

Article XXII.—LIST OF BIRDS COLLECTED IN SOUTHERN
SINALOA, MEXICO, BY J. H. BATTY, DURING
1903-1904.

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The collection of birds recorded in the present paper was made by Mr. J. H. Batty in southern Sinaloa, Mexico, between December 8, 1903, and November 5, 1904. The collection numbers 1164 specimens, representing 160 species. Following are the principal localities at which collecting was done, with their elevation, and the dates of collecting at each.

Escuinapa (elevation 50-100 feet), December 19, 1903, to April 11, 1904; May 23 to November 5, 1904. Arroyo de Limones (3500 feet), April 14 to 23; May 17 to 21, 1904. Los Pies (3500 feet), April 14 to 23; May 17 to 21, 1904. Juan Lisiarraga Mountain (5500 feet), April 24 to May 16, 1904. Juanna Gomez River (50 feet), June 1 to 9, 1904.

While making his headquarters at Escuinapa, the collector covered the southern part of Sinaloa, from Mazatlan to northern Tepic. He worked east from Escuinapa, during April and May, 1904, for at least sixty miles, into the western foothills of the Sierra Madre. The minor localities near Escuinapa are Hacienda and Los Cabras Islands, Elota, Brazil, Caletie, and Cyootlan, varying in altitude from sea-level to about 800 feet. Additional localities in the foothills are Papachal (1200 feet), Cosala (1500 feet), Lavanilla (3000 feet), Jalpa (3500 feet), and La Balla Mountain (4500 feet).

The following brief description of the country covered by the collector is gathered from his notes:

A strip of country bordering the coast and reaching nearly all the way from Mazatlan to the Territory of Tepic is covered with lagoons and rivers. It has a heavy growth of mangroves, and is sparsely interspersed with sandy knolls and flat patches of higher ground covered with other vegetation. East of the lagoons, for the five miles to Escuinapa, and to the foothills of the Sierra Madre, is a long flat plain covered mostly with thorny bushes, yuccas, and patches of high grass. On this tract are scattered occasional ranches.

Northwest of Escuinapa the country is the same for several hundred miles. The same character of country continues also southeast for seventy miles. Further south, hills appear and gradually increase

in size until the high Sierra Madre is reached, a distance of about one hundred miles.

East of Escuinapa rise small bushy hills, sparsely covered with chapparal, mesquite, and other thorny bushes and trees. Twenty miles directly east, the altitude is about 3000 feet, at sixty miles 5000-6000 feet, and at the boundary line of Durango about 8000 feet.

Advancing upward from the flat country, the aspect and vegetation gradually change. At 4000 feet, oaks first appear; at 5000 or 6000 feet there are grassy hills, the valleys between being wooded, principally with large oaks. Still higher, the oaks are mostly replaced by scattered groves of large pines.

For the loan of specimens and for other assistance, I wish to express my indebtedness to Dr. Charles W. Richmond and the authorities of the United States National Museum, and to Mr. E. W. Nelson, of the Biological Survey.

All measurements of specimens are given in millimeters. Two new subspecies, *Amazona albifrons nana* and *Amizilis beryllina viola*, are described.

The remarks on distribution, habits, color of bill, feet, and soft parts, when inclosed in quotation marks, are transcribed from the collector's labels.

1. **Crypturus occidentalis** *Salvadori*.—Seven specimens, as follows: Escuinapa, 1 specimen, March 26; Los Pieses, 3 specimens, April 16; Lavanillo, 3 specimens, June 24. The June birds are molting their worn and faded body plumage. "Common. Found singly and in pairs, generally on hills or mountains, not met with on lowlands. Breeds in July; has 5 to 10 eggs; nests on the ground. Rapid flyer. Call a clear whistle. Feet and legs dark shrimp red, soles dirty brownish white. Iris grayish brown" in the April specimens (1 male, 2 females), or "grayish yellow" in the June birds (2 males, 1 female).

2. **Fregata aquila** *Linn.*.—One adult female, Escuinapa, January 14. "Common. Gular sac pale bluish purple. Iris dark hazel. Feet pale magenta. Bill light horn."

3. **Spatula clypeata** (*Linn.*).—Two specimens, Escuinapa, January 26. "Rather common."

4. **Nomonyx dominicus** (*Linn.*).—One female, Escuinapa, December 28. "Iris dark hazel." This specimen measures, wing, 118 mm.; culmen, 31.6, greatest width of maxilla, 15. The last measurement indicates an unusually narrow bill, but through lack of material I am unable to determine whether this fact is of any significance.

5. *Guara alba* (Linn.).—Three specimens, Escuinapa, March 24-30. "Common."

6. *Cochlearius zeledoni* Ridgw.—Six specimens, all adult, as follows: Escuinapa, 3 specimens, May 18 and 27; Hacienda Island, 2 specimens, May 27 and 28; Juanna Gomez River, 1 specimen, June. "Iris dark hazel, nearly black. Feet and legs pale yellowish green. Gular sac and bare space about eye pale greenish yellow." The following is taken from the labels of the Hacienda and Sinaloa specimens: "Rather common; nocturnal. Breeds in pairs and colonies in June. Found about fresh and brackish water, preferring fresh water. Feeds on small fish, shrimps, etc."

7. *Nycticorax nycticorax nævius* (Bodd.).—One adult female. Escuinapa, May 18. "Common; breeds in May and June."

8. *Florida cærulea cærulea* (Linn.).—One adult male, Escuinapa, March 30.

9. *Tigrisoma cabanisi* Heine.—Two specimens, Escuinapa. One adult male, January 24: "Iris pale yellow. Feet greenish black. Bill, upper mandible dark horn, lower mandible greenish yellow. Gular sac pale greenish yellow." One immature female, January 5: "Iris narrow, light yellow. Feet apple green. Cere and space about eyes yellowish green, eyelids greenish yellow. Common."

10. *Porzana carolina* (Linn.).—One specimen, Escuinapa, September 3. "But one specimen seen to date."

11. *Fulica americana* Gmel.—Five specimens, Escuinapa, 2 specimens, October 27 and January 1, and 3 without dates. "Iris cherry red. Feet dirty pale green and black. Common."

12. *Recurvirostra americana* Gmel.—Two specimens, Escuinapa, December 22 and 23. Male: "Eye dark hazel. Legs and feet pale opal blue. Common."

13. *Himantopus mexicanus* (Müll.).—Two specimens, Escuinapa, November 4 and December 23. "Common. Not observed breeding."

14. *Actitis macularia* (Linn.).—One female, Arroyo de Limones, April 20. This specimen is undergoing an extensive molt; the plumage has been largely renewed but growing feathers are still present on the crown, interscapulum, breast, etc. The outermost primary is about two-thirds grown and the tail is nearly complete. "A few stragglers, April."

15. *Totanus melanoleucus frazari* Brewster.—One female, Escuinapa, December 24. This specimen satisfactorily exhibits the characters claimed by Mr. Brewster for his subspecies *frazari*. Com-

pared with the few available eastern specimens in winter plumage, the upper parts are considerably paler and grayer, and the crown is more broadly streaked with white. The streaking and speckling of the cheeks is also finer and the breast is more narrowly streaked. The measurements are as follows: Wing, 183.5 mm.; bill from nostril, 44; tarsus, 56.

16. *Jacana spinosa* (Linn.). — Ten specimens, only three of them adult, Escuinapa, September 3, November 5, and December 28–January 24. Adult male, December 28: "Iris hazel. Feet dark blackish green. Bill light orange; cere reddish orange; protuberance orange." Immature male, January 2: "Iris hazel. Feet dark apple green." Immature female, January 22: "Iris whitish yellow. Feet yellowish olive green; claws brownish horn. Lower mandible greenish yellow, base darker; upper mandible, point brownish yellow, base and ridge yellowish green. Cere greenish yellow." The color of the iris and feet of another specimen, an immature male, January 24, is given as similar to that of the last described. "Common. Breeds in August."

17. *Cyrtonyx montezumæ montezumæ* (Vigors). — Eight specimens, Juan Lisiarraga Mt., April 24–May 13. "Gregarious except in breeding season. Rather common; generally found among oaks at from 4000 to 9000 feet altitude. Hides under leaves and among loose rocks until nearly stepped on. Breeds in June. Iris hazel. Feet pale whitish lead."

18. *Lophortyx douglasi douglasi* (Vig.). — One hundred and twenty-nine specimens as follows: Escuinapa, 120 specimens, December 20–April 6, July 14 (one), August 5 (2 young), September 20–30, October 2–27; Arroyo de Limones, 5 specimens, April 11–18; Juanna Gomez River, 1 specimen, June 2; Cosala, 1 specimen, December 8. This series exhibits considerable variation in coloration. The shape and size of the black throat markings of the males vary greatly. The females differ much among themselves, some specimens suggesting the males in color. Many specimens, taken from December to March inclusive, show molt taking place in the primaries and at other points. "Common. Gregarious. Found on lowlands and foothills of Sierra Madre. Breeds in April and May. Lays eight to twelve eggs; nest on the ground. Sometimes has as many as twenty eggs at one sitting. Roosts in bushes and trees, and *not* on ground." "Iris hazel." Feet of male described by collector as "bluish black," "pale olive brown," "dirty greenish white," etc., according to the individual; bill usually as "brownish black."

19. *Ortalis wagleri* Gray. — Thirty-nine specimens: Escuinapa, 21 adults, December 23–January 16, and 1 young in down, July 3; Juanna Gomez River, 3 young in down, July 4; Los Pieves, 9 adults, May 17–21, June 18; Papachal, 1 adult, December 9; Jalpa (alt. 3500 feet), 1 adult, April 16; Arroyo de Limones, 1 adult, April 21; and 2 adults without labels. Escuinapa: "Common; steady resident. Crest carried erect and spread forward. Windpipe runs full length of sternum and back in males only. Iris, hazel. Feet blackish brown. Bill dark brown, tips of mandibles lightest." The chick, dated July 3, shows three or four chestnut-rufous feathers appearing on each side of the belly, while the three taken on July 4 are wholly in the downy plumage. Los Pieves: "Common on lowlands and in foothills to 4000 feet altitude. Breeds in June; nests in high trees but sometimes in rocks on steep hillsides. Nests of sticks and leaves; has generally 3, sometimes 4, rather large roundish, whitish eggs. Feeds principally on berries and insects. Has a very loud, noisy cackle."

20. *Penelope purpurascens* Wagler. — Eight specimens: Escuinapa, 1 specimen, February 28; Arroyo de Limones, 7 specimens, April 1–23. Arroyo de Limones: "Iris brownish red; feet and legs magenta; gular sac brick red. Common, breeds in June. Said to build nests in high trees, of sticks and leaves, and to have 4 to 6 eggs with heavy white shells."

21. *Geotrygon montana* (Linn.). — One specimen, a male, Arroyo de Limones, April 21. "Eye reddish hazel. Feet pale magenta. Stragglers only seen."

22. *Scardafella inca* (Lesson). — Six specimens, Escuinapa, October 28, December 22–29. "Common; breeds in April and May. Iris very narrow, orange; feet and legs flesh."

23. *Columbigallina passerina pallescens* (Baird). — Four specimens, Escuinapa, October 14 and 31, and December 23. "Common; steady resident. Breeds."

24. *Columbigallina rufipennis eluta* Bangs. — Three specimens, Escuinapa, October 1–28. "Steady resident; breeds; common. Iris narrow; pale gold" or "yellowish gray."

25. *Melopelia leucoptera* (Linn.). — Three specimens, Escuinapa, October 27, December 26 and 27. "Common; steady resident. Breeds." The October specimen had nearly completed the annual molt, including the wings.

26. *Leptotila fulviventris brachyptera* (Salvad.). — Four specimens: Escuinapa, 1 specimen, February 2; Juan Lisiarraga Mt., 2

specimens, May 3 and 4; Juanna Gomez Creek, 1 specimen, June 2. "Iris reddish orange"; in one specimen (male, June 2), "light grayish brown." "Feet and legs magenta. Bill solid brownish black. Rather common; steady resident. Arrives in April. Observed to 6000 feet altitude in Sierra Madre (west slope)."

These specimens average slightly browner above than a series from the lower Rio Grande Valley in Texas.

27. *Zenaidura macroura macroura* (Linn.).—One specimen, Escuinapa, November 6.

28. *Columba flavirostris flavirostris* Wagler.—Five specimens: Escuinapa, 4 specimens, January 24–April 8; Los Pieses, 1 specimen, April 16. "Iris reddish orange, shading to yellow near pupil. Feet magenta. Bill at base carmine, tips of both mandibles reddish white. Eyelids bluish flesh."

These five specimens and an additional one from Escuinapa present a decided average difference from Texan and east Mexican specimens in the amount of white on the wing. In four of these six specimens the greater coverts are more broadly edged with white than in any of a series of thirty-three specimens from Texas, Nuevo Leon, and Tamaulipas. The two other birds are intermediate in this respect but have more white than a majority of the eastern specimens, in many of which it is practically obsolete. There seems to be no other marked difference between the two series, although the Sinaloa birds appear to average paler, especially in the plumbeous areas, and the chin is usually whiter or less tinged with buff. In size there is little if any difference. There is thus in the paler colors and broader wing margins an evident approach to *C. f. madreensis* Nelson, from the Tres Marias Islands.

The southernmost representatives of this species probably constitute a distinct subspecies, as a single example (No. 45376) from Costa Rica is much smaller than Mexican and Texan birds, and the greater wing-coverts are wholly without light margins. Wing, 176.5 mm.

29. *Polyborus cheriway* (Jacq.).—Six specimens: Escuinapa, 5 specimens, January 24, March 18 and 28, May 20, June 30; Los Cabras Island, 1 specimen, April 8. One male (May 20), although apparently adult, is almost as brown as an immature bird and the abdomen is crossed by partially concealed buff bars. The specimen taken June 30 is a young bird "probably about 6 weeks old." Adult male, April 8: "Iris hazel. Feet and legs brownish orange. Bill pale bluish horn, shading to nearly white at tip. Cere and bare space

about base of bill dark reddish orange. Common." At Escuinapa: "Common. Nests in high trees. Nests found have but two chocolate colored mottled eggs or two young."

30. *Cerchneis sparveria phalœna* (Less.). — One female, Escuinapa, January 29. "Very common."

31. *Micrastur melanoleucus* (Vieill.). — Three specimens: Escuinapa, 1 adult male, April 8; Juanna Gomez River, 1 immature male, June 6; Juanna Gomez, 1 immature female, June 3. Adult male: "Iris grayish light brown, outside brownish blue. Feet greenish yellow; legs brownish yellow. Bill brownish black. Cere and bare space about eyes pale bluish yellow. Native name 'Guaco.'" Immature male and female: "Iris pale yellowish brown. Feet light greenish orange. Cere and bare space about eyes, yellowish green. Rather common."

The immature female is molting in wings (including remiges) and body plumage, acquiring black feathers above and pure white below. That white under parts are not peculiar to "very old birds," as has been stated (Sharpe, Cat. Bds. Brit. Mus., Vol. I, p. 75), but, on the contrary, may be present in the first adult plumage, is proved by this specimen.

32. *Asturina plagiata* Schleg. — Fourteen specimens: Escuinapa, 13 specimens, October 17, December 19-23, March 12-30, and June 26-July 2 (4 nestlings); Papachal, 1 adult male, December 9. "Eye large. Iris hazel" in both adults and immature, "grayish hazel" in young. Cere and feet "pale orange" to "brownish yellow." "Bill blackish." At Escuinapa: "Common; breeds in May." The usual number of eggs in a set is apparently two. The immature birds differ remarkably from the adults in their relatively much *longer* tails. Five adult males measure, wing 260 mm., tail 161, while five immature males give, wing 255, tail 183. This is also the case in *Urubitinga anthracina*, and doubtless in other hawks.

33. *Urubitinga anthracina* (Licht.). — Three specimens: Escuinapa, 2 specimens, December 22 and March 19; Arroyo de Limones, 1 adult female, April 20. Male immature, Escuinapa: "Iris yellowish brown. Feet brownish lemon. Bill dark horn, light at base; cere brownish lemon." Female adult, Escuinapa: "Eyes dark hazel; feet and cere lemon. Common. Preys principally on iguanas, lizards, snakes, frogs, large insects, rats, and mice. Found about river courses and lagoons."

34. *Urubitinga ridgwayi* Gurney. — Two adults: Escuinapa, 1

female, January 2; the other specimen is without label. "Iris light hazel. Feet brownish yellow. Bill blackish brown, base of lower mandible lighter. Common; breeds in April and May."

35. *Buteo abbreviatus* Cab. — One male, Escuinapa, January 13. "Iris dark hazel. Feet lemon. Bill horn; cere lemon."

36. *Parabuteo unicinctus harrisi* (Aud.). — Three specimens: El-ota, 1 female, December 13; Escuinapa, 2 males, March 25-28. All three are in the mixed plumage of old worn feathers of the young bird and fresher feathers of the adult, apparently the "first nuptial plumage." March males: "Iris hazel. Feet and cere lemon. Bill bluish horn, tipped with black." The crop of one specimen (March 28) "contained a large field rat."

37. *Glaucidium phalænoides ridgwayi* (Sharpe). — Eight specimens: Escuinapa, 7 specimens, December 20-March 15, and July 4-15; Juan Lisiarraga Mt., 1 specimen, April 28.

A series of 57 specimens of *Glaucidium phalænoides* from throughout its range shows that the species is undoubtedly divisible into at least two geographical races, a fact long recognized by many ornithologists, but ignored in the Check-List of the American Ornithologists' Union. I am not certain as to the correct nomenclature of these subspecies, but use Dr. Sharpe's name of *ridgwayi* for the form under consideration.

Thirty specimens in the Museum collection from the southwestern United States, Tamaulipas, Sinaloa, Jalisco, and Yucatan are (with one exception described below) comparatively uniform in color and markings, the upper parts being olive brown to tawny brown and the tail rufous or ferrugineous crossed by eight to eleven blackish brown bars of about the same width as the rufous interspaces. Twenty-three specimens from South America (Trinidad, Colombia, Venezuela, and Brazil) present two very distinct color phases, neither of which closely resembles the birds from Mexico and the United States. The rufous phase, which evidently corresponds to the plumage of the northern form above described, differs conspicuously from the latter in the bright rufous shade of the entire upper parts, and in the more uniform tail in which the dark bars are more or less indistinct or even completely wanting. The other phase, represented by fourteen specimens, more nearly resembles the northern birds in color of upper parts but differs completely in color and pattern of tail, which is blackish, marked on each web by a series of six or seven transverse white spots which do not reach the shaft. Much variation exists, however, in some specimens the blackish being partly replaced by

dark brown and the white tinged with ferrugineous or wholly replaced by it; and in some cases it is more in the form of bars than of spots, always narrower, however, than the dark interspaces. A curious specimen from Tamaulipas is the only one of the northern birds which approaches this phase. In it the upper parts are grayer than in the other birds from the same region, but while four or five of the rectrices of one side of the tail are marked as in the normal plumage the others have the white spots, etc., of the other phase. From any of the South American specimens in corresponding phase this specimen differs in the much grayer color of the upper parts. Of three specimens from Tehuantepec in the rufous plumage, two at least are referable to the South American form.

A male, Escuinapa, July 15, is molting the body plumage, wing-coverts, and remiges. "Common. Feeds and calls during the day. Its food is mice and large insects. Iris pale bright yellow. Bill pale whitish yellow. Soles brownish yellow, upper surface of toes greenish yellow."

38. *Speotyto cunicularia hypogæa* (Bonap.).—Thirteen specimens, Escuinapa, December 20–March 10. "Rather common."

39. *Ciccaba squamulata* (Bonap.).—Five specimens: Escuinapa, 4 specimens, March 12 and June 29–July 2; Juan Lisiarraga Mt., 1 specimen, April 30. The bird taken July 2 is a young female in juvenal plumage, the entire upper and under parts ochraceous buff, face and ruff whitish. The wings are little more than half grown, the tail a mere stub. It was doubtless only a day or two out of the nest. "Iris dark hazel. Bill pale brownish yellow. Feet brownish yellow. Rather common. Steady resident. Found in lowlands and to 6000 feet altitude."

It may be stated in this connection that a specimen from Honduras (Coroyal) appears to be intermediate in color and size between *Ciccaba squamulata* and *C. virgata*.

40. *Strix pratincola* Bonap.—Two specimens, Escuinapa, June 18 and July 4. "Rather common."

41. *Ara militaris* (Linn.).—Twenty-two specimens: Cyootlan (600 feet), 1 specimen; Escuinapa, 16 specimens, October 27 and 28, December 30, January 7, March 10–29; and 5 specimens without labels. "Common; steady resident. Breeds in hollow trees in June. Remains in pairs the year round." Iris "pale yellow" in the December and January specimens, "reddish orange" in the March and October birds. "Space about eyes dirty white."

42. **Conurus canicularis** (Linn.). — Eleven specimens: Cosala, 4 specimens, November 30–December —; Elota (800 feet), 1 specimen, December 13; Escuinapa, 2 specimens, December 23 and January 2; Arroyo de Limones, 2 specimens, April 21; Juanna Gomez River, 2 specimens, June 9. “Iris narrow, light yellow. Space around eyes pale orange. Common. Breeds in June, nesting in hollow trees and in the large mud nests of ants” (Arroyo de Limones and Juanna Gomez).

43. **Psittacula cyanopygia cyanopygia** Bonap. — Twelve specimens: Cosala, 1 specimen, November 30; Escuinapa, 9 specimens, October 1–28, December 27, January 2, and May 31; Juanna Gomez River, 2 specimens, May 31 and June 4. Only three of these specimens are males. “Iris dark hazel. Feet pale whitish olive. Bill bluish white. Common on lowlands. Feeds on seeds and berries.” I gather from the collector’s notes that at Escuinapa this bird is migratory, the bulk of the species arriving in April or May. Two specimens, a male (October 15) and a female (October 28), are undergoing molt of the remiges, only the outer two primaries of each wing remaining.

44. **Amazona finschi** (Scl.). — Nine specimens: Cosala, 1 specimen, December 8; Escuinapa, 7 specimens, December 28–January 14, March 24 and 25; Juan Lisiarraga Mt., 1 specimen, April 27. “Common. Steady resident. Breeds in May and June, in hollow trees. Iris narrow, pale yellow. Feet dirty yellowish lead. Bill pale yellowish horn, tips of mandibles nearly white.”

45. **Amazona albifrons albifrons** (Sparrman). — Twenty-two specimens: Elota (600 feet), 1 specimen, December 13; Escuinapa, 19 specimens, December 29–January 14, March 10–April 8, June 2–8; Juanna Gomez River, 2 specimens, June 1 and 2. “Common; breeds in hollow trees in May and June. Iris very narrow, pale yellow. Bill greenish yellow, tipped with light horn. Feet brownish olive.”

This series shows that the White-fronted Parrot of southern Sinaloa differs from the birds of the same species occupying the region to the north and to the south, and may perhaps require separation. Specimens from southwestern Sonora (*A. a. saltuensis* Nelson) differ from southern Sinaloa birds in having the green of a darker, less yellowish shade and distinctly tinged with blue. Birds from Tehuantepec are somewhat smaller and decidedly darker, less yellowish green, than southern Sinaloa birds.

Birds of this species from Yucatan are so much smaller than those

from other parts of Mexico that it seems desirable to take account of the fact in nomenclature, as follows:

***Amazona albifrons nana*, subsp. nov.**

Chars. subsp.—Similar to *Amazona albifrons albifrons*, but smaller, with the exception of the bill.

Type, adult male, No. 66955, Amer. Mus. Nat. Hist.; Calotmul, Yucatan; Geo. F. Gaumer.

Dimensions of type: wing 155, tail 75.5, culmen 27.5, depth of bill at base 25.5.

Between the largest specimens examined from Yucatan and the smallest at hand from western Mexico, there is a considerable gap in measurements of wings and tail, the average difference, in the males, amounting to 24 and 17 mm. respectively. There is very little difference, however, in the size of the bill, that of the Yucatan form being disproportionately large.

There is, also, a decided difference in color between the Yucatan birds and the series from southern Sinaloa, the latter being of a lighter and more *yellowish* green. Tehuantepec specimens, although only a little smaller than Sinaloa birds, are nearer in color to those from Yucatan.

No locality being given in the original description of *Psittacus albifrons*, the typical form may be restricted to southwestern Mexico, as the specimen on which it was based most likely came from that region.

The following table shows the comparative measurements of the Yucatan, Tehuantepec, and Sinaloa birds:

	Wing.	Tail.	Culmen.	Depth of Bill at Base.
S. Sinaloa (16 ♂)	174-190 (183.4)	91-103 (96.7)	25-29 (27.6)	24.5-27.5 (26.7)
Tehuantepec (3 ♂)	173-178 (176.3)	91-102.5 (95.8)	28-29.5 (28.8)	27-29 (28)
Yucatan (2 ♂)	155-163.5 (159.3)	75.5-84 (79.8)	27.5-29 (28.3)	25.5-26 (25.8)
S. Sinaloa (6 ♀)	167-177 (172.8)	87-100.5 (91.8)	26-27.5 (26.9)	25.5-26 (25.8)
Yucatan (1 ♀)	154	80.5	27.5	26

46. *Coccyzus americanus occidentalis* Ridgw.—One specimen, Escuinapa, October 27.

47. *Piaya cayana mexicana* (Swains.).—Seventeen specimens: Caletie (400 feet), 1 specimen, December 18; Escuinapa, 14 specimens, September 13–November 4, December 20–January 13, March

3-25; Arroyo de Limones, 2 specimens, April 17 and 23. "Iris dark cherry red. Feet greenish lead" or "brownish black" in most cases. "Bill greenish black tipped with pale yellow. Common. Steady resident. Feeds on beetles, moths, butterflies, and berries."

I follow Dr. J. A. Allen¹ in considering this bird a subspecies of *Piaya cayana*. Salvin and Godman² also state that on the Isthmus of Tehuantepec, *P. mexicana* blends with *P. cayana*.

48. **Morococcyx erythropygia** (Less.).—One specimen, a female, Escuinapa, September 2. "Iris hazel. But one specimen seen to date."

49. **Geococcyx affinis** Hartl.—Three specimens: Escuinapa, 1 male, January 1; La Balla Mt. (4500 feet), 2 females, April 21 and May 10. For the latter locality the collector's notes are: "Not very common, steady resident, breeds. Iris pearly yellow." The Escuinapa specimen has nearly finished a complete molt.

50. **Crotophaga sulcirostris** Swains.—Seven specimens, Escuinapa, December 23-January 7, and March 12. Only one of these specimens is fully adult. The other six are apparently birds less than a year old. The maxillary grooves are shallow and short, not reaching nearly to the tomium, and the wings and tail are a mixture of old worn brownish and newer, unworn bluish quills. One of these birds, a male, December 20, is acquiring new remiges and rectrices. "Common. Native name 'Garropatero' (Tick Hunter). Iris hazel. Feet shiny black. Bill black."

51. **Trogon ambiguus** Gould.—Twenty-two specimens: Escuinapa, 10 specimens, October 26-31, December 28 and January 1, March 11-April 8; Arroyo de Limones, 1 specimen, April 16; Los Limones (3500 feet), 1 specimen, April 20; Los Pielos, 1 specimen, April 18; Juan Lisiarraga Mt., 6 specimens, May 9-12; Juanna Gomez River, 3 specimens, June 1 and 4. "Iris hazel; lids reddish orange. Feet pale greenish brown. Bill brownish yellow. Common. Steady resident in lowlands and foothills of Sierra Madre. Breeds in hollow trees, in May and June. Found in pairs or singly. Feeds on coleoptera and fruit. Pursues insects on wing and watches for them from lofty perches. Native name 'Co'-ah,' from its principal note (quickly and loudly repeated four or five times)." All the April and May specimens show molt taking place on throat and breast.

52. **Trogon citreolus** Gould.—Thirteen specimens: Escuinapa, 5 specimens, September 19 and December 20-28; Los Pielos, 5 speci-

¹ Bull. Amer. Mus. Nat. Hist., Vol. V, 1893, pp. 137, 138

² Biologia Cent. Amer., Aves II pp. 530, 531.

mens, April 16-23; La Balla (5500 feet), 1 specimen, May 11; Juan Lisiarraga Mt., 2 specimens, May 12 and 14.

"Iris very narrow, pale yellow. Feet dark yellowish olive" or "brownish black." "Bill pale lead" or "bluish white." "Common. Found from sea-level to 6000 feet. Nests in hollow trees in May and June. Pursues insects on wing like Flycatchers. Food, beetles and other large insects, berries and fruit."

As has been pointed out by Messrs. Salvin and Godman, the birds from the northern part of the range of this species differ from those further south in the presence usually in the male of bluish green on the head and sides of the breast. The present series shows great variation in these respects, however. Four specimens have the occiput (and one the center of crown) decidedly bluish green, while in the others this tint is very faint or wholly wanting. The same four specimens have the sides of the breast strongly tinged with bluish green, which in one bird forms a narrow band nearly or quite complete across the breast, and most of the others have at least a trace of this color on sides of breast. The northern birds also average considerably smaller throughout than those from Tehuantepec, etc. A female (No. 91311), Juan Lisiarraga Mt., May 12, is remarkable in having the outer web of outer rectrix more extensively black than usual, the black being in the form of bars (confluent at shaft) for the last (distal) three centimeters. A male dated September 19 is undergoing a general molt, including wing and tail.

53. **Momotus mexicanus saturatus** Nelson.—Seven specimens: Escuinapa, 1 specimen, December 28; Los Pielles, 2 specimens, April 23; Sierra de Armigas (3500 feet), 3 specimens, May 9; Juanna Gomez River, 1 specimen, June 4. "Iris reddish hazel. Feet heavy, fleshy, brownish olive. Bill brownish black. Native name 'Tur'-co.' Common. Arrives in April. Breeds in burrows of old kingfishers' nests; also digs holes in banks, generally over water. Nests also in and under hollow logs or under stones on level ground. Male assists in incubation. Has but two low guttural notes. Found singly or in pairs. Food, beetles and other insects, berries and fruit. Inhabits open glades in low shady woods or bushes."

The December specimen, a female, which is apparently a bird-of-the-year, is acquiring one new middle rectrix. Its iris is described as "dirty white shading from outer edge to light hazel. Legs dark blackish brown."

54. **Ceryle americana septentrionalis** Sharpe.—Four specimens: Arroyo de Limones, 3 specimens, April 20 and 23; Escuinapa, 1

specimen, October 14. "Iris hazel. Bill and feet brownish black. Common. Breeds."

55. *Ceryle amazona* (Lath.).—One male, Escuinapa, June 2. "Iris hazel. Feet and bill brownish black."

56. *Chloronerpes godmani* Hargitt.—One specimen, a male, of this rare species, Juan Lisiarraga Mt., May 2. "Iris reddish hazel. Feet yellowish olive. Arrives in April, but few seen. Feeding in oaks."

57. *Centurus uropygialis* Baird.—Thirteen specimens: Escuinapa, 12 specimens, December 20–April 2; Juanna Gomez River, 1 specimen, June 8. A male, taken March 24, has the yellow of belly strongly tinged with reddish orange. "Common, steady resident; breeds in May. Iris reddish hazel."

58. *Centurus elegans* (Swains.).—Twenty specimens: Escuinapa, 13 specimens, December 20–March 1; Los Pieves, 5 specimens, April 18 and 19; Juanna Gomez River, 1 specimen, June 1. "Common, from sea to 5000 feet altitude; steady resident; breeds in May and June. Native name, 'Cha'-co.' Iris reddish brown. Bare space around eye dark brownish olive." In two specimens, the partly concealed black bars of sides of breast are more strongly developed than usual.

59. *Ceophloeus scapularis* (Vig.).—Nine specimens: Escuinapa, 6 specimens, December 28, February 19–April 8; Juanna Gomez River, 3 specimens, June 1 and 2. The color of the iris is given variously as "pearl," or "pale whitish yellow"; feet "dark blackish green," or "greenish lead"; bill "yellowish white" or "bluish white." In only one specimen, a male, is the whitish facial stripe unbroken, and in this it is very narrow.

60. *Dryobates scalaris sinaloensis* Ridgw.—One specimen, a female, Juan Lisiarraga Mt., April 27. "But one specimen seen. Iris dark hazel."

61. *Campephilus guatemalensis guatemalensis* (Hartl.).—Eight specimens: Brazil (800 feet), 1 specimen, December 17; Escuinapa, 4 specimens, January 30–February 22; Las Cabras Islands, 1 specimen, April 8; Juan Lisiarraga Mt., 2 specimens, May 10. "Common; breeds in May" (Juan Lisiarraga Mt.). "Iris pale yellow. Bill bluish white" or "dirty white, bluish at base."

62. *Chordeiles acutipennis texensis* (Lawr.).—One specimen, a male, Escuinapa, December 28. "Iris hazel."

63. *Nyctidromus albicollis merrilli* Senn.—Three specimens, Escuinapa, October 17, March 22, and August 30. "Common. Steady

resident. Iris hazel." The August bird, a male, is undergoing a complete molt.

64. *Antrostomus ridgwayi* Nelson. — One specimen, a male, Los Pies, April 23.

This is, I believe, the first male of this species to be recorded. Dr. Chas. W. Richmond has compared this specimen with the type, a female, and states that the general tone of coloration is like the type, the differences between the two birds being slight.

65. *Amizilis beryllina viola*, subsp. nov.

Chars. subsp.—Similar to *Amizilis beryllina beryllina*, but with upper tail-coverts and tail more violet.

Type, adult male, No. 91380, Amer. Mus. Nat. Hist.; Jalpa, Sinaloa, Mexico, April 18, 1904; J. H. Batty.

Twenty-two specimens, as follows: Jalpa (3000 feet), 8 specimens, April 16–19; Los Pies, 1 specimen, April 18; Los Limones (3500 feet), 2 specimens, April 20 and 22; Juan Lisiarraga Mt., 6 specimens, May 10–12; La Balla (5500 feet), 5 specimens, May 2–12. "Common. Breeds in May and June. Found from nearly sea-level to 6000 feet."

Only four of these specimens (La Balla, April 2 and 3) are females. Mr. Salvin¹ has called attention to the variations in the color of the tail and upper tail-coverts in this species. He states: "I am unable to trace these variations to any definite localities, but the darker specimens, as a rule, are from the more northern part of western Mexico. This, however, is by no means universally the case."

All of these Sinaloa birds, and others from Jalisco, have the upper tail-coverts and the tail more or less deep violet purple, while of a smaller series from other parts of Mexico not one is thus colored. It, therefore, seems to me that the birds from western Mexico are entitled to recognition as a subspecies. In typical specimens of *viola*, the color of the tail is very near "plum purple" of Ridgway's 'Nomenclature of Colors,' more purple in certain lights, while the upper coverts are still bluer. There are also several other differences which are not altogether constant. Compared with typical *beryllina*, the Sinaloa specimens have the under tail-coverts darker, less rusty brown, and abruptly margined with whitish, the green of the anterior under parts extends further down on the belly, and the latter is usually very little, if at all, tinged with cinnamon. The green of the upper and under surface is also of a less golden or coppery shade.

¹ Catalogue of the Birds in the British Museum, XVI, p. 210.

Specimens of the typical form have been examined from Vera Cruz, Oaxaca, and Morelos. A bird from Moro Leon, Guanajuato, appears to be somewhat intermediate between the two races.

66. *Amizilis cinnamomea cinnamomea* (Less.).—Ten specimens: Escuinapa, 7 specimens, October 1, November 1, December 22–January 13, March 12; Arroyo de Limones, 3 specimens, April 21–23. One is not marked as to sex, of the remainder all but two are males. “Iris hazel. Bill dark reddish flesh, tipped one-third its length with brownish black; soft and fleshy. Common; breeds in July.”

67. *Uranomitra verticalis* (Licht.).—Ten specimens: Escuinapa, 5 specimens, December 20–January 13; Juan Lisiarraga Mt., 5 specimens, April 30–May 12. Seven specimens are males, three females. Adult male, December 20: “Iris dark hazel. Bill dark flesh, tip for one-eighth inch brownish black. Stomach contained insects.” Juan Lisiarraga Mt.: “Not very common. Feeds on insects in high trees and among blossoms of parasitic plants in oak trees.”

68. *Iache latirostris* (Swains.).—Seven specimens: Escuinapa, 6 specimens, November 1 and December 22–January 13; Los Pieses, 1 specimen, May 21. At latter locality, “not as common as other species. Iris dark hazel.” At Escuinapa: “Common. Breeds in July.”

Specimens of *Iache latirostris* from southern Sinaloa average smaller than those from any other part of the bird's range, as shown by the following table:

	Wing.	Bill.
Average of 2 ad. ♂ from Nuevo Leon,	52.2	20.1
“ “ 5 “ “ Arizona,	51.5	21.
“ “ 1 “ “ Valley of Mexico,	52.	—
“ “ 4 “ “ Colima,	50.6	20.
“ “ 6 “ “ Jalisco,	51.4	20.5
“ “ 4 “ “ S. Sinaloa,	49.6	19.2
Type of <i>I. magica</i> from S. Sinaloa,	50.	18.2
“ <i>I. latirostris</i> from “Mexico,”	52.7	19.7
Average of 2 ad. ♀ from Nuevo Leon,	50.3	20.9
“ “ 4 “ “ Arizona,	50.1	21.6
“ “ 1 “ “ Jalisco,	50.5	21.7
“ “ 3 “ “ S. Sinaloa,	48.7	19.2

The type of *Iache magica* (Muls. et Verr.), which is now before me, agrees very nearly in size with the Sinaloa specimens of *latirostris*. It differs conspicuously from them, however, in color. The upper parts are a reddish bronze, very different from the green or bronzy green of *I. latirostris*; the under parts are a mixture of bronzy green and coppery bronze, and the throat is mostly green instead of blue.

Apparently no other specimen similar in color to the type of *magica* has ever been obtained and I am of the opinion that this bird is merely an abnormal specimen of *I. latirostris*. If this is so, the claim of the Sinaloa birds as a distinct subspecies rests wholly on their slightly smaller size, for, as far as I can see, there is no difference in color between these smaller specimens and birds from other localities. There seems to me hardly enough difference in size to warrant the separation of the Sinaloa birds.

69. ***Anthoscenus leocadiæ*** (Bourc. et Muls.).—Nine specimens: Escuinapa, 1 specimen, January 24; Los Píeles, 1 specimen, April 15; Juan Lisiarraga Mt., 7 specimens, May 9–12. "Iris dark hazel. Rather common."

Five of these specimens have the white tip of the outer rectrix without even a trace of a dark marking. In the four remaining birds, there is a small and inconspicuous dusky spot at the edge of the outer web. One specimen from Tehuantepec City and two without exact locality have this spot conspicuous,—larger, darker and nearly connected along the edge of the outer web with a dark line which extends down from the dark portion of the feathers. This dark line is evident in only one or two of the Sinaloa birds. In *Anthoscenus constanti*, from Guatemala and Costa Rica, these marks are blacker, more sharply defined, and usually perfectly confluent.

70. ***Trochilus colubris*** Linn.—One specimen, a female, Escuinapa, October 1. "Common." Molt is taking place in the tail of this specimen.

71. ***Stellula calliope*** (Gould).—One specimen, Los Píeles, April 17.

72. ***Dendroornis flavigaster mentalis*** (Lawr.).—Eleven specimens: Los Píeles, 1 specimen, April 18; Arroyo de Limones, 2 specimens, April 21 and 23; Juan Lisiarraga Mt., 7 specimens, April 12, May 12 and 13; Juanna Gomez River, 1 specimen, June 3. "Iris reddish hazel. Feet brownish olive. Common. Feeding in oak timber."

Judging by this series and by other birds in the Museum collection, the bird of western Mexico is recognizably distinct as a subspecies from typical *D. flavigaster*. In addition to the usually grayer, whiter-striped under parts and paler upper parts, the marking of the throat furnishes a good character. In typical *D. flavigaster*, the throat is immaculate for a distance of 20 mm. or more from base of gonys, in *D. f. mentalis* for only 15 mm. or less.

73. ***Tityra personata griseiceps*** Ridgw.—Nine specimens: Los Píeles, 7 specimens, April 14–17; Juan Lisiarraga Mt., 2 specimens, April 14 and 16. "Iris reddish hazel. Feet blackish lead. Bare

space about eyes pale magenta. Base of mandible dark magenta. Common. Mating. Feeds on beetles and berries."

74. *Platypsaris albiventris* (Lawr.).—Two specimens, Escuinapa, December 30 and March 11. Adult male, March 11: "Iris hazel. Feet blackish lead. Bill medium horn."

75. *Attila cinnamomeus* Lawr.—One specimen, Sierra de Juan de Lisiarraga, May 8. "Iris pale orange. Feet and legs purplish lead."

76. *Pyrocephalus rubineus mexicanus* Scl.—One specimen, Escuinapa, January 13.

77. *Empidonax difficilis* Baird.—Six specimens: Escuinapa, 5 specimens, October 27 and December 21–January 7; Juan Lisiarraga Mt., 1 specimen, April 27. "Common."

78. *Horizopus richardsonii richardsonii* (Swains.).—Five specimens, Juan Lisiarraga Mt., April 26–May 16. "Common."

Four of these specimens are typical, but the fifth (No. 91467, adult ♀, May 12) presents peculiarities of size and color worthy of mention. In the first place, it is a remarkably small specimen, the wing measuring but 78.5 mm. and the tail 59.5. In a series of about 125 specimens before me, only two other birds measure less than 80 mm. in length of wing, one from Colusa Co., California, and one from north Chihuahua, which measure respectively, wing 79.5, tail 60, and wing 79, tail 61.7. The bill is unusually short and broad, measuring, exposed culmen 11.5, breadth at base 8.5. The average dimensions given by Ridgway in his 'Manual' (reduced to millimeters) are 12.2 x 7.4.

In coloration this bird cannot be quite matched by a single specimen in the large series above mentioned. The upper parts, especially the back, are browner than any other bird in the series; nor does it agree with the greener color of *H. virens*. The under parts are very dark, the entire throat and belly strongly yellowish, while the dark breast has a decided ochrey brown tinge. The under wing-coverts are also decidedly ochraceous tinged. A few specimens from California and Arizona closely approach this one in color of upper parts, but not one of them has the brownish ochrey tinge on the breast. The two small specimens above referred to do not approach the Sinaloa bird in coloration, and of those which approach it in color only one (♀ ad., Arizona, June 14, wing 80, tail 61.5) comes near it in size.

I provisionally refer this bird to *richardsonii*, but think that it may eventually be found to represent a distinct subspecies resident in southern Sinaloa.

79. **Sayornis nigricans nigricans** (Swains.).—Two specimens: 1, Escuinapa, October 21; the other without data. The under tail-coverts of both birds are pure white, except for a dusky shaft-streak towards the base of the longer feathers.

80. **Myiarchus lawrenceii olivascens** Ridgw.—Eleven specimens: Escuinapa, 5 specimens, September 13, October 31, December 21, January 30, March 25; Los Pies, 1 specimen, April 16; Juan Lisiarraga Mt., 5 specimens, April 27–May 12. “Common; steady resident.” These specimens are slightly larger than Arizona birds, their bills are blacker, especially the lower mandible, and the upper parts are slightly greener, the crown in particular being less brownish, its feathers with more fuscous centers and more olivaceous margins. The September specimen is undergoing a complete molt.

81. **Myiarchus nuttingi inquietus** (Salv. & Godm.).—Four specimens, Escuinapa, December 21, January 2, March 23 and 24. “Common. Iris hazel.”

82. **Myiarchus cinerascens cinerascens** (Lawr.).—Seven specimens: Escuinapa, 5 specimens, August 6 and 16, October 20 and 29; Los Pies, 1 specimen, April 16; Juan Lisiarraga Mt., 1 specimen, May 12. “Common; steady resident; breeds.” The two August specimens are in an advanced stage of the post-juvenal molt, including wings and tail.

83. **Myiarchus mexicanus magister** Ridgw.—One specimen, Escuinapa, July 7.

84. **Myiodynastes luteiventris** ScL.—Nine specimens: Juan Lisiarraga Mt., 6 specimens, April 29–May 8; Juanna Gomez River, 3 specimens, June 2 and 4. “Common; breeding. Arrives in April. Feeds on berries and insects. Iris hazel.”

These birds have slightly smaller bills than specimens from north-eastern Mexico, and the feather margins of the back average a trifle paler, less fulvous brown. The differences, however, are too slight and inconstant to warrant subspecific separation.

85. **Myiozetetes similis superciliosus** Bonap.—Four specimens, all females, Escuinapa, December 20–January 30, March 4. “Common. Iris hazel.”

86. **Pitangus derbianus derbianus** (Kaup.).—Seventeen specimens: Escuinapa, 15 specimens, December 20–January 30, March 13, and (4 nestlings) July 2 and 3; Los Pies, 2 specimens, April 15 and 22. “Common from lowlands to 5000 feet; steady resident. Breeds in April and May; nest often placed in trees over water.”

Winter birds from Texas and eastern Mexico, compared with this

series, have the back slightly lighter and browner. Molt is taking place in the body plumage of the two April birds.

87. **Megarhynchus pitangua** (Linn.).—One specimen, Juan Lisiarraga Mt., April 27. "Iris hazel. Feet blackish brown. Bill solid brownish black."

I have no other specimens from western Mexico, but compared with a large series from other parts of the bird's range, the bill of this individual is of maximum length, measuring 26.8 from nostril; wing (worn), 117.5.

88. **Tyrannus vociferans** Swains.—One specimen, Escuinapa, January 29.

89. **Tyrannus verticalis** Say.—Three specimens, Los Pielos, April 18. "Common. Probably a migrant; first seen in April."

90. **Tyrannus melancholicus couchii** (Baird).—Four specimens: Escuinapa, 3 specimens, March 30 and July 5; Juanna Gomez River, 1 specimen, June 1. "Native name, 'Cor're Gavilan' (Chase-hawk). Arrives in April."

91. **Tyrannus crassirostris** Swains.—Nine specimens: Escuinapa, 8 specimens, December 20–January 30, March 10–April 2; Sierra de Juan de Lisiarraga (5500 feet), 1 specimen, date not given, but probably about May 8. At Escuinapa: "Rather common. Iris dark hazel. Bill dark horn" to "brownish black. Feet brownish black." On the label of a male, April 2, the collector states: "This bird had but one leg when shot." Trace of the missing leg is seen in a stump about 18 mm. long, ordinarily concealed in the plumage. Judging from its appearance, the leg was probably lost through some accident not many weeks before the bird was collected.

92. **Cissilopha beecheii** (Vig.).—Seven specimens: Caletie (400 feet), 1 specimen, on or about December 18; Escuinapa, 4 specimens, December 28, March 27 and 30; Juanna Gomez River, 2 specimens, June 1. Escuinapa specimen: "Iris hazel. Feet brownish yellow. Bill black." The two birds from Juanna Gomez River had the iris "greenish yellow." "Common in wooded districts in lowlands and to 6000 feet in Sierra Madre. Probably found only on west side of Sierra Madre. Breeds in May and June. Noisy."

93. **Calocitta colliei** (Vig.).—Twenty specimens: Elota (800 feet), 1 specimen, December 13; Escuinapa, 19 specimens, December 28–April 2, June 30 (nestling). "Iris hazel. Feet shiny black. Bill dull black. Common in foothills of western slope of Sierra Madre. Breeds in April and May. Nest, placed in high trees, resembles a Magpie's, composed of sticks and lined with grass and leaves. Native

name 'Carra'ca.' " On another label, the native name is spelled "Gu-ra'-ca."

Two nestlings in juvenal plumage agree with Ridgway's description¹ of the young bird, but in addition to wanting the blue superciliary spot (which, however, is faintly indicated in one specimen) the suborbital spot is also absent. The white-tipped crest feathers of the young bird are apparently worn for a longer time than the rest of the juvenal (body) plumage, for four females in the Museum collection taken November 26 to January 2, and one from Mazatlan dated "February," have all the old white-tipped crest feathers, though the blue spots above and below the eye are present and the body plumage in general is like that of the adult.

The adults present a large amount of variation in the markings of the head and breast. The blue malar patch is more or less mixed with blackish in several specimens and in others the feathers are more extensively white basally. In six specimens the black of the breast is mixed with blue and white, the feathers being irregularly particolored. In no case does this mottling reach to the posterior edge of the black area, a narrow black crescent always being left. In a Durango specimen, the whole throat and chest are white, the black remaining only on the chin and in the form of a black crescent across the breast. The lower surface of this bird bears a striking resemblance to that of *Calocitta formosa*. But as stated by Ridgway (*Birds of North and Middle America*, Part III, p. 294), this must apparently be accounted for by individual variation, as it cannot be explained by hybridization or intergradation with *C. formosa*.

94. **Corvus mexicanus** Gmel. — Twenty-one specimens: Escuinapa, 19 specimens, December 23–January 1, March 15–April 2; Juanna Gomez River, 2 specimens, June 1. "Iris dark hazel. Feet shiny black. Bill black. Very common. A very noisy bird. Feeds on grain and fruit. Much disliked on account of its fruit-destroying habits. Builds a rather large nest of sticks, leaves, and grasses in trees."

95. **Corvus corax sinuatus** (Wagl.). — One specimen, Arroyo de Limones, April 21. "Generally seen in mountains, in pairs."

96. **Megaquiscalus major graysoni** (Scl.). — Twenty-two specimens: Escuinapa, 20 specimens, December 20–January 22, March 24–April 2, June 8; Juanna Gomez River, 2 specimens, June 1. "Very common. Steady resident. Breeds in May and June. Nests in bushes and rushes. A pest in the fruit season."

¹ *Birds of North and Middle America*, Part III, p. 294.

The 12 males of this series are all fully adult birds. A female, taken December 24, is in a very curious albinistic plumage. The entire plumage is of a brownish ashy shade. The wings and tail are less brownish and crossed by numerous dusky or dark brown bars, the interspaces on the exposed portions of wing and tail being almost whitish. The body feathers are silky whitish towards the base. The iris was "yellowish white."

97. *Sturnella magna mexicana* (Scl.).—One specimen, a male, Escuinapa, January 13. This is a very dark, richly colored specimen. Measurements: wing, 113.3; tail, 73.8; culmen from base, 32; tarsus, 39.4.

98. *Agelaius phoeniceus sonoriensis* Ridgw.—Two specimens, both females, Escuinapa, January 2.

99. *Cassiculus melanicterus* (Bonap.).—Ninety specimens: Cosala, 1 specimen, December 8; Escuinapa, 59 specimens, October 21–November 1, December 20–January 30, March 1–April 11; Arroyo de Limones, 3 specimens, April 16 and 17; Juanna Gomez River, 27 specimens, June 1–9. "Very common steady resident [in lowlands], migrating in summer to 4000 feet in Sierra Madre Mts. Breeds in colonies, in May and June. Has long, purse-like, hanging nest of green grass interwoven with other vegetable fibers, with a cushion of loose leaves in bottom, generally suspended over water, often on royal palms or thorny sarrataderas. Feeds on fruit, fruit buds, hearts of flowers, and insects. Has many peculiar notes. Native name 'Chin-Galindi'na.'"

The iris is recorded as "hazel," and the feet as "shiny brownish black." The color of the bill, both in life and in the dried skins, is subject to much variation, apparently purely individual. It is recorded by the collector in most cases as "bluish white" or "greenish white." In most specimens the color is greenish white (or greenish ivory white), usually decidedly shaded with greenish plumbeous at base of bill and with a touch of the same color on the terminal half or one-third of the culmen. In many specimens this plumbeous shade exceeds the lighter color in extent and in some the bill is entirely lead color. One such dark-billed specimen, and others less extreme, had that member "pale bluish white" in life, according to the collector, but judging by other white-billed specimens long in the collection such a change does not always take place.

Examination of this large series and other specimens in the Museum collection reveals the fact that the young males in their second year resemble the females in plumage, averaging decidedly larger,

however, a fact apparently not previously recorded. Fourteen females measure as follows: culmen, 33.5-36.4 (34.6); wing, 121.5-132 (127.3); tail, 102.5-110.5 (107.2); and twelve immature males measure as follows (wing measurements of 3 specimens and tail measurements of 2 of these same specimens omitted owing to greatly worn feathers): culmen, 37.5-40 (38.9); wing, 138.5-143 (140.7); tail, 115-123.8 (119.7). The measurements of "adult female" given by Ridgway¹ evidently include those of the young males. Of the twelve young males in this series, all but one have a trace of the adult plumage, usually a few black feathers scattered in the plumage of the under parts, and in two cases a black rectrix. These black feathers were apparently assumed at the same time as were the brown feathers. In only one bird (June 8) can I find molt taking place, a few black feathers coming in among the breast plumage. The six October and November specimens, all adult males, are all in the final stage of the annual molt. One of these specimens is remarkable for having a number of the black flank feathers on both sides conspicuously marked with yellow.

Of the 90 birds in this series, 63 are adult males, 12 immature males, and 15 females. Several specimens have a diseased condition of the tarsus, and in one the basal portion of the upper mandible also, being, according to the collector, "poisoned by the ava tree, a common occurrence."

100. *Icterus bullockii bullockii* (Swains.).—One specimen, an adult male, Escuinapa, October 21. It is possible that the three specimens recorded under the next subspecies are really typical *bullockii*.

101. *Icterus bullockii abeillei* (Less.).—Three specimens: Juan Lisiarraga Mt., May 10 and 11, two females; Escuinapa, October 31, an immature male. I refer these three birds only provisionally to *abeillei*, as it is possible that they are really *bullockii bullockii*. Durango specimens of this species prove the intergradation of *Icterus abeillei* and *I. bullockii*.

102. *Icterus pustulatus* (Wagler).—Seventy-four specimens: Escuinapa, August 6, (1 specimen), October 26-29 (5 specimens), December 19-March 30 (50 specimens), and May 31-June 15 (3 specimens); Arroyo de Limones, 1 specimen, April 16; Juanna Gomez River, 14 specimens, June 1-6. "Steady resident; very common. Most common on lowlands, up to 3500 feet. Breeds May 25 to August. Native name 'Mon-ti-ca'-ro.' Iris hazel."

¹ Birds of North and Middle America, Part II, p. 191.

Of these 74 specimens, 43 are adult males, 16 immature males, 1 young male, 8 adult females, 6 immature females. The immature female (in first winter and first nuptial plumages) differs from the adult female and immature male in paler and duller colors. The upper parts are more constantly grayish (and this is a more *brownish* gray), the streaks obscure, never (?) distinctly blackish, black of throat and lores duller and usually more restricted. The August specimen is molting from juvenal to first winter plumage, the wings and tail not being included in the molt.

103. *Icterus cucullatus nelsoni* Ridgw. — Fourteen specimens, Escuinapa, October 24 (one), January 22–30, and (one) February 24. Eight of the nine adult males measure as follows: wing, 86.5–91.4; tail, 91.2–95.6. The remaining specimen measures, wing, 81.3; tail, 83. It is also decidedly paler than the others. It cannot be referred to any other known subspecies, being typically *nelsoni* in coloration, and may represent an undescribed, slightly differentiated, smaller race. The shortest-winged specimen in the Museum series of 60 adult males (mostly from Arizona, with some from California and Lower California) is one from Arizona with wing, 85; tail, 87.5; the minimum wing measurement given by Ridgway (Birds of North and Middle America) is 86.4.

In this connection, I may call attention to the fact that Lower California specimens have decidedly longer bills than those from other localities, as I have not seen this mentioned by any writer.

104. *Icterus spurius* (Linn.). — Eleven specimens, Escuinapa, September 11–October 25. "Arrives from north first week in September. Common."

Eight of these are adult males, two are marked female, and one is marked young male. The adult males vary much in the depth of the chestnut of rump and under parts, and also in the amount and shade of the pale feather-tips of both upper and under parts. All of them are in winter plumage. The six collected from September 11 to October 2, also the two females and the immature male (September 19 to October 9) are all in the final stage of the molt, the remiges and rectrices having all been renewed, the outermost not having attained their full growth. The adult males dated October 9 and 25 have completed the molt.

The young male has the back tinged with brown, the chest strongly tinged with ochraceous, and the chin and throat sparsely marked with blackish. The color of the bill and the color and condition of the primary coverts indicates that this is actually a bird-of-the-year. It

is undergoing a complete molt with the exception of the primary coverts.

One of the two females, likewise a bird-of-the-year, is molting the entire plumage with the exception of the primary coverts.

105. *Tangavius æneus æneus* (Wagl.).—Eleven specimens: Escuinapa, 9 specimens, December 22 and 27, March 23–April 2; Juanna Gomez River, 2 specimens, June 1 and 2. “Common. Native name ‘Tol’-do.’” The color of the iris is given as “pale brownish red” in the December males; in the June males (fully adult) “grayish mottled with orange,” and “pearl yellow”; in the females, “pale grayish yellow,” “pale grayish yellow, mottled with reddish brown,” and “pale brownish red.”

106. *Molothrus ater obscurus* (Gmel.).—One specimen, a male, Escuinapa, December 26. “Common winter resident.” Wing, 102.5; tail, 71.3.

107. *Calamospiza melanocorys Stejn.*—One specimen, a female, Escuinapa, December 20.

108. *Spiza americana* (Gmel.).—Eleven specimens, Escuinapa, August 15 and 16, October 1–27. “Arrives in August, leaves in April. Not observed breeding. Common in fields and bunches of low brush.”

109. *Volatinia jacarini splendens* (Vieill.).—Four specimens, all adult males: Juanna Gomez River, 1 specimen, June 2; Escuinapa, 3 specimens, August 16–20. “Iris hazel. Feet brownish black. Bill brownish black, lower mandible nearly white at base. Common. Arrives in May. Feeds in weeds, low bushes, hedges, etc. Rather wild.” Molt is taking place in the body plumage and tertials of the June bird.

110. *Sporophila torqueola* (Bonap.).—Two specimens, both males, Escuinapa, February 12 and August 16. The following note refers to the August bird: “Iris hazel. Feet blackish brown. Bill brownish black. Arrives in April. Common.”

111. *Cyanospiza ciris* (Linn.).—Five specimens (4 adult males and 1 female), Escuinapa, October 2–November 1, January 2, and March 19. “Stragglers, only seen in winter months.”

112. *Cyanospiza versicolor pulchra* (Ridgw.).—Six specimens: Escuinapa, 5 specimens (2 females, 3 males), November 1, December 27 and 28, March 28; Juanna Gomez River, 1 male, June 1. “Rather common.” Male, December 27: “Iris hazel. Feet brownish black. Bill medium horn, lower mandible nearly white at base.” Adult male, March 28: “Iris hazel. Feet pale reddish brown. Bill pale horn, lower mandible lightest.”

In size, and in form of bill, these specimens agree rather closely with Lower California birds, but in color appear to be intermediate between *C. v. versicolor* and typical *C. v. pulchra*.

113. *Cyanospiza cyanea* (Linn.).—One specimen, a female, Escuinapa, October 25. "Common. Feeds on seeds of weeds."

114. *Cyanocompsa parellina indigotica* (Ridgw.).—One specimen, a female, Escuinapa, December 29. "Iris hazel. Feet blackish brown." This specimen measures as follows: wing, 68.5; tail, 54.5; culmen from base, 12.1.

115. *Guiraca caerulea lazula* (Less.).—Six specimens: Escuinapa, 4 specimens, October 20 and 25, December 20 and 23; Arroyo de Limones, 2 specimens, April 16 and 20. An adult male, dated October 20, is in an advanced stage of the postnuptial molt. In a male, December 23, the feathers of the interscapulum are so broadly tipped with brown as to wholly conceal the blue beneath.

116. *Zamelodia melanocephala* (Swains.).—One specimen, Escuinapa, October 10. "Arrives from north last of September. Not a steady resident."

117. *Pheucticus chrysopheplus* (Vig.).—Fourteen specimens: Escuinapa, 5 specimens, October 27 and December 20–22; Juanna Gomez River, 9 specimens, June 1–6. "Iris hazel. Feet pale greenish blue. Common. Inhabits lowlands from the Pacific to 3500 feet altitude. Arrives in April, breeds in June. A fine singer." A specimen marked male (if so, an immature bird) and dated October 27 is in the midst of a molt which involves the remiges but not the tail.

118. *Pyrrhuloxia sinuata sinuata* Bonap.—Two specimens, Escuinapa, a male, December 21, and a female, January 1. "Common." The male, apparently a bird-of-the-year, is very small, measuring, wing 87, tail 98, culmen from base 15. If the bill were slightly larger, this specimen would agree with *P. s. peninsulæ*. The female measures, wing 92, tail 104, culmen from base 15.

119. *Saltator plumbeiceps* Lawr.—Five specimens: Escuinapa, 4 specimens, September 13, December 20, January 22, and February 24; Juanna Gomez River, 1 specimen, June 2. "Common; most numerous in summer, stragglers seen in winter months; breeds. Iris hazel." The June specimen, an immature bird, is molting the body plumage and tail, the old worn olive green feathers on the crown giving place to fresh gray feathers. The September bird is molting from juvenal to first winter plumage.

120. *Oreospiza chlorura* (Towns.).—Six specimens, Escuinapa,

October 27, December 20–26, and (one specimen) March 18. "Common; arrives in September, leaves in April; not observed breeding."

121. *Arremonops superciliosus sinaloæ* Nels.—Two specimens: Escuinapa, a male, May 31; Juanna Gomez River, a female, June 2.

122. *Melospiza lincolni lincolni* (Aud.).—Five specimens, Escuinapa, October 31, December 28, February 2, March 10 and 28. "Common winter resident. Arrives in October."

These specimens are referable to true *lincolni* and not to *striata*, which I consider a good subspecies. Two are marked female, the three others male, and they measure in length of wing 63.5, 60, 61, 62, and 62 mm. respectively. One specimen (male, March 28) has the white throat practically immaculate, but a few faint dusky specks are visible on close examination. The chest is also more sparsely and faintly streaked than usual.

123. *Amiophila rufescens pallida* Nels. & Palmer.—One specimen, a male, Juan Lisiarraga Mt., April 29. "Iris reddish hazel. Feet brownish white." The measurements of this specimen are as follows: wing, 76; tail, 77; exposed culmen, 15.7; depth of bill at base, 10.1; tarsus, 24.3; middle toe (without claw), 18.7.

124. *Spizella pallida* (Swains.).—One specimen, a male, Escuinapa, December 27. "Iris hazel. Feet brownish flesh. Upper mandible reddish horn, lower mandible flesh color."

125. *Zonotrichia leucophrys leucophrys* (Forst.).—One specimen, an immature male, Escuinapa, February 24.

126. *Chondestes grammacus strigatus* (Swains.).—Seven specimens, Escuinapa, October 20–November 1, December 27–February 2. "Arrives in September or October; leaves lowlands in April and May." The February specimen, a male, is pale and gray above, with wing measuring 92 mm.

127. *Coturniculus savannarum bimaculatus* (Swains.).—Two specimens, Escuinapa, October 20 and February 2. "Common."

128. *Passerculus sandwichensis alaudinus* (Bonap.).—Two specimens, Escuinapa, December 21 and February 2.

129. *Piranga rubra cooperi* Ridgw.—One specimen, a male, Escuinapa, March 25. "Rather common. Appeared in March."

130. *Piranga ludoviciana* (Wils.).—Eight specimens, all but one males, Arroyo de Limones, April 16–22. "Common migrant, arrives in April. Numerous at 3000 feet altitude, stragglers seen at 5000 to 6000 feet. Not observed breeding."

131. *Piranga bidentata bidentata* Swains.—Ten specimens, Juan Lisiarraga Mt., April 26 and 27. "Migrant, common. Arrives in

April, nests in oaks in May. Not found on lowlands. Iris hazel; feet brownish black" (both sexes). Four of these specimens are adult males, four are females, and two are marked as immature males.

132. *Euphonia elegantissima* (Bonap.).—Six specimens (5 males, 1 female), Juan Lisiarraga Mt., May 8–11. "Common. Arrives in April. Feeding on mistletoe berries. Iris hazel. Feet blackish brown" (both sexes). The males are distinctly paler below than a series of five birds from the state of Vera Cruz, but as all but one of the latter are without dates the difference may be seasonal.

133. *Euphonia godmani* Brewster.—Seven specimens: Escuinapa, 2 specimens, December 23; Juan Lisiarraga Mt., 5 specimens, April 27 and May 12. Male, Escuinapa, "Not very common. Eyes dark hazel. Feet and legs blackish blue." Juan Lisiarraga Mt., males and female, "Common; pairing. Feeding on mistletoe berries. Iris hazel. Feet brownish black. Bill bluish horn, tip black."

134. *Stelgidopteryx serripennis* (Aud.).—One specimen, a male, Escuinapa, March 4.

135. *Iridoprocne albilinea* (Lawr.).—Three specimens, all males, Escuinapa, May 23 and 24. "Common. Arrives in April. Iris hazel. Feet brownish black."

136. *Vireo bellii bellii* Aud.—One specimen, a female, Escuinapa, March 4. Typical *bellii* in color and measurements. Wing, 55.5; tail, 46.8.

137. *Vireosylva gilva swainsonii* (Baird).—Two specimens, Los Pieses (3000 feet), April 18 and 23.

138. *Vireosylva flavoviridis flavoviridis* (Cassin).—One specimen, Escuinapa, probably June or July, taken with nest.

139. *Euthlypis lachrymosa tephra* Ridgw.—One specimen, a male, Escuinapa, March 17. "Iris hazel. Feet pale blackish brown. Bill brownish black."

140. *Granatellus venustus* Bonap.—One specimen, Escuinapa, December 27. This is an immature male, if correctly determined by the collector.

141. *Icteria virens longicauda* (Lawr.).—Three specimens, Escuinapa, October 31 and December 26, and Los Pieses, April 15. "Stragglers seen in winter months; not observed breeding." "Upper mandible dark horn, lower mandible bluish white, tip bluish black" (the December specimen). The Los Pieses specimen was "killed in a high tree, feeding on berries." The October specimen, an adult female, had failed to molt two old secondaries of one wing, one of the

other wing, and several feathers of the interscapular region and rump.

142. *Geothlypis trichas occidentalis* Brewst.—Two specimens, Escuinapa, December 27. One of these specimens is an immature male and probably represents *G. t. modesta* Nelson. The measurements are: wing, 57.2; tail, 51.6; exposed culmen, 11.4. The other measures: wing, 58.5; tail, 56; exposed culmen, about 11. This specimen appears to be nearer to *occidentalis* than to *arizela*. The western forms of *Geothlypis trichas* are so closely related and there is so much individual and local variation within each subspecies that, unless specimens are perfectly typical, it is impossible to positively identify winter birds. *Occidentalis* being the oldest name for the western Yellowthroats, I have included both these specimens under it.

143. *Oporornis tolmiei* (Towns.).—Three specimens, Escuinapa, December 23 and 27, and March 4.

144. *Dendroica nigrescens* (Towns.).—Two specimens, Escuinapa, December 20 and January 1.

145. *Dendroica æstiva rubiginosa* (Pallas).—Three specimens: a male and a female, Juan Lisiarraga Mt., May 12; and a male, Escuinapa, October 27. "Migrant, arrives in April, rather common. Shot while feeding in high oak trees." These specimens are typical *rubiginosa*, though the May male is perhaps rather large for this form (wing, 64.5).

It is worthy of remark that the winter plumages of male and female *æ. æstiva* closely resemble the nuptial plumages of the corresponding sexes of *rubiginosa*.

146. *Helminthophila celata orestera* (Oberh.).—One specimen, marked male, Escuinapa, December 20. Wing, 61; tail, 49. I think there is no doubt of the correct identification of this specimen, for, although not too large for *lutescens*, it is nearer *orestera* in color.

H. c. orestera appears to be a fairly good subspecies. Of seventeen males of *celata* in the collection, eleven measure in length of wing, 57–60, the six others 60.7–61.5. Of twenty-one males of *orestera*, seventeen measure 61.5–63.5, the four others 60–61. The average difference in color is also decided.

147. *Helminthophila celata lutescens* Ridgw.—One specimen, apparently a female, Escuinapa, December 24. Wing, 56.5; tail, 44.5. Nearly typical *lutescens* in color.

148. *Rhodinocichla schistacea* Ridgw.—Six specimens, Escuinapa, October 14 and 20, December 28–January 30, and March 23. "Not very common. Generally found in pairs or singly in scrub and thick

bushes. Iris hazel." In the March specimen, an adult male, the tarsus is of a most peculiar shape, its front edge being compressed into a narrow ridge almost as sharp as the posterior edge.

The collector's notes on this specimen are as follows: "Iris grayish brown. Feet bluish brown. Upper mandible horn, lower mandible bluish white." The October specimen is a female in juvenal plumage, beginning to acquire the first winter plumage.

149. *Melanotis caerulescens caerulescens* (Swains.).—Twelve specimens: Escuinapa, 8 specimens, December 21–January 29 and March 11–18; Juan Lisiarraga Mt., 2 specimens, April 27; Juanna Gomez River, 1 specimen, June 3. "Common. Native name 'Mulato.' Is a fine singer and mocker. Iris hazel. Feet shiny brownish black. Bill brownish black."

150. *Toxostoma bendirei* (Coues).—One specimen, Escuinapa, February 12. "Iris brownish yellow. Feet pale reddish brown. Bill dark horn, base of lower mandible nearly white."

151. *Toxostoma curvirostre occidentale* (Ridgw.).—Nine specimens: Escuinapa, 8 specimens (2 without dates), October 8–28, December 22–January 21; Juanna Gomez River, 1 specimen, June 1. At the latter locality a "rather common steady resident. Iris light orange."

152. *Mimus polyglottos leucopterus* (Vig.).—Eleven specimens: Escuinapa, 10 specimens, October 29, November 4, December 20–27; Jalpa (3000 feet), 1 specimen, April 16. "Iris yellowish pearl. Common steady resident; breeds" (at Escuinapa).

153. *Thryophilus sinaloa sinaloa* Baird.—Ten specimens: Escuinapa, 5 specimens, October 2, December 20–January 1, and February 24; Juan Lisiarraga Mt., 2 specimens, May 13; Juanna Gomez River, 3 specimens, June 2 and 4.

"Iris hazel. Feet pale whitish brown. Bill light horn, lower mandible nearly white at base [summer specimens]. Common steady resident. Fine singer."

The October specimen is in very worn plumage, but has begun the postnuptial molt.

The collector states, but apparently on hearsay, that this species "breeds in hollow trees."

154. *Troglodytes aëdon parkmanii* (Aud.).—Two specimens, Escuinapa, December 27 and 29. "Rather common."

155. *Pheugopedius felix pallidus* (Nels.).—Five specimens: Escuinapa, 4 specimens, October 1, December 24, January 8, and March 24; Juanna Gomez River, 1 specimen, June 1. The October bird is

in juvenal plumage, but has begun to molt into winter dress. The juvenal closely resembles the adult plumage. "Iris hazel. Common steady resident. Shy. Fine singer."

156. *Heleodytes gularis* (Scl.).—Five specimens, Juan Lisiarraga Mt., April 30–May 12. "Iris light brown; feet whitish brown. Common steady resident, breeding in hollow trees. Shy. Fine singer."

157. *Sialia sialis azurea* (Baird.).—One specimen, a male, Juan Lisiarraga Mt., May 8. "A few stragglers seen. Said to be a winter resident."

158. *Merula tristis tristis* Swains.—Nine specimens, Juan Lisiarraga Mt., April 26–May 13. "Iris hazel. Feet blackish brown. Bill medium horn. Common, steady resident, breeding. Has note somewhat like Hermit Thrush."

159. *Merula flavirostris* Swains.—Nineteen specimens: Escuinapa, 11 specimens, September 30–October 29, December 20, March 10 and 24; Arroyo de Limones, 5 specimens, April 16–23; Los Pielas, 1 specimen, April 23; Juanna Gomez River, 2 specimens, June 2 and 4. "Iris hazel. Feet pale whitish (or yellowish) brown. Bill brownish yellow, tipped with black. Common. Steady resident. Found in wooded lowlands and mountains to 5000 feet. Breeds in latter part of May and in June. Builds nest of mud, grass, and dead leaves. Song somewhat like that of *Turdus migratorius*."

160. *Hylocichla ustulata ustulata* (Nutt.).—Two specimens: Escuinapa, September 13, and Juan Lisiarraga Mt., May 10. At latter locality, "not common."

The May specimen is a typical example of *H. u. edica* Oberholser, which is of doubtful validity. Comparison of a series from Alameda and El Dorado Counties, California, taken the latter half of May, with a similar series from Westminster, British Columbia, demonstrates that the California birds are undoubtedly slightly paler and less rufescent above, especially on the back, but it is doubtful whether it is desirable to recognize a subspecies on this slight basis.

[November, 1905.]

