

## FURTHER NOTES ON THE AVIFAUNA OF COLIMA AND ADJACENT JALISCO, MEXICO

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### ABSTRACT

The author gives additional data, or modifies those in his earlier study (1963), on 133 species of birds of the state of Colima and the adjacent part of Jalisco. Most of these data are from the area south of Autlán de Navarro, Jalisco. A surprise was the discovery here of the rare and little known finch *Amaurospiza concolor*, not previously recorded west of Morelos and central Guerrero.

### RESUMEN

Se presentan datos adicionales, y algunas modificaciones al trabajo anterior del autor (1963), sobre 133 especies de aves del Estado de Colima y la parte adyacente de Jalisco. La mayoría de estos datos provienen del área al sur de Autlán de Navarro, Jalisco. Un descubrimiento sorprendente fue el del fringílido raro y poco conocido, *Amaurospiza concolor*. Éste no se había señalado anteriormente de más al oeste que Morelos y la parte central de Guerrero.

Since the publication of "The Avifauna of Colima and adjacent Jalisco" (Schaldach, 1963), the author has received a number of requests to publish the remaining field data accumulated during 1959 in the Sierra de Autlán region. Also, a brief (month and a half) trip in the summer of 1966 yielded some interesting results; and certain addenda to the list of Coliman birds should also be published. The present paper presents all these data as an appendix to the author's 1963 work.

To sum up the itinerary covered in this paper: in February, April, May, and at the end of December, 1959, and the first days of January, 1960, the author and his companions studied birds in two areas south of Autlán de Navarro, Jalisco. The first is the pass known as La Cumbre (or on recent highway markers Puerto Los

Masos), 16 Km SSW of Autlán, at an elevation of 1385 m. The vegetation at this point consists of thick Oak Woodland on the ridges, intermixed locally with some pines, and heavy Tropical Deciduous Forest in the steep-sided *barranca* (ravine) west of and below the pass. We did not work here in December or January.

The second area visited was near and above the sawmill at Los Corralitos, 21 km south of Ahuacapán, at an estimated altitude of 2000 to 2700 m. The forest here at this high altitude is the only real "humid tropical forest" of Jalisco. The dominant vegetation cover consists of Humid Pine-oak Forest; the terrain in parts is extremely rugged, with many steep *barrancas* which contain deciduous woods (oaks, *Cornus*, *Juglans*, *Fraxinus*) and a heavy ground cover of herbaceous plants.

The area also has numerous small clearings and one large (natural?) meadow choked with blackberry bushes, mints, and salvias. We did not work here in May, but revisited the area briefly in December to January. Certain other of Phillips' 1959 observations in and near Colima are reported, also.

In August, 1966, the author spent two weeks at a forest fire lookout station of the Secretaría de Agricultura y Ganadería, hereinafter abbreviated as SAG, which is located approximately 33 Km SSW of Autlán, about midway down the mountain on the southwest side of the pass at La Cumbre. From here we went up each morning to the pass to study birds. But we also spent at least 5 days near the bottom of the mountain, below (SW of) the SAG station, in a large *barranca* known locally and on the highway markers as La Calera. This ravine is covered with tall Tropical Deciduous Forest; local residents assured me that the stream flows throughout the year.

Two weeks in late July and early August, 1966, were spent at Bahía Coastecoma, on the coast just north of Barra de Navidad and Melaque. The vegetation at this point on the coast is heavy, relatively undisturbed Thorn Forest and in the rainy season it presents a lush, "jungle" appearance. From here we daily drove north on the Autlán highway as far as 21 Km N. of La Huerta, Jalisco, where a series of ponds and marshes afforded good birding opportunities.

Also, on a number of dates in August, we visited Manzanillo, Colima, for mail?, and two days (August 6 and 7) were spent about twenty Km east of Manzanillo, at a rancho named Cualata, not far from San Buenaventura, Colima.

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An important earlier paper on this general region is that of Zimmerman and Harry (1951); it should be noted that their "Sierra de Autlán" is not the one we visited, but apparently lies farther east. Phillips (1966) has recently named and commented upon some forms taken in the Sierra de Autlán on our 1959 trips. By combining the several papers cited herein with the present one, a fair picture of the avifauna of the Autlán region can be assembled.

The present paper records breeding, migration, or distributional data pertaining to 133 species of birds. All difficult forms have been identified by the author by critical comparison with specimens in the University of Arizona or, as in the case of some flycatchers, by Allan R. Phillips. The order and nomenclature employed follow in general the Distributional Check-list of the Birds of Mexico (Pacific Coast Avifauna numbers 29 and 33, 1950 and 1957), hereinafter termed the Mexican Check-list. The capitalized vegetation zone names used are those described in the author's 1963 work. Those species marked with an asterisk represent new records for either Colima or Jalisco.

#### SYSTEMATIC ACCOUNT

*Podilymbus p. podiceps*. Pied-billed Grebe. This grebe is evidently resident in the

region; three were seen and two males taken, in breeding condition (testes 22 X

18 and 22 X 16 mm.) and in heavy general molt, on two small ponds beside the highway 21 Km N. La Huerta, Jalisco, on 12 August. The birds were moderately fat. Their wings measure 130 and 132.2 mm, chord; these measurements seem too large for *antillarum*, sometimes assumed to be the breeding race in central and southern Mexico.

*Sula leucogasteri* Brown Booby. The author observed these boobies over Manzanillo harbor on 5 August (two); 8 August (one) and 10 August (four). An immature booby was seen daily during our stay at Bahía Coastecomate, and occasional boobies were noted at Barra de Navidad in early August. These sightings further support the author's contention (Schaldach, 1963: 17) that these boobies are year-round residents.

*Butorides v. virescens*. Green Heron. An adult female in breeding condition (ovary enlarging; largest ovum 8 mm.; oviduct not enlarged) was collected in a marsh 21 Km N La Huerta, 12 August. No others were noted in the region during August, so the Green Heron is probably a scarce breeding resident. Numbers of wintering Green Herons were seen in the general region in the dry season, many of which are probably from more distant regions (subsp.?).

*Ixobrychus exilis*. Least Bittern. On 14 May, the author noted a Least Bittern at San Pedrito, just outside of Manzanillo, Colima. On 12 August I flushed another from tall saw-grass in a marsh 21 Km N La Huerta. The Least Bittern may be resident in this region; the August sighting, at least, seems early for a migrant.

\* *Dendrocygna autumnalis*. Black-bellied Tree Duck. This tree duck is common, though apparently unrecorded, in Jalisco. At a large marsh 21 Km N. La Huerta, on 12 August, a barbed wire fence strung across the marsh for at least one kilometer was literally festooned with them. Each fence post was capped by a duck; we counted 90 before giving up. Just before

sunset in the same marsh, large flocks rose from the saw-grass and flew towards some distant woods, presumably to roost. We estimated that some 500 ducks were in sight at this time.

*Buteo jamaicensis*. Red-tailed Hawk. A number of Red-tails were seen during August near Autlán and at and just west of La Cumbre. One which flushed off the road as we approached it seemed very dark with a bright cinnamon tail.

\* *Buteo albonotatus*. Zone-tailed Hawk. Although this distinctive hawk has not been reported from Colima and Jalisco before, it is apparently resident in the Sierra de Autlán and probably ranges over the whole region at times. Phillips saw 2 birds together over the Coliman coastal plain near the road to Tecomán on 13 March. All of us saw an adult at close range below Los Corralitos on 30 December, and Phillips saw the same(?) bird above Los Corralitos on 4 January.

\* *Buteo swainsoni*. Swainson Hawk. A pale, *i. e.* "normal" phase bird of this migrant species was noted by Phillips a little west of Armería, Colima, on 13 March. The species has not been reported from Colima before.

\* *Busarellus nigricollis*. Fishing Hawk. This rare raptor was taken once in Colima, at Pueblo Juárez, during August, 1958. The specimen, an immature, was only recently identified positively. The author saw an adult over the Rio Salado near Colima City in September of the same year. On 4 and 9 August, 1966, the author saw an adult at close range (20 m) at Bahía Coastecomate. The bird flew out each time from heavy Thorn Forest on the hillside above the Bay and crossed the open water to another hillside. A local fisherman told me that two of these hawks had nested on the same hillside in April. The species has apparently not been recorded from either Colima or Jalisco.

\* *Spizaetus ornatus*. Ornate Eaglehawk. On 18 February, the author saw an adult of this beautiful hawk fly over

the pass at La Cumbre. None was seen on the 1966 trip, but a local hunter assured the author that he had seen the species on the high ridges of the Sierra de Autlán SE of La Calera. The species has not been recorded previously from Jalisco.

\* *Falco ruficularis*. Bat Falcon. For the use of this name combination, see Eisenmann (1966). The Bat Falcon was seen only once during our 1966 work, in August. A presumed female was observed perched on the top of a tall dead palm tree beside the highway approximately 13 Km N. Melaque, Jalisco, on the Autlán road. The forest at this spot consisted of Riparian Gallery Forest which had been cut over and opened for corn fields. The species has apparently not been recorded previously from Jalisco, although it is to be expected anywhere in the tropical lowlands.

\* *Ortalis poliocephala "lajuelae"*. Chachalaca. Further study strengthens my conviction that the chachalacas of the Colima region are variable intergrades and that the name *lajuelae* should be reduced to synonymy. Vaurie (1965) has reached the same conclusion. The coastal area between Cabo Corrientes, Jalisco, and southeastern Michoacán is an area of intergradation between *O. p. poliocephala* and *wagleri*. A female taken at La Cumbre on 29 April had the ovary slightly enlarged (largest ovum 4 mm.); her large, wrinkled oviduct indicated that she had recently laid. Chachalacas were abundant at La Cumbre in 1959, and judging by the number of birds heard, were scarcely less abundant in 1966.

*Penelope purpurascens*. Crested Guan. Although subject to heavy hunting pressure, guans were found to be still moderately common in tall Tropical Deciduous Forest near La Calera. The author saw 7 guans in one group about 2 Km up the *barranca* at La Calera on 30 August, and others had been heard in the same area earlier in the same week.

*Dendrortyx macroura diversus*. Long-

tailed Partridge. This distinctive mountain quail ranges from the lower edges of the Oak Woodland at La Cumbre up to at least 2800 m in the Humid Pine-oak Forest on the Sierra de Autlán. An adult female taken above Los Corralitos on 31 December was in non-breeding condition.

*Dactylortyx thoracicus devius*. Singing Quail. As reported previously (Schaldach, *op. cit.*:29), a specimen of this rare quail was taken at La Cumbre on 29 April. The bird was an adult female with the ovary greatly enlarged (largest ovum 24 X 18 mm) and the oviduct enlarged, indicating nesting. In August no specimens were taken, but the species was seen several times at La Cumbre; on one occasion the author and his assistant flushed an estimated 8 of these quail from a tree limb which overhung the stream at the bottom of the *barranca*, just before dark.

*Cyrtonyx montezumae*. Montezuma Quail. Several males and females of this species were clearly seen by the author on 26 August, 1966, just below the SAG station. The ridges above the highway at this point are grass-covered with scattered small oaks, but are too steep for successful quail hunting. Specimens from southern Jalisco and Colima are urgently needed.

*Gallinula chloropus*. Common Gallinule. An individual of this distinctive species was seen at close range by the author in the marsh 21 Km N La Huerta on 12 August. No others were noted in the region.

\* *Porphyrula martinica*. Purple Gallinule. Although apparently not reported previously from Jalisco, Purple Gallinules were common in the marshes 21 Km N La Huerta during August. Every time the author passed these marshes (at least 8 separate occasions), he noted from 4 to 20 of these gallinules walking about amid the water hyacinth plants which choked the open water of the marshes. An adult male with enlarged testes (17 X 8 mm), was collected as a specimen record.



\* *Numenius americanus*. Long-billed Curlew. These curlews are actually common winter residents of Colima and adjacent coastal Jalisco, although the species was inexplicably overlooked in the author's 1963 work. Near El Colomo, Colima, the author and Allan Phillips saw 15 on 17 February and 4 on 24 December; on 30 March Phillips saw 250 or more there. On 7 August the author saw a flock estimated at 65-70 birds flying over Thorn Scrub near Cualata, Colima; these latter birds may represent an arrival date for the species.

*Tringa melanoleuca*. Greater Yellowlegs. Phillips noted 4 of this species at El Colomo, Colima, on 24 December.

\* *Tringa solitaria*. Solitary Sandpiper. A single sandpiper of this species was seen on several dates in early August at Bahía Coastecomate. Surprisingly, the species has not been reported from Jalisco before.

\* *Crocethia alba*. Sanderling. On 14 August, while driving to Manzanillo for mail, the author took a brief side trip in to Playa del Oro, 28 Km west of Manzanillo. Along this magnificent beach he observed an estimated 50 Sanderlings. The species has not been reported previously from Colima.

\* *Larus heermanni*. Heermann Gull. During the compilation of the 1963 paper, the author's notes on gulls somehow became mixed. The Heermann Gull is by no means as common as was implied (Schaldach, *op. cit.*: 32). In fact, we did not see these gulls during the winter months; our earliest date seems to be 6 March: 2 adults, 1 immature at Manzanillo Harbor.

\* *Larus delawarensis*. Ring-billed Gull. Phillips saw an immature of this species at El Colomo, Colima, on 30 March, and was almost sure he saw an adult in the same area on 24 December. The species has not previously been recorded from Colima.

*Larus atricilla*. Laughing Gull. This is the common gull in Colima and along

the adjacent Jalisco coast. They seemed less numerous during the winter (dry season), with a noticeable influx in March. The species has apparently not been reported from coastal Jalisco.

*Hydroprogne caspia*. Caspian Tern. Phillips saw this large tern in some numbers at El Colomo, Colima: 100 on 30 March and 12 on 24 December.

\* *Thalasseus maximus*. Royal Tern. Although not previously recorded from Jalisco, Royal Terns were seen a number of times by the author and Hubbell at Barra de Navidad and Bahía Coastecomate during August. The species was also noted on 3 separate dates at Manzanillo Harbor, in August.

*Leptotila verreauxi angelica*. White-fronted Dove. This large dove is a common resident of heavy forest throughout the region, from Thorn Forest at sea level to Humid Pine-oak Forest just below Los Corralitos at 2500 m. A male taken in Tropical Deciduous Forest at La Cumbre on 30 April had greatly enlarged testes, indicative of breeding.

*Forpus c. cyanopygius*. Mexican Parrotlet. Parrotlets are common resident birds in the Autlán region, from the sea coast near Barra de Navidad to the Oak Woodland of the mountains. Breeding apparently begins in the La Cumbre área in May, as four birds (2 ♂♂, 2 ♀♀) taken 29 April had the testes greatly enlarged and the ovaries enlarging.

*Amazona finschi*. Finsch Parrot. Although these parrots are commonly seen, often in huge flocks, in the coastal lowlands and interior Thorn Forest during the dry season, they seem to disappear completely in late January and early February. By good fortune, the author observed a pair at their nesting hole in a tall dead pine in the Humid Pine-oak Forest above Los Corralitos on 25 February; the female proved to be an adult with an enlarged ovary and a large, wrinkled oviduct, indicating that she had already laid.

*Otus flammeolus*. Flammulated Screech-Owl. A male of this tiny owl (53.3 gr.) was taken in a mist net set across a heavily vegetated arroyo in Humid Pine-oak Forest above Los Corralitos, at about 2700 m, on 22 February. Its testes were not enlarged. Since no calls were heard, the species must be considered rare and possibly only a migrant here.

*Otus t. trichopsis*. Spotted Screech-Owl. This owl is a common night bird at La Cumbre (cf. Schaldach and Phillips, 1961), mostly in the Oak Woodland, but it ranges downward to some extent into the Tropical Deciduous Forest at the head of the *barranca*. Late March and early April seem to be the breeding season: a male taken 8 April had enlarged testes (7 X 5 mm) and was calling; a female taken the same night had the ovary enlarged, largest ovum 4 mm. On 29 April two males had the testes 5 X 3 mm and "very slightly enlarged" and were not calling; a female on the same night had the ovary "slightly enlarged" but the oviduct was large and wrinkled, indicating completion of laying.

*Glaucidium minutissimum palmarum*. Least Pygmy-Owl. This tiny owl is a common resident south of Autlán in the Tropical Deciduous Forest and even on the more open, grassy slopes near the SAG station. Three males collected at La Cumbre on 18 February were in non-breeding condition and weighed 42.4, 43.8, and 45.6 gr.; whereas two taken on 9 April had enlarged testes. The unspotted pileum mentioned by Zimmerman and Harry (op. cit.: 306) in *Glaucidium* can result from either feather wear or juvenal plumage. Many summer-taken birds of all three Mexican species demonstrate this condition.

*Ciccaba virgata squamulata*. Wood Owl. This common resident owl, while abundant in the Thorn Forest and Tropical Deciduous Forest of lower elevations, is also found as high as the Humid Pine-oak Forest on the Sierra de Autlán. A

presumed female, taken on 23 February above Los Corralitos at 2700 m, weighed 330 gr.

*Strix varia sartorii*. Barred Owl. The only Barred Owl seen in the region was an adult female (largest ovum 2 mm) collected on 13 April above Los Corralitos in Humid Pine-oak Forest (Phillips and Schaldach, 1960). The stomach contained numerous insects (Cerambycid beetles and katydids) and the mandibles and hair of a small pocket gopher (*Pappogeomys bulleri*).

*Otophanes mcleodii*. Eared Poor-will. Although Schaldach and Phillips (1961) found this little-known species to be quite common in the La Cumbre area in February and April, a quite intensive search in August was fruitless. Whether it leaves the region after the breeding season or whether it becomes extremely quiet and secretive, must be determined by future workers. Phillips (1963:335-336) has recommended synonymizing *Otophanes* with *Nyctiphrynus*.

*Caprimulgus ridgwayi*. Ridgway Whip-poor-will. This species is a common resident of the region, with its center of abundance in the Thorn Forest and Tropical Deciduous Forest. It also ranges into the Oak Woodland, however, where it occurs with the following species. Breeding probably takes place during May and early June; a male taken 30 April had the testes enlarging. A non-breeding February male weighed 51 gr.

*Caprimulgus vociferus oaxacae*. Whip-poor-will. Two non-breeding Whip-poor-wills were taken in the region; others were heard, so the species may breed at higher elevations. A female collected at La Cumbre on 18 February weighed 48.3 gr. A male taken in Humid Pine-oak Forest above Los Corralitos on 23 February was heavier: 54.5 gr.

\* *Streptoprocne semicollaris*. White-naped Swift. This huge swift has not been previously reported from Jalisco, but 2 to 3 were seen on two occasions in August,

1966, by the author and Peter Hubbell, each time in the *barranca* on the northeastern (Autlán) side of the pass at La Cumbre. Both of us know the species well from Sinaloa and Durango and are positive of the identification.

*Chaetura vauxi*. Vaux Swift. Some sight records by Phillips show that this swift is actually a common winter resident of the region including: 20 over the main ridge of the Medialuna on 10 February; flock of 10 or more, 22 Km NW Cihuatlán on Autlán highway on 17 February; flock of about 200, over Ahuacapán on 25 February; 10-12, N of La Cumbre, 26 February; 40, over a pond near San Buenaventura, Colima, 29 December; and at least 1100 over Los Corralitos on 3 January.

\* *Cypseloides niger*. Black Swift. On 17 August, as we drove into the western outskirts of Autlán, 12 Black Swifts were seen at close range over the highway and town; the species has apparently not been recorded from Jalisco.

\* *Aeronautes saxatalis*. White-throated Swift. These swifts winter in small number in the region, as the following sight records (mostly by Phillips) indicate: 10 over the Barranca Beltrán, just north of the Colima border, on 7 May; a number around the cliffs near Huascalapa, 24 Km N and 11 Km W Tecalitlán, Jalisco on 19 December; and 4 and 7 over the forest near Los Corralitos on 1 and 2 January. The species has not been reported from Jalisco previously.

*Phaethornis superciliosus griseoventer*. Long-tailed Hermit. This large hummingbird was common in the Tropical Deciduous Forest at the western base of the mountains southwest of Autlán in August. Surprisingly, it was then seen only once in the *barranca* at La Cumbre, where it had been collected in the dry season. Two males and a female taken there on 9 and 29 April had the gonads only slightly enlarged. This species may spread out from the restricted water areas of the dry season

with the arrival of abundant rains and the consequent flowering of many plants, behavior which is also suspected of certain other birds of this general region. The large, pale race inhabiting the west coast of Mexico has recently been named by Phillips (1962:339-341).

*Colibri thalassinus*. Violet-ear. This hummingbird was not uncommon (a few seen almost daily) in the steep, densely vegetated *barrancas* above Los Corralitos. A male taken 2 January had greatly enlarged testes. On 21 and 24 February two males had the testes only slightly enlarged and two females had slightly enlarged ovaries. The males weighed 4.2 and 5.2 grams while the females weighed 3.8 and 5.4 gr. On 20 December Phillips counted 20 of these hummers in clearings in the Humid Pine-oak Forest of the Volcán de Nieve.

*Chlorostilbon canivetii auriceps*. Canivet Emerald. This brilliant, fork-tailed hummingbird was not uncommon at La Cumbre, at the SAG station, and at Barranca La Calera in August. It was quite common in the Thorn Forest at Bahía Coastecomate in the same month. A female collected on 1 May at La Cumbre was not in breeding condition. This tiny quiet hummer responds readily to squeaking and pygmy-owl whistles.

*Thalurania furcata ridgwayi*. Wood-Nymph. The discovery of this "rare" species in the region in some numbers was reported in the 1963 paper. In August we found it not uncommon at La Cumbre and even at the base of the mountain at La Calera. Specimens taken in February, late April, and August were in non-breeding condition. The February female weighed 3.7 gr. Female *Cynanthus latirostris*, even in the hand, can easily be confused with female *Thalurania*. The only good field mark is the small white stripe over the cheek in *Cynanthus* which is lacking in *Thalurania*. Other, subtler differences are: the venter and crissum in local *Cynanthus* are whitish, gray in *Thalurania*;



taken above Los Corralitos on 24 February had slightly enlarged testes.

*Sphyrapicus v. varius*. Yellow-bellied Sapsucker. The Humid Pine-oak Forest of the Sierra de Autlán forms part of the extensive wintering range of this species. Sapsuckers were seen practically every day of our stay above Los Corralitos during January and February; an adult female taken on 31 December was, as expected, in non-breeding condition and was quite fat. None was seen in April, indicating that the species may leave the region quite early on the return migration.

*Veniliornis fumigatus oleagineus*. Smoky-brown Woodpecker. This small, dull woodpecker, while by no means common, was seen and taken often enough to be deemed not as excessively rare in the region as previously thought. As I pointed out before, the species has a wide altitudinal range in the Autlán region: from the bottom of the *barranca* west of La Cumbre in Tropical Deciduous Forest to the ridges above Los Corralitos in Humid Pine-oak Forest, where a young (?) male was taken on 10 April.

*Sittasomus griseicapillus jaliscensis*. Olivaceous Woodhewer. Phillips (1963:338-339) has pointed out the unjustified attempt at reduction to synonymy of *S. g. harrisoni* Sutton of Tamaulipas under this form. We found this small woodhewer to be a relatively common inhabitant of the well wooded *barrancas* above Los Corralitos. Two males and a female taken on 31 December and a female (13.3 gr) collected on 22 February were in non-breeding condition.

*Lepidocolaptes l. leucogaster*. White-striped Woodhewer. Although Zimmerman and Harry (*op. cit.*) did not report this species from the Sierra de Autlán, it is a common resident of the Humid Pine-oak Forest above Los Corralitos. A male taken 31 December was in non-breeding condition. On 22 February a bird was observed in typical courtship antics: singing constantly while in descending, fluttering

flight from one tree, then a rapid ascent of another tree and a repeat of the performance; this individual was collected and proved to be an adult male with greatly enlarged testes: 12 X 7 mm. Breeding apparently begins here as early as mid-February.

*Grallaria guatemalensis ochraceiventris*. Scaled Antpitta. On 20 February, the author collected an adult male of this handsome species, considered by experienced workers to be one of the rarest birds in western México or at least one of the most difficult to find. The bird was walking along a log in a densely vegetated *arroyo* above Los Corralitos. It weighed 87.7 gr and was not in breeding condition. The flesh colors were: iris: brown, grayish towards the pupil; bill: culmen dusky drab, gonys flesh-white; tarsi: violaceous gray, paler behind; soles of feet: whitish buff. This is apparently only the second specimen known from Jalisco.

*Megarhynchus pitangua caniceps*. Boat-billed Flycatcher. The Boatbill was found to be a relatively common resident of the Tropical Deciduous Forest of the region, but it occasionally ranges as high as the head of the *barranca* near Los Corralitos in the Humid Pine-oak Forest. An adult male with slightly enlarged testes was collected at La Calera on 28 August. The gray of the lores and pileum answers the description of *caniceps* exactly, but the bill measurements are not typical; exposed culmen 30.0 mm; width of culmen 14.0 mm.

*Nuttallornis borealis*. Olive-sided Flycatcher. Surprisingly, an adult female taken at La Cumbre, in Oak Woodland, on 29 April had the ovary greatly enlarged, largest ovum 12 X 7 mm. Breeding activity had clearly already begun on the wintering ground; the bird could hardly have arrived home on the nesting ground before the egg had developed to the shelled state.

*Empidonax traillii brewsteri*. Trail Flycatcher. An adult, nonbreeding female of this race was taken at Cualata, Colima,



on 7 August. This record probably represents an arrival date for the species in the region. Another adult female from 11 Km N La Huerta, Jalisco, 11 August pertains to the proposed race *extimus*.

*Empidonax "minimus" = pusillus* (Swainson, 1827). Least Flycatcher. An adult, non-breeding female was collected in heavy Thorn Forest 5 Km S La Huerta, Jalisco, on 8 August. This specimen probably represents an arrival date for the region.

*Empidonax oberholseri*. Wright or Dusky Flycatcher. This species apparently winters in the Sierra de Autlán. An adult female weighing 9.3 gr was taken above Los Corralitos on 25 February. It was identified in the field by Allan Phillips.

*Empidonax fulvifrons rubicundus*. Buff-breasted Flycatcher. While not reported by Zimmerman and Harry (*op. cit.*), this engaging small flycatcher was found to be regular (specially in April) though not common in the Humid Pine-oak Forest of the Sierra de Autlán above Los Corralitos. An adult, non-breeding male collected there 24 February weighed 7.5 gr.

*Empidonax difficilis*. Western Flycatcher. The Western Flycatcher is a year-round resident of the region whose numbers are greatly augmented in the fall and winter months by migrants from more distant regions. Two adults (female and male) taken at La Cumbre on 19 and 20 August are probably referable to *E. d. difficilis*, though the latter falls in the zone of overlap with *E. d. hellmayri*. Neither shows the richer color of *E. d. infelix*, the resident race (Phillips, 1966a:109-110), the type of which came from above Los Corralitos.

*Hirundo rustica erythrogaster*. Barn Swallow. A few additional winter and spring sight records of Barn Swallows in the region are: 13 on 24 December, 1959, at El Colomo; 3 on 13 March and 5 on 30 March at the Laguna de Cuyutlán (ARP); a number at Colima City on 7 April, 1959, and nesting at Autlán in early May, 1959, and in August. It was

common at La Huerta, Jalisco, in August, but on the coastal plain at Cihuatlán only Gray-breasted Martins (*Progne chalybea*) were then noted.

*Petrochelidon pyrrhonota*. Cliff Swallow. Cliff Swallows were seen in the region only on 13 and 15 May, 1959, at Ciudad Guzmán, Jalisco, and at the Colima highway junction to the east of that city, where hundreds were seen in the early evening.

\* *Tachycineta thalassina*. Violet-green Swallow. Phillips and I observed numbers of these swallows just north of Pueblo Juárez, Colima, on 5 February, and others on 30 December at La Cumbre (50) and in the valley south of Autlán (numbers). The species has not previously been recorded from Colima.

*Cyanocorax yncas speciosa*. Green Jay. The Green Jay is a relatively common resident of the region, from the Tropical Deciduous Forest at the south base of the mountains south of Autlán to the Humid Pine-oak Forest above Los Corralitos, where an adult male collected on 21 February had enlarged testes (9 X 4 mm) and weighed 107.4 gr. Another adult male taken on 29 April at La Cumbre had greatly enlarged testes.

*Parus w. wollweberi*. Bridled Titmouse. This beautiful titmouse was found to be not uncommon in the Oak Woodland at La Cumbre. An adult, non-breeding female collected on 18 February weighed 9.5 gr.

*Certhia familiaris jaliscensis*. Brown Creeper. The familiar little creeper is a common resident of the Humid Pine-oak Forest of the Sierra de Autlán. Breeding apparently takes place as early as 21 and 22 February when two males with greatly enlarged testes were shot while in active pursuit of other individuals. They weighed 7.3 and 7.7 gr.

*Thryothorus felix pallidus*. Happy Wren. This small wren, not recorded by Zimmerman and Harry (*op. cit.*), is actually not uncommon near Autlán, though not as abundant as *T. sinaloa*. It ranges in Thorn

Forest and Tropical Deciduous Forest, as high as the pass at La Cumbre.

*Henicorhina leucophrys minuscula*. Gray-breasted Wood Wren. The population of the Humid Pine-oak Forest on the Sierra de Autlán has recently been named by Phillips (1966:126-127). These wrens are abundant even in the dry (winter) season above Los Corralitos in the densely vegetated *barrancas*, always near ground level in thickets and tangles of vines. In late December and late February, the wrens were in non-breeding condition. February birds weighed: Females 11.2 and 12 gr; males, 12.5 and 13.4 gr. On 10 April two males had enlarged testes (7 X 4 and 9 X 4 mm), and the *barrancas* resounded with the beautiful songs.

*Turdus migratorius propinquus*. American Robin. The Robin is a resident of the Humid Pine-oak Forest above Los Corralitos. On 10 April two males had enlarged testes (12 X 7 and 11 X 9 mm), while a female had the ovary enlarging, largest ovum 3mm.

*Turdus assimilis lygrus*. White-necked Robin. This species, as remarked earlier, has a remarkable vertical range in this región, from sea level to the highest ridges of the Sierra de Autlán, where it was abundant. The breeding season apparently begins in April, as a male taken at La Cumbre on 9 April, had enlarged testes (10 X 6 mm) and was singing and a female taken the next day at 2700 m on the high ridges above Los Corralitos had the ovary enlarging, largest ovum 3 mm.

*Ridgwayia pinicola*. Aztec Thrush. As pointed out by the author previously (*op. cit.*), the Aztec Thrush was found relatively commonly in spring, locally, on the higher ridges above Los Corralitos. An adult male taken on 24 February was in non-breeding condition and weighed 76.8 gr. Flesh colors of this bird were: iris: grayish brown; tarsi: buffy, toes darker; bill: dusky; mouth and gape bright lemon yellow. This bird had the crop stuffed with red "manzanita" berries. On 14 April, four

males had slightly enlarged testes, while a female had the ovary not enlarged. Whether the species breeds in this range remains to be shown. These thrushes were only observed in large flocks of *Turdus assimilis* feeding high up in enormous oak trees amid the epiphytes which covered the branches.

*Catharus guttatus audubonii*. Hermit Thrush. The author can see no valid reason, with the possible exception of the Wood Thrush (*H. mustelina*), for maintaining the genus *Hylocichla*. Morphology, nesting habits, and general behavior of all the small woodland thrushes are very similar. This race of the Hermit Thrush winters in some numbers on the Sierra de Autlán.

*Catharus u. ustulatus*. Swainson Thrush. This thrush is common in spring, at least, from low altitudes in the Thorn Forest up to above Los Corralitos in the high Sierra de Autlán. It was common to 10 May and is to be expected later.

*Catharus occidentalis fulvescens*. Russet Nightingale-thrush. Phillips (1962:362-364) and Rowley and Orr (1964) have definitively settled a taxonomic muddle initiated by Hellmayr and further confused by the Mexican Check-list, Part II:193. I fully agree that there are indeed three sympatric species in central western Mexico: *C. occidentalis*, *C. frantzii*, and *C. aurantirostris*. *C. occidentalis* is much the commonest species on the Sierra de Autlán and is the boldest and the least confined to heavy underbrush. Birds taken on 31 December and on 2 January were in non-breeding condition. Of six birds taken between 10 and 14 April, 1959, only one male had enlarged testes: 9 X 4 mm; the rest (one male and four females) were in non-breeding condition. This suggests that breeding takes place somewhat later in Jalisco than in Oaxaca (*vide* Rowley and Orr, *op. cit.*). Zimmerman and Harry (*op. cit.*) mention puzzling differences between a male and a female taken by Harry on the Sierra de Autlán. The author

suggests that the "brighter" female was a specimen of the present species while the male perhaps pertained to the following species.

*Catharus frantzii omiltemensis*. Frantz's Nightingale-thrush. Phillips and the author found this species on the Sierra de Autlán in 1959, and the former first reported the presence of the species in Jalisco. The specimen data which follow are derived from the series now in the Western Foundation of Vertebrate Zoology which was utilized by Rowley and Orr (*op. cit.*: 312). Specimens taken above Los Corralitos on 1 and 2 January, 24 February, and 10 and 13 April, 1959, were all in non-breeding condition. January specimens weighed: male 26 gr; female, 29.7 gr. This species is much warier and more furtive than *C. occidentalis*, which may partially account for its relative scarcity in collections. It also seems to me much less common than *occidentalis* here, at or near the extreme northern limit of its range. However, the two species are sympatric here as well as in Guerrero and Oaxaca.

*Catharus aurantiirostris clarus*. Orange-billed Nightingale-thrush. This thrush must also be considered sympatric with the preceding two species on the Sierra de Autlán, at least in spring and summer; whether it breeds in the same habitat remains to be shown. Birds taken above Los Corralitos on 23 February (the first and only one seen in February) and on 10 and 12 April were in non-breeding condition. An adult female of this series weighed 29 gr. At La Cumbre, on 19 August a pair was caught in the same net. Both were in fresh new plumage and were in breeding condition; the male had enlarged testes (10 X 8 mm) and the female had the ovary enlarged. In the same net on 21 August, a fledgling was taken, indicating that breeding had taken place in this area at least a month earlier and quite possibly in June, and that the species may be double brooded in the La Cumbre area.

*Polioptila caerulea amoenissima*. Blue-gray Gnatcatcher. A male gnatcatcher taken at the SAG station on 17 August proved referable to this species, on the assumption that male *nigriceps* would show black on the head at this season. It was not preserved, but provides an arrival date for the species in the region.

*Polioptila nigriceps*. Black-capped Gnatcatcher. As stated by Phillips (1963:351), this is the only resident gnatcatcher which we have found in the region. It is common from the Thorn Forest of the coast to at least as high as the Oak Woodland at La Cumbre. An adult male shot by mistake at Cualata, Colima, on 7 August was examined and found to have the testes slightly enlarged: 3 X 2 mm.

\* *Regulus calendula*. Ruby-crowned Kinglet. This migrant species winters in some numbers on the upper Sierra de Autlán; it was seen almost daily above Los Corralitos in December, January, and February, but none were seen in April. On 10 February Phillips heard two kinglets on the Medialuna, our only Colima record.

*Ptilogonys c. cinereus*. Gray Silky-Flycatcher. This species was found to be common in the region only in the La Cumbre area and in the Humid Pine-oak Forest above Los Corralitos. At La Cumbre, a pair taken on 8 April was in non-breeding condition, but two males taken there on 30 April had enlarged testes. Above Los Corralitos on 10 April one male had slightly enlarged testes (5 X ) mm) and another had greatly enlarged testes. The breeding season in this región probabl begins about mid-April.

*Vireolanius melitophrys*. Chestnut-sided Shrike-vireo. In the Humid Pine-oak Forest above Los Corralitos this beautiful bird was found to be relatively common, *i. e.* one or two individuals seen daily. Two males taken on 10 and 13 April had enlarged testes: 9 X 5 and 5 X 3 mm, but an adult female on 13 April had the ovary still not enlarged. The irides of all three birds were white with a faint yellow tinge

(cf. Davis, 1962). Iris color in this species may vary with age or geographically.

*Vireo solitarius pinicolus*. Solitary Vireo. Three races of this vireo were taken in 1959. Only one male (testes 7 X 4 mm) is definitely referable to the northern Mexican race *pinicolus*, from La Cumbre on 8 April; it was identified racially by Laurence C. Binford, to whom the author is grateful. The commonest race in the region seems to be *V. s. cassinii*, but several *V. s. plumbeus* were also taken. The species may perhaps breed in the upper Sierra de Autlán.

*Vireo gilvus swainsoni*. Warbling Vireo. An adult non-breeding female, definitely referable to this race, was taken at La Cumbre on 8 April; this bird was also kindly identified by Binford. On 13 August an immature (skull not completely ossified) female was taken at La Cumbre in the Oak Woodland. The specimen has been critically compared with many specimens of *V. g. swainsoni* and with a few *V. g. brewsteri* from Sonora and Sinaloa. The La Cumbre bird is darker throughout than either of these and furthermore possesses a dark brown cap which is completely unlike any of their plumages, juvenal or adult. Further study of the breeding vireos of this region is urgently needed. *Vireo huttoni*, *V. hypochryseus*, and *V. flavoviridis* are definitely known to breed in the region. The author suspects that *V. solitarius*, *V. gilvus*, *V. nanus*, and *V. brevipennis* will also be found to be breeding residents of the Sierra de Autlán area. For the use of *Vireo* instead of *Neochloe* for the last species see Phillips, 1963:352-353.

\* *Mniotilta varia*. Black-and-white Warbler. This unmistakable warbler has apparently not been previously reported from Jalisco. An adult was seen by the author at close range (10 m) in the Oak Woodland at La Cumbre on 17 August; another seen at Cualata, Colima, on 6 August may represent an arrival date for the species.

\* *Vermivora chrysoptera*. Golden-winged Warbler. On 24 February Phillips shot but could not find a male of this distinctive species (with which he is familiar) above Los Corralitos. There are apparently no northwestern Mexican records for the species.

*Vermivora crissalis*. Colima Warbler. Two Colima Warblers were observed by Phillips and the author on 31 December and on 1 January, at and above Los Corralitos. The species apparently winters on the higher elevations of the region, but in small numbers.

*Vermivora superciliosa sodalis*. Hartlaub Warbler. Although not reported by Zimmerman and Harry (*op. cit.*), this warbler is a not uncommon resident of the Sierra de Autlán, from the Oak Woodland at La Cumbre up to the high ridges above Los Corralitos. Specimens taken above Los Corralitos in December, February, and mid-April were all in non-breeding condition.

*Parula pitiayumi pulchra*. Olive-backed Warbler. A better vernacular name for this species is Tropical Parula Warbler. The species is a relatively uncommon resident in the region, found from the Thorn Forest at Bahía Coastecomate to the Tropical Deciduous Forest at the head of the *barranca* at La Cumbre. A male taken at the latter locality on 11 May was in breeding condition: testes greatly enlarged and singing.

*Dendroica petechia*. Yellow Warbler. An emendation to the author's 1963 work is called for here, as Phillips has no record nor recollection of having definitely identified *D. p. sonorana* from among the many Yellow Warblers collected by the author in 1959 (few of which have been critically studied yet).

A male in first basic plumage taken at Cualata, Colima, on 6 August proves referable to the northwestern Canadian race, and provides an arrival date for the species.

This race is variously united by diffe-



rent authors with *rubiginosa* (which it closely resembles — ARP) or *amnicola*.

*Dendroica occidentalis*. Hermit Warbler. The Hermit Warbler winters on the Sierra de Autlán in small numbers, in the Humid Pine-oak Forest above Los Corralitos. An adult male taken there on 22 February was in non-breeding condition and was not fat.

\* *Seiurus noveboracensis*. Northern Water-thrush. On 24 December Phillips observed a Northern Water-thrush at a mangrove-bordered pond 4 Km W San Buenaventura, Colima. The species has not been previously reported from Colima.

*Geothlypis p. poliocephala*. Ground Chat. This common resident of marshy and grassy lowlands in the region was also taken once in a blackberry tangle in a meadow at an estimated altitude of 2680 m above Los Corralitos, on 2 January. It was an immature (skull not completely ossified) in first basic plumage. The collector stated that it was with another. Whether the species is resident at high altitudes in this region is an interesting question for future workers to resolve.

\* *Granatellus v. venustus*. Red-breasted Chat. An adult male of this uncommon species was taken on 28 August in Barranca La Calera in heavy Tropical Deciduous Forest; unfortunately, its reproductive condition was not ascertainable. The species has apparently not been recorded previously from Jalisco.

*Wilsonia pusilla*. Pileolated Warbler. An individual of this common migrant species was seen at La Cumbre on 18 August, an early arrival date.

\* *Cardellina rubrifrons*. Red-faced Warbler. This distinctive warbler is relatively common (at least in winter) in the Humid Pine-oak Forest of the Sierra de Autlán. The author has no record of the species there, however, in April; it probably does not breed in the region. An adult female taken above Los Corralitos on 21 February weighed 9.5 gr and was not breeding. An adult, non-breeding male

taken on the Medialuna near Pueblo Juárez, 8 February, is apparently the first record for the species within the State of Colima.

*Setophaga p. picta*. Painted Redstart. The beautiful Painted Redstart is a common resident of the Sierra de Autlán, where it occurs as low as the Oak Woodland at La Cumbre. A male taken here on 8 April had enlarged testes (6 X 3 mm), but a female taken on the following day had the ovary unenlarged.

*Myioborus m. miniatus*. Slate-throated Redstart. This montane species is abundant in the Humid Pine-oak Forest of the Sierra de Autlán, but it also occurs (sporadically?) in the Oak Woodland as low as La Cumbre. Several adults were also noted by the author in August well down in the Tropical Deciduous Forest at the head of the pass at La Cumbre. Two adult males taken in mid-April above Los Corralitos had enlarged testes.

*Basileuterus culicivorus flavesens*. Golden-crowned Warbler. Due to numerous observations of this species during August, chiefly in the Tropical Deciduous Forest at La Cumbre and La Calera, but also once in the Thorn Forest at Bahía Coatecomate, the author must revise his earlier statement on the abundance of this species; he now considers it locally not uncommon.

*Basileuterus rufifrons dugesi*. Rufous-capped Warbler. To add to the account of the species given by Zimmerman and Harry (*op. cit.*), the author lists some specimen data from the La Cumbre area, where the species abounds. Birds taken the last week in February were in non-breeding condition: two males weighed 9.3 and 9.5 gr while a female weighed 9 gr. A male taken 29 April had greatly enlarged testes. The breeding season at La Cumbre probably begins by mid-April. Some partial evidence obtained in August indicates that the species may be double brooded.

*Euphagus cyanocephalus*. Brewer Blackbird. On 26 February the author and

Phillips saw a flock of about 50 Brewer Blackbirds along the highway approximately 18 Km N La Huerta, Jalisco. Another small flock (10) was seen by Phillips on 19 December in a herd of cows near Tecalitlán, Jalisco, near the northeastern border of Colima. The species is to be expected in Colima.

*Icterus spurius*. Orchard Oriole. On 12 August numerous Orchard Orioles were already present in the scrub land north of La Huerta, Jalisco.

*Icterus w. wagleri*. Wagler Oriole. On 7 August several were seen by the author at Cualata, Colima; an adult male taken had the testes somewhat enlarged (6 X 3 mm). Since none of these orioles was observed on the coastal plain during our earlier work in the region (Schaldach, *op. cit.*: 85), it may be that the species wanders more widely during the rainy season when water is available everywhere, or it may be very local.

*Icterus graduacauda*. Black-headed Oriole. This species was found to be a relatively common resident of the Humid Pine-oak Forest above Los Corralitos, where it inhabited the well-wooded *barrancas*. Birds taken there in January and February were in nonbreeding condition.

*Piranga flava hepatica*. Hepatic Tanager. These tanagers are common residents of the Sierra de Autlán, where they occur as low as the Oak Woodland at La Cumbre. Two February males taken above Los Corralitos were in non-breeding condition and weighed 37.2 and 38 gr. Two males taken at the same area in mid-April had enlarged testes. Males taken at La Cumbre on 9 and 29 April had greatly enlarged testes, but a female taken there on 9 April had the ovary only slightly enlarged. Thus breeding apparently begins in April.

*Piranga ludoviciana*. Western Tanager. This migrant winters in small numbers in the region. It was noted most commonly in the Oak Woodland at La Cumbre, but was also observed several times in the Humid Pine-oak Forest near and

above Los Corralitos. The latest date for the region seems to be 11 May, when 3 or 4 were seen at La Cumbre (Phillips).

*Piranga b. bidentata*. Swainson Tanager. This relatively common resident ranges throughout the Sierra de Autlán, from the Tropical Deciduous Forest at the base (La Calera) to the Humid Pine-oak Forest at the top. An adult male taken at La Cumbre on 8 April had greatly enlarged testes (11 X 7 mm). On 10 April, above Los Corralitos, an adult male had enlarged testes (8 X 5 mm) and an adult female had the ovary slightly enlarged.

*Piranga e. erythrocephala*. Red-headed Tanager. These small tanagers were not uncommon in the Sierra de Autlán, occurring as low as the Oak Woodland at La Cumbre, where several flocks were seen during August. Above Los Corralitos, specimens taken on 31 December were in non-breeding condition, while 4 males in April (10-14) had testes varying from 6 X 4 to 11 X 7 mm and one female had the ovary enlarging.

*Rhodinocichla rosea schistacea*. Rosy Thrush-tanager. In August this generally uncommon species was noted on several dates in Tropical Deciduous Forest in the *barranca* at La Calera. A pair taken on 26 August was in breeding condition: the male had enlarged testes (9 X 5 mm) and the female had the ovary slightly enlarged.

*Diglossa b. baritula*. Mexican Diglossa. This tiny, puzzling bird was found to be a common resident of the open, grassy areas near and above Los Corralitos. It was particularly abundant in the larger clearings which were choked with blackberry tangles, verbenas, and salvias. On 2 January two males which appeared to be chasing other males were collected; they proved to be in breeding condition (testes greatly enlarged). As the author has pointed out before (*op. cit.*: 89), cold weather seemingly holds no terrors for these peculiar birds.

*Habia rubica rosea*. Red Ant-tanager. Ant-tanagers were found to be common residents of the Tropical Deciduous Forest of the region, ranging from the pass at La Cumbre down to the base of mountains at La Calera. The species was also noted several times in the dense Thorn Forest at Bahía Coastecomate in August, and a specimen was taken on 24 October, 1959, 2 Km E Melaque, but it was not common at the coast. At La Cumbre, specimens taken on 18 February and 8 April were in non-breeding condition, whereas a male taken had on 29 April, greatly enlarged testes and its mate had the ovary enlarging; the breeding season must be long here, or the species double brooded, for immature birds (including a fledgling) were noted in August.

*Spinus notatus forreri*. Black-headed Siskin. These tiny birds were noted on a few occasions (January, April) in the Humid Pine-oak Forest of the upper Sierra de Autlán, and commonly in the Oak Woodland at La Cumbre; here an adult female taken on 18 February was in non-breeding condition.

*Spinus psaltria*. Lesser Goldfinch. These goldfinches were common at La Cumbre, in February and August, and especially in the valley south of Autlán (19 February). Phillips also heard them in green barrancas above Los Corralitos on 23 February. A few were seen on 1 and 8 February at Colima City and on the ridge of the Medialuna.

*Loxia curvirostra*. Red Crossbill. Phillips heard crossbills above Los Corralitos on 1 and 3 January.

*Pheucticus c. chrysopheplus*. Yellow Grosbeak. The Yellow Grosbeak is a relatively common (local?) resident of the Thorn Forest and Tropical Deciduous Forest, up to the edge of the Oak Woodland at La Cumbre; here an adult male taken on 29 April had greatly enlarged testes.

\* *Pheucticus ludovicianus*. Rose-breasted Grosbeak. This migrant grosbeak winters in the Sierra de Autlán in small

numbers. Males taken above Los Corralitos on 22 February (42.5 gr) and 10 April had small testes. The species has apparently not been recorded previously from Jalisco.

*Passerina versicolor dickeyae*. Varied Bunting. Varied Buntings seem to be relatively uncommon breeding residents of the Thorn Forest of the region, although they range as high as the Tropical Deciduous Forest at La Cumbre. On 30 April an adult male with enlarged testes was taken here. But the picture is confused by the hundreds of migrants which winter here and which pass through the area in fall and spring, and by an adult, non-breeding male taken in Humid Pine-oak Forest (!) above Los Corralitos on 20 February, at some 2700 m.

*Sporophila t. torqu Coast*. White-collared Seedeater. This tiny finch is a relatively common resident of all the lowland areas of coastal Jalisco, even abundant in the marshy areas near Barra de Navidad, but seems to become rarer beyond the Rio Cihuatlán to the east. However, several were noted and one male (by plumage) taken at Cualata, on the coastal plain of Colima, on 7 August.

\* *Amaurospiza concolor* ssp. Blue Seedeater. The taking of this little-known finch some 600 km from its previously known distribution limit in Morelos (Rowley, 1962) and central Guerrero was the greatest thrill of the 1966 trip. An adult male in worn plumage with greatly enlarged testes (9 X 7 mm) was caught in the lowest part of a mist net at La Cumbre on 18 August. The net was set parallel with the slope in a dense thicket of *otote* (wild bamboo) in heavy Tropical Deciduous Forest, just below the juncture with the Oak Woodland. The flesh colors as noted from the live bird were: iris: dark hazel; bill: culmen: dark indigo blue, gonys: light slate blue; tarsi and feet: slate blue. The bird was not molting and was not fat. Of interest are the white patches (consisting of approximately 5



feathers each) just dorsad to the thigh insertion, on each flank. On 25 August a second specimen was brought in to us at the SAG station by one of the fire guards. This is a young male with completely unossified skull, tiny testes, and in moderate general molt. It is dark brown in mass effect, resembling the female dress but darker. There were large *otate* thickets on the precipitous slopes of the *barranca* below this point. The species may ultimately prove to be more or less restricted to bamboo thickets or similar thickets nearby. Phillips took two females in dense undergrowth not too far from bamboo thickets in Cloud Forest in the Sierra Madre del Sur north of San Gabriel Mixtepec, Oaxaca, in 1964.

*Atlapetes p. pileatus*. Rufous-capped Atlapetes. This medium-sized ground finch is a common resident of the Sierra de Autlán in the Humid Pine-oak Forest zone. Specimens taken above Los Corralitos as late as 10 April were in non-breeding condition.

A February male and female weighed 19 and 21.2 gr. Contrary to the condition found on the Volcán de Nieve (Schaldach, *op. cit.*:94), this species was observed many times, on the Sierra de Autlán in the dry season, even on 1 January.

*Pipilo ocai alticola*. Collared Towhee. This large towhee is a relatively common resident of the Sierra de Autlán, chiefly in the well-wooded *barrancas*. Our data on breeding are scanty but puzzling. A female taken 21 February had the ovary slightly enlarged and weighed 50 gr. A male (54 gr) taken on 24 February had the testes not enlarged. On 10 April a male had the testes enlarged (8 X 3 mm) and on 12 April a female had the ovary slightly enlarged; yet on 10 April three juveniles (skull completely unossified and in juvenal plumage) were taken, indicating that breeding had begun at least a month ear-

lier. This species may also be double brooded in this range.

\* *Poocetes gramineus*. Vesper Sparrow. The author saw at least one Vesper Sparrow on the Tepames road, 18 km SE Colima City on 9 March. The species has apparently not been previously reported from Colima.

*Aimophila humeralis*. Black-chested Sparrow. As pointed out by the author previously (*op. cit.*), this species is found at La Cumbre with *A. rufescens* and *A. ruficeps*. It is much more common in the Autlán valley, where it is associated with *A. ruficauda*. Somewhere in the lower part of the *barranca* which leads NNE from La Cumbre down into the Autlán valley all four local species of *Aimophila* may be in contact. This would be an excellent area for field studies on the genus.

*Aimophila r. rufescens*. Rusty Sparrow. Although not reported by Zimmerman and Harry (*op. cit.*), this species is a common resident in the La Cumbre area in the Oak Woodland. It also ranges down into the Tropical Deciduous Forest at the head of the *barranca*. Birds taken here 26 February and on 8 and 9 April were in nonbreeding condition; on 30 April a male had enlarged testes (8 X 4 mm) and a female had the ovary enlarging, largest ovum 2 mm. Again on 16 August a male had enlarged testes (7 X 3 mm) and a female had the ovary slightly enlarged, largest ovum 2 mm, yet a juvenile (skull completely unossified and in juvenal plumage) was taken the same day. They were then moving more or less rapidly through the woods in family (?) groups of 4-7 individuals.

*Spizella pallida*. Clay-colored Sparrow. One was noted by Phillips at Autlán on 30 December.

*Melospiza lincolni*. Lincoln Sparrow. This sparrow winters in some numbers on the Sierra de Autlán, in grass and blackberry (*Rubus*) tangles in clearings.



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