeiles acutipennis* (Hermann).

**Lesser Nighthawk**

Migrant (at least partially): regular; abundant; 100's max.; 2 April to 4 May. A female with worn plumage collected on the barrier beach at the mouth of the Rio Esclavos, about 18 km southeast of La Avellana, on 24 April probably represents the nesting population of *littoralis* Brodkorb (see Dickerman 1985 for a review of *Chordeiles acutipennis* and the use of trinomials). Seven Lesser Nighthawks were collected in various years, during 7-13 April, from among the large numbers roosting in arid tropical scrub near La Avellana. After mid-April, we did not see any Lesser Nighthawks, except for the above-mentioned bird from the barrier beach. Two large, pale specimens were identified as migrant *texensis* Lawrence. Five smaller, more richly colored specimens probably represent migrant *littoralis* from farther north in Mexico. Specimens from Ocos taken 16 and 25 October (Griscom 1932a) provide fall records for *littoralis* in Guatemala. Five females taken in spring weighed 42.8-61.8 ( $\bar{x}$  48.9) g.

*Nyctidromus albicollis* (Gmelin).

**Common Pauraque**

Pauraques were common to abundant at La Avellana. When calling, often six or more birds could be identified around the perimeter of the village. An adult brooding a chick that was a few days old was caught by hand and released on 7 April. Two males weighed 57.5 g and 57.6 g. Specimens from La Avellana were identified as *N. a. intercedens* Griscom.

NYCTIBIIDAE

*Nyctibius jamaicensis* (Gmelin).

**Northern Potoo**

Called "pajaro picacho" by local people, the Northern Potoo was seen fairly regularly in the area of La Avellana, although Land (1970) did not record the species for the Pacific lowlands. We watched two birds play "king of the flagpole" in the school yard at La Avellana in the evenings in August; in April, a single bird "hawked" from the pole. Three potoos were seen 29 April at Papaturo. A "nest," i.e., a stump 1.5 m high with a newly hatched chick, was photographed along the edge of the mail

canal between La Avellana and Monterico on 11 May. A headless young about one week old was found on the ground by a local boy 15 April, and a female with a soft-shelled egg in its oviduct was collected 20 April. Five adults taken in April were in light to general molt. Three males weighed 241 g, 263 g, and 279.3 g; two females weighed 247.1 g and 253.4 g.

Monroe (1968) tentatively assigned the Honduras populations to the paler, northern subspecies *mexicanus* Nelson. However, the five palest specimens from Honduras in the AMNH are so much darker than specimens of *mexicanus* from Mexico and Guatemala, and are so similar to specimens of *costaricensis* Ridgway from Nicaragua, that they might well be considered typical of the latter subspecies.

#### APODIDAE

\* *Cypseloides niger* (Gmelin).

##### Black Swift

On 30 April 1976, a flock of about 20 dark swifts, noted to have forked tails, and presumably this species, was seen at La Avellana. The species has not been collected in Guatemala.

† *Streptoprocne zonaris* (Shaw).

##### White-collared Swift

Occasionally, flocks of this large swift were seen flying over the lowlands.

† *Chaetura pelagica* (Linnaeus).

##### Chimney Swift

Migrant: regular; common; 50 max.; 11 April–6 May. Although there is only one specimen (without data) from Guatemala. I believe the species is a regular, common-to-abundant migrant. At dusk from 11 April to 6 May in 1973, 1974, and 1975, high-flying swifts could be seen traveling from southeast to northwest over the marshes along the coast, with many in sight at once.

† *Chaetura vauxi* (Townsend).

##### Vaux's Swift

Small, all-dark swifts in pairs, or in flocks of 6 to 30 individuals, were seen regularly in April and May, inland on the slopes of the volcanic range bordering the coastal lowlands and occasionally out near the coast at La Avellana. No specimens were collected, but based on flocking behavior, these birds were believed to be Vaux's Swifts.

† *Panyptila cayennensis* (Gmelin).

##### Lesser Swallow-tailed Swift

A tube nest was seen on the trunk of a tree in the tropical, wet forest on the hills about 6 km north of Escuintla by Alexander Brash and Tom Will on 2 May 1976. A pair of Lesser Swallow-tailed Swifts was seen almost daily at La Avellana from 25 July to 20 August 1977. We watched them from distances of less than 3 m as they flew and hovered under the porch roof of the village school, apparently feeding on spiders or gathering spider webs. No nest was found. There are several previous sight records for Guatemala.

*Panyptila sanctihieronymi* Salvin.

##### Greater Swallow-tailed Swift

A flock of six was seen near Taxisco 24 April 1976, and a flock of 10–12 was seen near Mixco Viejo, Chimaltenango Department, 12 April 1974, when three were collected.

#### TROCHILIDAE

*Anthracothorax prevostii* (Lesson).

##### Green-breasted Mango

This was the least common of the three species of hummingbirds found at La Avellana. An adult was seen feeding a juvenile on 6 April.

Two subspecies of *A. prevostii* are recognized from Mexico and Central America: the nominate form (type locality: State of Veracruz, suggested by Cory 1918) and *gracilirostris* Ridgway (type locality: Bolson, Costa Rica).

**Table 1.** Measurements of exposed culmens of adult male *Anthracothorax prevostii* from Mexico and Central America with range, mean, and standard deviation.

| Location          | Number Measured | Range     | Mean | Standard Deviation |
|-------------------|-----------------|-----------|------|--------------------|
| Mexico            | 33              | 23.2–27.9 | 26.0 | 1.3                |
| Belize            | 2               | 23.7–24.6 | —    | —                  |
| Bay Islands       | 13              | 22.8–26.9 | 24.9 | 1.3                |
| Mainland Honduras | 12              | 22.9–24.7 | 23.6 | 0.8                |
| Costa Rica        | 14              | 22.5–25.4 | 24.1 | 0.7                |

Bill size of *A. prevostii* varies greatly within Mexico, but averages considerably longer than in the populations of mainland Honduras and Costa Rica (Table 1). Specimens from La Avellana were identified as nominate *prevostii*. Griscom (1932a) and Land (1970) recognized only *prevostii* from Guatemala, and Russell (1964) identified only that subspecies in Belize. Monroe (1968) considered all Honduras specimens to be *gracilirostris*. Culmen measurements of 33 males in definitive plumage from Mexico average 26.0 mm, but range from 23.2 mm to 27.9 mm, while the bills of 14 males from Costa Rica are uniform in length and average 24.1 mm (Table 1). The culmens of adult males from the mainland of Honduras average even shorter (23.6 mm), while specimens from the Bay Islands of Honduras have culmens varying greatly in size, with some individuals with culmens characteristic of nominate *prevostii* (Table 1). Two adult males collected in the Petén of Guatemala have culmens measuring 27.4 mm and 28.2 mm, while two from La Avellana measure 24.2 mm and 25.0 mm. The culmen of the male from San José reported by Griscom (1932a) measures 27.3 mm. Thus, the Guatemalan population might well be considered nominate *prevostii*.

*Chlorostilbon canivetii* (Lesson).

**Fork-tailed Emerald**

This small hummingbird was a fairly common resident species at La Avellana. A male in light body molt collected 7 April weighed 2.7 g. The subspecies is *C. c. osberti* Gould.

*Amazilia rutila* (DeLattre).

**Cinnamon Hummingbird**

In April, at the end of the dry season, Cinnamon Hummingbirds gathered in the large, flowering, umbrella-shaped guanacaste trees (*Enterolobium cyclocarpum*), with up to 30 counted in a single tree. A female taken 29 July contained a 5 mm ovule, and a nest with two eggs was found 20 August. The nest was near the end of a branch about 2 m above the ground. Birds taken in April and August were in general molt, including rectrices and remiges. Tashian (1953) found birds in general molt in December. The subspecies *corallirostris* occurs on the Pacific lowlands from Chiapas southeast to central El Salvador (Dickey and van Rossem 1938).

TROGONIDAE

*Trogon melanocephalus* Gould.

**Black-headed Trogon**

The Black-headed Trogon was the common trogon of the arid lowlands in the vicinity of La Avellana. Land (1970) reported the species in Guatemala only from the Caribbean lowlands and the Petén, although it is common on the Pacific coastal plain of El Salvador

(Dickey and van Rossem 1938). Two females taken 7 and 13 April had ovaries moderately enlarged; two taken 23 and 25 April each had two corpora lutea. Four females weighed 74.4 g, 79.0 g, 79.9 g and 87.2 g; two males weighed 81.2 g and 90.5 g. The males taken 23 April and 7 May and three of the females had light, scattered molt.

To identify those specimens, I re-evaluated the extent of geographic variation in Middle American populations. The population of the arid Pacific lowlands of Costa Rica and Nicaragua, northwest to at least San Lorenzo on the Golfo de Fonseca, Honduras, and probably to La Unión, El Salvador, is a distinctive subspecies, further characterized below. Lesson (1842) provided a perfectly adequate description of a new, yellow-bellied trogon with a smoky-black head as *Trogon capistratum*, from "Realejo (centre Amerique)" [=Nicaragua], that can only apply to this species. Bangs later (1909) described *illaetabilis* from Bolson, Costa Rica, apparently without realizing the availability of the earlier name, although he recognized that specimens from the Pacific lowlands of Nicaragua belonged to his new form. Griscom (1932a) was in error when he stated that the southern population was restricted to Costa Rica (see below).

Lesson's description of the male must have been made from a bird in the late stages of the first prebasic (post juvenal) molt. He wrote "lateribus brunneis; ...rectricibus ...lateralibus nigris, niveo limbatis": that is, sides brown (i.e., retained juvenal flanks), and with the white margins of the lateral juvenal rectrices (see below) rather than the white-tipped rectrices of the definitive plumage. Lesson's trogons from Realejo are not in the Paris Museum, although the Museum does have other Lesson material from Realejo. The only *T. melanocephalus* from Realejo that I know of is an unsexed specimen in abraded, definitive male plumage collected 26 August 1863, No. 30550 in the U.S. National Museum. Its measurements, (culmen from nostril 14.1 mm, wing chord 140.0 mm, terminal spot of outer rectrices 28.3 mm) are all typical of this population.

Unfortunately, Grant (1892), in the Catalogue of the Birds of the British Museum, cited *capistratum* in the synonymy of *T. citreolus*, although he recognized *melanocephalus* as a distinct species and gave the proper ranges for both species. Ridgway (1914) followed Grant, but added "(?)" in front of the name, and in a footnote wrote "Possibly *T. melanocephalus illaetabilis* in which case the name of this bird would be *Trogon melanocephalus capistratum* (Lesson)." I do not know why he enclosed "Lesson" in parentheses. Probably he did so in error following Bonaparte, who, with a question mark, listed *capistratum* under *Trogonurus*. Neither Cory (1918) nor Peters (1945) cited the Lesson name. In any case, *T. m. illaetabilis* Bangs (1909) is a junior synonym of



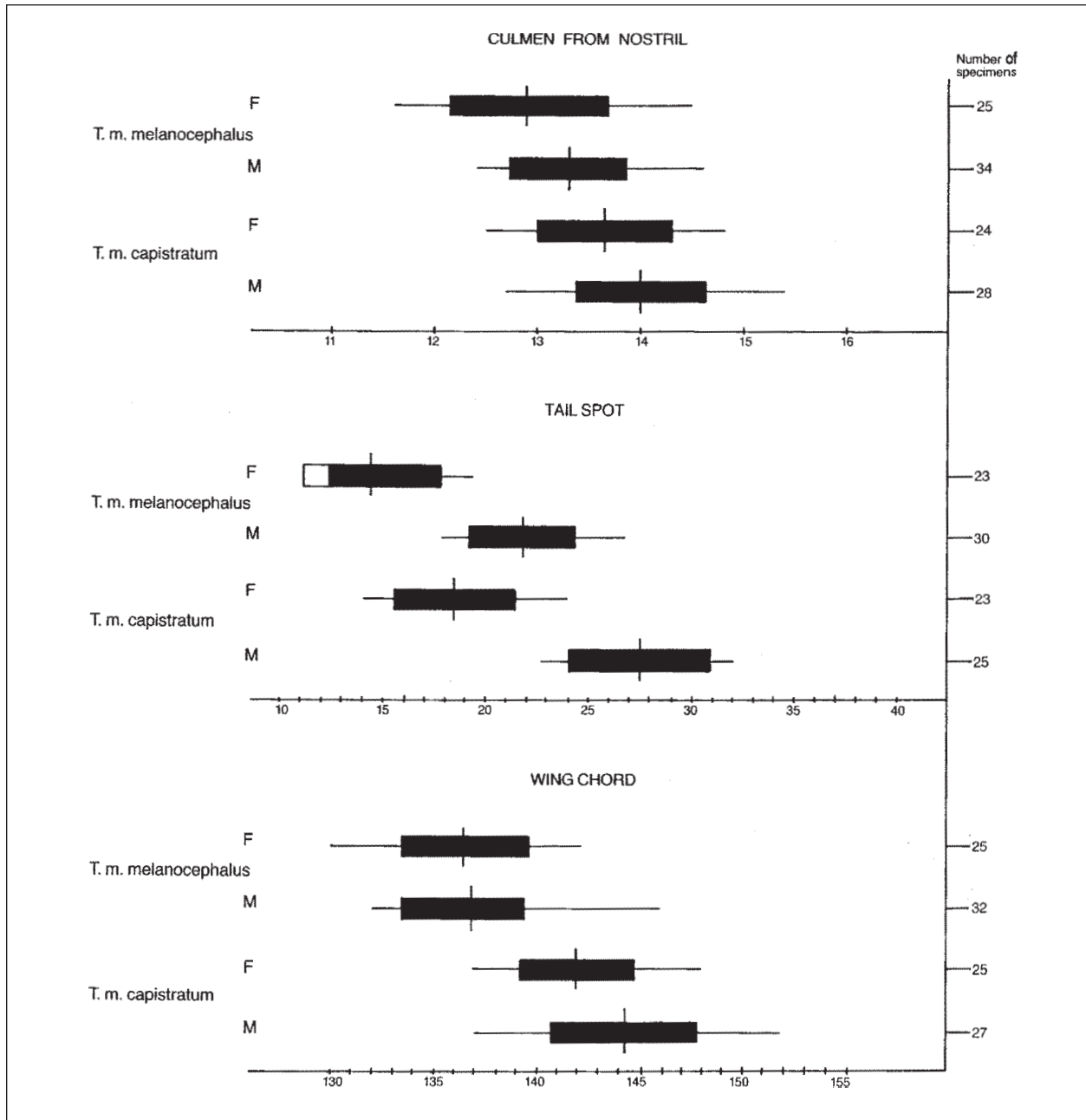


Figure 2. Measurement in millimeters (with range, mean and one standard deviation on either side of the mean) of culmen from nostril, length of the white tail spot on the outer rectrix of definitive plumaged males and wing chord of definitive plumaged males of two subspecies on *Trogon melanocephalus* from Central America.

*T. [melanocephalus] capistratum* Lesson.

Bangs, loc. cit., characterized males of the Pacific lowland population as having a gray-slate to blackish-slate head, throat and chest, instead of black, as in the nominate subspecies; the females were described as being paler and "averaging slightly larger... bill slightly heavier..." Slud (1964), largely following Rendhal (1918-20) and Sassi (1939), considered *capistratum* to be a poorly marked, clinal subspecies. These three authors cited only

characters provided by Bangs, and apparently made only superficial comparisons to evaluate the subspecies. Actually, the characters presented by Bangs are perfectly adequate; the longer wing is indeed significant, and the larger bill size is useful (Fig. 2). If there is a cline in size, it is sharply stepped between the eastern Pacific lowlands of Guatemala and eastern El Salvador.

An additional, and perhaps the best, character is the larger size of the terminal white markings of the ends of

the outer three rectrices in *capistratum*, as compared with the smaller markings in *melanocephalus* (Fig. 2). (Markings were only measured on specimens with rectrices of the definitive plumage.) Dickey and van Rossem (1938) discussed the retention of juvenal tail feathers into the "adult plumage." The juvenal rectrices are more pointed, and the white markings on the inner, broader vane are less extensive and meet the rachis at an acute angle. The outer vane is mottled on the basal half to two-thirds, with the terminal white area extending twice the distance of that on the inner vane.

The nominate subspecies ranges southeast on the Caribbean lowlands to at least northwestern Costa Rica. Males from "Greytown," Nicaragua, and Rio Frio, Costa Rica, have wing chords of 137 mm and 137 mm, and terminal tail spots of 20.3 mm and 16.6 mm, all outside the range for the respective measurements for *capistratum*. In contrast, *capistratum* extends northwest to at least La Union, El Salvador. The wing and culmen from nostril measurements of a female from there are 142 mm and 13.8 mm, respectively; the tail spot of a male measured 29.7 mm, all outside the range of the respective measurements for *melanocephalus*.

#### *Trogon violaceus* Gmelin.

##### **Violaceous Trogon**

A single male of this supposedly lowland species was taken near La Avellana. It was in a scattered flock of Black-headed Trogons. It weighed 60.0 g. The Violaceous Trogon was more common in the higher coffee-growing areas. The specimen was identified as *T. v. sallaei* following Browning et al. (1991).

#### *Trogon elegans* Gould.

##### **Elegant Trogon**

Only two or three Elegant Trogons were seen on the flat coastal plain; like the preceding species, these trogons were far more common in the coffee plantations at higher elevations north of Chiquimulilla and Escuintla. A single male was collected in the riparian zone along the Rio La Chorrera, 6 km north of La Avellana; it weighed 85.6 g. The local name is "aroura cubano." The type locality of the nominate subspecies is presumably central Guatemala (Dickerman 1987).

### MOMOTIDAE

#### *Momotus momota* (Linnaeus)

##### **Blue-crowned Motmot**

In the vicinity of La Avellana, this large motmot was seen only in the remaining patches of moist forest. It was more common on the forested slopes and coffee plantations above Escuintla and Chiquimulilla. A male weighed 108.1 g and two females 92.1 g and 113.3 g. Specimens in general molt were netted in July and Sep-

tember. The subspecies *lessonii* Lesson is widely distributed in wet forests throughout Middle America.

#### *Eumomota superciliosa* (Sandbach).

##### **Turquoise-browed Motmot**

The Turquoise-browed Motmot is relatively common in the Pacific lowlands of Guatemala. A pair was seen at a nesting hole 10 April in the coffee plantations above Chiquimulilla. Specimens in heavy molt were collected 10 and 24 August. Two males weighed 53.6 g and 65.8 g.

Griscom (1932a) identified 10 specimens from extreme northwestern Guatemala near the Chiapas border, and four from Panteleon, Escuintla, as *E. s. bipartita* Ridgway. Dorsally, five specimens in the present collection (taken as follows: one from above Escuintla, two from La Avellana, and two in Montufar-El Parariso adjacent to the El Salvador border) are all pale and thus, nearer *apiaster* Lesson. One from La Avellana has a darker forehead, as in *bipartita*, and ventrally one from El Parariso is darker on the belly; thus, both are similar to *bipartita*. The population that now exists over at least the southern portion of the arid Pacific lowlands is somewhat intermediate, but is nearer *apiaster*.

It is interesting to speculate that paler, *apiaster*-like birds moved into the Escuintla region when the forests were opened for agriculture in the period since Austin Paul Smith collected the specimens of *bipartita* at Panteleon, near Escuintla, in 1919.

### ALCEDINIDAE

#### *Ceryle torquata* (Linnaeus).

##### **Ringed Kingfisher**

Several Ringed Kingfishers were seen on each trip during April and May and on 26 August along the canal between La Avellana and the mouth of the Rio Esclavos, a stretch bordered by tall mangrove forests. On 25 August, a Ringed Kingfisher was seen some 20 km inland near Finca La Danta, in an area of large lakes with steep banks. The nominate subspecies ranges from Mexico to Argentina.

#### *Ceryle alcyon* (Linnaeus).

##### **Belted Kingfisher**

Migrant: regular; uncommon, 5 max.; 4-24 April and 24 November. Observed at La Avellana 5 December by Tashian (1953).

#### *Chloroceryle americana* (Latham).

##### **Green Kingfisher**

The Green Kingfisher, a fairly common species at La Avellana, was netted slightly more frequently and seen much more frequently than the Pygmy Kingfisher. A juvenile was netted 1 August.

Griscom (1932b) identified Guatemalan specimens

as *C. a. isthmica* (type locality: Panama). Dickey and van Rossem (1938) called the El Salvador birds *septentrionalis* Sharpe (type locality: Texas), and Monroe (1968) used that name for all Central American populations. Griscom (1932a) wrote (p.181) "the color characters show little or no variation towards *septentrionalis*..." Fifteen birds from his series with locality data are available in the AMNH. Five have foreheads (and two have even the crowns) fully as streaked with white as specimens from northeastern Mexico and Texas that also were available to him for comparison. Those five Guatemalan specimens could be labeled "typical *septentrionalis*." The remaining 10, and the six from La Avellana, have the streaking of the forehead and crown reduced, or absent, and are inseparable by this character from a series of *isthmica* Goldman from Panama.

An additional character that may prove useful in distinguishing these forms is the extent of white spots on the lesser wing coverts. Twenty-four of the 33 adult male *septentrionalis* in the AMNH collection (73%) have white spots evident (although these may be greatly reduced on some individuals), while only one of 14 (7%) adult male *isthmica* has even reduced spotting on the lesser coverts. Three of the five adult males available from Guatemala have lesser coverts well marked with white, while two lack spotting. Thus, the Guatemala birds are intermediate in this character as well, and Guatemalan specimens represent intergrades between *isthmica* and *septentrionalis*.

Measurements of the two forms, as presented by Wetmore (1968), overlap so extensively that only extremely large and extremely small birds may be identified racially by that character.

#### *Chloroceryle aenea* (Pallas).

#### American Pygmy Kingfisher

The Pygmy Kingfisher was taken regularly in nets set in mangroves and in wet, swamp forest. Several birds taken in August were not in molt; one male taken in April was in light molt. A male weighed 16.4 g. Extensive series of the Pygmy Kingfisher from Middle America reveal no geographic variation within the region. The subspecies is *stictoptera* Ridgway.

### RAMPHASTIDAE

#### *Pteroglossus torquatus* (Gmelin).

#### Collared Aracari

A pair of the moderately common Collared Aracari was seen repeatedly in late April at a nesting hole in a dead branch about 10 m above a small stream. A female, collected in April, was in light molt and weighed 194.5 g; a male taken in August was in general molt. It was identified as the nominate subspecies.

### PICIDAE

#### *Centurus aurifrons* (Wagler).

#### Golden-fronted Woodpecker

I continue to use *Centurus* for this closely related group of woodpeckers in spite of Short's (1982) ill-advised lumping them with the highly polyphyletic *Melanerpes* (witness Acorn Woodpecker *M. formicivorus*, Lewis's *M. lewis*, Red-headed *M. erythrocephalus*, and the small Black-cheeked *M. pucherani*; see also Selander and Giller 1963). This was the common woodpecker at La Avellana. Two females were collected 10 April: one had a slightly enlarged ovary; the other had a soft-shelled egg in the oviduct. They weighed 67.8 g and 80.8 g, respectively. Adults and a juvenile taken in August were in advanced stages of the prebasic molt.

Within Guatemala, four subspecies of *C. aurifrons* may be recognized as follows (summarized from Dickerman 1987). *C. a. dubius* Cabot, which is distinguished from all other mainland populations by its red belly, occurs in the Department of Petén. It intergrades with *santacruzii* Bonaparte in the lowlands of northern and eastern Alta Verapaz and with *C. a. pauper* Ridgway in the lower Rio Motagua drainage.

*C. a. pauper* is similar to *dubius* and *santacruzii* Bonaparte, but the white bars of the dorsum are narrower in relation to the black bars; the lower belly and undertail coverts are reddish-orange or yellow-orange, not red. *C. a. pauper* from Honduras is distinctly smaller than *dubius*, averaging smaller than *santacruzii*, and distinctly smaller than birds from the upper Rio Motagua valley (Dickerman 1987). In Guatemala, birds nearest *pauper* occur only in the lower Rio Motagua valley.

*C. a. santacruzii* is most similar to *dubius*, but the belly is yellow to yellow-orange. Specimens in fresh plumage have a yellowish wash on the dorsum. This subspecies occurs in western, central, and southern Guatemala, and intergrades with *dubius* in the lowlands of Alta Verapaz, and probably in western Petén, and with *hughlandi* Dickerman in the upper Rio Motagua drainage. Griscom was in error when he designated Santa Cruz, Department El Quiché, as the type locality for *Centurus santacruzii* Bonaparte. The collector, Colonel Velazquez de Leon, could not possibly have visited that region, nor were trade skins available from Guatemala in the early 1830s (cf. Griscom 1932a, p. 4). Puerto San José, Department of Escuintla, has been suggested as a corrected type locality for *santacruzii* (Dickerman 1986).

*C. a. hughlandi* was described during this study (Dickerman 1986.) as having the white bars of back and flanks wider than in *santacruzii* and *dubius*, and in differing from *santacruzii* in lacking a yellow wash on the dorsum. The median area of the lower belly is yellow to yellow-orange, and *hughlandi* is larger than other sub-

species in Guatemala. It occurs in the upper valley of the Rio Negro and in the upper Rio Motagua valley.

*Veniliornis fumigatus* (d'Orbigny).

**Smoky-brown Woodpecker**

This was the least commonly encountered woodpecker in the La Avellana vicinity. A female with worn plumage in general molt, collected in August was small, typical of *V. f. sanguinolentus*.

*Dryocopus lineatus* (Linnaeus).

**Lineated Woodpecker**

The large Lineated Woodpecker was seen in all habitats, but most frequently in riparian woodland, where larger trees were more common. A worn adult female collected in April was in body molt and weighed 137 g. On geographic grounds, the specimen was identified as the subspecies *similis* Lesson.

FURNARIIDAE

*Synallaxis erythrothorax* Sclater.

**Rufous-breasted Spinetail**

This species was encountered only in arid scrub at the edge of the marsh or on islands within the marsh. Two taken in August were in heavy molt. Two males weighed 15.3 g and 15.6 g; three females 14.6 g, 15.5 g and 15.9 g. They are typical of the pale subspecies *pacifica* Griscom.

DENDROCOLAPTIDAE

*Xiphorhynchus flavigaster* Swainson.

**Ivory-billed Woodcreeper**

This species was widely distributed in all habitats in which trees were present, from mangrove swamps to the coffee plantations above Chiquimulilla. Three males weighed 50.8 g, 53.8 g, and 54.4 g; three females 46.4 g, 47.4 g and 48.4 g. They represent the widespread Middle American race *eburneirostris* (Des Murs).

*Lepidocolaptes souleyetii* (Des Murs).

**Streak-headed Woodcreeper**

In contrast to the Ivory-billed Woodcreeper, this species was found only in the coastal mangrove habitats and in the moist coffee plantations at higher elevations, and not in intervening habitats. A female taken 6 May above Chiquimulilla had a soft-shelled egg in the oviduct. Five of seven males and two of three females taken in April and May were noted to be in light, scattered molt. Apparently, there is at least a partial pre-alternate molt. Three males weighed 27.7 g, 28.2 g and 29.2 g; four females 25.0-27.1 g.

Nelson (1897) described the northern subspecies *insignis* Nelson from Otatitlán, Veracruz, as having broader white shaft lines on the top of the head, neck,

and back, with the streaks extending farther down the back, and with broader white markings ventrally. Unfortunately, Griscom (1932a) did not have available in the AMNH a series of *insignis* with which to compare the large series collected by Anthony in Guatemala, although he used that name for the Guatemala series instead of the older name *compressus* Cabanis (type locality: Costa Rica). Ten specimens of *insignis* are now at hand from Oaxaca. The extent and width of the rich buffy (not white) streaking on the back appear to be the best characters separating *insignis* from *compressus* Cabanis, although the slightly richer coloration (less gray ventrally and more red dorsally) of *insignis* is also a useful character. The color differences are evident among both older (early 1900) and more recent (1960-70) specimens. Monroe (1968) discussed only the width of the ventral streaking, the buffiness of the throat, and the extent of the buffy area (the latter characters not previously used as diagnostic); he concluded that *insignis* is not a valid form and recognized *compressus* as the only subspecies in Mexico and Central America.

Twenty-seven specimens taken by Anthony and studied by Griscom (1932a) are now in the AMNH. Of these, only four could be matched by specimens in the series of *insignis*, based on the extent of streaking on the back, and those four have slightly narrower dorsal streaks. They were taken in April and are too faded for comparisons. Three were taken at Finca Chama in the northern interior and one at Finca California in northwestern Guatemala, both areas where one would expect to find intergrades between the two forms. Only one of the 10 specimens taken during the present study has more extensive streakings, but, again, the streakings are narrower and the bird is less reddish dorsally and grayer ventrally, as in typical *compressus*. None of the nine specimens from Guatemala in the Field Museum of Natural History approaches the four Mexican specimens in extent or width of back streakings, or in their darker, richer colorations. Thus, there is a rapid change near the Mexico-Guatemala border from *insignis* to *compressus*, with *insignis* possibly extending south into the Caribbean lowlands of Guatemala (a specimen from Panzós is inseparable from *insignis*).

Monroe (1968) felt the only consistently varying character in the Central American populations was size, which decreased in a cline from north to south. Measurements of the wing chord of the three adult males in the present collection in fresh to relatively little-worn plumage are larger than those presented by Wetmore (1968) for *compressus* (98.7 mm versus 93.3 mm), but pending measurement of a larger series of unworn adults from throughout the range, the significance of the differences remains to be determined.



## THAMNOPHILIDAE

### *Thamnophilus doliatus* (Linnaeus).

#### Barred Antshrike

In the region of La Avellana, the Barred Antshrike was found only on islands within the marsh that had patches of arid scrub vegetation. Elsewhere on the Pacific lowlands the species is ecologically more widespread, as one was found dead on the road in a region of sugar cane and patches of taller, more mesic forest. The male of a pair weighed 28.7 g; the female 30.0 g. The subspecies is *intermedius* Ridgway.

## TYRANNIDAE

### *Camptostoma imberbe* Sclater.

#### Northern Beardless-Tyrannulet

This tiny tyrannulet is a rather common species about La Avellana in the arid scrub vegetation. A fledged juvenile taken 29 April was in body molt. Three females weighed 6.8 g, 6.9 g and 7.2 g. The nominate subspecies ranges from Texas south to Costa Rica.

### *Myiopagis viridicata* (Thunberg).

#### Greenish Elaenia

This species was fairly common at La Avellana, but more commonly netted than seen. Two of three females netted in April and May were in light molt. Four males weighed 11.0 g, 11.3 g, 12.1 g, and 13.3 g; one female weighed 9.7 g. *M. v. pacifica* Brodkorb is the subspecies of the Pacific lowlands.

### *Oncostoma cinereigulare* (Sclater).

#### Northern Bentbill

The Northern Bentbill was rather uncommon and restricted to moister habitats. Specimens from this study are from La Avellana 18 August 1971 and 12 km northeast of Chiquimulilla 25 April 1975. The subspecies *pacifica* Brodkorb (1939) apparently is restricted to the Pacific lowlands of Chiapas, Guatemala, and possibly El Salvador (specimens not seen). Other records of *pacifica* from Guatemala are from Finca El Espino and three from Hacienda California. All other specimens in the AMNH from the interior and the Caribbean slope of Guatemala, and from Honduras, Nicaragua, Costa Rica and Panama, are grayish on the crown and have the back more olive-green (less yellow-green), as in the nominate form.

### *Todirostrum cinereum* (Linnaeus).

#### Common Tody-Flycatcher

The little "culito arriba" is a common species in the mangroves at La Avellana. Its spindle-shaped nests were found regularly in April. A male weighed 6.8 g; a female 5.3 g. Comparison of four specimens of *finitimum* Bangs from La Avellana with a large series of *T. c.*

*wetmorei* Parkes (1976) from Costa Rica and Panama verify the color characters used in separating *wetmorei* and suggests that the culmen of *wetmorei*, when compared sex for sex, is shorter than in *finitimum*.

### *Tolmomyias sulphurescens* (Spix).

#### Yellow-olive Flycatcher

This was an uncommon, but ecologically widely distributed resident in the region of La Avellana. An adult female netted 11 August was in general molt. One male weighed 18.7 g; two females 12.3 g and 12.5 g. *T. s. cinereiceps* (Sclater) occurs south to Costa Rica.

### *Contopus sordidulus* Sclater.

#### Western Wood-Pewee

Migrant: regular; uncommon; 2 max.; 16 April-10 May.

### *Empidonax alnorum* Brewster.

#### Alder Flycatcher

Migrant: regular; common. It seems almost inconceivable that Miller et al. (1957) did not recognize *E. alnorum* as a distinct species nor that Monroe (1968) did not encounter either *E. traillii* nor *E. alnorum* in Honduras. Specimens of *Empidonax* were identified by A.R. Phillips. Many worn fall specimens could not be identified to species. No molt was noted on four males of *alnorum* collected 26 April and 1-11 May, nor two females taken 16 and 20 May, nor four males and two females taken in August. Males taken 10 May at Finca Carolina, Department San Marcos and 26 August at Panajachel, Department Solola by A. W. Anthony and identified as *E. traillii* by Griscom (1932a) are *E. alnorum*.

### *Empidonax traillii* (Audubon).

#### Willow Flycatcher

Migrant: regular, common. Three subspecies of *E. traillii* were identified by A. R. Phillips. Nominate *traillii* (including *campestris*): 6 April-20 Mar and 11-21 August; no molt was noted on one male nor on two females taken 5-11 May. *E. t. brewsteri*: 8 April-11 May and 18 and 21 August; most April and May specimens were in general molt; three males were taken 15 April-4 May and five females 8 April-10 May. *E. t. adastus*: 12 April-4 May; three specimens, only one typical, were all in full molt; two had short tails due to molting rectrices.

### *Empidonax minimus* Baird [= *pusillus* (Swainson)].

#### Least Flycatcher

Migrant: regular; common; 10 max; 2-29 April and 13-19 August. All April and May specimens were in general molt. Phillips et al. (1964) revived and Rea (1983) elucidated the use of *pusillus* as the correct name for the Least Flycatcher (but see Banks and Browning 1995).

*Attila spadiceus* (Gmelin).

**Bright-rumped Attila**

This species inhabits tall riparian forests where it was often heard, but seldom seen. A male taken in April at Chiquihuitán, 4 km north of La Avellana, was in fresh plumage and paler, and thus more like *salvadorensis* Dickey and van Rossem than are three male *A. s. flammulatus* Lafresnaye from Guatemala (Chimoxan, Hacienda California, and Quirigu) and five from Mexico. A female from above Chiquimulilla is intermediate between the two forms and is very similar to a female in first basic plumage taken at Finca Salache, elevation 1000 feet (304.8 m), in the region of Finca California. Thus, *flammulatus* occupies the northwestern Pacific lowlands, where the climate is more mesic and extends southeastwards along the Pacific slope at higher elevations into Honduras, while *salvadorensis* is restricted to the more arid southern coastal lowlands. Monroe (1968) did not, but Traylor (1979a) did, recognize *salvadorensis*.

*Myiarchus tuberculifer* (Lafresnaye and d'Orbigny).

**Dusky-capped Flycatcher**

This was a fairly common species at La Avellana, especially in the mangroves. A male and two females had wing chord measurements of 81 mm, 81 mm and 80 mm; their weights were 19.8 g, 18.7 g, and 20.2 g, respectively. The subspecies is *connectens* Miller and Griscom.

*Myiarchus cinerascens* (Lawrence).

**Ash-throated Flycatcher**

Migrant: irregular; 1 max.; 27 April 1974 and 11 April 1975. First record of the species for the Pacific lowlands. One specimen was in general body molt, the other had molt on the back and rump. They represent the nominate subspecies.

*Myiarchus nuttingi* Ridgway.

**Nutting's Flycatcher**

Nutting's Flycatcher is a common resident in the region of La Avellana. A nest with two eggs was found 20 April; a nestling about 10 days old was collected 8 May. A female weighed 22.0 g. A series of specimens from La Avellana and El Paraiso in fresh plumage collected in August is brighter below than nominate *nuttingi*, and thus represents *flavidior* van Rossem.

*Myiarchus tyrannulus* (Müller).

**Brown-crested Flycatcher**

Migrant (at least in part): irregular; 1 max. Three specimens were collected 29 April, 6 May and 11 August. The April specimen, female, was in general body molt, including the tertials; the ovary was slightly enlarged. The sex of the May specimen was not recorded, but based on size, it was probably a male; it was in light scattered

molt. The August specimen was in heavy molt, including wings and tail. There are no nesting records for the species near La Avellana, but it nests in El Salvador (Thurber et al. 1987).

The status of *M. tyrannulus* at La Avellana is a problem. In all characters, the three specimens fall within the range of *M. t. cooperi* Baird. In all three, the width of the fuscous on the medial web of the outer rectrix is greater than 2.0 mm, as in *cooperi* (Lanyon 1960). Lanyon did not find the species nesting in the Pacific lowlands of Guatemala and indicated a gap between the ranges of *cooperi* on the lowlands of Chiapas and *brachyurus* Ridgway, or *brachyurus* intermediate towards *cooperi* in El Salvador. Lanyon kindly examined the three La Avellana specimens and believed them to represent late spring and early fall migrants, although a further search should be made for evidence of nesting.

Griscom (1932a) identified a specimen from Hacienda California as *Myiarchus brachyurus*, which he believed to be a full species. I have re-examined that specimen and it is *cooperi* in all characters. The fuscous stripe of the outer rectrix is narrow (2.1 mm), but within the range of *cooperi* and above that for *brachyurus*. The wing chord and tail measurements of 103 mm and 96 mm, respectively, fall outside those presented by Lanyon for *brachyurus* (1960).

*Pitangus sulphuratus* (Linnaeus).

**Great Kiskadee**

The Great Kiskadee was a common resident species. A nest with three eggs was found 20 April, and a young in unfaded juvenal plumage was taken in August. Some adults and immatures taken in August had nearly completed their prebasic molt.

Griscom (1930a) described the subspecies *pallidus*, based on a single specimen from the Rio Negro valley, as being paler in color than the series of *guatimalensis* Lafresnaye collected by Anthony. The type, however, although taken in February, is worn and faded and indeed is matched in color only by the most worn and faded specimens available, whereas Anthony's other specimens were in fresher plumage.

A juvenile collected 15 August in the Rio Motagua valley is paler ventrally than one juvenile from La Avellana and one from Progreso (also in the Rio Motagua valley), but its paleness is probably due to the overstuffed manner of preparation. Three adults from the middle and upper Rio Motagua valley (Teculután and Progreso) are inseparable from comparable specimens from the Pacific lowlands, and *guatimalensis* is the only subspecies that should be recognized from the country.

Four specimens from Marajuma in the lower Rio Motagua valley collected in February were identified as *pallidus* by Carriker and Meyer de Schauensee (1935).

Those specimens, three immatures and one adult, match well comparably worn specimens from Veracruz, and I consider them to represent *guatemalensis*, if that subspecies is valid. In any case, *P. s. pallidus* was based only on a faded and worn specimen and is a synonym of *guatemalensis*.

*Megarhynchus pitangua* (Linnaeus).  
**Boat-billed Flycatcher**

This species was a fairly common resident of the arid scrub vegetation. A male taken in April had enlarged testes (7 x 13 mm), was not in molt, and weighed 62.0 g. The supposedly pale subspecies *M. p. deserticola* described by Griscom (1930a) from the arid Rio Negro Valley (Sacapulas) was based on a single worn and faded specimen that is inseparable from comparably worn specimens of *mexicanus* Lafresnaye. Guatemala specimens are identified as *M. p. mexicanus*.

*Myiozetetes similis* (Spix).  
**Social Flycatcher**

The well-named Social Flycatcher was a common resident at La Avellana. A nest with one egg and one newly hatched chick was found 20 April. Adults and immatures collected in August were well advanced in their prebasic molt. *M. s. texensis* (Spix) ranges from northeastern Mexico south to Costa Rica.

*Myiodynastes luteiventris* Sclater.  
**Sulphur-bellied Flycatcher**

Migrant: regular; fairly common; 5 max.; 6 April-10 May and 6 August. A male taken 16 April is inseparable from specimens taken in Arizona and Mexico. The species is considered monotypic.

*Tyrannus melancholicus* Vieillot.  
**Tropical Kingbird**

The Tropical Kingbird was a common resident of the Pacific lowlands of Guatemala. A nest with two eggs was found 20 April. Females taken in April and May were in general body molt. Immatures and adults taken in August and November were in late stages of prebasic molt. A male weighed 42.7 g; two females weighed 30.0 g and 33.4 g. The subspecies of the Pacific lowlands is *satrapa* Cabanis and Heine (see Traylor 1979b).

*Tyrannus verticalis* Say.  
**Western Kingbird**

Migrant: regular; common; more than 59 max.; 10 April-9 May. Specimens taken in April were in heavy molt. Regularly seen over the marsh in the evenings in mixed flocks with Scissor-tailed Flycatchers.

*Tyrannus tyrannus* (Linnaeus).  
**Eastern Kingbird**

Migrant: common; more than 100 max.; 10 April to 10 May.

*Tyrannus forficatus* (Gmelin).  
**Scissor-tailed Flycatcher**

Migrant: regular; abundant; 100's max.; 6 April-1 May, and 25 November. A male taken in April was in general molt; a female in light molt, including outer primaries.

*Pachyramphus aglaiae* (Lafresnaye).  
**Rose-throated Becard**

The Rose-throated Becard was a common, ecologically widespread species in the vicinity of La Avellana. A nest was under construction in Escuintla in April. Two immature males taken in April and August were in general molt. Three males weighed 27.5, 28.8, and 29.4 g.

Dickey and van Rossem (1938, map p. 341) put the border between the dark subspecies *sumichrasti* Nelson (type locality: Jalapa, Veracruz) and the paler subspecies *latirostris* Bonaparte (type locality: Nicaragua) in western El Salvador. Webster (1963), with a larger series available, felt that all specimens from El Salvador were *latirostris*, or perhaps a separable form in which the males are pale with pink throats. Webster saw no specimens from southern Guatemala.

Six females in fresh plumage from La Avellana and El Paraiso are paler ventrally and have gray crowns like three female *latirostris* from Chinandega, Nicaragua, and Guanacaste Province, Costa Rica, in contrast to the richer ventral coloration and black crowns of females of the races *sumichrasti* and *hypophaeus* Ridgway. The back color of these Guatemalan females is slightly paler than is that of females of *sumichrasti* and *hypophaeus*. Four adult males are like one *latirostris* in comparable plumage; they are paler dorsally than nine male *sumichrasti* in a similar stage of wear and slightly paler and clearer gray (with less olive cast) ventrally. The latter character does not appear to be due to foxing, as the La Avellana males taken in 1973-74 are similar to a male from Costa Rica collected in 1927. Thus, the border between *latirostris* and *sumichrasti* lies somewhere between the humid region of the northwestern lowlands near the Mexican border and the arid lowlands of the region of La Avellana.

Three adult males from La Avellana collected in April differ from four males from Chinandega Province, Nicaragua, and Guanacaste Province, Costa Rica, and agree with males from El Salvador in having pink rather than gray throats, while a fourth male has the throat gray with a pink wash.



*Tityra semifasciata* (Spix).

**Masked Tityra**

The Masked Tityra was a rather uncommon species in the vicinity of La Avellana. A male collected in April had testes measuring 11 x 5 mm. It was in light scattered molt. Its wing measured 126 mm, typical for the larger subspecies *personata* of northern Central America.

VIREONIDAE

*Vireo pallens* Salvin.

**Mangrove Vireo**

The Mangrove Vireo was a common bird along the edge of the marsh at La Avellana. A female taken 24 April had a soft-shelled egg in the oviduct, and weighed 15.2 g. Two males weighed 10.8 g and 11.3 g. The subspecies *ochraceus* Salvin ranges along the Pacific coast of Guatemala and El Salvador.

*Vireo bellii* Audubon.

**Bell's Vireo**

Migrant: regular; fairly common; 4 max.; 7-16 April. Three of five specimens were in light molt; all were identified as the nominate subspecies.

*Vireosylva olivaceus* (Linnaeus).

**Red-eyed Vireo**

Migrant: irregular; 1 max.; 23 April 1976. One specimen of the northern migrant subspecies *olivaceus* was netted at Taxisco.

There are seven specimens representing northern populations in the AMNH; five are without locality data. All represent the nominate subspecies. The Panajachel specimen reported by Griscom (1932a) was collected 30 August 1926, not 26 August as reported; a female of *flavoviridis* was collected at that locality on the 26th. I follow Phillips (1991) in using *Vireosylva* as the generic name for the vireos without wing bars and usually with a strong superciliary stripe (see his key, p.154).

*Vireosylva flavoviridis* (Cassin).

**Yellow-green Vireo**

The Yellow-green Vireo was seen and netted regularly during this study. The species nests from Texas south to Panama, and undoubtedly migrants pass through the study area to nest farther north. However, only one of four females and none of four males taken in April and May had more than a little fat. That female, taken 26 April, did not have an enlarged ovary, while the other three females (13 April to 9 May) had slightly enlarged ovaries; it might well have been a later-arriving locally nesting individual. Males taken 13 to 26 April had testes measuring 1.5 x 2.5 mm to 4 x 6 mm, with the male taken the 26th having the smallest testes. Two birds taken in August were in fresh basic plumage. An adult taken

19 August was moderately fat; an immature male taken the 24th had heavy fat.

CORVIDAE

† *Calocitta formosa* (Swainson).

**White-throated Magpie Jay**

This species was seen fairly commonly in small flocks, especially in the arid scrub zone. No specimens were collected.

HIRUNDINIDAE

\* *Progne subis* (Linnaeus).

**Purple Martin**

Migrant: once, 20 April 1975. A "black" swallow, described by Vicente Ibarra, a La Avellana Village assistant, was probably this species. It was not recorded on the Pacific lowlands by Land (1970).

*Progne chalybea* (Gmelin).

**Gray-breasted Martin**

A roost of several thousand Gray-breasted Martins used the wires along streets of the center of Chiquimulilla in the spring (nights of 6 and 24 April) and another roost of tens of thousands of birds was observed in the central zone of Escuintla in August. They nested in cavities in palm trees at La Avellana in May. It is not known whether they remain at La Avellana throughout the year.

\* *Tachycineta bicolor* (Vieillot).

**Tree Swallow**

Migrant: seen twice, 11 April 1975 and 14 April 1976, by John O. Biderman and Tom Wills, respectively.

*Tachycineta albilinea* (Lawrence).

**Mangrove Swallow**

The Mangrove Swallow was a common resident along the canals through the marsh. The nominate subspecies ranges from Mexico to Argentina.

*Stelgidopteryx serripennis* (Audubon).

**Northern Rough-winged Swallow**

Migrant: regular; common; 100's max.; 23-22 April.

*Petrochelidon pyrrhonota* Vieillot.

**Cliff Swallow**

Migrant: regular; uncommon.; 50-100 max.; 12 April-7 May. Two specimens were identified as "*albifrons*" (= *pyrrhonota*), one possibly intermediate towards "*hypopogia*" and one specimen as "*lunifrons*" by A.R. Phillips.

Rea (1983) used the specific name *lunifrons*, which follows Ridgway (1904) and the Fourth Edition of the AOU Check-list (1931), because *pyrrhonota* cannot be identified to species in the absence of a type specimen, and the original description does not fit the northern

Cliff Swallow. Phillips (1986) probably more correctly used *albifrons* Rafinesque as the species name.

\* *Hirundo rustica* Linnaeus.

**Barn Swallow**

Migrant: regular; abundant; 100's max.; April-10 May, 11 August and 25 November. Not recorded by Land (1970) from the Pacific lowlands.

TROGLODYTIDAE

*Campylorhynchus rufinucha* (Lesson).

**Rufous-naped Wren**

This abundant resident nested after the start of the rainy season. The ovaries of two females taken 8 April had not started to enlarge, and testes of males taken 29 April and 5 May were only slightly enlarged. Stub-tailed young were taken 10 August, and young in advanced first prebasic molt were collected in November.

Five specimens in basic plumage from the Montufar-El Paraiso area near the El Salvador border show complete intergradation between the darker, rich chocolate, uniform coloration of the back of *nigricaudatus* Nelson (type locality: San Benito, Chiapas) and the paler, more striped dorsal pattern of *capistratus* Lesson (type locality: Realejo, Nicaragua). One is typical *nigricaudatus* and two are typical *capistratus*. Three adults from La Avellana and 12 adults from Santa Rosa and Jutiapa Departments in the southwestern lowlands, in the Field Museum of Natural History and in the Louisiana State University Museum of Zoology, show the same degree of variation. Thus, the zone of intergradation between two subspecies of *Campylorhynchus rufinucha*, as in *Turdus grayi* and *Icterus gularis*, occurs between Puerto San José, and the El Salvador border.

*Thryothorus maculipectus* Lafresnaye.

**Spot-breasted Wren**

Only four individuals of this species were netted at La Avellana, but I consider it to be an uncommon resident.

Three subspecies have been described from Guatemala and adjacent Honduras: *T. m. umbrinus* Ridgway (type locality designated as "Vera Paz" by Griscom 1930b); *T. m. petersi* Griscom (type locality: Lancetilla, northeastern Honduras); and *T. m. varians* Griscom (type locality: Puerto San José, Guatemala). Howell (1957) did not recognize *petersi* Griscom or *varians* as distinct from *umbrinus*. However, I have the impression that all three forms are valid, pending a badly needed revision of the species. There is apparently a considerable, but un-analyzed variation in size that must be evaluated. While identifying the specimens from La Avellana, I examined other material available from Guatemala. The specimen from Moca identified as *varians* by Carriker and Meyer de Schauensee (1935) is too dark

for that coastal subspecies and is nearer *umbrinus*. Some specimens from Quiriga in the lower Motagua valley, referred to as *umbrinus* by those authors, are nearer typical *petersi*.

*Thryothorus* is placed in quotation marks to indicate that it is only provisionally used for the birds we know as the "thryothorine" wrens. This name was erected in 1816 by Vieillot for *Troglodytes arundinaceus*, which he described in 1807. The name *arundinaceus* and his description of the ecology and nest refer to the Marsh Wren (*Cistothorus palustris*), but through an error the Carolina Wren (*Sylvia ludoviciana*) was figured. Later authors overlooked and or misinterpreted the historical sequence of events (see Phillips, 1986). Thus, *arundinaceus* should be used as the specific name for the Marsh Wren, and *Pheugopedius* Cabanis is the proper name for the "thryothorine" wrens. *Pheugopedius* was the generic name used for the Spot-breasted Wren by Griscom (1932a).

*Thryothorus modestus* Cabanis.

**Plain Wren**

The Plain Wren was netted on the lowlands only near El Paraiso and in the coffee plantations above Escuintla and Chiquimulilla. It was fairly common in the latter habitats. The species was not seen at La Avellana. Like the Rufous-naped Wren, this species must nest after the start of the rainy season. One Plain Wren in unfaded juvenal plumage that had not started the prebasic molt was netted 12 November. Land (1970) did not map the species as occurring in extreme southern Guatemala. *T. m. pullus* Ridgway, described from Pacific Chiapas, and considered by Griscom (1932a) to be "barely tenable," is a synonym of *modestus*.

SYLVIDAE

*Ramphocaenus melanurus* Vieillot.

**Long-billed Gnatwren**

A male, weighing 9.7 g, with slightly enlarged testes, was collected in a moist forest 18.5 km east of Escuintla. It is a near topotype of *R. rufiventris* Bonaparte, now a subspecies of *R. melanurus* Vieillot.

*Polioptila albiloris* Sclater and Salvin.

**White-lored Gnatcatcher**

Two males and a female weighed 6.0 g, 6.6 g, and 8.0 g, respectively. The female taken 11 April had a slightly enlarged ovary. All were in body molt.

The subspecies *pacifica* Brodtkorb apparently is restricted to the Pacific lowlands of Chiapas, Guatemala, and possibly El Salvador (specimens not seen). This species is restricted to the arid scrub vegetation, but within that habitat, it is relatively common. Brodtkorb (1944) described *bairdii* as similar to nominate *albiloris* of the

Rio Motagua valley, but having a longer wing and tail; the sum of these two measurements is diagnostic for *bairdii* Nelson. Two males from La Avellana have combined measurements of 97.5 and 99.5 mm. The former falls within the upper limits for *albiloris*, while the second falls outside the limits of that form. Monroe (1968) did not recognize *bairdii*, but, apparently in error, reversed the characters of *albiloris* and *bairdii*.

#### TURDIDAE

*Catharus ustulatus* (Nuttall).

##### Swainson's Thrush

Migrant: regular; abundant; 20 max.; 5 April-10 May. One heard singing 10 May. Only the subspecies *ustulatus* and *swainsoni* have been recorded previously from Guatemala. Subspecific identifications were made or confirmed by Mario A. Ramos (1991). The following subspecies are represented in the collections made during this study: *swainsoni*, commonest migrant, numerous specimens; *ustulatus*, one specimen taken above Chiquimulilla; *incanus*, three specimens taken above Chiquimulilla; *oedicus*, one specimen taken above Escuintla (AMNH 813665); *phillipsi*, one specimen taken above Chiquimulilla (AMNH 813760); and *appalachiensis*, one specimen from La Avellana and one from above Escuintla (AMNH 813663 and 813664) (cf. Ramos).

*Hylocichla mustelina* (Gmelin).

##### Wood Thrush

Irregular; 1 max.; 28 April. A single, rather fat specimen was netted during the study.

*Turdus grayi* Bonaparte.

##### Clay-colored Robin

This species was common on the Pacific lowlands of Guatemala. A stub-tailed young was collected 13 August, and a young in prebasic molt was taken 20 August. Molting adults were netted as early as 11 August.

The use of *T. g. megas* by Miller and Griscom (1925) for the pale populations of Central America was discussed in a preliminary revision of the species (Dickerman 1981a). Puerto San José, Department of Escuintla was redesignated as the type locality of *T. grayi* Bonaparte (Dickerman 1981a). *T. g. umbrinus* Griscom is a synonym of nominate *grayi*. Carriker and Meyer de Schauensee (1935) noted that two specimens from Quiriga in the lower Rio Motagua valley were identical in color to "*umbrinus*." Actually, those two specimens are identical to *lanyonii* Dickerman (1981a), which ranges from Veracruz south on the humid Caribbean slope to Guatemala and probably extends into adjacent Honduras. Series taken in November from the Montufar region of extreme southern Guatemala, and from Santa

Lucia, Department of Zacapa, in the Rio Motagua valley, are similar to the type and paratypes of *megas*.

Thus, nominate *grayi* is restricted to the humid area of northwestern Guatemala, and possibly adjacent Chiapas, and intergrades with *megas* in the drier interior of Guatemala (Panajachel and Antigua) and between Puerto San José, and La Avellana on the coastal lowlands.

#### MIMIDAE

*Mimus polyglottos* (Linnaeus).

##### Mockingbird

A single mockingbird, a juvenile, was netted at El Paraiso. The species was not seen at La Avellana nor was it recorded from the southern Pacific lowlands by Land (1970). I agree with Phillips (1961) that *M. gilvus* (Vieillot) is conspecific with *M. polyglottos*. The subspecies in southwestern Guatemala is *gracilis* (Cabanis).

#### PARULIDAE

*Vermivora peregrina* (Wilson).

##### Tennessee Warbler

Migrant: regular; uncommon; 3 max.; 10 April-3 May and 13 November.

*Parula americana* (Linnaeus).

##### Northern Parula Warbler

Migrant: regular; uncommon; 1 max.; 13-15 April.

*Dendroica petechia* (Linnaeus).

##### Yellow Warbler

Migrant: regular; abundant; 10 max.; 2 April-11 May and 20-28 August. Subspecific identifications were made by Mario A. Ramos (1991). The following subspecies are represented in the collection made during this study: *aestiva*, five specimens; *morcomi*, two specimens; *sonorana*, two specimens (all specimens identified as *aestiva* by Griscom (1932a), dates 20 August, 8 and 19 September, were re-identified as *sonorana*); *amnicola*, one from near Amatitlán, Guatemala Department, was noted to have an atypical wing formula, but was identified as "*amnicola?*"; *parkesi*, two specimens (AMNH 813718 and 813719); and *banksi*, one specimen (AMNH 813720) (cf. Browning 1994).

The Mangrove Yellow Warbler, of the subspecies *xanthotera* Todd, was a resident restricted to mangrove swamps, where it was fairly common. A female weighed 10 g; two males 11.6 and 12.0 g.

*Dendroica magnolia* (Wilson).

##### Magnolia Warbler

Migrant: regular; common; 6 max.; 3 April-5 May.

*Dendroica fusca* (Müller).

**Blackburnian Warbler**

Migrant; 1 max.; 30 April 1976. First record for the Guatemalan Pacific lowlands.

*Mniotilta varia* (Linnaeus).

**Black-and-white Warbler**

Migrant; regular; fairly common; 2 max.; 3-29 April.

*Setophaga ruticilla* (Linnaeus).

**American Redstart**

Migrant; regular; fairly common; 4 max.; 6 April - 5 May and 25 November.

*Seiurus aurocapilla* (Linnaeus).

**Ovenbird**

Migrant; regular; fairly common; 3 max.; 3 April - 5 May. Two subspecies, *aurocapilla* and *cinereus*, were netted in about equal numbers; eight and nine specimens, respectively, were prepared.

*Seiurus noveboracensis* (Vieillot).

**Northern Waterthrush**

Migrant; regular; common; 6 max.; 3 April - 8 May and 19 and 24 August.

*Oporornis philadelphia* (Wilson).

**Mourning Warbler**

Migrant; regular; four specimens, 24 - 29 April; none in molt.

*Oporornis tolmiei* (Townsend).

**MacGillivray's Warbler**

Migrant; regular; four specimens, 13-26 April; none in molt.

*Oporornis* sp.

Migrants; regular; uncommon; 3 max.; 13 April - 8 May.

*Geothlypis trichas* (Linnaeus).

**Common Yellowthroat**

Migrant; regular; common; 25 max.; 3 April-16 May. Because of the chaotic state of the taxonomy of this species, subspecific determinations were not attempted pending a revision of the species.

*Icteria virens* (Linnaeus).

**Yellow-breasted Chat**

Migrant; regular; uncommon; 2 max.; 5-17 April and 11 and 13 November. All specimens were identified as the eastern subspecies *virens*.

## THRAUPIDAE

*Habia fuscicauda* (Cabanis).

**Red-throated Ant-Tanager**

Three females and two adult males were collected near La Avellana in patches of wet forest. Two females had throats near salmon pink, characteristic of the subspecies *wetmorei* Dickey and van Rossem (1927); one female had a brighter orange-yellow throat than four Guatemalan or nine Mexican females of the Caribbean slope subspecies *salvini* Berlepsch (1883). Both males were paler (one markedly so; the other only on the basal edges of the rectrices), more similar to *wetmorei*, than 10 male *salvini*. Griscom (1932a), without reference, reported that van Rossem had determined three specimens from Puerto San José, were *wetmorei*, but no specimens from Guatemala were cited in the original description. Griscom also recorded a male and a female from Finca El Espino as *wetmorei*: the "female" is actually a worn juvenile of undetermined sex and the male is in such worn plumage as to be of no taxonomic value. Storer (1970) combined *wetmorei* with *salvini*, I believe erroneously.

*Piranga rubra* (Vieillot).

**Summer Tanager**

Migrant; irregular; 2 max.; 8 April 1975. The only specimen taken was an immature male of the nominate subspecies in light body molt.

*Piranga ludoviciana* (Wilson).

**Western Tanager**

Migrant; irregular; 2 max.; 7 April 1975. Only a single specimen was taken at La Avellana, although the species was an abundant migrant at slightly higher elevations in moist forests and coffee plantations.

*Thraupis episcopus* (Linnaeus).

**Blue-gray Tanager**

The Blue-gray Tanager was a common species at La Avellana. The subspecies *diaconus* occurs from Mexico to Panama.

*Thraupis abbas* (Deppe).

**Yellow-winged Tanager**

The Yellow-winged Tanager was fairly common at La Avellana. An adult female weighed 45.3 g. A juvenile in first prebasic molt was taken 11 August.

## EMBERIZIDAE

*Volatinia jacarina* (Linnaeus).

**Blue-black Grassquit**

A female of this common resident taken 4 August had a soft-shelled egg in the oviduct, while one taken 22 August contained a hard-shelled egg. Without critically re-analyzing the geographic variation in this species, La Avellana specimens were labeled *V.j. splendens* (Vieillot).



*Sporophila torqueola* (Bonaparte).

**White-collared Seedeater**

This was an abundant species at La Avellana. Juveniles in all stages of molt were netted in August. Monroe (1968) followed Meyer de Schauensee (1952), who in turn followed Hellmayr (1938), in not recognizing *mutanda* Griscom. Hellmayr considered it to be a "mutational variant" because some males have white in the throat. I found 10 of 42 males in alternate plumage had some white, while one of 19 *morelleti* (Bonaparte) had some black in the throat. Actually, *mutanda* is a clearly distinguished subspecies, well-separated from *morelleti* by the paler, grayer (more sandy, less ochraceous-buff) coloration of the females and juveniles in fresh plumage and even by the paler bellies of males in fresh alternate plumage early in the nesting season. *S. t. mutanda* occurs at La Avellana.

*Sporophila minuta* (Linnaeus).

**Ruddy-breasted Seedeater**

This little seedeater occurred in flocks of hundreds in the dry season in the region of La Avellana. Males were in heavy molt in mid-April, while one taken in early May was in nearly full alternate plumage. Five males weighed 8.0 to 9.4 g ( $\bar{x}$  8.7 g); one female weighed 8.8 g. Specimens represent the northern subspecies *parva* (Lawrence).

*Aimophila ruficauda* (Bonaparte).

**Stripe-headed Sparrow**

This bulky sparrow was common in the arid scrub vegetation near La Avellana. Three specimens taken in April and early May were all in molt. These dates agree with the Chiapas dates of Wolf (1977). Five taken in July and August had nearly completed their prebasic molt.

The Guatemalan southern Pacific lowland population was described as a new subspecies, *A. r. ibarrorum* Dickerman. It was named for Don Vicente Ibarra and his family of La Avellana, who were so important to our success there; and for Dr. Jorge Ibarra for his efforts in the conservation of wildlife in Guatemala (Dickerman, 1986).

Two subspecies are thus found in Guatemala: *connectens* Griscom is a paler, browner form of the Rio Motagua valley, and *ibarrorum*, a grayer and more deeply colored form. To date, the paler and grayer subspecies *lawrencii* of the Pacific lowlands of Chiapas has not been reported from the arid coastal zone of northwestern Guatemala.

CARDINALIDAE

*Saltator coerulescens* Vieillot.

**Grayish Saltator**

The Grayish Saltator was a common species at La

Avellana. Three of five birds taken in April and May were in light molt; a fourth, a young bird from the previous season, was in general molt. Two spring males weighed 54.7 g and 57.2 g; one female weighed 52.4 g. A short-tailed juvenile taken 8 August weighed 58.9 g. The subspecies at La Avellana is *S. c. hesperis* Griscom.

*Saltator atriceps* (Lesson).

**Black-headed Saltator**

This large saltator was a common resident near La Avellana. A female taken 13 April weighed 108 g; the ova measured up to 11 mm. A male with enlarged testes taken 18 April weighed 82.4 g. La Avellana specimens represent the nominate subspecies.

*Pheucticus ludovicianus* (Linnaeus).

**Rose-breasted Grosbeak**

Migrant: irregular; 8 April 1974. Only recorded once at La Avellana, but 15 were seen at Taxisco, 4 April 1976. The species was an abundant migrant at the slightly higher elevations in moist forests and coffee plantations.

*Cyanocompsa parellina* (Bonaparte).

**Blue Bunting**

The Blue Bunting is an uncommon resident. We netted only three males and no females or young during the course of this study. One male weighed 15.7 g. Klicka et al. (2001) provided evidence that *Cyanocompsa* is a distinct genus from *Passerina*, contra Paynter (1970). I disagree with Monroe (1968) and believe *dearborni*, a subspecies with darkly colored females, to be valid, and so identify the La Avellana specimens as *dearborni* pending a needed revision.

*Passerina caerulea* (Linnaeus).

**Blue Grosbeak**

None were recorded at La Avellana, but 20-30 were seen at Taxisco 4 April 1976.

*Passerina cyanea* (Linnaeus).

**Indigo Bunting**

Migrant: regular; common; 3 max.; 5-26 April.

*Passerina ciris* (Linnaeus).

**Painted Bunting**

Migrant: regular; common; 60 max.; 6-25 April. Tashian (1953), following Blake (1950), did not recognize subspecies in the Painted Bunting. However, my studies of the large series in the Field Museum of Natural History (studied by Blake), the Louisiana State University Museum of Zoology, and the AMNH support Storer (1951), who found that the two described subspecies are well marked and with few exceptions are easily recognized when only wing chord and bill size are used as characters.

With wing measurement alone, I found that 69 of 87 (78%) males in definitive plumage were “correctly” identified to subspecies (51 of 58 male *ciris* had wings measuring under 72 mm, while 21 of 36 *pallidior* Mearns had wings measuring 72 mm or more). Specimens from eastern Texas are intermediate in size. Furthermore, the bill of the western subspecies is distinctly larger when properly sexed specimens are compared.

Using even more conservative measurement criteria (71 mm or less vs. 72 mm or more for males; 66 mm or less vs. 67 mm or more for females), four males from Guatemala have been identified as *ciris*, and seven males and six females identified as *pallidior*. The specimens of *ciris* were taken at Puerto San José, (identified as *pallidior* by Griscom, 1932a), Guatemala City, and at localities in the Caribbean lowlands 10 January to 4 April. The specimens of *pallidior* were taken on both the Caribbean and Pacific slopes 23 November to 2 April. Storer (1951) found that the majority of birds wintering in Central America were derived from western populations.

*Spiza americana* (Gmelin).

**Dickcissel**

Migrant: regular; abundant; one million max.; 2-30 April. Vast clouds of dickcissels were regularly seen in the evening as they were returning to roost in the marshes near La Avellana.

ICTERIDAE

*Agelaius phoeniceus* (Linnaeus).

**Red-winged Blackbird**

Red-winged Blackbirds were abundant residents in the marshes around La Avellana. The subspecies *nayaritensis* Dickey and van Rossem reaches its southern limit in southwestern Guatemala and adjacent El Salvador (Dickerman 1974).

*Sturnella magna* (Linnaeus).

**Eastern Meadowlark**

Eastern Meadowlarks were collected in pastures about 15 km northwest of Taxisco. This is the first record of the species in the Pacific lowlands. The three specimens, taken in April, were in moderately worn plumage, but inseparable from series of *alticola* Nelson from Chiapas, Guatemala and Costa Rica. Two males weighed 91.7 g and 104.3 g; one female weighed 79.6 g.

*Dives dives* (Deppe).

**Melodious Blackbird**

The Melodious Blackbird was a common resident at La Avellana, although it had not previously been recorded from the Pacific lowlands (Land 1970). The species was not known from El Salvador prior to 1958 (Thurber et al. 1987). Specimens from La Avellana are inseparable

from series of nominate *dives* from Mexico and Panama. Three males weighed 108.2 g, 109.3 g and 121.0 g; two females weighed 81.2 g and 91.2 g.

*Quiscalus mexicanus* (Gmelin).

**Great-tailed Grackle**

A common resident species, the Great-tailed Grackle nested prior to, or just after, the onset of the rainy season when water levels were low and small fish easier to catch. Stub-tailed juveniles were taken from their nest by two boys on 1 May. A female collected 7 April had *Sarcocystis* in the thigh muscles. The females were large and dark and represent nominate *mexicanus*.

*Molothrus aeneus* (Wagler).

**Bronzed Cowbird**

The Bronzed Cowbird was a common resident. Two females collected 16 and 27 April had ova of up to 10 mm and a soft-shelled egg in the oviduct, respectively. I have no records of host range of the species. Three females weighed 53.0 g, 56.9 g, and 65.3 g; the heaviest female contained a soft-shelled egg. The nominate subspecies with dark females occurs from Texas south to Panama.

*Icterus spurius* (Linnaeus).

**Orchard Oriole**

Migrant: regular; 20 max.; 13-24 August and 13 November. Most specimens represent the nominate subspecies. One worn adult male taken 24 August has a wing (79 mm) plus tail (75 mm) measurement that is outside the range of variation for nominate *spurius* and within the range of *I. s. phillipsi* (Dickerman and Warner 1962). The color of the breast is darker, characteristic of *phillipsi*.

*Icterus galbula* (Linnaeus).

**Baltimore Oriole**

Migrant: regular, common, 15-20 max.; 3 April-10 May and 13 November.

*Icterus pustulatus* (Wagler).

**Streaked-backed Oriole**

The Streak-backed Oriole was a fairly common species in the arid scrub zone near La Avellana. Females taken 11-28 April had ovaries slightly enlarged. Three males weighed 42.3 g, 45.7 g and 47.2 g, three females weighed 36.5 g, 42.3 g and 47.2 g. These are apparently the first specimens taken on the southern Pacific lowlands of Guatemala. Neither Griscom, in his review of the Central American forms (1930b), nor Land (1970) recorded the species for the region.

The specimens from La Avellana (all taken in the spring and thus in worn plumage) are similar in size and color, when age, sex and wear classes are segregated, to

specimens from Costa Rica and Nicaragua, and thus are identified as *sclateri* Cassin. Tashian (1953) identified a specimen in unworn plumage, taken at Finca Mongoy in the interior of Jutiapa Department near the El Salvador border, as *sclateri*.

While identifying the specimens from La Avellana, I briefly reviewed the material of the species from south of Mexico in the AMNH. The only specimen from Guatemala listed by Griscom (1932a) as *formosus* Lawrence is an immature in fresh plumage, and it is very lightly streaked on the back; it does indeed represent *formosus*. The subspecies *I. p. maximus* Griscom from the Rio Negro valley, *contra* Monroe (1968), is separable from *alticola* Miller and Griscom of the Rio Motagua valley and central Honduras by its paler color when specimens properly separated by age, sex and wear are compared. I agree with Blake (1968) that *I. p. flammulatus* (type locality: Monte Redondo, Griscom 1932c) is inseparable from *alticola*. I have not seen specimens from El Salvador, but with the occurrence of specimens typical of *sclateri* from Finca Mongoy and from La Avellana, I agree with Hellmayr (1937) that *I. p. connectens* Griscom from the coastal region of El Salvador should be considered a synonym of *sclateri*.

### *Icterus pectoralis* (Wagler).

#### Spot-breasted Oriole

The Spot-breasted Oriole was slightly less common than the Altamira Oriole in the region of La Avellana. Those two species and the Streak-backed Oriole all nested in the arid scrub zone. Four females weighed 41.0–46.6 ( $\bar{x}$  44.9) g; one male weighed 52.6 g.

The use of the name *guttulatus* Lafresnaye for the populations of the Pacific lowlands of Chiapas south to Honduras, instead of *I. p. anthonyi* Griscom, has been detailed in a revision of the species (Dickerman 1981b). *I. guttulatus* (the type is in the Museum of Comparative Zoology, Harvard University) was described from “Mexico” in error. I designated Puerto San José, Escuintla Department, Guatemala, as the type locality (*ibid.*). Within the range of *guttulatus* there is regional, but non-clinal variation in size; there is no variation in color.

## A REVIEW OF *ICTERUS GULARIS*

### *Icterus gularis* (Wagler).

#### Altamira Oriole

The Altamira Oriole was the most abundant oriole in the La Avellana region. A juvenile male in early first prebasic molt was netted 23 August. It weighed 66.9 g. Two females taken in April weighed 54.7 g and 65.0 g. *Icterus gularis* is resident from southern Texas, eastern Nuevo Leon, eastern San Luis Potosi, south on the Caribbean lowlands of Mexico, and Belize locally to Honduras; on the Pacific lowlands, it occurs from Guerrero, south to west-central Nicaragua, and locally in the inte-

rior valleys of Guatemala and Honduras (AOU 1957). It varies geographically in size and in color and has a complex series of molts and plumages, resulting in there being eight names available! These are *Psarocolius gularis* Wagner (1829, type locality: Tehuantepec, Oaxaca, Mexico); *I. mentalis* Lesson (1831, type locality: “Mexico”); *I. g. yucatanensis* Berlepsch (1888, type locality: Yucatan, Mexico); *I. g. tamaulipensis* Ridgway (1901, type locality: Alta Mira, Tamaulipas, Mexico); *I. g. troglodytes* Griscom (1930, type locality: San Felipe, Retalhuleu, Pacific slope, Guatemala); *I. g. gigas* Griscom (1930, type locality: Sacapulas, Rio Negro Valley, Guatemala); *I. g. xerophilus* Griscom (1930, type locality: Progreso, Motagua Valley, Guatemala) and *I. g. flavescens* Phillips (1966, type locality: Tierra Colorada, Guerrero, Mexico).

Hellmayr (1937) recognized five subspecies. He did not recognize *mentalis* and considered that it could “...not be identified with absolute certainty” (but see below) and lumped *xerophilus* with *gigas*. Miller et al. (1957) did not mention *mentalis*, but recognized four subspecies in Mexico. At the southern end of the species range, Monroe (1968) did not consider the remarkable amount of variation in color to be correlated geographically, because bright and pale extremes may appear in any population. He felt that variation in size was more correlated with altitude than with latitude.

To identify specimens collected during the course of arbovirus research on the Pacific lowlands of Guatemala and in the Motagua River Valley (Scherer et al. 1972a, 1972b, 1976), I needed to re-evaluate the taxa *troglydytes*, *gigas*, and *xerophilus*, described from Guatemala, and indeed geographic variation throughout the species range. To make such a re-evaluation, it was necessary to study the plumages to be sure that specimens of similar plumage age were being compared. It turned out that *I. gularis* has four distinct plumages that vary sequentially with age. In the true juvenal and first basic plumages, the rectrices and remiges are olive. In the second basic plumage, the rectrices and remiges are black, and the head, venter and rump are yellow to yellow-orange. In the definitive plumage, the head, venter and rump are bright orange. Specimens in fresh second basic plumage are usually labeled as “adult,” and they often form the dominant portion of a collection from any one locality; thus a series will contain both yellow and orange “adults.” In this study, only specimens in the definitive plumage were measured and used for color comparisons. Measurements of wing chord and tail length are presented in Table 2 and Figure 3. Culmen shape varies slightly regionally, but not sufficiently to provide a useful means for separating subspecies.

Three subspecies of *I. gularis* may now be recognized: *mentalis*, *gularis*, and *flavescens*:

*Icterus gularis mentalis* Lesson. Cent. Zool., p.111, p. l41, 1831.



Table 2. Measurements of wing chord and tail for three subspecies and populations of *Icterus gularis*.

|   | Male                           |                                | Female                         |                                |
|---|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
|   | Wing                           | Tail                           | Wing                           | Tail                           |
| <i>I. g. mentalis</i><br>"tamalipensis"                 | 109-120 (115.4)<br>n=33 SD 2.5 | 102-112 (107.1)<br>n=32 SD 3.0 | 108-115 (110.0)<br>n=14 SD 2.5 | 99-109 (104.4)<br>n=14 SD 2.6  |
| Veracruz and Tobasco                                    | 107-120 (112.5)<br>n=14 SD 4.1 | 95-108 (110.5)<br>n=14 SD 4.6  | 106-110 (108.0)<br>n=7 SD 1.4  | 96-102 (98.6)<br>n=7 SD 1.8    |
| "yucatanensis"  | 112-121 (115.1)<br>n=22 SD 2.4 | 99-111 (103.8)<br>n=21 SD 2.9  | 104-110 (107.0)<br>n=16 SD 2.1 | 94-102 (98.3)<br>n=16 SD 2.5   |
| "troglydytes"   | 108-122 (115.2)<br>n=24 SD 3.6 | 96-107 (98.4)<br>n=25 SD 2.8   | 98-118 (109.5)<br>n=23 SD 3.4  | 89-105 (95.8)<br>n=19 SD 4.9   |
| <i>I. g. flavescens</i>                                 | 122-126 (124.0)<br>n=4         | 103-112 (107.3)<br>n=4         | 117-118 (117.6)<br>n=3         | 104-109 (106.5)<br>n=2         |
| <i>I. g. gularis</i>                                    | 122-133 (126.9)<br>n=33 SD 2.6 | 104-119 (110.5)<br>n=30 SD 3.5 | 117-125 (120.3)<br>n=12 SD 3.1 | 100-114 (107.7)<br>n=11 SD 4.2 |
| "gigas" including "aeophilus"<br>and highland Guatemala | 125-135 (131.6)<br>n=15 SD 2.5 | 110-118 (114.5)<br>n=12 SD 3.4 | 123-132 (126.5)<br>n=12 SD 3.1 | 110-118 (112.6)<br>n=12 SD 2.7 |
| Honduras  | 123-138 (130.2)<br>n=21 SD 4.3 | 107-118 (111.0)<br>n=21 SD 3.7 | 120-127 (124.0)<br>n=9 SD 2.4  | 101-114 (108.1)<br>n=9 SD 3.9  |
| Montufar, Guatemala<br>and El Salvador                  | 124-135 (127)<br>n=6           | 107-114 (109.8)<br>n=7         | 117-122 (119.2)<br>n=5         | 102-105 (103.3)<br>n=5         |

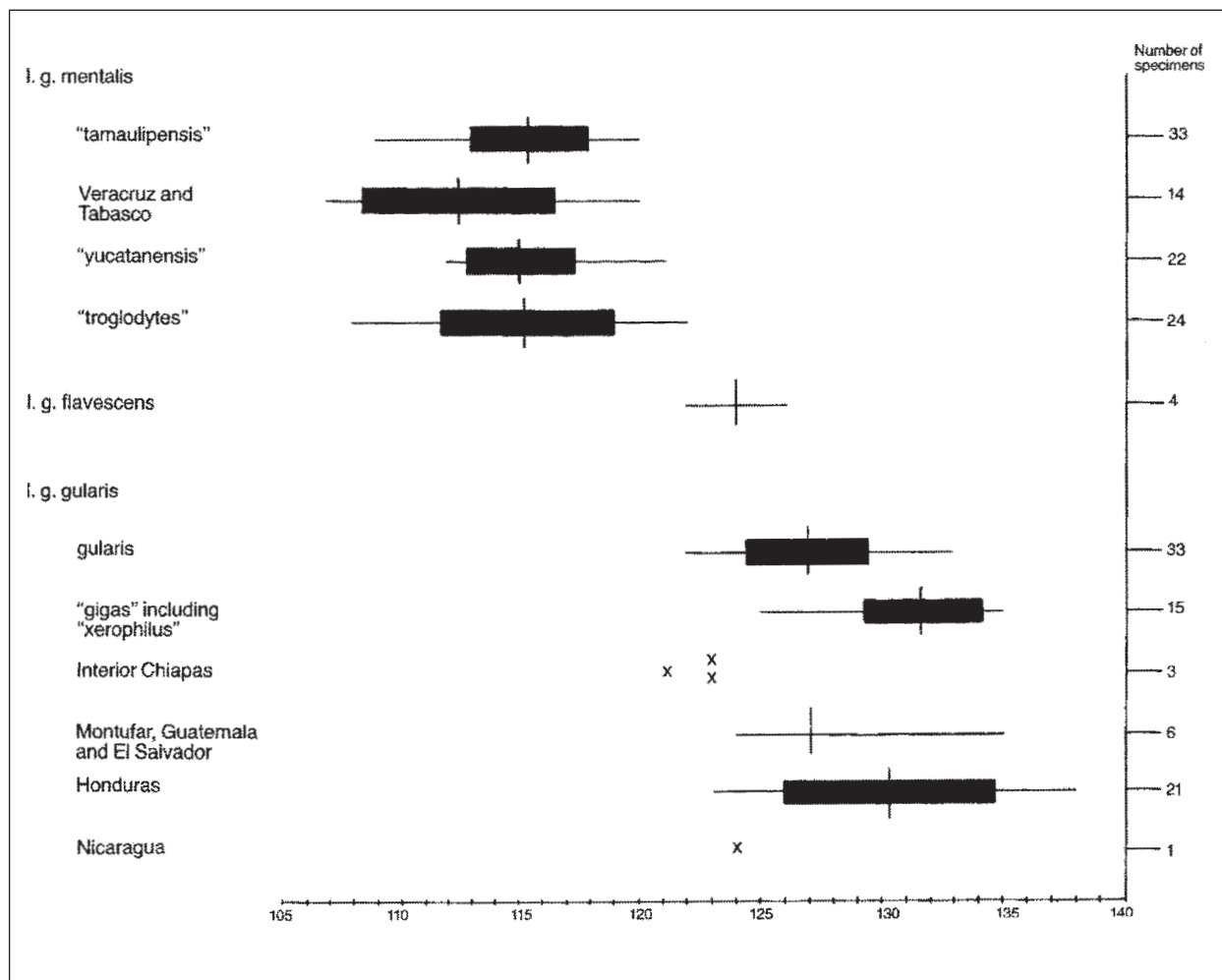


Figure 3. Measurement in millimeters of the wing chord of definitive plumaged male *Icterus gularis* (with range, mean and one standard deviation on either side of the mean) of the three subspecies recognized in this paper.

*I. g. yucatanensis* Berlepsch. AUK 5:454,1888.

*I. g. tamaulipensis* Ridgway. Proc. Wash. Acad. Sci. 3:152, 1901.

*I. g. troglodytes* Griscom. Amer. Mus. Nat. Hist. Novitates 438:13, 1930.

**Diagnosis:** Definitive plumage deep orange; smaller than other subspecies (Table 2, Figure 3).

**Range:** Southern-most Rio Grande Valley of Texas south on Caribbean lowlands to Yucatan, southward across the Isthmus of Tehuantepec to about Matias Romero, and on the Pacific lowlands of Chiapas from about Pijijiapan south to La Avellana, Guatemala.

I believe the name was erroneously rejected by Hellmayr (1937) because of its uncertain provenience within Mexico, and his recognition of *yucatanensis* and *tamaulipensis* from the region. Berlioz studied the unsexed type in the Paris Museum for Hellmayr (1937, p.146) and found it to be nearest a specimen from Orizaba, Veracruz. In size (wing 117 mm), it is larger than 65 females of the populations of Mexico here included in

*mentalis*, but falls well within the respective measurement for males. Thus, it is a characteristic specimen of the population of the low-lands of eastern Mexico, and the name takes precedence over *yucatanensis* and *tamaulipensis*, which are inseparable based on color, size or shape of culmen. I suggest the region of the city of Veracruz, Mexico, as a logical source of Lesson's specimen and that the type locality be so restricted.

*I. g. yucatanensis* was described as being more deeply colored than specimens from farther north along the Caribbean lowlands. However, only extremely richly colored individuals are separable among specimens of comparable age. Griscom (1930b) described *troglodytes* being like *tamaulipensis*, though averaging smaller, but Carriker and Meyer de Schauensee (1935) and Tashian (1953) found Guatemalan specimens from outside the range of *gularis* difficult to separate from *tamaulipensis* on the basis of color or size. With an adequate series of specimens in definitive plumage now available, *troglodytes* is inseparable in size from *tamaulipensis* (Figure 3).

The Chiapas and Guatemalan portion of the range of *mentalis* is disjunct from the range of populations of the eastern lowlands by the range of the nominate subspecies. The rapid shift in size from the larger *gularis* to the smaller *mentalis* occurs along the Pacific lowlands within 125 km between Tapanatepec, Oaxaca, and Pijijiapan, Chiapas. The reverse shift back to *gularis* occurs between La Avellana, Guatemala, and the El Salvador border, a distance of about 30 km. The disjunct population of *mentalis* on the Pacific lowlands of Chiapas and Guatemala, contra Griscom (1930b), has no apparent morphological character of its own.

Monroe (1968) recognized *trogodytes* as occurring in the Pacific lowlands of Honduras and in the valleys of the Caribbean slope:

*Icterus gularis gularis* (Wagler). Isis column 755, 1829.

*I. g. xerophilus* Griscom. Amer. Mus. Novitates 438:4, 1930.

*I. g. gigas* Griscom. Amer. Mus. Novitates 438:13, 1930.

**Diagnosis:** Similar to the color of *mentalis* but dramatically larger (Table 2, Figure 3).

**Range:** Pacific lowlands of the Isthmus of Tehuantepec south to Tapanatepec, Oaxaca, Mexico, interior Guatemala, El Salvador, and Honduras.

In describing the large Guatemalan specimens of *xerophilus* and *gigas*, Griscom (1930b) apparently measured only 10 males of *gularis*, probably including some in second basic plumage, and did not realize the extent of variation in the nominate subspecies. There is less than 6 mm difference between mean values for wing chord and tail lengths for populations from Tehuantepec and those from interior Guatemala and Honduras (Table 2). The paler color of the series from Rio Negro on which Griscom based *xerophilus* is due to the greater extent of wear and fading as compared to the series he called *gigas*, a factor he constantly overlooked (see *Pitangus sulphuratus pallidus* and *Megarhynchus pitangua deserticola*). Hellmayr (1937) and Monroe (1968) both recognized *gigas*, but both synonymized it with *xerophilus*.

Birds from the southern border of Guatemala (Montufar and Parariso) and El Salvador are intermediate between *mentalis* and *gularis*, but are closer to *gularis* (Fig. 3). Dickey and van Rossem (1938) presented measurements of a larger number of specimens than Griscom (1930b), but undoubtedly included specimens in the second basic plumage, which averages smaller, and the El Salvador population is somewhat intermediate in size towards *mentalis*.

*Icterus gularis flavescens* Phillips. Bull. Brit. Ornith.

Club 86:130-131, 1966.

**Diagnosis:** Intermediate in size between *mentalis* and *gularis*, but more yellow in definitive plumage, never deep orange.

**Range:** Central western Guerrero, Mexico.

*Amblycercus holosericeus* (Deppe).

**Yellow-billed Cacique**

The Yellow-billed Cacique was a fairly common resident of the brushlands around La Avellana. The wing measurements of four specimens were equal to, or slightly shorter than, the respective tail measurements (103/104 mm, 93/95 mm, 97/98 mm, 93/93 mm). Hence, those specimens represent the nominate subspecies. In *A. b. centralis* Todd, of Costa Rica, the wing was described as being longer than the tail (Todd, 1916). A male and two females from La Avellana weighed 66.2 g, 65.0 g and 57.3 g, respectively.

*Cacicus melanicterus* (Bonaparte).

**Yellow-winged Cacique**

A male and two females weighed 96.3 g, 69.9 g and 70.0 g, respectively. A female collected 1 April had Sarcocystis in the muscles. This species was first recorded from Guatemala during the course of this study (Dickerman, 1975). Because it was a common species during the years of this study, one wonders if the few collectors who visited La Avellana in the past were more interested in the marsh avifauna than in the birds of the arid scrub, or whether the species is a recent invader. The habitats of north-western Guatemala visited extensively by Anthony were more mesic and not typical habitat for the species, but have subsequently been modified by deforestation, and are probably now more suitable for *Cacicus*. However, one might have expected Austin Paul Smith to have encountered it at Puerto San José. I have not had the opportunity to determine the extent of the species range in the Pacific lowlands away from La Avellana. The series from La Avellana is morphologically inseparable from large series from western Mexico.

#### FRINGILLIDAE

*Euphonia affinis* (Lesson).

**Scrub Euphonia**

The Scrub Euphonia was common about the village of La Avellana. An immature male taken 26 April was in general molt, gaining the blue-black definitive plumage, and weighed 9.0 g. Females from Guatemala are inseparable in color from females of nominate *affinis* from Nicaragua and Costa Rica (Dickerman 1982).

#### PASSERIDAE

\* *Passer domesticus* Linnaeus.

**House Sparrow**

Thurber (1972) first reported House Sparrows from Guatemala at Quetzaltenango in the interior highlands of Guatemala in 1970. House Sparrows were not recorded during this study until April 1974 when they were seen at Esquintla, Taxisco, and Chiquimulilla. They were observed nesting in the central plaza at Comalapa, Department of Chimaltenango, 14 April 1974. A single bird was seen near the center of Guatemala City 17 April 1975.

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## APPENDIX A

### Species previously reported from the Pacific lowlands of Guatemala, but not recorded during this study.

An asterisk indicates species not represented by Guatemalan specimens. The reference to Salvin and Godman, 1874-1904, is cited as (S&G).

| SPECIES                                     | PROBABLE STATUS  |
|---|--|
| PROCELLARIIDAE                              |  |
| * <i>Puffinus pacificus</i> .....           | Seasonal 50-100 km off Pacific coast mid-April (Jehl 1974).  |
| * <i>Puffinus lherminieri</i> .....         | As above (Jehl 1974).  |
| HYDROBATIDAE                                |  |
| * <i>Oceanites oceanicus</i> .....          | Uncommon off Pacific coast (Jehl 1974).  |
| * <i>Oceanodroma leucorhoa</i> .....        | Rare off Pacific coast (Jehl 1974).  |
| * <i>Oceanodroma melania</i> .....          | Uncommon but regular off Pacific coast (Jehl 1974).  |
| * <i>Oceanodroma microsoma</i> .....        | Rare off Pacific Coast (Jehl 1974).  |
| SULIDAE                                     |  |
| * <i>Sula "dactylatra" (= granti)</i> ..... | Fairly common more than 16 km from Pacific coast (Jehl 1974).  |
| * <i>Sula sula</i> .....                    | Fairly common off Pacific coast (Jehl 1974).   |
| * <i>Sula leucogaster</i> .....             | Uncommon off Pacific coast (Jehl 1974).  |
| CICONIIDAE                                  |  |
| <i>Jabiru mycteria</i> .....                | Rare erratic visitor (Tashian 1953).   |
| ANATIDAE                                    |  |
| <i>Anas americana</i> .....                 | Regular, but not numerous (Saunders 1950).   |
| <i>Anas platyrhynchos</i> .....             | Unknown (Land 1970).   |
| <i>Anas cyanoptera</i> .....                | Winter visitor (Saunders 1950).  |
| <i>Anas acuta</i> .....                     | Local winter visitor (Saunders 1950).  |
| <i>Anas crecca</i> .....                    | Uncommon winter visitor (Saunders 1950).   |
| ACCIPITRIDAE                                |  |
| <i>Accipiter bicolor</i> .....              | Apparently one record from Savanna Grande (S&G).   |
| <i>Geranospiza caeruleascens</i> .....      | Probably uncommon to rare resident and overlooked in his study (Land 1970).  |
| <i>Leucopternis albicollis</i> .....        | Forest species, Pacific lowland distribution probably based on sight record at Finca Carolina 1,070 m elevation (Griscom 1932a). |
| <i>Buteogallus urubitinga</i> .....         | Probably uncommon resident and overlooked in this study (Land 1970).   |
| <i>Ibycter americanus</i> .....             | Forest species, probably extirpated (S&G).   |
| <i>Spizastur melanoleucus</i> .....         | Forest species, possibly extirpated (S&G).   |
| FALCONIDAE                                  |  |
| <i>Micrastur semitorquatus</i> .....        | Forest species, status unknown, probably occurs in Pacific northwest (Griscom 1932a).  |
| CRACIDAE                                    |  |
| <i>Penelope purpurascens</i> .....          | Forest species (Saunders 1950).  |
| <i>Crax rubra</i> .....                     | Forest species (Saunders 1950).  |
| RALLIDAE                                    |  |
| <i>Porzana carolina</i> .....               | Probably uncommon winter visitor (Saunders 1950).  |



| SPECIES                                     | PROBABLE STATUS  |
|---|--|
| <b>CHARADRIIDAE</b>                         |  |
| <i>Charadrius collaris</i> .....            | Uncommon (Saunders 1950).  |
| <b>RECURVIROSTRIDAE</b>                     |  |
| <i>Recurvirostra americana</i> .....        | Uncommon winter visitor (Saunders 1950).   |
| <b>SCOLOPACIDAE</b>                         |  |
| <i>Bartramia longicauda</i> .....           | Irregular migrant (Saunders 1950).   |
| <i>Numenius americanus</i> .....            | Erratic and rare (S&G).  |
| <i>Limosa fedoa</i> .....                   | Erratic and rare (Griscom 1932a).  |
| * <i>Aphriza virgata</i> .....              | Sight records by Anthony ( <i>In</i> Griscom 1932a).   |
| * <i>Calidris canutus</i> .....             | Sight records by Anthony ( <i>In</i> Griscom 1932a).   |
| <i>Gallinago delicata</i> .....             | Uncommon winter visitor (Saunders 1950).   |
| <i>Phalaropus lobatus</i> .....             | Uncommon off Pacific coast, April (Jehl 1974).   |
| * <i>Phalaropus fulicarius</i> .....        | Rare off Pacific coast, April (Jehl 1974).   |
| <b>LARIDAE</b>                              |  |
| * <i>Stercorarius pomarinus</i> .....       | Common to abundant off Pacific coast (Jehl 1974).  |
| * <i>Stercorarius longicaudus</i> .....     | Rare off Pacific coast (Jehl 1974).  |
| <i>Larus heermanni</i> .....                | Apparently two records (S&G).  |
| <i>Larus argentatus</i> .....               | Not listed by Griscom (1932a), occurrence possible (Land 1970).                                    |
| <i>Xema sabini</i> .....                    | Uncommon off Pacific coast (Jehl 1974).  |
| <i>Sterna forsteri</i> .....                | Winter visitor (Land 1970).  |
| * <i>Anous stolidus</i> .....               | Pacific distribution in general cited, but not Guatemala records: deleted from Guatemala avifauna. |
| <b>ALCIDAE</b>                              |  |
| * <i>Synthliboramphus craveri</i> .....     | Single sight record (= this species?) (Jehl 1974).   |
| <b>PSITTACIDAE</b>                          |  |
| <i>Aratinga strenua</i> .....               | Common in foothills, but not on coastal plain in this study.                                       |
| <i>Ara macao</i> .....                      | Records from Pacific highlands only (Griscom 1932a).   |
| <b>CUCULIDAE</b>                            |  |
| <i>Geococcyx velox</i> .....                | Basis for Pacific lowland distribution unknown (Land 1970).  |
| <b>STRIGIDAE</b>                            |  |
| <i>Pulsatrix perspicillata</i> .....        | Forest species, probably more common in the foothills (Tashian 1953).                              |
| <i>Athene cunicularia</i> .....             | “Open sea beach” (Champerico) (S&G).   |
| <b>TROCHILIDAE</b>                          |  |
| <i>Hylocharis eliciae</i> .....             | Source of records unknown, not taken by Tashian, Kiff or Schultz (S&G); see Introduction.          |
| <i>Amazilia candida</i> .....               | Forest species (Tashian 1953).   |
| <i>Amazilia beryllina and cyanura</i> ..... | Forest species that replace each other geographically.   |
| <i>Heliomaster longirostris</i> .....       | Forest species (Griscom 1932a).  |
| <i>Heliomaster constantii</i> .....         | Reported absent by Griscom (1932a), but reported by Land (1970).                                   |
| <i>Archilochus colubris</i> .....           | Probably uncommon winter visitor (Tashian 1953).   |
| <b>MOMOTIDAE</b>                            |  |
| <i>Hylomanes momotula</i> .....             | Forest species of foothills (S&G).   |

| SPECIES                                | PROBABLE STATUS   |
|--|---|
| <b>ALCEDINIDAE</b>                     |   |
| <i>Chloroceryle amazona</i> .....      | Apparently only one published record for Pacific coast (S&G).   |
| <b>BUCCONIDAE</b>                      |   |
| <i>Notharchus macrorhynchus</i> .....  | Forest species of foothills (Griscom 1932a).  |
| <b>DENDROCOLAPTIDAE</b>                |   |
| <i>Sittasomus griseicapillus</i> ..... | Forest species (Ridgway 1911).  |
| <i>Dendrocincla homochroa</i> .....    | Forest species (Ridgway 1911).  |
| <b>TYRANNIDAE</b>                      |   |
| <i>Mionectes oleagineus</i> .....      | Forest species (Griscom 1932a).   |
| <i>Platyrinchus cancrominus</i> .....  | Not listed from Pacific lowlands (S&G; Griscom 1932a); rare Land (1970).  |
| <i>Onychorhynchus mexicanus</i> .....  | Forest species (Griscom 1932a).   |
| <i>Contopus cinereus</i> .....         | All Pacific lowland records from northwest of Puerto San José, forest species (Griscom 1932a).                      |
| <i>Empidonax flaviventris</i> .....    | Source of records unknown (Griscom, 1932a; Tashian 1953).   |
| <i>Tyrannus savana</i> .....           | One record for Pacific lowlands (Ridgway, 1907).  |
| <b>VIREONIDAE</b>                      |   |
| <i>Vireo solitarius</i> .....          | Winter visitor (cf. <i>solitarius</i> ) in forested foothills (Tashian 1953).                                       |
| <i>Vireo flavifrons</i> .....          | Probably uncommon winter visitor, more common in foothills (Griscom 1932a).   |
| <i>Vireo philadelphicus</i> .....      | Possibly uncommon migrant (S&G).  |
| <i>Hylophilus decurtatus</i> .....     | Forest species of foothills (Parkes 1991).  |
| <b>CORVIDAE</b>                        |   |
| <i>Cyanocorax morio</i> .....          | Source of Pacific lowland record unknown (Land 1970).   |
| <b>SYLVIIDAE</b>                       |   |
| <i>Polioptila caerulea</i> .....       | Probably regular winter visitor (Tashian 1953).   |
| <b>PARULIDAE</b>                       |   |
| <i>Dendroica caerulea</i> .....        | One specimen from Guatemala and one sight-record off Pacific coast (Jehl 1974).                                     |
| <b>THRAUPIDAE</b>                      |   |
| <i>Piranga leucoptera</i> .....        | Forest species of foothills (Land 1970).  |
| <b>EMBERIZIDAE</b>                     |   |
| <i>Melospiza biarcuata</i> .....       | Omitted from Pacific lowlands (Land 1970), although reported from Retalhuleu (S&G).                                 |
| <i>Melospiza leucotis</i> .....        | Apparently mapped on Pacific lowlands based on specimens from Savanna Grande (S&G, cf. Griscom 1932a for locality). |
| <i>Ammodramus savannarum</i> .....     | Apparently range extended to entire lowlands based on specimens from Ocos (Griscom 1932a).                          |
| <b>FRINGILLIDAE</b>                    |   |
| <i>Carduelis psaltria</i> .....        | Source of records for Pacific lowlands unknown (Land 1970).   |

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