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DESCRIPTIONS OF NEW BIRDS FROM PANAMA AND COSTA RICA

By Ludlow Griscom

The birds described below represent some of the results of an expedition to western Panama during the spring of 1924, which succeeded in reaching a previously unvisited section of the high mountains of the interior, where most of the novelties were obtained. Many species described from the mountains of Veraguas have for years been represented in America only by specimens from Costa Rica or the Volcan de Chiriqui near the Costa Rican frontier. The locality, Cerro Flores, frequently cited beyond, is in extreme eastern Chiriqui and nearer the mountains of Veraguas than to the Volcan de Chiriqui. Specimens from this place are consequently more nearly topotypical, and prove, in some cases, that the Costa Rican bird is separable. While there is obviously a break in the mountains somewhere in western Chiriqui, it remains to be established whether the range is continuous farther east between the Cerro Flores and the Pico Calovevora in Veraguas. Collectors now in the field in the lowlands of Veraguas hope to be able to reach the latter locality at the commencement of the dry season and to determine this auestion.

I am particularly indebted to Dr. J. Dwight for permission to use his fine Costa Rican collection, and to Mr. Outram Bangs of the Museum of Comparative Zoölogy for the loan of indispensable material.

Trogonurus aurantiiventris flavidior, new subspecies

Subspecific Characters.—Strikingly distinct from typical Trogonurus aurantiiventris aurantiiventris (Gould) from near David, Chiriqui, in having the underparts much yellower, ranging from pale cadmium-orange (females) to brilliant orangechrome (males).

Type.—No. 182,690, Amer. Mus. Nat. Hist.; or ad.; Cerro Flores, alt. 4000 ft., eastern Chiriqui, Panama; March 12, 1924; Griscom, Boulton, and others.

SPECIMENS EXAMINED

Trogonurus aurantiiventris flavidior.—Panama: Cerro Flores, 5 3, 6 9. Trogonurus aurantiiventris aurantiiventris.—Panama: Boquete, 12 J, 4 Q.1

¹Nine males, three females from Museum of Comparative Zoölogy.

Trogonurus aurantiiventris underwoodi.—Costa Rica: Miravalles, 1 σ , 1 \circ ; Volc. de Poas, 1 σ ; no locality, 1 σ .

Birds from Boquete, above David, can be regarded as topotypes of aurantiiventris, and I am indebted to Mr. Outram Bangs for the loan of a fine series from this locality. The abdomen in these birds varies from a blood-orange shade to flame-scarlet. The Costa Rican underwoodi is a slightly redder bird below, salmon pink to geranium red. The new form is far more distinct from typical aurantiiventris than is underwoodi. In the material before me the females average paler than the males.

Aulacorhynchus cæruleogularis maxillaris, new subspecies

Subspecific Characters.—Differing from both Aulacorhynchus cæruleogularis cæruleogularis (Gould) and A. c. cognatus Nelson of eastern Panama, in having the prenasal spots on maxilla dark red and, in most adults, the basal portion of the culmen also; pileum and nape conspicuously light brownish olive, this tint of a darker shade in cæruleogularis and almost imperceptible in cognatus; averaging slightly larger, but tarsus shorter than in cognatus, and proportionately shorter than in cæruleogularis.

Type.—No. 153,922, Amer. Mus. Nat. Hist.; \circlearrowleft ad., Guayabo, Costa Rica; Ridgway and Zeledon.

SPECIMENS EXAMINED

Aulacorhynchus cæruleogularis maxillaris.—Costa Rica: 8 o, 4 9, no sex 2. Panama: Boquete, western Chiriqui, 4 o, 4 9.

Aulacorhynchus cæruleogularis cæruleogularis.—Panama: Cerro Flores, eastern Chiriqui, 4 σ .

Aulacorhynchus cæruleogularis cognatus.—Panama: Mt. Tacarcuna, 5 o, 5 Q.

This Subtropical Zone green toucanet was described by Gould from "Veragua," a name which in his day was used for the whole of western Panama. As there are now two subspecies of this bird in western Panama, the type locality must be more precisely designated. Fortunately, there can be no reasonable doubt which form Gould described. His description does not mention any chestnut on the bill, and that this is not an omission is confirmed by the plate of the type in the second edition of his monograph of the Rhamphastidæ. Four specimens collected on the Cerro Flores in extreme eastern Chiriqui confirm the existence of a black-billed form in western Panama. These birds must be regarded as typical cæruleogularis, and I designate Cerro Flores as the type-locality. The well-known Costa Rican bird must consequently be described as new. The appended table gives a summary of the differential characters. The new form differs more from either of the two others than they do from each other, in spite of the depression of the Isthmus between their two ranges.

	Bill	PILEUM
A. c. maxillaris	Prenasal spot on maxilla wholly dark red	Light brownish olive
A. c. cæruleogularis	Prenasal spot wholly black	Greener, the brownish olive wash darker
A. c. cognatus	Prenasal spot wholly black	Still greener, less olive
	Underparts	Measurements
A. c. maxillaris	Yellowish green	Larger, tarsus 31-35 mm.
A. c. cæruleogularis	Yellowish green	Smaller, but tarsus 31.0-34.5 mm.
A. c. cognatus	Greener, less yellow	Smaller, but tarsus 34.0-37.5 mm.

Scytalopus chiriquensis, new species

Specific Characters.—Almost the blackest member of the genus. Related to Scytalopus argentifrons Ridgway of Costa Rica in having the forehead and superciliary region silvery gray, but this color much fainter and the area greatly restricted, not extending back of the eye as a definite stripe; underparts almost as dark as upperparts, and not becoming paler on the abdomen; wings just as black as the back; russet brown of upper tail-coverts, vent, and under tail-coverts much deeper; the black bars narrower; size much larger.

Type.—No. 182,732, Amer. Mus. Nat. Hist.; of ad.; Cerro Flores (alt. 5500 ft.), eastern Chiriqui, Panama; March 14, 1924; Benson and Griscom.

Description of Type.—Forehead and superciliary region faintly silvery gray, this color not extending back of the eye as a definite superciliary stripe; rest of upperparts black with a slight gloss, except on primaries and tail; below uniform deep blackish slate; upper tail-coverts, flanks, anal region, and under tail-coverts deep russet brown narrowly barred with black; the tips of a few feathers on the lower abdomen grayish-brown. Wing, 56; tail, 42.7; culmen, 12.5; tarsus, 22.

SPECIMENS EXAMINED

Scytalopus chiriquensis.—Panama: Cerro Flores, eastern Chiriqui, the type. Scytalopus argentifrons.—Costa Rica: 8 &, 8 \infty.
Scytalopus panamensis.—Panama: Mt. Tacarcuna, 4 &, 4 \infty.

It is interesting that this new species is in no sense a connecting link between argentifrons and panamensis. In the latter the superciliary stripe is lighter, longer, and much more distinct, while there is scarcely a trace of silvery gray on the forehead. The underparts, too, are a much lighter slate gray, hoary white on the abdomen. The cap and mantle of panamensis are almost as black as chiriquensis, but the lower back, rump, wings and tail are dark brown. Six adult males of argentifrons have the wing 50–51 mm., the culmen 9.5–11 mm. The new species is, therefore, considerably larger, and in this respect is like panamensis, which, however, has an even longer bill. In general darkness of coloration chiriquensis is approached only by micropterus.

Margarornis rubiginosa boultoni, new subspecies

Subspecific Characters.—Similar to *Margarornis rubiginosa rubiginosa* Lawrence of Costa Rica, but slightly darker above; superciliary stripe deeper buff; much more deeply and richly colored below, the chest rufous-cinnamon deepening into rufuous-chestnut laterally and on under tail-coverts, instead of buffy cinnamon changing to rufous-cinnamon; the spots of pale buff on the chest greatly reduced in size, minute, not at all obvious, and present in a greatly reduced area.

Type.—No. 182,771, Amer. Mus. Nat. Hist.; Q ad.; Cerro Flores, 6000 ft., eastern Chiriqui, Panama; March 18, 1924; Griscom and Valentine.

SPECIMENS EXAMINED

Margarornis rubiginosa boultoni.—Panama: Cerro Flores, eastern Chiriqui, 2 $\, \circ \, .$

Margarornis rubiginosa rubiginosa.—Costa Rica: 10 ♂, 7 ♀.

This distinct new subspecies obviously differs from typical rubiginosa in its deeper underparts and the great reduction of the light spots on the chest. The species has been recorded by Salvin from the mountains back of Calobre in Veraguas. Such birds probably belong to boultoni, unless they represent an unnamed third form. It is a pleasure to name the new race after my senior assistant, Mr. Rudyerd Boulton, whose efficiency and companionship I am glad to acknowledge.

Pseudocolaptes lawrencii panamensis, new subspecies

Subspecific Characters.—Similar to typical *Pseudocolaptes lawrencii* Ridgway of Costa Rica, but mesial streaks on hind neck and upper back lighter and buffier, less tawny; back, scapulars, and secondaries more olivaceous, less tawny brown, abruptly contrasted with the rufous-tawny rump; subauricular tuft paler buff; flanks browner, less cinnamon; thighs distinctly less cinnamon than flanks; bill shorter and deeper, the maxilla distinctly decurved.

Type.—No. 182,772, Amer. Mus. Nat. Hist.; A ad.; Cerro Flores, alt. 6000 ft., eastern Chiriqui, Panama; March 17, 1924; Griscom and Valentine.

SPECIMENS EXAMINED

Pseudocolaptes lawrencii panamensis.—Panama: Cerro Flores, eastern Chiriqui, 1 $_{\circ}$ 7 (the type).

Pseudocolaptes lawrencii lawrencii.—Costa Rica: 5 3.

In view of the remoteness and isolation of its habitat, the single specimen before me seems worthy of description, being far less tawny above than fully adult males from Costa Rica. The culmen measures 18 mm., the depth of the bill at base 8 mm. These measurements in the Costa Rican series are 19–22 mm., and 6–6.5 mm. respectively. Birds recorded by Salvin from the mountains of Veraguas farther east probably belong here.

Atalotriccus pilaris wilcoxi, new subspecies

Subspecific Characters.—Similar to A. p. pilaris (Cabanis) of Colombia, but grayer, less green on the upperparts, particularly on the pileum; wing bars and edgings of secondaries grayer, less yellow; beneath paler, grayer, less brown, on the sides of the breast, the yellow of the flanks and under tail-coverts paler; averaging smaller, especially the bill.

Type.—No. 183,093, Amer. Mus. Nat. Hist.; ♂ ad.; La Colorada, Santiago, Province of Veraguas, Panama; April 23, 1924; Benson and Seaman.

SPECIMENS EXAMINED

Atalotriccus pilaris wilcoxi.—Panama: Wilcox Camp, San Lorenzo River, Veraguas, 1 9; La Colorada, Santiago, 3 3, 1 9; El Villano, Santiago, 1 3, 1 9; Canal Zone, 3 3, 2 9.

Atalotriccus pilaris pilaris.—Colombia: Santa Marta, 9 ♂, 9 ♀; near Barranquilla, 1 ♀; Chicoral, Tolima, 1 ♀.

	M	Males		Females		
	$\mathbf{W}_{\mathbf{ING}}$	Culmen	$\mathbf{W}_{\mathbf{ING}}$	CULMEN		
A. p. pilaris	39-43(41.1)	9.2-11(10.3)	38-41(39.5)	9-11.2(10.6) •		
A. p. wilcoxi	39-41(40.0)	9.0-10(9.3)	38-41(38.9)	9-10.0(9.4)		

Mr. Ridgway has already commented ('Birds of North and Middle America,' IV, p. 375 footnote) on the differences between Panama and Colombian specimens. A larger series from farther west in Panama shows that these differences are constant and apparently worthy of recognition. Canal Zone specimens are slightly intermediate in color, between Colombian and Veraguas specimens, but are nearer the latter, and belong there, especially as they share their smaller size. I take pleasure in naming this bird in honor of Mr. A. L. Wilcox, president of the Tropical Forest Products Company, our courteous host of several weeks while in Veraguas. The new form was first found near his camp in the forests of the San Lorenzo River.

Troglodytes ochraceus remotus, new subspecies

Subspecific Characters.—Differing from typical *Troglodytes ochraceus* Ridgway of Costa Rica in having much darker underparts, the breast and abdomen light buffy ochraceous instead of buffy white, the throat less tawny, the flanks, sides and under tail-coverts bright buffy ochraceous rather than brownish buff; wing shorter, but bill longer.

Type.—No. 182,884, Amer. Mus. Nat. Hist.; Q ad.; Cerro Flores, alt. 6000 ft., eastern Chiriqui, Panama; March 18, 1924; Griscom and Valentine.

SPECIMENS EXAMINED

Troglodytes ochraceus remotus.—Panama: eastern Chiriqui, the type.

Troglodytes ochraceus ligea.—Panama: Volcan de Chiriqui, 1 J.

Troglodytes ochraceus ochraceus.—Costa Rica: Aquinares, 1 ♀; Navarro, 2 ♂; Volcan Irazú, 1 ♀.

	WING	TAIL	CULMEN ?	$\Gamma_{ t ARSUS}$
Three males from Costa Rica (ochraceus)	45-47	29-31	12.5-13.0	18-20
One female from Costa Rica (ochraceus)	46.0	29.0	13.0	18.0
One male from Volcan de Chiriqui (ligea)	46.5	29.0	12.0	18.5
One female from Cerro Flores, Chiriqui (remotus)	42.0	25.0.	14.2	17.0
One male from Mt. Pirri, east Panama (festinus)1.	44.0	27.5	14.5	17.5

These three subspecies of *Troglodytes ochraceus* are so distinct that little comment on their relationships is required. The rufescent extreme is *ligea*, occupying an intermediate position geographically, and it is also more tawny ochraceus below, though as pale as true *ochraceus* on the abdomen. True *ochraceus* might be described as browner and whiter below, *remotus* as more ochraceous and buffy. In size and proportions the new form resembles *festinus* of eastern Panama, and in this respect it is a connecting link, but *festinus* is described as being whiter below even than *ochraceus* and with shorter superciliaries. It should probably be treated as a subspecies of *ochraceus*, of which it is evidently a representative form. The specific distinctness of *ochraceus* from *solstitialis* is not clear.

Catharus griseiceps russatus, new subspecies

SUBSPECIFIC CHARACTERS.—Similar to Catharus g. griseiceps Salvin of eastern Chiriqui and Veraguas, but back, scapulars, and rump tawny olive to raw-umber, the upper tail-coverts, tail, and wings warmer or more refuseent brown; in typical griseiceps the entire upperparts are plain olive-brown, the wings and tail with only a faint tinge of tawny; gray of underparts decidedly paler.

Type.—No. 102,293, Amer. Mus. Nat. Hist.; or ad.; Boruca, Costa Rica; April 30, 1906; C. F. Underwood.

SPECIMENS EXAMINED

Catharus griseiceps russatus.—Costa Rica: Boruca, 2 & Panama: Boquete, Chiriqui, 3 & 1 & no sex, 1.

Catharus griseiceps griseiceps.—Panama: Cerro Flores, eastern Chiriqui, 5 σ , 4 \circ .

The new subspecies characterized above is the bird described by Mr. Ridgway in 'Birds of North and Middle America,' IV, as Catharus griseiceps of Salvin, which proves to be a plain olive-brown bird above, with deeper gray underparts, and obviously distinct. I can detect no difference in measurements. Typical griseiceps is almost exactly intermediate between russatus and phæopleurus of Colombia, which is a representative form and not specifically distinct.

¹Measurements taken from the original description.

Catharus gracilirostris bensoni, new subspecies

Subspecific Characters.—Differs from typical Catharus gracilirostris of Costa Rica in having the bill decidedly longer and relatively stouter, in this respect resembling accentor of the Volcan de Chiriqui; differing from both these subspecies in having the pileum a deeper shade of clear gray, not brownish gray; upperparts darker and more rufescent; chest-band deeper and more tawny; under tail-coverts deeper buff, when not white; thighs deeper, less brownish gray.

Type.—No. 182,905, Amer. Mus. Nat. Hist.; or ad.; Cerro Flores, 6000 ft., eastern Chiriqui, Panama; March 17, 1924; Griscom and Valentine.

SPECIMENS EXAMINED

Catharus gracilirostris bensoni.—Panama: Cerro Flores, 1 \circlearrowleft , 1 \circlearrowleft . Catharus gracilirostris gracilirostris.—Costa Rica: 18 \circlearrowleft , 7 \circlearrowleft .

The generally deeper and more intense coloration of the new form is so apparent that, taken with its isolation, I venture to describe it on the basis of a single pair. I have seen no specimens of accentor, but that race differs from typical gracilirostris only in the longer and stouter bill, and Mr. Ridgway gives the measurements of most if not all of the existing specimens. The new form is named in honor of my field assistant Mr. R. Benson, who secured the first specimen and who in a remarkably short time has become an efficient and discriminating collector.

Planesticus tristis panamensis, new subspecies

Subspecific Characters.—Resembling *Planesticus tristis cnephosa* (Bangs) of southern Costa Rica and Chiriqui, but upperparts slightly less brown, more olive; chest, sides, and flanks more deeply colored, more olivaceous, less brown, more conspicuously contrasted with the white throat; dark streaks on throat averaging broader and blacker; similar also to *Planesticus tristis leucauchen* (Sclater) of central Costa Rica northward, but upperparts browner, less slate-gray; underparts averaging more deeply colored, more olivaceous, less gray; under wing-coverts more much buffy; averaging slightly larger than both races.

TYPE.—No. 182,915, Amer. Mus. Nat. Hist.; A ad.; Cerro Flores, alt. 4000 ft., eastern Chiriqui, Panama; March 5, 1924; Griscom, Boulton, and others.

SPECIMENS EXAMINED

Planesticus tristis panamensis.—Panama: Cerro Flores, 9 3.

Planesticus tristis cnephosa.—Costa Rica: Boruca, 2 ♂, 1 ♀; Santa Maria de Dota, 1 ♀.

Planesticus tristis leucauchen.—Guatemala: 1 no sex. Costa Rica: La Vijagua, 1 ♂; Santa Maria de Dota, 3 ♂; Agua Caliente, 1 ♂; Aquinares, 3 ♂, 2 ♀; Navarrito, 1 ♂, 1 ♀.

Males	Wing	$\mathbf{T}_{\mathbf{AIL}}$	Culmen
P. tristis cnephosa	113-119(116.0)	87.5-92.5(90.0)	17
P. tristis leucauchen	116-125(120.6)	90 -99 (93.0)	17-18
P. tristis panamensis	118-127(122.3)	88 -100 (93:5)	18.0–19.5

The new form probably extends eastward to the mountains of Veraguas, from which locality Salvin has recorded specimens, though he was puzzled as to what race they should be referred. Birds even from one locality are so variable that adequate series are required to distinguish racial from individual characters. As regards the color of the upperparts, panamensis is exactly intermediate between cnephosa and leucauchen. In the color of its underparts it is closer to leucauchen, but is not intermediate, as it is darker and more olivaceous, instead of lighter and browner as in *cnephosa*. In the streaking of the throat, and the conspicuousness of the white throat patch it closely resembles leucauchen, and it is closer to that race in size. I have specimens of both leucauchen and cnephosa from Santa Maria de Dota, while one specimen from there and another from Aguinares are intermediates.

Phainoptila melanoxantha minor, new subspecies

SUBSPECIFIC CHARACTERS.—Similar to the typical form from Costa Rica, but averaging smaller; male not differing in color; female with hind-neck more extensively gray of a slightly darker shade; rump, upper tail-coverts, and edgings to tailfeathers slightly greener, less yellow.

Type.—No. 182,954, Amer. Mus. Nat. Hist.; of ad.; Cerro Flores, alt. 6000 ft., eastern Chiriqui, Panama; March 17, 1924; Griscom and Valentine.

SPECIMENS EXAMINED

Phainoptila melanoxantha minor.—Panama: Cerro Flores, 2 , 2 .

Phainoptila melanoxantha melanoxantha.—Costa Rica: Volcan Irazú, 4 & 3 9; Volcan Turrialba, 4 ♂, 2 ♀.

		Males		Females			
	WING	TAIL	CULMEN	WING	TAIL CULMEN		
P. m. minor	94.5 – 97	78-85	14	92 - 96	76-84 14.5-15		
P. m. melanoxantha	98-102.5	85-89	12.5 - 15	96-100	83-87 12.5-14.5		

The range of this peculiar genus is here extended considerably farther east. The new subspecies is slightly smaller, with a longer bill proportionately.

Emberizoides sphenurus floresæ, new subspecies

Subspecific Characters.—Similar to both Emberizoides sphenurus hypochondriacus Hellmayr of western Chiriqui and E. s. lucaris Bangs of Costa Rica, but upperparts much less heavily streaked, and strikingly different in the ground-color being ochraceous olive-brown instead of sandy brown; underparts even more heavily streaked with black than in hypochondriacus; the sides, flanks, and under tailcoverts more richly colored, more ochraceous even than in lucaris; tail 77 mm., at least as short as in hypochondriacus; bill 11 mm., shorter even than lucaris.

Type.—No. 182,964, Amer. Mus. Nat. Hist.; Q ad.; Cerro Flores, 3600 ft., eastern Chiriqui, Panama; March 18, 1924; Griscom and Benson.

SPECIMENS EXAMINED

Emberizoides sphenurus floresæ.—Panama: Cerro Flores, the type.

Emberizoides sphenurus hypochondriacus.—Panama: Boquete, Chiriqui, 2 no sex.

Emberizoides sphenurus lucaris.—Costa Rica: Buenos Aires, 11 \circlearrowleft ad., 2 \circlearrowleft ad., 3 \circlearrowleft im., 2 \circlearrowleft imm.

The new form is so strikingly different from either of the two other Central American races that I feel no hesitation in describing it from a single specimen. At first sight the description might suggest immaturity, but fortunately immature specimens of *lucaris* are available, collected in September after the breeding season. The immature *lucaris* differs from the adult in the following respects: (1) the underparts are more heavily streaked; (2) the ground-color of the underparts and a line from the bill to the eye are a fairly bright yellow; (3) the ground-color of the upperparts is even browner and rustier. While the new subspecies resembles immature *lucaris* in the heaviness of the streaking below, it is entirely different in other respects. Finally, the condition of the plumage shows it to be a fully adult bird. It is fresh and unworn, the tail is full-grown and perfect, the ovaries were slightly enlarged, and the skull showed no signs of immaturity.

The physiography of the region makes it certain that the habitat of floresæ must be exceedingly local and restricted. It requires thick grassy pastures. These occur only in a narrow belt just below the subtropical forest zone, and the excessively broken nature of the country and the steep pitch of the slopes makes the existence of a pasture possible only in an occasional pocket in the hills. While the main range runs east and west, the ridges run in a southerly direction and are intersected by deep gullies, the bottoms of which are a thousand or more feet lower in altitude, and consequently in the Tropical Zone and heavily forested. Thus, I can positively affirm that, looking westward, it was a good fifteen miles to the next bare, grass-covered ridge where Emberizoides might have found a suitable habitat. The point is that, ecologically speaking, Emberizoides can only be found on what, from the standpoint of its habitat requirements, constitutes a chain of islands.

Atlapetes gutturalis coloratus, new subspecies

Subspecific Characters.—Differing from all other races of Atlapetes gutturalis in having the yellow throat patch of a deeper shade, tinged with orange in most of the specimens; underparts the darkest; the flanks and vent deep brownish gray, thighs dark slate, and nowhere any lighter than pale smoke gray below; upperparts exactly similar to A. gutturalis parvirostris of Costa Rica; size as in other Central American races.

Type.—No. 182,967, Amer. Mus. Nat. Hist.; on ad.; Cerro Flores, 3600 ft., eastern Chiriqui, Panama; March 13, 1924; Griscom, Boulton, and others.

SPECIMENS EXAMINED

Atlapetes gutturalis coloratus.—Panama: Cerro Flores, 1 3, 3 9, 1? Atlapetes gutturalis gutturalis.—Colombia: 10 3, 14 9, 5? Atlapetes gutturalis parvirostris.—Costa Rica: 7 3, 2 9.

The revision of Atlapetes gutturalis by Dwight and Griscom in American Museum Novitates, No. 16, has been used as the basis of the comparative description. The new subspecies is as distinct in one direction as is griseipectus of Guatemala in another, and totally lacks the brown element both above and below which characterizes brunnescens and fuscipygius.

Pselliophorus luteoviridis, new species

Specific Characters.—Resembling *Pselliophorus tibialis* (Lawrence) of Costa Rica in most of its structural characters and lemon-yellow thighs, but wings and tail black, not sooty slate; back bright olive-green, changing to dark olive-green on the rump; throat, sides of head and ear-coverts hoary brownish gray with darker centers; breast bright yellowish olive-green, changing to olive-green on under tail-coverts; tail much shorter in proportion.

Type.—No. 182,976, Amer. Mus. Nat. Hist.; Q ad.; Cerro Flores, alt. 6000 ft., eastern Chiriqui, Panama; Griscom.

Description of Type.—Pileum, wings and tail black; back bright olive-green, changing to dark olive-green on rump and upper tail-coverts, this transition being effected by the feathers of the lower back having dark olive-green centers, giving an indistinct, mottled effect; chin, throat and ear-coverts hoary brownish-gray, the feathers with darker centers; breast bright yellowish olive-green, changing to bright olive-green on flanks and under tail-coverts; thighs lemon-yellow; bend of wing bright yellow; under wing-coverts dark olive; bill black; legs and feet brownish. Wing, 83; tail, 83; culmen, 14; tarsus, 28.

SPECIMENS EXAMINED

Pselliophorus luteoviridis.—Panama: Cerro Flores, the type.

· Pselliophorus tibialis.—Costa Rica: 9 ♂, 2 ♀, 2?

The chief surprise of our expedition into the unknown mountains of eastern Chiriqui was the discovery of this handsome species of *Psellio-phorus*, a genus hitherto monotypic. Its bright yellow and green tones are very different from the uniform sooty slate of *tibialis*. The tail is not longer than the wing, thus eliminating one of the characters of the genus and making this species a slight connecting link with *Atlapetes* and *Buarremon*.

Chlorospingus pileatus diversus, new subspecies

Subspecific Characters.—Similar to typical *Chlorospingus pileatus* Salvin of Cost Rica, but yellow of underparts much deeper and brighter, bright yellowish green on chest and sides, changing to deep yellowish olive on flanks and under tail-coverts; middle of breast and abdomen on the other hand much lighter, nearly white, less gray, giving a more contrasted effect.

Type.—No. 183,044, Amer. Mus. Nat. Hist.; A ad.; Cerro Flores, alt. 6000 ft., eastern Chiriqui, Panama; March 14, 1924; Griscom and Benson.

SPECIMENS EXAMINED

Chlorospingus pileatus diversus.—Panama: Cerro Flores, $2 \circlearrowleft$, $4 \circlearrowleft$. Chlorospingus pileatus pileatus.—Costa Rica: $8 \circlearrowleft$, $6 \circlearrowleft$.

The much greater contrast of the light abdomen with the more richly, deeply colored flanks easily distinguishes this new form from typical *pileatus*. Three of my four females have a distinct brownish tinge on the upper tail-coverts and edgings of the tail, of which no trace exists in the females of *pileatus*, nor is it present in any of the males of either subspecies. The range of the species is here extended considerably to the east.

Chlorospingus tacarcunæ, new species

SPECIFIC CHARACTERS.—Closest to Chlorospingus hypophæus Sclater and Salvin of Veraguas, but chin and throat bright gamboge-yellow gradually changing to yellowish green on the chest and to bright olive-green on the flanks and under tail-coverts; center of breast and abdomen very light grayish-white; lores and line under eye indistinctly brownish; size smaller.

Type.—No. 136,365, Amer. Mus. Nat. Hist.; on ad.; Mt. Tacarcuna, east slope, alt. 4600 ft., eastern Panama; April 14, 1915; Anthony and Ball.

Description of Type.—Entire upperparts, wings and tail uniform olive-green; lores and line under eye indistinctly brownish; chin and throat bright gamboge-yellow gradually changing to yellowish green on the chest and sides, passing to bright olive-green on the flanks and under tail-coverts; center of breast and abdomen very light grayish white; bend of wing yellow; bill and feet dark horn color. Wing, 68; tail, 54; culmen, 11.5; tarsus, 24.

SPECIMENS EXAMINED

Chlorospingus olivaceiceps.—Costa Rica: 2 ♂, 2 ♀.

Chlorospingus hypophæus.—Panama: Chitra, Veraguas, 1 %.

Chlorospingus tacarcunæ.—Panama: Mt. Tacarcuna, 7 3 9.

There are only two Central American species of *Chlorospingus* in which the upperparts are uniform olive-green, the pileum concolorous with the back. One is the very rare *olivaceiceps* of Costa Rica, which has a gray throat and abdomen and a yellowish-green chest band. The Veraguan *hypophæus* has a grayish buffy chin, an ochre yellow throat, the

chest, sides and flanks grayish-brown. It is probably only a subspecies of the South American *Chlorospingus flavigularis*, as it is very close indeed to the Peruvian race, *parvirostris*.

Variation in the new species is slight. Some birds have the green of the underparts invading the gray central area to a greater extent than the type. Others tend to have the superciliary region slightly yellower than the rest of the pileum. In fact the general pattern of coloration is strongly reminiscent of certain species of *Hemispingus*, such as *reyi* or *chrysophrys*. The stoutness of the bill, however, makes it impossible to refer *tacarcunæ* to that genus.