

Article XXIII.—DIAGNOSES OF APPARENTLY NEW COLOMBIAN BIRDS. IV.

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This is the sixth¹ preliminary paper based chiefly on the results of our explorations in Colombia. Since the publication of the fourth paper of this series, Miller and Boyle have completed a very successful reconnaissance in Antioquia visiting parts of that region which had not before been reached by naturalists. Their collection contains a number of new and interesting forms, and, in connection with Miller's photographs and careful field notes, it is particularly valuable for the light it throws on distributional problems.

Meanwhile the study of our Colombian collections as a whole has been continued unremittingly, and it is hoped that the final report upon them will be concluded during the coming year.

Cordial acknowledgments of my indebtedness for the loan of material used in the preparation of this paper are due Dr. C. W. Richmond, of the U. S. National Museum; Mr. Outram Bangs of the Museum of Comparative Zoölogy; Mr. W. E. Clyde Todd, of the Carnegie Museum, and Mr. Thomas E. Penard of Arlington, Mass.

As in the preceding papers of this series, the nomenclature of Ridgway's 'Color Standards and Nomenclature' (Washington, 1912) has been employed.

Crypturus soui caquetæ subsp. nov.

Char. subsp.—Most nearly resembling *C. s. mustelinus* Bangs, the underparts, in the female, largely rich ochraceous-orange, the chest chestnut, the throat usually tinged with, and sometimes wholly ochraceous; the upperparts much darker, deep chestnut-brown rather than Prout's-brown; the crown slaty black without brownish tinge; male resembling female above, but not unlike male of *C. s. soui* below.

Type.—No. 115608, Am. Mus. Nat. Hist., ♀ ad., Florencia (alt. 675 ft.), Caquetá, Col.; L. E. Miller.

¹ References to the five preceding papers follow: (1) Diagnoses of Apparently New Colombian Birds, Bull. A. M. N. H., XXXI, 1912, pp. 139-166; (2) Diagnoses of Apparently New Colombian Birds, II, XXXIII, 1914, pp. 167-192; (3) Diagnoses of Apparently New Colombian Birds, III, XXXIII, 1914, pp. 603-637; (4) Descriptions of Proposed New Birds from Central and South America, XXXIV, 1915, pp. 363-388; (5) The More Northern Species of the Genus *Scytalopus* Gould, The Auk, XXXII, 1915, pp. 406-423.

Remarks.— There unfortunately appears to be no name applicable to the bird inhabiting Amazonian Colombia, and doubtless eastern Ecuador. This race, however, is so well-marked that it cannot well be placed under any described form known to me. The characters, as usual, in this group, are best shown by the female of which we have two. Both these birds agree in their intensity of color and in having the lower throat-band rich chestnut, a character which, so far as I am aware, is shown by only one other race of this species—*C. s. mustelinus*. Of the latter form I have four topotypical females, not one of which approaches the Florencia females in the deep color of the upperparts and slaty blackness of the crown.

A male of *caquetæ* from La Muralla differs above from a male of *mustelinus* much as do the females of these races from one another, and is darker than the male of any form of *soui* known to me.

The faunal diversity of Colombia is indicated by the fact that it appears to be necessary to refer our specimens of *Crypturus soui* from that country to no less than 5 forms, all of which are practically restricted to the Tropical Zone. Of these *C. s. caucæ* is the least satisfactory since it appears to have no characters of its own and still cannot well be referred to any other form. The male is very near that of *modestus* and the female equally near that of *soui*. Since, however, neither of these names could properly be applied to it, it may for the present, at least, stand under the name I have suggested. With this far from acceptable compromise the races of *soui* in Colombia appear to be distributed as follows:

1. *Crypturus soui soui*.— From the eastern base of the Eastern Andes, north of the Guaviare River, eastward.
2. *C. s. caquetæ*.— Eastern base of the Eastern Andes from the Guaviare River southward and eastward.
3. *C. s. mustelinus*.— Santa Marta region (and also other portions of the arid coastal zone?).
4. *C. s. caucæ*.— Cauca and Magdalena Valleys.
5. *C. s. modestus*.— Pacific coast region south into western Ecuador, north to Nicaragua.

***Crypturus kerriæ* sp. nov.**

Char. sp.— Most nearly related to *Crypturus boucardi*, but upperparts more barred and anteriorly browner; throat grayer, neck and breast blackish rather than gray, rest of underparts deeper, the breast slightly, the flanks conspicuously barred; size smaller.

Type.— No. 123204, Am. Mus. Nat. Hist., ♀, Baudo, Chocó, Colombia, July 3, 1912; Mrs. E. L. Kerr.

Description of Type.— Crown, nape, and sides of the head sooty black; hindneck

and forehead dark chestnut passing into black or fuscous-black on the back, upper tail-coverts, tail, and exposed surfaces of the wings, all of which are distinctly and evenly barred with tawny, which is paler and more ochraceous on the wings; primaries and their coverts fuscous, unmarked except for slight marginal ochraceous-tawny spots near the ends of the inner ones; throat whitish becoming dusky on the neck; rest of underparts deep tawny, mixed with dusky on the breast, most of the breast feathers with partly concealed, small, broken, black bars; flanks with broad and conspicuous black bars which become less distinct on the ventral region; tibiae and lower tail-coverts barred with black and tawny; feet horn-color; maxilla blackish, mandible whitish, darker at the tip and along the commissure.

Wing, 149; tail, 44; tarsus, 53; culmen, 29 mm.

Remarks.— I have named this apparently distinct species in honor of Mrs. Elizabeth L. Kerr, the collector of the type and only known specimen, whose work in the Atrato Valley has added materially to our knowledge of the avifauna of that part of Colombia.

As an evident representative of *Crypturus boucardi*, a species unknown south of Costa Rica, *Crypturus kerriæ* emphasizes the close faunal relation existing between the bird-life of western Colombia and that of Central America.

***Tachytriorchis albicaudatus exiguus* subsp. nov.**

Char. subsp.— Closely resembling *T. a. sennetti* (Allen) but notably smaller with the upperparts, particularly the head and sides of the neck, darker and more slaty.

Type.— No. 130614, Am. Mus. Nat. Hist., ♂ ad., Barrigon, head of Rio Meta, Colombia; Manuel Gonzalez.

Remarks.— A specimen from Maripa, lower Orinoco, Venezuela, agrees essentially with the type. As stated in the preceding diagnosis, this form closely resembles *T. a. sennetti* and it is therefore quite unlike true *albicaudatus* of southern Brazil. Adults of the latter have the upperparts much darker (fuscous rather than grayish or slaty) while the chin and throat are wholly blackish, instead of pure white or white with some mixture of slaty. When fully adult, *sennetti* (of which we have a large series) has the entire underparts, including the throat, pure white. Both my specimens of *exiguus* are adult, one is almost without indication of bars on the tibiae and abdominal region, the other is but slightly barred on these parts, but in each the throat is mixed slaty and white, and I am inclined to regard this marking as an approach toward *albicaudatus* rather than an indication of immaturity. This point can be settled, however, only by additional specimens.

Doubtless the form here described occurs also in British Guiana. I am aware that Brabourne and Chubb (Bds. S. A., I, p. 66) 'suggest British Guiana' as the type-locality for *albicaudatus*, but it seems to me beyond

question that the bird described by Vieillot (Nouv. Dict. d'Hist. Nat., IV, 1816, p. 66) is the large, black-throated form of southern Brazil to which, furthermore, Dr. Allen in his description of *sennetti* (Bull. A. M. N. H., V, 1893, p. 144) in a sense restricted Vieillot's name.

Other names which have been applied to this species are also applicable to the southern form for which, since it was first made known by Azara, Paraguay may well be considered the type region.

Measurements of Adult Males.

Name	Place	Wing	Tail	Culmen
<i>Tachytriorchis a. sennetti</i>	San Patricio Co., Tex.	408	171	37
" " "	Corpus Christi, "	405	171	36.5
" " "	Bee Co., "	420	174	36.5
" " "	Tepic, Mexico	425	188	35
" " <i>exiguus</i>	Barrigon, Col. (Type)	395	151	32
" " "	Maripa, Ven.	383	148	32
" " <i>albicaudatus</i>	Matto Grosso, Brazil	418	175	32
" " "	" " "	405	165	32

***Herpetotheres cachinnans fulvescens* subsp. nov.**

Char. subsp.—Similar to *H. c. cachinnans* (Linn.) but smaller and more richly colored; the upperparts and wings externally darker (dark sepia); the underparts, crown, nape, upper tail-coverts and under wing-coverts nearly uniform cinnamon-buff, instead of white washed with light buff; the crown more streaked, the lower wing-coverts more spotted.

Type.—No. 132991, Am. Mus. Nat. Hist., ♂ ad., Alto Bonito (alt. 1500 ft.), west slope, W. Andes, Antioquia, Colombia; Miller and Boyle.

Range.—Tropical Zone of the Pacific coast of Colombia southward at least to Puna Island, Ecuador, northward through Panama possibly to Nicaragua.

Remarks.—While my material clearly shows the existence of a well-marked, small, dark form of *Herpetotheres* in western Colombia and Ecuador, it by no means adequately represents the species as a whole. Three specimens in the Penard collection from Surinam, which Berlepsch (Nov. Zool., XV, 1908, p. 290) has designated the type-locality of true *cachinnans*, enables me to determine that all Colombian specimens from east of the Western Andes (Cauca Valley, Honda, Santa Marta, Villavicencio) are referable to that form, but in Central America the case becomes more complicated.

Apparently the form for which I here propose the name *fulvescens* extends northward to Panama (Canal Zone) whence we have two fairly typical specimens. Nicaragua and Honduras specimens show an increase in size

but in color seem to be nearer *fulvescens* than to *cachinnans*, but Mexican specimens apparently differ from true *cachinnans* only in being somewhat larger. If this be true we should have the northern part of the range of *cachinnans* separated by the range of *fulvescens*. Doubtless, as in similar cases, a larger amount of material aided by a knowledge of the fact that the light forms of *cachinnans* which inhabit Mexico and South America (except the Pacific coast) do not come into actual contact will result in the separation of the Mexican bird.

Specimens examined.—*Mexico*: Jalisco, 2; Tepic, 1; Tlacotalpam, 1; Honduras, 1; Nicaragua, 2; *Panama* (Zone), 2; *Colombia*: Santa Marta, 4; Honda, 2; Villavicencio, 1; Barrigon, 1; Rio Frio, 1; Alto Bonito, 1; San Jose, 2; Barbacoas, 1; *Ecuador*: Manavi, 2; Puna Island, 1; *Venezuela*: Delta Orinoco, 1; Surinam, 3.

Measurements of Females.

	Wing	Tail
Villavicencio, Colombia	287	211
Santa Marta, "	283	223
" "	272	196
Barbacoas "	250	188
San Jose "	260	187
Panama	269	190
Jalapa, Nic.	278	210
Roman River, Honduras	280	228
La Canas, Jalisco, Mex.	300	231
La Laga, " "	303	246
Amatlan, Tepic "	300	233

Measurements of Males.

	Wing	Tail
Barrigon, Col.	272	217
Manavi, Ecuador	268	193
" "	256	178
San Jose, Col.	248	185
Alto Bonito, Col.	265	195
Tlacotalpam, Mex.	275	213

***Aulocorhynchus albivitta griseigularis* subsp. nov.**

Char. subsp.—Similar to *A. a. phæolæmus* (Gould) but the throat gray with a faint bluish tinge instead of deep grayish blue; distinguished from *A. a. albivitta* by the color of its throat, by the greater width, apically, of the blackish stripe on the maxilla, and (in skins) by the absence of reddish at the end of this stripe and tip of the mandible.

Type.—No. 133272, Am. Mus. Nat. Hist., ♂ ad., Santa Elena (alt. 9000 ft.), Cen. Andes, Antioquia, Col., Dec. 2, 1914; Miller and Boyle.

Range.—Subtropical Zone of the western slope of the Central Andes and northern end of the Western Andes of Colombia.

Remarks.—Our series of forty-two specimens of *Aulocorhynchus albivitta* clearly shows that there are three well-marked forms of this species in the Subtropical Zone of Colombia. True *albivitta* is found in the Eastern Andes and eastern slope of the Western Andes; *griseigularis* inhabits the western slope of the Central Andes and we have also one specimen from an altitude of 10,000 feet on the Paramillo at the northern end of the Western Andes; while *phæolæmus* is confined to the Western Andes.

The three forms may readily be distinguished by the color of the throat which is nearly white in *albivitta*, gray in *griseigularis*, and grayish blue in *phæolæmus*.

The Santa Marta bird, *A. lautus*, appears to be specifically distinct. It has the throat of the same color as in *griseigularis* but the bill is differently shaped and colored, the maxilla being sulcate below the narrower culmen, on the base of which the black extends much further. There is no red whatever on the bill, and its white basal margin is bordered posteriorly with yellow.

Hellmayr (P. Z. S., 1911, p. 1213) has already called attention to the applicability of Gould's name *phæolæmus* to the form of the Western Andes, showing also that Gould erroneously referred Venezuelan specimens to this form and that a further error has been made (Cat. Bds. B. M., XIX, p. 158) in designating a Venezuelan specimen as Gould's type.

In view of my lack of specimens from Concordia, the type-locality of *phæolæmus*, and of the occurrence of the bird for which I have here proposed the name *griseigularis* at the northern end of the Western Andes, it may be questioned whether the Concordia bird is referable to the blue-throated or gray-throated race. Gould's description of *phæolæmus* as having the "throat deep grayish blue" can apparently, however, apply only to the more southern form, later described by Bangs as *A. petax*, of which I have topotypes from San Antonio.

Our ten specimens of *griseigularis* are from the following localities: Paramillo, 1; Sta. Elena, 4; Salento, 3; Miraflores, 2.

***Picumnus granadensis antioquiensis* subsp. nov.**

Char. subsp.—Similar to *P. g. granadensis* but whole breast grayish, the flanks and abdominal region distinctly streaked. Differs conspicuously from all the races of *P. olivaceus* in being less yellow throughout.

Type.—No. 133352, Am. Mus. Nat. Hist., ♂ ad., Peque (5000 ft.), Western Andes, Antioquia, Colombia; Miller and Boyle.

Remarks.— This form is based on a male and female from Peque and a male from the vicinity of Medellin presented to the American Museum by Francisco Escobar, Colombian Consul-General at New York. Its strongly marked characters are particularly well shown by this last-named specimen which leads to the conclusion that the male and female examples “f” and “g” recorded by Hargitt (Cat. Bds. B. M., XVIII, p. 549) from Medellin as *Picumnus granadensis* and later identified by Hellmayr (cf. P. Z. S., 1911, p. 1189) should be referred to this race.

Of true *granadensis* I have ten specimens of which two from San Antonio may be considered as topotypes; while two others from Los Cisneros may be considered equally topotypical of *Picumnus canus* Bangs (Proc. Biol. Soc. Wash., 1910, p. 72) which, as Hellmayr (P. Z. S., 1911, p. 1190) has shown, is a pure synonym of *granadensis*.

Although in pattern of marking *antioquiensis* approaches the *olivaceus* type, and thus to some extent bridges the wide difference between *granadensis* and *olivaceus*, I nevertheless feel that the two forms are specifically distinct.

The reason for this belief will be given in connection with the treatment of the Colombian forms of *Picumnus olivaceus* in my final report.

***Conopophaga castaneiceps chocoensis* subsp. nov.**

Char. subsp.— Similar to *C. c. castaneiceps* but much darker, wings and tail shorter but bill longer; male with the back mummy-brown with an olivaceous cast instead of deep neutral gray (with an olivaceous wash in immature specimens); crown chestnut instead of Sanford's brown, this color darker posteriorly but reaching as far back as the crown-cap in *castaneiceps*; underparts dark mouse-gray in place of deep neutral gray; the center of the belly whitish, the flanks heavily washed with olivaceous.

Apparently nearer *C. c. brunneinucha* Berl. & Stolz. of Peru but chestnut of crown evidently more extensive and size smaller. Wing, 68; tail, 39; tarsus, 29; culmen 15 mm.

Type.— No. 123321, Am. Mus. Nat. Hist., ♂ ad., Baudo Mts. (3500 ft.), Choco Colombia; July 18, 1912; Mrs. E. L. Kerr.

Remarks.— Although I have only the type of this species its characters, as compared with *C. c. castaneiceps*, are so pronounced that I have no hesitation in describing it as distinct from that race. Furthermore, I have two females from La Frijolera on the western slopes of the Central Andes above the lower Cauca which, in being generally darker and in having more olive on the flanks, are obviously intermediate between *chocoensis* and *castaneiceps*. A female recorded from La Selva (4600 ft.) on the headwaters

of the San Juan River is also said by Hellmayr (P. Z. S., 1911, p. 1176) to have the back "rather more brownish than a Bogotá skin."

Unfortunately I have seen no specimens of *C. c. brunneinucha*, described by Berlepsch and Stolzman from Central Peru (P. Z. S., 1896, p. 385). While *chocoensis* appears to be nearer this race than to *castaneiceps*, the pileum and nape in the Peruvian bird are said to be of the same color as the back, whereas in *chocoensis* as well as *castaneiceps* they are essentially the same color as the forehead. Doubtless a comparison of specimens would reveal other differences. Meanwhile the two races can apparently be distinguished by size alone, as the appended measurements of males indicate.

Name	Place	Wing	Tail	Tarsus	Culmen
<i>C. c. chocoensis</i>	Baudo, Col.	68	39	29	15
" " <i>brunneinucha</i>	Peru (ex Berl. & Stolz.)	78	49	28.5	12.75
" " <i>castaneiceps</i>	Buena Vista, Col.	73	42	29	12.5
" " "	" "	71	41	28	13
" " "	" "	71	41	30	12.5

***Microbates cinereiventris magdalense* subsp. nov.**

Char. subsp.—Differing from both *M. c. cinereiventris* and *M. c. torquatus* in having the tail tipped with whitish, the color both above and below paler, the tail, and particularly bill, longer; differs from *cinereiventris*, its nearest geographic ally, and agrees with *torquatus*, in having no postocular spot. Wing, 55; tail, 30; tarsus, 24; culmen, 21.5 mm.

Type.—No. 133479, Am. Mus. Nat. Hist., ♂ ad., Malena (alt. 1000 ft.), near Puerto Berrio, Antioquia, Col., March 10, 1915; Miller and Boyle.

Remarks.—The discovery of this interesting race extends the species eastward to the Magdalena Valley. Although resembling *M. c. torquatus* of Panama and Costa Rica in the absence of a postocular mark, it is evidently wholly cut off from that race by *cinereiventris* to which form four specimens secured by Anthony and Ball in eastern Panama (Tacarcuna) are referable.

This proposed race is based on only the type, which has been compared with the type of *M. c. torquatus* and sixteen specimens of *M. c. cinereiventris*, including four from Barbacoas, which may be considered topotypical.

***Xiphorhynchus lachrymosus alarum* subsp. nov.**

Char. subsp.—Similar to *X. l. lachrymosus* (Lawr.) but buffy, guttate spots on the back smaller and narrowly margined with black and more widely with Dresden-brown, rather than broadly margined with black; spots below averaging smaller; lesser wing-coverts with much less black, the outer greater coverts margined externally with brownish above instead of black.

Type.—No. 133599, Am. Mus. Nat. Hist., ♂ ad., Puerto Valdivia (alt. 360 ft.), Cauca River, Antioquia, Col., Dec. 18, 1914; Miller and Boyle.

Remarks.—Comparison of twelve specimens from the type-locality with twenty-eight specimens of *X. l. lachrymosus*, including the type, show that the characters on which this form is based are as constant as they are pronounced. The series of *lachrymosus* includes seven specimens from Dabeiba and Alto Bonito on the western slope of the Western Andes and the occurrence of this form in these localities further emphasizes the racial differences exhibited by specimens of certain species from the western and eastern slopes of this range.

Specimens from the type-locality of *X. l. rostratus* Ridgw. (Proc. Biol. Soc. Wash., 1909, R. Dagua) apparently show that it is not a valid race.

***Siptornis flammulata quindiana* subsp. nov.**

Char. subsp.—Similar to *S. f. flammulata* (Jard.) of Ecuador but upperparts browner, the front part of the crown richer and deeper in tone, hazel rather than ochraceous-tawny, with, as a rule, the shaft-streaks broader, the margins correspondingly narrower; superciliary ochraceous and less clearly defined; throat deeper in tone, ochraceous-buff rather than buff, its color spreading to the breast, the sides of the head and auricular region; flanks and abdominal region more ochraceous. Differs from *S. f. multostriata* (Scl.) of the Bogotá region, in being less heavily margined with black below, the margins more even in outline, the throat-patch much larger and paler, the upperparts browner, the frontal region less chestnut and less distinctly streaked.

Type.—No. 112065, Am. Mus. Nat. Hist., ♂ ad., Paramo of Santa Isabel (12,500 ft.), Cen. Andes, Colombia, Sept. 20, 1911; Allen and Miller.

Range.—Paramo Zone of the Central Andes of Colombia.

Remarks.—This proposed race is based on comparison of fifteen specimens from Santa Isabel with ten from Pichincha and Chimborazo, and one from the Paramo of Choachí near Bogotá. The differences between *flammulata* and *quindiana* were at once recognized but in default of a topotypical specimen of *multostriata*, it was a question whether to follow Sclater (P. Z. S., 1869, p. 636) in considering the Bogotá form synonymous with *flammulata*, when the Santa Isabel race would require a name, or whether to accept the name *multostriata* for the Central Andean form.

This question was answered most satisfactorily by the receipt through Brother Apolinar Maria of a specimen from the Paramo of Choachí, some fifteen miles east of the city of Bogotá, which I assume is typical of *multostriata*. This specimen agrees with Sclater's description of *multostriata* (P. Z. S., 1857, p. 273) but is so unlike both the Ecuador and Santa Isabel races as to suggest its specific distinctness. The pattern of the upperparts

agrees with that of *flammulata*, but the crown is more chestnut; the 'throat-patch' is confined largely to the chin, not reaching behind the gape, and is bright hazel or Sanford's-brown, sharply defined posteriorly; the remainder of the underparts are white, the feathers, quite to the crissum, being margined with black with usually a faint inner ochraceous margin. This margin is less even than in *flammulata* and *quindiana* and on most of the feathers of the abdominal region appears as paired, subterminal lateral spots which indent the median white area but do not reach to the shaft of the feather.

I observe that Brabourne & Chubb (Bds. S. Am., p. 236) use Sclater's name *multostriata* for the Ecuadorian as well as Colombian bird, presumably acting on the assumption that *Sittasomus flammulata* Less. (Tr. d'Orn., 1831, p. 315) is, as Sclater thought "very doubtful" (Cat. B. M., XV, p. 61), *Siptornis striaticollis* (Lafr.). Lesson's description alone does not seem to warrant this belief, but if it should prove to be correct, the Ecuadorian bird here referred to as *Siptornis flammulata flammulata* (Jard.), will require a new name.

The Choachí specimen is not sexed but its smaller size suggests that it is a female, and I have therefore compared it in size with females of the other two races.

Measurements.

Name	Place	Sex	Wing	Tail	Tarsus	Culmen
<i>Siptornis f. multostriata</i> ,	Choachi, Col.	?	59	69	24	14.5
" " <i>quindiana</i> ,	Santa Isabel, "	♀	63	75	26	15
" " "	" "	♀	62	71	25	15
" " "	" "	♀	66.5	78	25.5	14
" " "	" "	♀	64	73.4	25.5	14
" " "	" "	♀	66	80	25.5	15
" " <i>flammulata</i> ,	Chimborazo, Ec.	♀	64.5	75	24.5	14
" " "	Corazo, "	♀	65	72	25.5	16
" " "	Pichincha, "	♀	60	64.5	25	14

***Automolus nigricauda saturatus* subsp. nov.**

Char. subsp.—Similar to *A. n. nigricauda* Hart. but very much darker; the back deep blackish bay instead of between raw-umber and mummy-brown, the crown and nape only slightly darker than the back, with more of a claret-brown tinge, which is clearer on the sides of the head; wings externally of the same color as the back, tail black; breast somewhat deeper than in *nigricauda*, the rest of the underparts darker brown, less olivaceous, the sides and particularly flanks much darker, nearly the color of the back.

Type.—No. 133571, Am. Mus. Nat. Hist., ♂ ad., Alto Bonito (alt. 1500 ft.), Antioquia, Col., Feb. 16, 1915; Miller and Boyle.

Range.—Northwestern Colombia and northward to eastern Panama (Tacarcuna).

Remarks.—Miller and Boyle collected five specimens of this strongly marked form at the type-locality and the succeeding month Anthony, Richardson and Ball took nine more at Tacarcuna in eastern Panama. The latter series, as a whole, is somewhat paler but is clearly not separable from the Colombian bird. Of *nigricauda* I have two west Ecuador specimens.

Automolus fumosus Salv. & Godm., known from one Chiriqui specimen, appears to be an intermediate between *nigricauda saturatus* and *A. veræpaciis*. Judging from the description alone it is nearer the former above and the latter below. Wholly aside from other characters its black tail distinguishes *saturatus* from *A. rufipectus* and *A. cinnamomeigula*.

***Manacus vitellinus milleri* subsp. nov.**

Char. subsp.—Similar to *M. v. vitellinus* (Gould) but male with the throat, breast, sides of the head and nape chrome rather than cadmium, posterior underparts olive-yellow rather than warbler-green; female paler below, the abdomen, particularly centrally, yellower.

Type.—No. 133857, Am. Mus. Nat. Hist., ♂ ad., Puerto Valdivia (alt. 360 ft.), lower Cauca River, Antioquia, Colombia; December 16, 1914; Miller and Boyle.

Range.—Probably humid portions of the Tropical Zone of the lower Cauca and Magdalena Rivers. Specimens from "Cauca, Remedios" recorded by Sclater and Salvin (P. Z. S., 1879, p. 517) as *M. vitellinus*, should doubtless be referred to this race.

Remarks.—Of this well-marked form Miller and Boyle secured an excellent series of seven males and five females at the type-locality which show, on comparison with a large series of *vitellinus*, that the characters attributed to the new form are constant.

The point to which its differentiation has been carried is all the more surprising when it is found that ten specimens collected by Miller and Boyle at Dabeiba and Alto Bonito in almost the same latitude as Puerto Valdivia, but on the western slope of the Western Andes, are typical of *vitellinus*. It is even more surprising to find that four males from the Cauca Valley, the fauna of which appears to have been derived through the course of the Cauca River, are referable to *vitellinus* rather than *milleri*.

I have named this strongly characterized race for Mr. Leo E. Miller, leader of our expedition to Antioquia, in recognition of the service he is rendering science through his continued explorations in South America.

***Phyllomyias griseiceps caucæ* subsp. nov.**

Char. subsp.—Similar to *P. g. griseiceps* (Scl.) but upperparts much darker, the back olive washed with blackish and not clearly defined from the crown; size larger.

Type.—No. 109025, Am. Mus. Nat. Hist., ♂ ad., Miraflores (alt. 6400 ft.), E. of Palmira, Cen. Andes, Cauca, Col.; Chapman and Richardson.

Remarks.—It is obvious that two specimens of the genus *Phyllomyias* from the Subtropical Zone above the Cauca Valley are subspecifically separable from a Bogotá and two Santa Marta specimens. The latter agree in size with *P. griseiceps* Scl. (P. Z. S., 1870, p. 841) of western Ecuador, of which, unfortunately, I have no topotypical specimens. Both the male and female of *caucæ*, as the appended table shows, are, however, too much larger than *griseiceps* to be referred to that species, and at the risk of increasing the confusion which prevails in this group I reluctantly describe them.

Measurements.

Name	Place	Sex	Wing	Tail	Tarsus	Bill	
						Length	Breadth.
<i>P. g. caucæ</i>	La Manuelita, Col.	♂	57	49	16.5	8.5	6.5
" " "	San Antonio, "	♀	57	50.5	16.	—	—
<i>P. g. griseiceps</i>	W. Ecuador (ex Scl.)	—	50.8	48.2	—	—	—
" " "	Cunday, Bogotá region, Col.	—	53	48	14	8	5
" " "	Minca, Sta. Marta	—	50	44	14	8	5.2
" " "	" " "	♂	52	45.5	14	7.5	5

***Habrura pectoralis bogotensis* subsp. nov.**

Char. subsp.—Similar to *H. p. pectoralis* but more richly colored throughout, the buffy areas of *pectoralis* largely ochraceous-tawny; the lores, margins to frontal feathers, auricular region, rump, wing-bars and quill margins ochraceous-tawny, the foreback blackish brussels-brown; crown black, margined with ochraceous tawny; underparts largely ochraceous-tawny, the throat and center of the abdomen yellowish buffy; a band of ochraceous-tawny crossing the breast; size between that of *pectoralis* and *brevipennis*. Wing, 44.5; tail, 40; tarsus, 17; culmen, 10 mm.

Type.—No. 132123, Am. Mus. Nat. Hist., Sex ?, Suba, Bogotá Savanna, Col., April 5, 1915; Hermano Apolinar Maria.

Remarks.—This is the fourth new bird taken in the marshes where I had the good fortune to shoot the types of *Ixobrychus exilis bogotensis* and *Agelaius icterocephalus bogotensis*, and from which Brother Apolinar secured the type of *Cistothorus apolinari*.

Evidently the native collectors who during the past eighty years have been shipping birds' skins from Bogotá have collected chiefly on the forested slopes of the Andes, neglecting the country at the city's gates.

Geographically, the nearest species of the genus *Habrura* to the one here described, is *Habrura pectoralis brevipennis* Berl. & Hart. (Nov. Zool., IX, 1902, p. 40), a small form of *pectoralis*, which it is said to resemble exactly in color, of the lower Orinoco and British Guiana and hence of the Tropical Zone. It follows, therefore, that as with *Agelaius icterocephalus bogotensis*,

we have in the bird here described a form of a Tropical Zone species apparently isolated on the Temperate Zone Savanna of Bogotá.

This fact, in connection with the bird's degree of differentiation, suggests its specific distinctness, but although I believe that actual intergradation does not occur I feel that the bird's relationships are best expressed by a trinomial. We are indebted for the type and only specimen of this new form to Brother Apolinar Maria, Director of the Institute de la Salle, of Bogotá, whom we have to thank for invaluable coöperation in our study of the birds of that region.

It is to be hoped that Brother Apolinar will make exhaustive collections of the birds of the Bogotá Savanna, the only place, so far as I am aware, in the Temperate Zone of the Colombian Andes suitable for habitation by plains- and marsh-haunting birds.

***Microcerculus squamulatus antioquiensis* subsp. nov.**

Char. subsp.—Most closely resembling *M. squamulatus corassus* (Bangs), but averaging larger with a longer bill; underparts more strongly and definitely barred; upperparts, flanks, ventral region and under tail-coverts darker, more rufescent cinnamon-brown instead of Saccardo's umber.

Differing from *M. squamulatus tæniatus* (Salv.) in the color of the upperparts, flanks and ventral region as it does from *corassus*, and in having the feathers of the breast and upper abdomen basally black and more narrowly white subterminally. Differing from *M. squamulatus squamulatus* Scl. & Salv. in having the breast and upper abdomen regularly and sharply barred with black and white instead of being whitish, narrowly and weakly barred with blackish or whitish, more or less suffused with grayish or brownish and irregularly marked or mottled with broken bars, shaft-streaks or hastate-crescents of black.

Type.—No. 134006, Am. Mus. Nat. Hist., ♂ ad., Dabeiba (alt. 2000 ft.), Rio Sucio, Antioquia, Western Colombia; Feb. 26, 1915; Miller and Boyle.

Remarks.—Miller and Boyle sent two males of this form from Dabeiba and a third from Alto Bonito. For comparison I have one specimen of *M. s. tæniata*, four specimens of *M. s. corassus*, including the type loaned by Mr. Bangs, and two specimens from Don Diego, Santa Marta, from Mr. Todd, who also sends four specimens from Las Quigas, and one from La Cumbre, Venezuela, which I assume are *M. s. squamulatus*; though they were taken nearer the type-locality of *M. pectoralis* Rich. (Proc. U. S. N. M., XXIV, 1902, p. 178; La Guayra). There is, however, so much variation shown by this series, which contains individuals resembling Sclater's plate (P. Z. S., 1875, pl. vi) and Richmond's description, that I suspect *pectoralis* is not separable from *squamulatus*. I have not, however, seen topotypical specimens of the latter nor is their examination apparently essential in this

connection, since the form here described seems to lie between *corassus* and *tæniata*. Its differences from the first-named have been sufficiently dwelt on. Examination of my single and topotypical specimen of *tæniata* shows that in this form the barring of the feathers of the breast and upper abdomen are white with a somewhat irregularly crescentic black bar across the terminal half which is succeeded by a white area equal to or wider than the black band, the tips being very narrowly, almost indistinguishably black. In *antioquensis* the feathers of the corresponding area are white with a concealed black bar or spot at the base, a well defined regularly circular one on the terminal half followed by a narrower white band with, as in *tæniata*, a very narrow black margin.

The various forms here mentioned are obviously races of one species, and for the present I have placed them under *squamulatus*, the first of the immediate group known. However, two specimens from eastern Panama strongly indicate intergradation of the barred breasted forms with *M. luscinea* of the Canal Zone and if, as Mr. Bangs surmises (Proc. Biol. Soc. Wash., XXII, 1909, p. 34) there is but one form in Central America, the entire group may stand as races of *M. philomela* (Salv.).

Measurements.

Name	Place	Sex	Wing	Tail	Tarsus	Culmen
<i>M. s. antioquensis</i>	Dabeiba, Col.	♂	59	22	24	20
" " "	" "	♂	55.5	20	21.5	20
" " "	Alto Bonito, "	♂	56.5	22	22	19
<i>M. s. corassus</i>	Don Diego, Sta. Marta	♂	53	19	21.5	17.5
" " "	" "	♂	60	23.5	22	19.5
<i>M. s. squamulatus</i>	Las Quiguas, Venez.	♂	60	23	22	19.5
" " "	" " "	♂	60	21	23	19
<i>M. s. corassus</i>	Sta. Marta, Col.	♀	56	21	22.5	17
" " "	Don Diego, Sta. Marta	♀	53.5	21	20.5	17
<i>M. s. squamulatus</i>	Las Quiguas, Ven.	♀	58	21.5	22	19
" " "	" " "	♀	58.5	20	22.5	19
" " "	La Cumbre "	♀	57.5	23	22	20
<i>M. s. tæniata</i>	Chone, Ecuador	♀?	55.5	20.5	23	19

***Polioptila livida daguæ* subsp. nov.**

Char. subsp.— Similar to *Polioptila l. plumbeiceps* (Lawr.) but much darker above, the back, etc., slate-gray rather than gull-gray (No. 7), the inner wing-quills narrowly instead of widely margined with whitish, outer pair of tail-feathers white almost to the base; no indication of a superciliary.

Type.— No. 108286, Am. Mus. Nat. Hist., ♂ ad., Los Cisneros, Dagua River, west Colombia; March 20, 1911; W. B. Richardson.

Remarks.— Although I have but a single specimen of this proposed new race its characters are so well-marked when compared with sixteen specimens of *P. l. plumbeiceps* (including the type), and, furthermore, are so in keeping with those shown by other subspecies from the humid Pacific coast, that I have no hesitation in describing it.

Cisneros, the type locality for this form, marks the known westward limit of the *Poliophtila livida* group.

***Sporophila aurita murallæ* subsp. nov.**

Char. subsp.— Most nearly related to *S. a. ophthalmica* but larger throughout, the black breast-band averaging narrower (nearly incomplete in one specimen), sides grayer, white patch at base of primaries smaller, lesser wing-coverts narrowly tipped with white, greater ones less frequently with white near the end of shaft.

Type.— No. 117054, Am. Mus. Nat. Hist., ♂ ad., La Muralla (alt. 600 ft.), Caquetá, Colombia; July 11, 1912; L. E. Miller.

Remarks.— This race is based on the comparison of three adult males from the type-locality with fourteen from the coast of Ecuador. Its close relationship to the Pacific coast race emphasizes the faunal affinity of the Tropical Zone at the eastern and western bases of the Andean system; while its characters mark an evident approach toward *Sporophila lineata* of lower Amazonia, suggesting that that species may form a link in the somewhat remarkable chain composing the *sporophila-aurita* group.

Measurements of Males.

Name	Place	Wing	Tail	Tarsus	Culmen
<i>Sporophila a. murallæ</i>	La Muralla, Col.	59	47	17.5	12.5
" " "	" "	58.5	44	17.5	13
" " "	" "	61	47.5	16	12.3
<i>S. a. ophthalmica</i>	Daule, Ecuador	55	41.5	15.5	11.3
" " "	" "	53	43.5	16.7	11.3
" " "	" "	54	43	15.3	11
" " "	" "	54	42	16.5	11
" " "	" "	54	43.5	16	12

***Catamenia analoides schistaceifrons* subsp. nov.**

Char. subsp.— Similar to *C. a. analoides* (Lafr.) but smaller, the male with the forehead, lores and chin slaty or gray and without black, the throat and breast much paler, pale neutral gray rather than slate-gray; white area on the primaries at the end of the primary coverts wholly absent or barely suggested; margins of wing-coverts and inner margins of wing-quills grayer.

Type.— No. 126670, Am. Mus. Nat. Hist., ♂ ad., La Mar (alt. 8260 ft.), Cundinamarca, Col., June 13, 1913; Manuel Gonzalez.

Remarks.— This form is based on an adult and immature male from the type-locality, and a female from Suba in the Bogotá Savanna. For comparison I have two adult males and one immature female, topotypes of *analoides* from Lima, and four adult males from Ecuador (Chimborazo; 'Quito'). The latter agree with *analoides* rather than with *schistaceifrons*, though in their reduced size and smaller amount of black about the base of the bill they show an approach toward the Colombian form.

In this form the differentiation from *C. analis* of Bolivia, shown in part by *C. analoides*, is evidently carried to its extreme through the disappearance of black about the base of the bill and of the loss of the white speculum.

Measurements.

Name	Locality	Sex	Wing	Tail	Culmen
<i>Catamenia a. analoides</i>	Lima, Peru	♂	66.5	55	8
" " "	" "	♂	67	54.5	8
" " "	Chimborazo, Ec.	♂	61.5	48	8.5
" " "	" "	♂	62	53.5	8.5
" " "	" "	♂	62	51.5	8.5
<i>Catamenia a. schistaceifrons</i>	La Mar, Col.	♂	63	54	9
" " "	" "	♂	60	50.5	9

THE NORTHERN RACES OF *PHRYGILUS UNICOLOR*.

This Finch appears to be one of the most common and characteristic species of the Paramo or Alpine Zone in Colombia and Ecuador, below which we have not found it. Ranging from Chile to the Santa Marta Mts., Colombia and Andes of Merida, Venezuela, where this zone finds its northern limit, it is subject to much variation in size. This variation is progressive from Peru both northward and southward since, as Sharpe (Cat. Bds. B. M., XII, p. 793) shows, specimens from both Ecuador and Chile are larger than those from Peru. But from central Colombia northward and eastward a decrease in size occurs. In default of series from south of Ecuador I can throw no light on variations of this bird in the southern part of its range. From Ecuador, however, I have 28 specimens, from Colombia 34, and from Venezuela, 7.

In size these 69 specimens obviously fall into two groups. The first inhabits the Andes of Ecuador and the Central Andes of Colombia, a natural faunal association. The second inhabits the Eastern Andes of Colombia, and their extension into Venezuela, and also the Santa Marta group.

Thirty-three adult males in fresh, unworn plumage are more uniformly clear slate-gray both above and below, than those in worn plumage. In the latter plumage the upper and underparts have a brownish wash and the frayed edges to the feathers of the back become grayish. In both fresh and worn plumages there is occasionally an indication of black shaft-streaks. This occurs in specimens from both Ecuador and Colombia and is possibly due to immaturity, since this character is more or less pronounced in the plumage of the immature male. I can detect no racial differences in color in our series of males from Ecuador, Colombia and Venezuela. Freshly plumaged birds from the Paramo of Chiruqua, Santa Marta, being absolutely matched by freshly plumaged birds from Chimborazo. Similarly, males in worn plumage from near Merida agree with males in similar plumage from Santa Isabel.

Not one of the nineteen freshly plumaged adult males in this series (Chimborazo, 16; Santa Marta, 3) is as dark, particularly below, as a single freshly plumaged male of true *unicolor* from Limbana, Peru. This difference is marked and apparently of racial value, and, aside from differences in size, appears to warrant the conclusion that in representatives of *Phrygilus unicolor* from at least Chimborazo northward, males can be distinguished in color from males of true *unicolor*. I have seen no females of *P. u. unicolor*.

The variations shown by my series of females are much greater than those presented by the males. They are attributable to age, fading, and wear and occasion such marked differences in color and in pattern of marking that it is most difficult to determine the extent and constancy of the limited amount of racial variation the series as a whole exhibits.

Freshly plumaged birds have the brown margins above and whitish margins below wider and are less sharply streaked, particularly below, than those in worn plumage. Immature birds have the breast more or less suffused with buffy and the colors throughout richer. After making due allowance for these individual variations, and using also the character of size, I can distinguish at least three races, the diagnostics and ranges of which are given below:

***Phrygilus unicolor grandis* subsp. nov.**

Char. subsp.—Larger and with a longer, heavier bill than any known race of the species; male paler, particularly on the underparts, which have a whitish cast, than the male of *P. u. unicolor* (Cab.), which is nearly the same color below as above; female with the auricular region usually grayish or tinted with buffy instead of dark olive-buff as in *P. u. geospizopsis* (Bonap.); not certainly distinguishable in color from the much smaller *P. u. nivarius* (Bangs).

Type.—No. 112797, Am. Mus. Nat. Hist., ♂ ad., Paramo of Santa Isabel (alt. 12700 ft.), Central Andes, Columbia; Sept. 20, 1911; Allen and Miller.

Range.—Alpine or Paramo Zone of Ecuador and the Central Andes of Colombia.

Remarks.—As the appended table shows, this race is characterized by its large size, which is not equalled by that of any other known race of the species. Females from Santa Isabel in juvenal plumage are noticeably more chestnut above and more buffy below than Ecuador birds in similar plumage. To a lesser degree the same differences are present in birds in worn plumage; but individual variation in this sex is so great that an even larger series than I possess is necessary properly to appraise these differences.

Some Ecuador birds show traces of the olive-buff auriculars which appear to characterize *geospizopsis*, but this feature is not present in Santa Isabel specimens.

Specimens examined.—*Colombia*: Santa Isabel, 8 ♂ ads., 3 ♂ im., 3 ♀ ads., 2 ♀ imm. *Ecuador*: Chimborazo, 16 ♂ ads., 5 ♂ imm., 1 ♀ ad., 4 ♀ imm.; Quito, 1 ♀ ad.

***Phrygilus unicolor geospizopsis* (Bonap.)**

Passerculus geospizopsis BONAP., Compt. Rend., XXXVII, 1853, p. 921 (Colombia = 'Bogota,' cf. Selater, P. Z. S., 1855, p. 160).

Char. subsp.—Distinguished from *P. u. grandis* Chapm. by its smaller size, from *P. u. nivarius* by its larger size; from both *grandis* and *unicolor* by its olive-buff, instead of grayish or buffy auricular region and by the suffusion of olive-buff on the chin and throat in the female.

Range.—Alpine or Paramo Zone of the Eastern Andes, Colombia.

Remarks.—Thanks to the kind offices of Hermano Apolinar Maria, I am in possession of nine topotypical specimens of this currently unrecognized race, from the Paramo of Choachí near Bogotá. Of six adult females taken in October and November, and in partly worn plumage, all but one have the auricular region and throat markedly buffy-olive, a character which appears to distinguish this species. At any rate, it is not present in other Colombian specimens, though it is shown by some from Chimborazo. Should it prove to be individual or seasonal this form would differ from other northern forms of this group by size alone.

Specimens examined.—*Colombia*: Paramo of Choachí, 3 ♂ ads., 6 ♀ ads.

***Phrygilus unicolor nivarius* (Bangs).**

Haplospiza nivaria BANGS, Proc. Biol. Soc. Wash., XIII, 1899, p. 102 (Paramo de Chiriqua, alt. 15,000 ft., Santa Marta Mts., Col.—Type examined).

Haplospiza montosus RILEY, Proc. Biol. Soc. Wash., XVIII, 1905, p. 220 (San Antonio, near Merida, Venezuela.—Type examined).

Char. subsp.—Distinguished from *P. u. geospizopsis* (Bonap.) by its smaller size (at least in the male) and by its grayish, instead of buffy olive auricular region; distinguished from *P. u. grandis* by its smaller size.

Range.—Alpine Zone of the Santa Marta group and Andes of Merida, Venezuela.

Remarks.—Through the kindness of Mr. Bangs I have before me the type and eight topotypes of this race. All were taken in October and November. The latter, therefore, are in more worn and consequently not comparable plumage, though it does not seem probable that the olive-buff ear and throat color of *geospizopsis* can be due to wear.

"*Haplospiza montosus*" of Riley is based on August specimens in worn plumage in which the streaks of the underparts are strongly emphasized. A June female from near the type locality of *montosus* is in comparatively fresh plumage and does not differ essentially from the Santa Marta birds which indeed can be nearly matched by an August topotype of *montosus* in our collection.

So far as color is concerned, therefore, I am convinced that there is no more differences between Santa Marta and Merida birds than there is between Santa Marta and Santa Isabel birds. The Bogotá bird seems to stand alone with its olive-buff suffusion on the ear coverts and throat.

As for size, while there appears to be no constant difference between males from Santa Marta and Merida, some Merida females have the wing and tail decidedly shorter than in Santa Marta birds. The three Merida birds showing this difference are, however, all August specimens in worn plumage and their apparent small size is, in a measure at least, due to their worn condition.

The table of measurements of all females is rendered somewhat unreliable by evident inaccuracy in sexing. The male appears to wear the plumage of the female until at least its first breeding season and during this period can be distinguished externally from the female by size alone. This fact should be taken into consideration in connection with the apparent discrepancy shown by certain measurements of supposed females.

Specimens examined.—*Colombia:* Paramo de Chiriqua, Santa Marta, 5 ♀ ads.; 3 ♂ ads., 1 ♂ im. *Venezuela:* 3 ♂ ads.; 5 ♀ ads.

The Limits of the Genus Phrygilus.—The reference by previous authors of certain forms of *Phrygilus unicolor* to *Haplospiza* may be considered to express their belief that this species is not properly referable to the genus *Phrygilus*, of which *P. gayi* is the type. With this opinion I agree, but it seems equally obvious that *unicolor* is not referable to *Haplospiza*, from which it differs in its less acutely pointed bill and more pointed wing; the outer primary being longer instead of shorter than the sixth (from without). Doubtless we shall eventually refer it to *Geospizopsis* Bonap., of which the bird I have here called *Phrygilus unicolor geospizopsis* is the type. I am not

prepared to adopt this course, however, without an examination of all the species of the group.

Measurements of Males.

Locality	Wing	Tail	Tarsus	Culmen
Limbana, Peru	88	60.5	22.5	13
Mt. Chimborazo, Ec.	90	64	25	14
" "	95.5	64.5	25	15
" "	93.5	65.5	26	14
" "	93	66	25	15
Santa Isabel, Col.	92	64	26.5	15.5
" "	93	64	27	15
" "	90.5	64.5	26	15
" "	89	64	27	14.5
" "	90	62.5	25	14.5
" "	88.5	64.5	26.5	14.5
" "	95.5	70	27.5	15.5
Choachí, Col.	88.5	60.5	24	13.5
" "	86.5	61	24	14
" "	89	59	24.5	14
Near Merida, Ven.	82	53.5	23.5	14
" "	80	59	23.5	13.5
Santa Marta Mts., Col.	83.5	—	22.5	14
" " "	83.5	60	22.5	13
" " "	83.5	60	23	13

Measurements of Females.

Locality	Wing	Tail	Tarsus	Culmen
Mt. Chimborazo, Ec.	88	60	25	14.5
" "	86.5	62.5	26	14.5
Santa Isabel, Col.	88	63	28	15
" "	90.5	64	27	16
" "	88	63	26	16
Choachí, Col.	81	56.5	24	14.5
" "	79	55	24	14
" "	79	54	24	13.5
" "	79	55	22.5	13
" "	79	57	23.5	13.5
Near Merida, Ven.	77	56	24	13.5
" "	81	61	25	13.5
" "	71	53	22.5	13.5
" "	71	52	21.5	13.5
" "	71	52	22.5	14
Santa Marta Mts., Col.	82	57	23	13
" " "	81	57	22.5	14
" " "	81	57	22.5	13
" " "	81	58	22.5	13
" " "	78	55	21	13
" " "	80	58	21	13

***Cyanerpes cyaneus pacificus* subsp. nov.**

Char. subsp.—Similar to *C. c. cyaneus* (Linn.) but male with the turquoise crown-cap slightly darker, bluer in color and smaller in area, the blue band of the nape correspondingly wider, the inner margins of the wing-quills and under wing-coverts pale citron-yellow rather than canary-yellow; female darker, less yellowish green above, the under wing-coverts and inner margins of wing-quills much paler than in the female of *cyaneus*, straw-yellow rather than canary-yellow. More closely related to *Cyanerpes cyaneus gigas* (Bangs & Thayer) of Gorgona Island off the Colombia coast, which it resembles in the pale wing-lining, but wings and tail averaging longer, blue of the male less purple, particularly on the rump, the female not so dark above or so yellow below.

Type.—No. 118227, Barbacoas, Dept. Narino, Colombia; ♂ ad., Sept. 1, 1912; W. B. Richardson.

Remarks.—When Thayer and Bangs described *Cyanerpes gigas* from Gorgona Island (Bull. M. C. Z., XLVI, 1905, p. 96) no form of *Cyanerpes cyaneus* had been recorded from the Pacific coast of South America and the occurrence of a representative of this species on an island off southwest Colombia was most unexpected. The species, however, appears to be not uncommon, at least from Buenaventura southward, and the form occupying this area, in its somewhat greater dimensions and darker female, approaches *gigas*, but the male of *pacificus* agrees in the color of the blue parts with the male of *cyaneus* and does not therefore show the more purplish color which distinguishes the type of *gigas*. The type of *gigas*, which, thanks to Mr. Bangs, I have examined, is, however, not fully adult and its comparatively deep purplish blue may be due to immaturity. But this theory is not supported by an examination of specimens of *Cyanerpes cyaneus cyaneus* in plumage corresponding to that of the type of *gigas*, since in them the blue areas appear to be of the same shade as in the adult.

The differences in color and size between the females of *pacificus* and *gigas* are constant in five specimens of the former and one of the latter examined. Both forms agree and differ alike from true *cyaneus* in their much paler under wing-coverts and wing-lining, though the high humidity of the region they inhabit, with a rainfall probably not equalled by that of any other part of South America would lead one to look for intensification rather than a reduction in the color of the forms which characterize this area.

For a species which has not heretofore been recorded from the Pacific coast of South America the number of specimens of this form of *Cyanerpes cyaneus* here described which we have collected in that region, indicates how much work remains to be done even in the parts of South America which we consider fairly well explored, before we can claim an approxi-

mately complete knowledge of their avifauna. A list of our specimens follows:

Colombia: Buenaventura, 1 ♂, 1 ♀; San José, 2 ♂♂; Los Cisneros, 1 ♂, 1 ♀; Barbacoas, 3 ♂♂, 3 ♀♀; Tumaco, 1 ♂. *Ecuador*: Esmeraldas, 1 ♂; Manavi, 1 ♂.

Measurements.

Name	Place	Sex	Wing	Tail	Culmen
<i>C. c. pacificus</i> ,	Barbacoas, Col.	♂	67	38	16.5
" " "	" "	♂	69	40	17
" " "	" "	♂	67	39	16
" " "	Tumaco, "	♂	70	41	15.5
" " "	Los Cisneros, "	♂	67	41	17
<i>C. c. cyaneus</i>	Demarara, B. G.	♂	64	37	17
" " "	" "	♂	60	35	15
" " "	Trinidad, B. W. I.	♂	66	37.5	18
" " "	" "	♂	66	38	19
<i>C. c. eximia</i>	Bonda, Sta. Marta,	♂	67	39	18
" " "	" "	♂	65	39	19
" " "	" "	♂	65	38	18.5
" " "	" "	♂	66	39	19
<i>C. c. gigas</i> ¹	Gorgona Island, Col.	♂	68.5 ²	42	16
" " "	" "	♂	66 ²	43	16.5
<i>C. c. pacificus</i>	Buenaventura, "	♀	64	38.5	17.5
" " "	Los Cisneros, "	♀	65.5	38	17.5
" " "	Barbacoas, "	♀	65	39	16.5
" " "	" "	♀	62	36.5	17.5
" " "	" "	♀	66	40.5	18
<i>C. c. gigas</i>	Gorgona Island, "	♀	67.5	42.5	—

***Iridosornis dubusia ignicapillus* subsp. nov.**

Char. subsp.—Similar to *I. d. dubusia* (Bonap.) of the Bogotá region but with the crown-patch orange-chrome or cadmium-orange instead of cadmium-yellow with a slight ochraceous tinge.

Type.—No. 110204, Am. Mus. Nat. Hist., ♂ ad., Andes west of Popayan (10,340 ft.), Colombia, July 16, 1911; W. B. Richardson.

Range.—Temperate Zone in the Central and Western Andes of Colombia (and southward on the Pacific side into Ecuador).

Remarks.—The single character on which this proposed form is based, though slight, appears to be constant and diagnostic. In a series of six specimens from Almaguer, south of Popayan and twelve specimens from the mountains west of Popayan only one cannot be at once distinguished

¹ Ex. Thayer and Bangs, Bull. M. C. Z., XLVI, p. 96.

² Primaries not fully grown.

from any one of eight specimens from the Bogotá and Quito regions. Of these eight specimens four (one from near Bogotá and three from near Quito) were collected within the past two years and their agreement with the older native-made skins from these regions indicates that the latter have not changed in color. The Quito specimens (all native-made) are said to have been taken west of that city (according to Goodfellow (*Ibis*, 1901, p. 464) and are not found to the eastward, but if this be true it is difficult to explain the occurrence at Loja, in southern Ecuador, of the West Andean race here described. Nevertheless a specimen collected at Loja by Richardson has the flame-colored crest of the bird here named *ignicapillus*.

***Iridosornis dubusia caeruleoventris* subsp. nov.**

Char. subsp.—Crest cadmium-orange, as in *I. d. ignicapillus* Chapm., but differing from that race and also from *I. d. dubusia* in having the ventral region and under tail-coverts dark blue of the same color as the belly, instead of chestnut-brown; and with no trace of chestnut on the under wing-coverts.

Type.—No. 134364, Am. Mus. Nat. Hist., ♀ ad., Paramillo (12,500 ft.), northern end of Western Andes, Colombia, Jan. 24, 1915; Miller and Boyle.

Range.—Temperate Zone at the northern end of the Western (and Central?) Andes, Colombia.

Remarks.—This very strongly characterized race is based on comparison of two females from the type-locality with twenty-six specimens of *I. d. dubusia* and *I. d. ignicapillus*. One of them has several chestnut feathers about the vent but the under tail-coverts are dark indigo-blue with no trace of chestnut. On the other hand, none of the twenty-six specimens of *dubusia* and *ignicapillus* is without a chestnut crissum.

The female of this species has been described as similar to the male but our excellent series shows that in the male the shining purple blue of the breast extends backward on to the flanks and abdomen, while in the female these parts are dull, dark, indigo-blue.

It is possible that the record of *Iridosornis dubusia* from Sta. Elena (Scl. & Salv., P. Z. S., 1879, p. 500) may refer to this species since there is a strong faunal affinity between that region and the Paramillo.

***Cacicus uropygialis pacificus* subsp. nov.**

Char. subsp.—Resembling *Cacicus uropygialis microrhynchus* (Scl. & Salv.) in general dimensions but with the bill of much the same size and shape as in *C. u. uropygialis* Lafr.

Type.—No. 134533, Am. Mus. Nat. Hist., ♂ ad., Alto Bonito, R. Sucio, Chocó, Colombia, Feb. 17, 1915; Miller and Boyle.

Range.—Tropical Zone of the Pacific coast of Colombia from at least the Rio Salaqui southward into Ecuador, eastward into Antioquia.

Remarks.—Pacific coast specimens of *Cacicus uropygialis* have heretofore been referred to the 'Bogotá' form, *C. u. uropygialis* Lafr.¹ Reference, however, to the appended measurements show that they have the wing about 20 millimetres, the tail 35 millimetres shorter than in specimens from the Eastern Andes, while the tarsus and bill are proportionately smaller.

Specimens from Puerto Valdivia (alt. 360 ft.) on the lower Cauca show a slight approach in their longer tail to *uropygialis* but are still obviously referable to *pacificus*. Cauca Valley specimens as clearly represent the East Andean form. While "Los Tambos" and "Rio Lima," whence Batty secured the specimens listed in the accompanying table, are known to be in the vicinity of Cali, Batty's headquarters; their altitude is not stated. A juvenal female from Salento, having the tail 107 mm. in length, definitely establishes the occurrence of *uropygialis* at an altitude of 6500 feet, while two specimens from the west slope of the eastern Andes below Andalucia at an altitude of 5000 feet, suggest that it inhabits the Subtropical Zone.

From *Cacicus uropygialis microrhynchus* the proposed new form may at once be distinguished by its heavier bill, of which the culmen averages about 2 mm. wider basally. The gonydeal angle is broader, more obtuse, while the base of the mandible is much swollen. Many specimens, when seen from below, appear to have an enlargement laid on the sides of the base of the mandible from which it is raised by a ridge-like process.

In a specimen from Salaqui this growth is fully developed and the bird shows no sign of intergradation with *microrhynchus*. In others it is less prominent and it seems probable that the large and small-billed forms merge somewhere between the Canal Zone and the Colombian boundary.

Measurements of Males.

Name	Place	Wing	Tail	Tarsus	Culmen
<i>C. u. pacificus</i>	R. Salaqui, Col.	132.5	93.5	28	30
" " "	Alto Bonito, "	140	95.5	29.5	31
" " "	" "	136	90	28	29
" " "	" "	132	94	29.5	31
" " "	Baudo, "	130.5	92	29	30
" " "	" "	138	96	28.5	28
" " "	Barbacoas, "	141	96	29	32
" " "	Esmeraldas, Ec.	132	92	29.5	30.5

¹ Cf. Hellmayr, P. Z. S., 1911, p. 1121.

Name	Place	Wing	Tail	Tarsus	Culmen
<i>C. u. pacificus</i>	Esmeraldas, Ec.	131	93	28	30
" " "	"	136	91.5	30.5	31
" " "	"	142	96.5	30	30
" " "	Puerto Valdivia, Col.	137	101.5	29	30
" " "	" " "	139.5	104	28	31
<i>C. u. uropygialis</i>	Los Tambos, Cauca, Col.	157	131	33	33.5
" " "	Rio Lima, " "	161	135	32	30
" " "	" " "	162	133	33	32
" " "	Andalucia, Col.	153	125	31.5	32.5
" " "	Ecuador (Quito make) ¹	157	121	31	32.5

Measurements of Females.

Name	Place	Wing	Tail	Tarsus	Culmen
<i>C. u. pacificus</i>	Alto Bonito, Col.	123	84	29	29.5
" " "	" "	126	90	30	29.5
" " "	" "	123.5	88	26.5	27
" " "	La Vieja, Chocó, Col.	111.5	82.5	26.5	27
" " "	Barbacoas, " "	117	86	26	25
" " "	Esmeraldas, Ec.	118.5	86.5	28	29
" " "	" "	123	86	27.5	28
<i>C. u. uropygialis</i>	Andalucia, Col.	142	117	33	30
" " "	Ecuador (Quito make) ²	140	114	32	30

***Amblycercus holosericeus flavirostris* subsp. nov.**

Char. subsp.—Similar to *A. h. holosericeus* (Licht.) but smaller, the bill (in skins) mustard-yellow rather than greenish horn-color, the culmen averaging broader and flatter, squarer, less pointed anteriorly, less rounded posteriorly.

Type.—No. 118354, Am. Mus. Nat. Hist., ♀ ad., Barbacoas, Nariño, Colombia, Aug. 13, 1912; W. B. Richardson.

Range.—Tropical to Temperate Zone in Colombia from the Pacific coast eastward at least to the summit of the Eastern Andes; southward into Ecuador, along the Pacific coast region at least to Guayaquil.

Remarks.—Our fourteen Colombian and Ecuadorian specimens differ so constantly and strikingly in color of the bill from our twenty-seven specimens from Central America and Mexico (eastern Panama to Tampico) that even those specimens from the localities nearest each other (El Real, Panama and Alto Bonito, lower Atrato Valley) show no signs of intergradation. Age of the skin apparently does not effect this character; old skins of both *holosericeus* and *flavirostris* having the bill of the same color as in freshly collected ones. Apparently there is but little post-mortem change. The bill of *holosericeus* in life is described by Salvin & Godman (Biol. Cent.

¹ See foot-note under females.

² A second skin of the same make from Quito measures wing, 157; tail, 121; tarsus, 31; culmen, 32.5. Both are unsexed but the larger is assumed to be a male, the smaller a female.

Am., Aves, I, p. 447) as "yellowish green" and Carriker (Bds. Costa Rica, p. 833) speaks of it as "pale pea-green." The bill of *flavirostris*, on the other hand, is described by Richardson (field labels) as "yellow"; Palmer, as quoted by Hellmayr (P. Z. S., 1911, p. 1122), describes it as "light yellow," and Festa, as quoted by Salvadori and Festa (Bull. Mus. Tor., XV, 1899, p. 28), gives it as "giallo."

This yellow color, while somewhat lighter apically, extends to the very base of the bill, whereas in *holosericeus* the bill basally is in whole or part more or less plumbeous.

The character of size is less diagnostic. Mexican birds, however, appear never to be as small as South American ones, but Ridgway's tables of measurement (Bull. 50, II, p. 194) include Guatemalan specimens which are as small as those from Ecuador. I suspect, however, that some of the apparent variations in size noted, both individual and geographic, are due to erroneous sexing, since the sexes cannot always be distinguished in color. As the appended table shows, our largest specimen of *holosericeus* is also our most southern one, and in the color of the bill also it shows no approach toward *flavirostris*.

Hellmayr (*l. c.*) records a female specimen of "*Amblycercus holosericeus*" having the "bill light yellow" from Guineo, Rio Calima, in the Tropical Zone of western Colombia, and our specimens of the yellow-billed form are from the following localities:

Colombia: 'Bogotá,' 2; El Piñon (9600 ft.), E. Andes near Bogotá, 1; Rio Toché, Cen. Andes, 1; Los Tambos, Cauca region (Batty), 1; Alto Bonito, lower Atrato, 1; Barbacoas, 1. *Ecuador*: Esmeraldas, 4; Naranjo, 2; Santa Rosa, 1; Guayaquil, 1.

Measurements.

Place	Sex	Wing	Tail	Tarsus	Culmen
Tampico, Mex.	♂	103	109	34	31.5
Tamiahua Lag., Mex.	♂	100.5	108	33.5	30
Gatun, Panama	♂	103	99	34	29.5
La Chorrera, Panama	♂	105.5	—	32.5	30.5
El Real, "	♂	106	98.5	34	33
Esmeraldas, Ecuador	♂	99	92	31	29.5
"	♂	98	96	30	29
Naranjo, "	♂	98	96	32.5	28
Guayaquil, "	♂	96	92	30	31
Jalapa, Mexico	♀	89	98	31	27
Tlacotalpam, Mexico	♀	94	96	31.5	29
El Piñon (near Bogotá), Col.	♀	82	88	28.5	24.5
Rio Toché, Col.	♀	83	87	30	24.5
Barbacoas, "	♀	89	92	30	29
Esmeraldas, Ec.	♀	92	95	30	28
Santa Rosa, "	♀	87.5	86	30	26
Naranjo, "	♀	83	82	29	26

***Molothrus bonariensis æquatorialis* subsp. nov.**

Char. subsp.—Size smaller than that of *M. b. cabanisi*, larger than that of *M. b. bonariensis*; the male resembling in color the males of other forms of this species; the female decidedly darker than the female of *M. b. cassini* and still darker than the female of *M. b. occidentalis*, much nearer the females of *M. b. atronitens* and *M. b. bonariensis*, but much larger than the former, somewhat larger than the latter and with a larger, heavier bill.

Type.—No. 118355, Am. Mus. Nat. Hist., ♀ ad., Barbacoas, Narino, southwestern Colombia; August 5, 1912; W. B. Richardson.

Range.—Tropical Zone of the Pacific coast from extreme southwestern Colombia, south at least to the Province of Guayas, Ecuador.

Remarks.—After discovering that the strongly marked form *Molothrus bonariensis cabanisi* (Cass.) occupies, with no apparent variation, the greater part of Colombia west of the Andes and even appears on the west slope of the Western Andes at Caldas, it was surprising to find that the Cowbird of southwestern Colombia and western Ecuador more nearly resembles *M. b. bonariensis*, both in color and in size, than it does the race to which, geographically, it is so much nearer. The absence of specimens from the Pacific coast (except from the Caldas pocket, which is believed to be an extension of the Cauca Valley fauna) north of the Patia, induces the belief that, as in some other cases, the relationships of the Ecuador and southwest Colombia race is actually with the upper Amazonian form rather than with that to the north of it.

Molothrus bonariensis occidentalis (Berl. & Stolz.), of which I have a topotypical female, is evidently a pale form (paler even than *cabanisi*) from the arid Peruvian coast. A specimen from Daule near Guayaquil is the palest of my five females of *æquatorialis*, and it may represent an actual approach toward *occidentalis*. A male in juvenal plumage from Puna Island is conspicuously paler than males in corresponding plumage from Barbacoas and Tumaco. Puna Island, however, is in the arid coastal zone and it is not improbable that specimens from this region should be referred to *occidentalis*. The remaining female specimens of *æquatorialis* (Barbacoas, 1; Esmeraldas, 3) are all much darker, more blackish than any one of seven females of *atronitens* from Trinidad and the Paria Peninsula or of two females of *M. b. bonariensis*, one of which is from Conchitas near Buenos Aires, the type-locality of this race.

Though closely approaching the latter form in size, *æquatorialis* has a much heavier bill, and in this respect it resembles *M. b. bonariensis*. Measurements of the various forms are appended.

Measurements.

Name	Place	Sex	Wing	Tail	Tarsus	Culmen
<i>M. b. cassini</i> ,	Santa Marta, Col. (Type).	♂	131.5	100.5	30	20.5
" " "	" "	♂	122.5	95.5	29.5	20.5
" " "	San Agustin, "	♂	125	100.5	30	21
" " "	Miraflores, "	♂	129	103.5	29.5	21
" " "	" "	♂	126	101	29	21
" " "	Cali, "	♂	129.5	101.5	29.5	21.5
" " "	San Antonio, "	♂	128	104	29.5	20
" " "	" "	♂	126.5	96.5	29.5	—
" " "	Caldas, "	♂	132	101.5	29	20
" " "	" "	♂	126	100	29.5	21
<i>M. b. æquatorialis</i> ,	Tumaco, "	♂	119	97.5	28	21
" " "	Esmeraldas, Ec.	♂	121	91.5	29.5	22
" " "	" "	♂	114	88.5	28.5	20
" " "	" "	♂	118.5	88	28.5	20.5
" " "	Manavi, "	♂	122.5	95	28	21
" " "	" "	♂	120	91	29.5	21.5
<i>M. b. cassini</i> ,	Santa Marta, Col.	♀	105	80.5	27	18
" " "	San Agustin, "	♀	108	83.5	28	19
" " "	Miraflores, "	♀	110	88.5	27.5	18
" " "	Cali, "	♀	111	89	27.5	18.5
" " "	" "	♀	113	90	27	19.5
" " "	San Antonio, "	♀	108.5	85	28	19.5
" " "	Caldas, "	♀	111.5	88.5	27	18
<i>M. b. æquatorialis</i> ,	Barbacoas, "	♀	103.5	78	27	20
" " "	Esmeraldas, Ec.	♀	104	79.5	26	17
" " "	" "	♀	99.5	76.5	26.5	19.5
" " "	" "	♀	105	79.5	28	19
" " "	Daule, "	♀	100	77.5	26	18

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