

**Article XI.—DESCRIPTIONS OF PROPOSED NEW BIRDS FROM
CENTRAL AND SOUTH AMERICA.**

BY FRANK M. CHAPMAN.

This paper is, in effect, the fourth preliminary publication on collections which the American Museum has in recent years received from Colombia. Since, however, the identification of this material has in some instances led to the discovery of apparently undescribed forms beyond the limits of Colombia, it has been deemed inadvisable to employ here the restricted title used for the preceding papers ¹ in this series.

For the loan of specimens used in comparison I am indebted to the United States National Museum, through Dr. C. W. Richmond, the Field Museum, through Mr. C. B. Cory; the Academy of Natural Sciences at Philadelphia, through Dr. Witmer Stone; the Brooklyn Institute, through Mr. R. C. Murphy; the Carnegie Museum, through Mr. W. E. C. Todd, and to Mr. Thomas E. Penard, of Arlington, Mass.

The color terms employed will be found figured in Ridgway's 'Color Standards and Nomenclature' (Washington, 1912).

***Odontophorus guianensis panamensis* subsp. nov.**

Char. subsp.—Distinguished from all its allies by its white or whitish chin and browner throat, the feathers of the front, and, to a lesser degree, sides of which have one or two white or whitish bars or spots; it further differs (1) from *O. g. guianensis* in having cinnamon-rufous instead of buffy ear-coverts, and (aside from this character) in having the brown markings of the head much reduced in intensity and extent; (2) from *O. g. marmoratus* in having much more brown or cinnamon-rufous about the head; (3) from *O. g. castigatus* in having the back anteriorly grayish (as in the more southern forms) instead of brownish; the crown and chestnut-brown markings of the head paler.

Type.—No. 45165, Am. Mus. Nat. Hist., ♂ ad., Panama R. R. Line; McLean-nan & Galbraith.

¹ 'Diagnoses of apparently new Colombian Birds, I.' Bull. A. M. N. H., Vol. XXXI, 1912, pp. 130-166.

'Diagnoses of apparently new Colombian Birds, II.' Bull. A. M. N. H., Vol. XXXIII, 1914, pp. 167-192.

'Diagnoses of apparently new Colombian Birds, III.' Bull. A. M. N. H., Vol. XXXIII, 1914, pp. 603-637.

Remarks.—Panama specimens of this species have been referred by Salvin & Godman (Biol. Cent. Am. Aves, III, p. 309) and Ogilvie-Grant (Cat. B. M. Bds., XXII, p. 433) to the 'Bogotá' form *O. g. marmoratus*. The fact, however, that both these authors refuse to recognize the strongly marked, and perhaps specifically distinct, west Panama form, *Odontophorus castigatus* Bangs, indicates that due weight was not given to the markings by which the races of this species may be distinguished.

The twenty-seven specimens before me apparently show that in northern South America there exist at least four subspecies of *Odontophorus guianensis*, the characters of which may be summarized as follows. I find no constant differences in size.

1. *Odontophorus guianensis guianensis* (Gmel.). Type-locality "Cayenne."

Char. subsp.—Ear-coverts buffy; chin brown or brownish, sides of the head rich chestnut-brown; throat grayish.

Range.—Guianas southward to the Amazon.

Specimens examined.—*British Guiana*: Potaro Landing, 3; *Brazil*: Santarem, 1 (this specimen has more rufous on the throat than in the Guiana birds).

2. *O. g. marmoratus* (Gould). Type-locality 'Bogotá.'

Char. subsp.—Chestnut-brown markings of the head much reduced or entirely wanting; chin grayish or brownish; ear-coverts umber sometimes with a chestnut tinge.

Range.—'Bogotá' region including the Tropical Zone at the eastern base of the Eastern Andes upward to an altitude of 4500 ft., and forested parts of the lower Magdalena Valley.

Specimens examined.—*Colombia*: Buena Vista (above Villavicencio, 4500 ft.), 1; La Murelia (600 ft.), Caquetá, 1; Puerto Valdivia (360 ft.), Antioquia, 2. (The two specimens from east of the Andes have no chestnut-brown on the head; the two Antioquia specimens have the ear-coverts and sides of the head tinged with chestnut-brown and thus more nearly conform to the description of Gould's type which may have come from the western instead of the eastern side of the Eastern Andes.

3. *Odontophorus guianensis panamensis* Chapm. Type-locality, Panama R. R. Line.

Char. subsp.—Chin white or whitish; throat with white or whitish spots or bars; ear-coverts cinnamon-rufous; brown markings of the head paler and less extended than in *guianensis*, more evident than in *marmoratus*.

Range.—Panama (eastward to the Atrato, westward to the range of *castigatus*).

Specimens examined.—Panama R. R. Line, 5; Nata Coclé, 1; Tapaliza, 5; Tacarcuna, 4.

4. *O. g. castigatus* (Bangs). Type-locality, Divala, Chiriqui.

Char. subsp.—Back anteriorly brownish of the same general tone as rest of the upperparts.

Range.—Western Panama and southwestern Costa Rica.

Specimens examined.—Chiriqui, 5.

Odontophorus pachyrhynchus Tschudi, of Peru, is currently synonymized with *O. g. marmoratus*, but in view of the racial variability of the species it doubtless is a valid form. I have, however, seen no specimens.

***Rhynchortyx cinctus australis* subsp. nov.**

Rhynchortyx cinctus (nec Salvin) HART., Nov. Zool. IX, 1902, p. 600 (Bulón, Rio Bogotá, Pambilar, N. W. Ecuador); HELLM., P. Z. S. 1911, p. 1207 (Sipi, Col.).

Char. subsp.—Similar to *R. c. cinctus* but coloration throughout darker; male with the breast slightly darker gray, the abdominal region and, particularly, the flanks and under tail-coverts deeper ochraceous buff; the crown, margins to the feathers of the back, markings to tertials richer, more chestnut; bars on the outer vanes of secondaries hazel rather than ochraceous-buff; female differing from the female of *cinctus* much as does the male, the richer color of the markings of the inner wing-quills being especially noticeable.

Type.—No. 117555, Am. Mus. Nat. Hist. ♂ ad., Barbacoas, Col., Aug. 10, 1912; W. B. Richardson.

Range.—Tropical Zone of western Colombia (Baudo, 2500 ft., Bagado, 1000 ft., Andagueda, 1000 ft., Sipi, 150 ft., Barbacoas, sea-level) and northwestern Ecuador.

Remarks.—This form is based on six males and three females from western Colombia for comparison with which I have five males and a female from Nicaragua and a male from Panama.

Hartert and Hellmayr (*l. c.*) have already shown that *R. cinctus* and *R. spodiostethus* are respectively the female and male of the same species, the former name having two years priority.

Individual variation in color in the male appears to be largely confined to the rump. In true *cinctus* the prevailing tone is ochraceous-buff overlaying gray, with some darker markings and, in three specimens, a strong vinaceous tinge.

In *australis* our specimens show an even wider range. One has the rump largely gray with black and white dots; in a second it is largely ochraceous-buff, a third has the dominant tone of this part russet, and others are variously intermediate.

Similar variations are shown in the rump of the female, in which, also, the breast varies greatly in intensity of color.

These variations, however, in no way affect the differential characters ascribed to the race here proposed.

Three specimens from the upper Atrato region agree with those from Barbacoas. I have no topotypical (Veragua) examples but the fact that a male from Panama agrees with our series from Nicaragua indicates that the latter are typical.

A newly hatched chick collected by Mrs. Kerr in the Baudo Mountains June 20, 1912, is presumably the young of this species. The upperparts are uniform bright mars-brown, the forehead, throat and sides of the head somewhat brighter, the underparts are decidedly paler. Aside from a faint suggestion of bars on the thighs, there are no markings.

Columba subvinacea peninsularis subsp. nov.

Char. subsp.— In general coloration resembling *Columba subvinacea bogotensis* (Berl. & Lev.), the olivaceous of the upperparts being more or less mixed with or washed with dark vinaceous; but the inner margins of the wing-quills are strongly rufous, except at the ends of the feathers; size much smaller, about that of *C. s. berlepschi*.

Type.— No. 120302, Am. Mus. Nat. Hist., ♂ ad., mountains above Cristobal Colon (alt. 1500 ft.), Paria Peninsula, Venezuela, June 13, 1913; L. E. Miller.

Remarks.— This interesting form, based on three specimens all from the type-locality, apparently represents the most eastward extension of the *subvinacea* type. Compared with true *subvinacea*, from Costa Rica, it is smaller and the general coloration is much more olivaceous and nearer that of *C. s. bogotensis*. The inner margin of the wing-quills, however, are quite as rufous as in *subvinacea*, but the under wing-coverts are more vinaceous than in that form. Roughly speaking, therefore, *peninsularis* has the general coloration of *bogotensis* with the wing-lining of *subvinacea*, but in size it is smaller than either.

Hellmayr and von Seilern record *C. s. subvinacea*¹ from Las Quiguas, near San Esteban in north central Venezuela but the measurements of their specimen indicate that it is not the form here described.

Measurements.

Name	Locality	Sex	Wing	Tail	Tarsus	Culmen
<i>C. s. subvinacea</i> ,	San José, Costa Rica,	♀	162	130	23	14
<i>C. s. bogotensis</i> ,	La Candela, Colombia,	♂	169	147	23	14
" " "	" "	♀	175	138	23	14
<i>C. s. peninsularis</i> ,	Cristobal Colon, Ven.	♂	149	118	21	13
" " "	" " "	♂	142	112	19	11.5
" " "	" " "	♀	147	119	20	11.5
<i>C. s. zulia</i> ²	Zulia,	♂	164	127	—	13
" " ³	Las Quigas,	♂	167	137		14
<i>C. s. berlepschi</i> ,	Manavi, Ec.	♂	147	120	21.5	12
" " "	"	♂	144	118	21.5	12.5

¹ Archiv für Naturg., 1912, p. 159. Doubtless the same as the subsequently described *Columba subvinacea zulia* Cory (Field Mus. Pub. 182, p. 295, Feb. 1915).

² Ex Cory.

³ Ex Hellm. & Von Seilern under *C. s. subvinacea*.

Chæmepelia rufipennis caucæ subsp. nov.

Chæmepelia rufipennis rufipennis TODD (nec Bonaparte; Cauca Valley specimens only), Ann. Carn. Mus. VIII, 1913, pp. 586, 602.

Char. subsp.—Male not certainly distinguishable from the male of *C. r. rufipennis* but averaging paler below and browner above; female conspicuously different from the female of that race; the upperparts rather light Saccordo's umber, practically without trace of vinaceous, except upon the rump and upper tail-coverts where it is much less pronounced than in *C. r. rufipennis*; the crown usually concolor with the back; the rectrices, upper wing-coverts and inner wing-feathers externally, the underparts, particularly the flanks and lower tail-coverts, with less vinaceous tawny than in *C. r. rufipennis*.

Type.—No. 108688, Am. Mus. Nat. Hist. ♀, La Manuelita, near Palmira, Cauca Valley, Col., April 15, 1911; F. M. Chapman; W. B. Richardson.

Range.—Tropical Zone in the Cauca Valley (and arid upper Dagua Valley ?), Colombia; ranging upward to the lower border of the Subtropical Zone at about 6300 feet.

Remarks.—Four females from the Cauca Valley (Cali, La Manuelita and below Miraflores) and the slopes rising from it all show, on comparison with an adequate series from Santa Marta, the excellent characters on which this form is based.

THE RACES OF LEPTOTILA RUFAXILLA.

The name *Leptotila rufaxilla* (Rich. & Bern.) is currently applied to a common Dove which ranges over northern South America east of the Andes. In attempting, however, to identify our Colombian specimens, I find that our forty-four specimens of this species from north of the Amazon apparently represent no less than four forms of which two appear to be undescribed.

This species has also been recorded from south of the Amazon, but beyond indicating that these records are not based on true *rufaxilla*, my material from this region is too limited to warrant the forming of conclusions.

The northern forms may be characterized as follows:

Leptotila rufaxilla rufaxilla (Rich. & Bern.).

Columba rufaxilla RICH. & BERN., Act. Soc. Hist. Nat. Paris, I, 1792, p. 118 (Cayenne).

Char. subsp.—Darker above (olive-brown with more or less iridescent natal-brown) paler vinaceous below (light vinaceous-fawn), crown deeper bluish-gray (dark gull-gray) than any of the following forms, the forehead gull-gray, with occa-

sionally a slight buffy tint at the base of the bill; the hazel lining of the wings somewhat deeper in color and more restricted than in the following forms.

Range.—Guianas southward to the lower Amazon.

Remarks.—My series of thirteen Guianan specimens of this race vary widely in the color of the upperparts. In some the prevailing color above is dark olive, in others it is shining natal-brown or natal-brown with purplish reflections. The underparts are more constant in color, and the light vinaceous-fawn (with sometimes a grayish cast) of the breast cannot be matched by any specimen in our series of the remaining races.

Specimens examined.—*Dutch Guiana*: Vicinity Paramaribo (Coll. T. E. Penard), 5; *British Guiana*: Demarara, 1; Rockstone, 1; Potaro River, 6. *Brazil*: Santarem, 1. (This specimen is paler above than the average Guianan specimen with which below it agrees exactly. The head is missing.)

***Leptotila rufaxilla hellmayri* subsp. nov.**

Char. subsp.—Most nearly resembling *L. r. dubusi* (Bonap.) but upperparts averaging more cinnamomeus, sides and posterior margin of the throat with more pinkish cinnamon, whitish throat-patch much more extended posteriorly, forehead whiter, blue-gray of the crown wider, reaching back to the occiput; wings and tail longer. Readily distinguished from *L. r. rufaxilla* by its always more cinnamomeus upperparts, richer vinaceous underparts, paler crown and whiter forehead.

Type.—No. 59494, Am. Mus. Nat. Hist. ♂ ad., near Princetown, Trinidad, March 10, 1893; F. M. Chapman.

Range.—Island of Trinidad and northeastern Venezuela.

Remarks.—This form is so strongly differentiated from true *rufaxilla* that not one of our fourteen specimens of it could for a moment be mistaken for any one of our fourteen specimens of that form. The range of variation in the color of the upperparts is about as extensive as in *rufaxilla*, some specimens being largely olive above, while others are almost pure light cinnamon-brown, but the olive is always paler than in *rufaxilla* and the cinnamon-brown specimens bear small resemblance to the purple tinted examples of *rufaxilla*.

In general coloration specimens of *hellmayri* can sometimes be matched by specimens of *dubusi*, but the former always has the white of the throat and gray-blue of the crown more extended posteriorly, and is larger.

I take pleasure in dedicating this race to that distinguished student of the Trinidad avifauna, Dr. Carl E. Hellmayr.

Specimens examined.—Trinidad, 12; *Venezuela*: Cristobal Colon, Paria Peninsula, 2. (These two birds are paler both below and above and

on the nape than any of our Trinidad specimens. It may develop that *hellmayri* is an insular form.

***Leptotila rufaxilla pallidipectus* subsp. nov.**

Char. subsp.— Differs from all the known forms of this species in its much paler, buff-tinted (vinaceous-buff) breast, paler light brownish olive back, practically without purplish reflections; more grayish, less iridescent occiput and nape; the gull-gray of crown as restricted as in *L. r. dubusi*, the throat as extensively white as in *hellmayri*; agreeing in size with the former.

Type.— No. 121397, Am. Mus. Nat. Hist., ♂ ad., Buena Vista (alt. 4500 ft.), Eastern Andes above Villavicencio, Col., March 3, 1913; F. M. Chapman.

Range.— Tropical Zone at the eastern base of the Eastern Andes in Colombia (and Venezuela?) probably north of Amazonian forest-line at the Guaviare River.

Remarks.— The strongly marked characters on which this form is based are well shown by four specimens, three of which are from Villavicencio, at the foot of the mountains below Buena Vista. Although geographically nearer *dubusi* than is *hellmayri*, the last two more nearly resemble one another than *pallidipectus* does either. Its paler coloration may doubtless be attributed to the less humid conditions prevailing north of the Amazonian forest line, which, in Colombia conforms approximately with the Guaviare River. About Villavicencio it was found in the growth bordering streams and under these conditions its range may extend eastward on the llanos.

Specimens examined.— Colombia: Buena Vista, 1; Villavicencio, 3.

***Leptotila rufaxilla dubusi* (Bonap.).**

Leptotila dubusi BONAP., Consp. Av., III, 1854, p. 74, (Rio Napo, Ecuador).

Char. subsp.— Most nearly resembling *L. r. hellmayri* but upperparts averaging more olive, less cinnamonous, front and sides of the throat and postocular region with less pinkish cinnamon; white of throat more restricted, confined largely to the chin; forehead darker; gull-gray of crown less extended posteriorly, reaching little if any behind the eyes; wings and tail shorter. Easily distinguished from *L. r. rufaxilla* by its more cinnamon upperparts, paler crown, deeper vinaceous breast, small white throat area, and smaller size.

Range.— Tropical Zone at the eastern base of the Eastern Andes from the Guaviare River in Colombia southward into Ecuador eastward through the Amazonian region to the western border of the range of *L. r. rufaxilla*.

Remarks.— I have seen no specimens of *rufaxilla* from the Napo region but Bonaparte's description (*l. c.*) and the close resemblance existing be-

tween the avifauna of the Caquetá and Napo regions leave little doubt that our series of ten specimens from La Murelia and Florencia should be referred to *L. r. dubusi*. It is true that after an examination of Bonaparte's type Salvadori (Cat. B. M., XXI, p. 552) refers it to *L. rufaxilla* but this conclusion is obviously due to the lack of proper material, the series at my command showing beyond question, that the form from the western margin of Amazonia is quite unlike the Guiana bird.

Specimens examined.—La Murelia, 9; Florencia, 1; Foot of Mt. Duida, 1.

Measurements of Males.

	Locality	Wing	Tail	Tarsus	Culmen
<i>L. r. rufaxilla</i>	Paramaribo	141	95	29.5	15
" " "	Potaro R., Brit. Guiana	143.5	103.5	30	15
" " "	" "	140	100	30	15
<i>L. r. hellmayri</i>	Trinidad	140	100	29	16.5
" " "	"	136.5	98	29	15.5
" " "	"	141	97.5	29	16.5
" " "	Cristobal Colon, Venez.	143	97	29.5	16
" " "	" " "	140	93	29.5	16
<i>L. r. dubusi</i>	La Murelia, Col.	137	95	29	16
" " "	" "	131	95	29	16
<i>L. r. pallidipectus</i>	Buena Vista, "	135	96	29	15

Measurements of Females.

	Locality	Wing	Tail	Tarsus	Culmen
<i>L. r. rufaxilla</i>	Paramaribo	140	97	29	16
" " "	"	138	92	28	15
" " "	"	139	95	29.5	16
" " "	Potaro R., Brit. Guiana	144	97	32	16
<i>L. r. hellmayri</i>	Trinidad	141.5	99	30	16
" " "	"	138	99	30.5	16
" " "	"	140	96	30	16
<i>L. r. dubusi</i>	La Murelia, Col.	131	91	29	15
" " "	" "	131	92	29.5	16
" " "	" "	134	93	30	16
<i>L. r. pallidipectus</i>	Villavicencio, Col.	131	93	29	15
" " "	" "	134	94	28.5	15.5

***Asio flammeus bogotensis* subsp. nov.**

Char. subsp.—Similar to *A. f. flammeus* but ochraceous markings above much more restricted or, in places, obsolete, the upperparts, therefore, much darker; tarsi and toes less heavily feathered, the feathered area on the latter less extended toward the nail; size averaging smaller; bill somewhat heavier and wholly black.

Type.— No. 121,454, Am. Mus. Nat. Hist., ♀ ad., Savanna of Bogotá, Col., Feb. 19, 1913; F. M. Chapman. Wing, 304; tail, 137; tarsus, 54; culmen, 32 mm.

Range.— Savanna of Bogotá, Colombia.

Remarks.— Only the type of this interesting and well-marked race was secured by our expedition. While comparison with a large series of *A. f. flammeus* indicated its distinctness, it was deemed inadvisable to describe it without additional specimens. Our good friend Hermano Apolinar Maria, Director of the Instituto de la Salle of Bogotá, who has rendered us such valuable assistance on similar occasions, was therefore appealed to and he promptly sent two more females both collected on the Bogotá Savanna.

These two birds agree with the type and thus confirm the validity of the characters on which the proposed new race is based.

Other than the marked changes in appearance caused by the diminution of the ochraceous markings on the feathers of the upperparts, I observe no difference in pattern of coloration between *bogotensis* and true *flammeus*. Both have the markings of the wing-quills under wing-coverts, and underparts essentially the same, and beyond a slight difference in size are therefore to be distinguished only by the much darker color above and less heavily feathered feet of *bogotensis*.

In the restriction of the ochraceous markings above, *bogotensis* is nearer to *portoricensis* than to *flammeus*. Our two specimens of *portoricensis* are not so dark above, the wing-quills have more brown basally, and the under wing-coverts, as stated by Ridgway in his original diagnosis (Bull. U. S. N. M., IV, 1881, p. 366), are "nearly immaculate ochraceous."

In the darkness of its upperparts *bogotensis* bears some resemblance to *galapagoensis*, a fact to which Sharpe (Cat. B. M. Bds., II, 1875, p. 239) called attention many years ago. The latter, however, is smaller, has more ochraceous in the upperparts, has the flanks barred, and tarsi marked with fuscous.

The limited number of specimens of this widely distributed owl which I have seen from Argentina appear to be referable to true *flammeus* (though the under wing-coverts have fewer marks). This form occurs at sea-level, therefore, both in the North Temperate and South Temperate Zones, while *bogotensis* occupies that little Temperate Zone island which is formed by the Savanna of Bogotá in the Eastern Andes of Colombia.

REMARKS ON CERTAIN SOUTH AMERICAN FORMS OF THE GENUS
CERCHNEIS.

In identifying our large collection of Colombian Sparrow Hawks, I was led also to take up specimens of this bird which we have recently received from Ecuador, Peru and Chile. This necessarily widened my survey of the group and without attempting a revision of its South American members, I present here merely the conclusions reached in naming the specimens contained in our collections.

I have seen no specimens of *Cerchneis sparverius brevipennis* Berl.,¹ *C. s. distincta* Cory,² or *C. s. margaritensis* Cory.³

The numerous forms of *Cerchneis sparverius*⁴ appear to fall naturally into three main geographic divisions, North American, West Indian, and South American. The West Indian division, represented by *Cerchneis sparverius antillarum*, is more strongly differentiated from both the North and South American types than, generally speaking, they are from each other. The male has the underparts more heavily spotted than in any other form, except the insular *C. s. fernandensis*, the wing-coverts strongly marked with black, and the tail feathers, including the central pair, more or less barred with black. The female is strongly barred with black above and has the markings of the underparts blacker than in any other form examined. All the specimens in my small series of this race (three males, five females) have the crown largely rufous. This fact, in connection with the occasional presence of small black markings on the central rectrices in North American specimens, suggests that *antillarum* is more closely related to the North American than to the South American group.

The North American group extends as far southward as the Canal Zone in Panama whence we have a pair of birds which I refer to *Cerchneis sparverius sparverius*. I also provisionally refer a female in worn plumage, taken December 29, 1911, at Noanama, western Colombia, to this race.

There are no characters by which members of the North American group can always be distinguished from members of the South American group. The former, however, practically always have the crown with a more or less well developed rufous patch, while males of the latter are usually without rufous in the crown, or, if it be present, it occupies in both sexes a much smaller area than in North American specimens.

¹ J. f. O., 1892, p. 91 (Curaçao).

² Field Mus. Pub. 182, 1915, p. 297 (Boa Vista, Rio Branco, Brazil).

³ *Ibid.*, p. 297 (Margarita Island).

⁴ Omitting here *Cerchneis dominicensis* of Cuba, Hayti and Santo Domingo.

Mr. W. DeW. Miller, after an examination of our North American series, reports that of seventy-six males only one lacks rufous on the crown, while in all but three or four the rufous patch is large and conspicuous. Of eighty-three females the rufous crown-patch is present in all. It is reduced to a trace in one, and small and mixed with gray in three or four, but is large and conspicuous in seventy-seven.

On the other hand, I find that in seventy-eight South American males it is essentially absent in sixty-five, and more or less evident in thirteen. In the females it is more developed, only thirty out of fifty-seven being without it, but in the remaining twenty-seven, only three or four approach the average North American specimens.

In North American specimens the outer rectrix more frequently has two or more bars than in South American specimens. This character, however, is too variable to be of constant diagnostic value and I mention it chiefly because it at times has been used in diagnosis. An examination of our males gives the following results: Mr. Miller reports that of seventy-six North American specimens, nineteen have only a subterminal bar in the outer rectrix, while fifty-seven have two or more bars on this feather. Among seventy-eight South American males I find that thirty-four have only the subterminal bar, while forty-four have two or more bars. This variability, it should be added, is shown, in a greater or less degree, by all the races of which adequate series have been examined.

Geographical variation is more extensive in the South American than in the North American group. In the latter size and intensity of color are the differentiating characters. In the former there are striking differences in pattern as well as variations in size and color.

***Cerchneis sparverius isabellina* (Swains.).**

Falco isabellina SWAINS., Anim. in Menag., 1837, p. 281 (Demerara, Br. Guiana).

Char. subsp.—Palest of the Sparrow Hawks; the breast and upper abdomen in the adult male light pinkish cinnamon or white washed with pinkish cinnamon; the ventral region, thighs and lower tail-coverts white; the underparts usually without spots; white bars in the primaries wider than black ones, the terminal white areas usually confluent on all but the outer primary; crown with a rufous patch in one out of six specimens; the nape with or without black; female with the crown exceedingly pale, washed with rufous centrally in two of four specimens; the underparts whitish more or less streaked with umber.

Range.—Eastern Venezuela east to the Guianas.¹

¹ Two specimens from Turbaco near Carthagena, Colombia, resemble our specimens from eastern Venezuela. Whether they represent an undescribed form or the westward extension of this race through the arid coastal zone I am unable to say.

Remarks.—Of six males and four females only one male (from British Guiana) may be considered as topotypical. Unfortunately it is in much too worn plumage to represent the characters of its race satisfactorily. The grayish terminal tail-band is practically worn off, the quills badly frayed, and the color both above and below evidently much faded. The underparts are decidedly paler than in the five males from Eastern Venezuela, but the crown is much darker. Possibly the Venezuela birds are separable but with only this one poor specimen from Guiana for comparison it is clearly not possible to determine their status conclusively. It is evident, however, that they are much nearer to *isabellina* than to *ochracea*.

Specimens examined.—*Venezuela*: Caicara, Orinoco, 1♂, 1♀; Maripa, Rio Caura, 3♂♂, 2♀♀; San Antonio, Bermudez, 1♂, 1♀; British Guiana, 1♂.

***Cerchneis sparverius ochracea* Cory.**

Cerchneis sparverius ochracea CORY, Field Mus. Pub. Nat. Hist. 182, 1915, p. 298 (Colon, Tachira, W. Venezuela).

Char. subsp.—Similar to *C. s. isabellina*¹ but larger and deeper in color; the underparts, except throat, much more richly colored, pinkish cinnamon instead of light pinkish cinnamon; this color appearing more or less strongly on the abdomen, flanks, and thighs; male with the black bars on the wing-quills wider, the white areas correspondingly more restricted; female more heavily streaked below. Closely resembling *C. s. equatorialis* in color, but much smaller.

Range.—Eastern Colombia from the eastern slopes of the Central Andes, across the upper Magdalena Valley over the Eastern Andes (ascending to the Temperate Zone) to the llanos, north and northeast to Paramo de Tama, Lake Maracaibo, and Merida, Venezuela.

Remarks.—This form is represented by eighteen males and thirteen females in our collection, chiefly from the Bogotá region, and by two males, including the type, and two females from the Field Museum loaned me by Mr. Cory. It appears not to vary in color or in size with altitude and ranges from the Tropical to the Temperate Zone. There is, however, considerable individual variation in both color and pattern.

The type appears to be more richly colored than the average specimen but can be closely matched by five or six of our males. Several males are much paler below and more nearly resemble males from the Lower Orinoco, which I have provisionally called *isabellina*. Of twenty males, nine are practically spotless below, in the remaining eleven there are from two or three, to half a dozen small spots on each flank.

¹ As this form is represented by the specimens mentioned above.

The outer pair of tail-feathers is barred black and white in eleven males and largely rufous with a grayish outer web and tip and a single subterminal black bar in nine specimens. Both these types of coloration occur in specimens from the same locality.

The type has fewer spots in the upper wing-coverts than most of our Colombian birds, but I believe this to be due to individual variation. The back has, as a rule, but few bars and in six specimens is practically unbarred. In six of twenty males there is more or less rufous on the crown (in only one, a male from Paramo de Tama, does it form a 'patch'), the remaining fourteen have the crown dark slaty with essentially no rufous and but little or no black on the nape.

The terminal white areas on the outer primaries are confluent in the second or third (or both) quills, in fifteen specimens, disconnected in five specimens.

In the female, rufous appears more frequently in the crown than in the male. Only three of fifteen specimens are without it, while in three others it forms a well-developed 'patch.' Females in juvenal, or nestling plumage, are as deeply colored below as the most richly marked males and the streaks on the underparts are less sharply defined than in mature birds. On the other hand, what I assume to be fully adult birds, are pale fulvous heavily streaked with umber below, and the variations between these two extremes are doubtless attributable to age. A female from the type-locality is less heavily streaked below and less definitely barred on the tail than Colombian specimens.

Specimens examined.—*Colombia*: Villavicencio, 1 ♀; Caquezá, 1 ♂; El Piñon, 1 ♀; 'Bogotá' skin, 1 ♂; La Herrera (s. of Bogotá), 1 ♂, 1 ♀; Fusugasugá, 1 ♂, 1 ♀; La Olanda (20 m. n. e. Bogotá, 8500 ft.) 5 ♂♂, 2 ♀♀; Tena, 1 ♂; near Bogotá, 1 ♂, 1 ♀; Honda, 4 ♂♂, 1 ♀; Andalucía (w. slope, 3000 ft.), 3 ♂♂, 3 ♀♀; Rio Toché, 1 ♀; Paramo de Tama,¹ 1 ♂, 1 ♀; *Venezuela*: Colon, Tachira,¹ 1 ♂, 1 ♀; Merida, 1 ♂, 3 ♀♀.

***Cerchneis sparverius caucæ* subsp. nov.**

Char. subsp.—Agreeing in size and general intensity of color with *C. s. ochracea* but male with the sides conspicuously spotted; crown darker, nape blacker, terminal white areas on primaries usually not confluent; female with the crown and nape averaging darker; male resembling *C. s. sparverius* in the coloration of the underparts, but crown usually without rufous, subterminal black bar on central rectrices, much narrower; back with fewer bars; female darker above and more washed with

¹ From the Field Museum.

rufous below than the female of *C. s. sparverius*, the outer rectrices, quill-markings and outer border of outer feather more rufous, the crown darker and with less or with no rufous.

Type.—No. 108740, Am. Mus. Nat. Hist., ♂ ad., La Manuelita (near Palmira), alt. 3500 ft., Cauca Valley, Colombia, April 12, 1911; F. M. Chapman and W. B. Richardson.

Range.—Western Colombia, from the western slopes of the Central Andes westward; south into subtropical and tropical western Ecuador (and western Peru?).

Remarks.—This form is based on four males and five females. I also refer to it a male from Gualea, in the Subtropical Zone of Ecuador and two males from Huigra (alt. 4000 and 5000 ft.), in southern Ecuador. A male from the junction of the Chanchan and Chiguancay rivers, is nearer *æquatorialis* in size but resembles *caucæ* in color.

The Colombian males appear to be adult but all have the sides conspicuously spotted with black. Not one has the terminal white areas on the second or third outer primaries fused, while in fifteen of eighteen males of *ochracea* these markings are confluent.

The male from Gualea, as the appended table of measurements shows, slightly approaches *æquatorialis* in size, but although apparently adult, it has the sides heavily spotted; whereas, if I am correct in my assumption that the spots on the underparts of *æquatorialis* are due to immaturity, that form has the underparts with but few spots in the adult.

Specimens examined.—*Colombia*: Laguneta, 1 ♀; Miraflores, 1 ♂, 1 ♀; La Manuelita, 1 ♂, 1 ♀; Cali, 1 ♂; La Florida, 1 ♂; Popayan, 1 ♀; *Ecuador*: Gualea, 1 ♂; Huigra, 2 ♂♂; *Peru*: Lima, 1 ♀.

***Cerchneis sparverius æquatorialis* (Mearns).**

Falco sparverius æquatorialis MEARNS, Auk, IX, 1892, p. 269 ("Guayaquil,"—*errore*—Ecuador).

Char. subsp.—Size large; tail long; color much as in *C. s. ochracea*, but the sides in the male with usually a few, small elongate spots, the nape darker; terminal white areas in the second and third outer primaries usually fused.

Range.—Temperate Zone in Ecuador and southward.¹

Remarks.—Insufficient material and the fact that both the male and female specimens designated by Dr. Mearns as types of this form are without locality, make it difficult to treat the Sparrow Hawks of Ecuador satisfactorily.

Since their measurements indicate that the types represent different

¹ I have only two males from this zone in Peru, taken at Cuzco. They average larger than *cinnamomina* and have the underparts more deeply colored. They, however, agree with that form in having the underparts spotted and the tail tipped with rufous.

forms (the female is smaller, instead of larger than the male, and is referable, probably to *caucæ*) we may accept the male as *the* type of the race and make our comparisons with it alone. This specimen (No. 101309, U. S. Nat. Mus.) is labelled "Guayaquil, Ecuador, 1884; Dr. Wm. H. Jones, U. S. N." It appears, however, that with other birds it was merely bought in Guayaquil, and was doubtless collected in the higher interior. Dr. Richmond writes me from the National Museum that the collection presented by Dr. Jones was accompanied by a letter from which he sends me the following extracts:

"... The birds alone I think are worth the freight of the consignment. I rec'd these from Mr. Cartwright Agt. P. S. N. Co. Guayaquil as a gift. He is constantly receiving them from the interior of Ecuador,...."

Dr. Richmond adds:—"On the invoice accompanying the above letter, I find this note":

"... Besides the above there are 80 birds from Mr. Cartwright's collection at Guayaquil. These are all natives of Ecuador & found in various parts of the country. Did not have time to obtain the native names nor the locality where each species came from."

Further evidence indicating that the bird came from the interior is furnished by the bird's size which agrees with that of specimens from the Temperate Zone (see table of measurements beyond). In color, however, the type of *æquatorialis* has the sides more heavily spotted, the back more barred than in any one of our four adult males from Mt. Pichincha and Mt. Chimborazo. It is my opinion, however, that the spotted sides and barred back of the type are due, at least in part, to its immaturity, and its almost wholly yellow (instead of basally yellow, apically plumbeous) mandible also indicates that it is not adult.

A male from Gualea, in the Subtropical Zone of the Pacific slope, while somewhat larger than specimens of *caucæ* from the Cauca Valley, is much nearer to them, especially in the length of tail and tarsus, than to specimens of the Temperate Zone. It has the sides heavily spotted and appears to be fully adult.

Two males collected by Rhoads at Huigra (alt. 5000 ft.) are also nearer *caucæ* in size but, as might be expected, show some approach toward the larger form of the Temperate Zone. One agrees closely in color with *caucæ* and has the sides spotted, the other has but few spots on the sides and in color is therefore nearer the Temperate Zone bird. It can be exactly matched by specimens of *ochracea*! A specimen from Riobamba has the wing somewhat shorter than the average Temperate Zone bird but has the long tail and almost immaculate underparts of that form.

A specimen from the Junction of the Chanchan and Chiguancay Rivers (alt. 3000 ft.) is puzzling since it has the long tail of the Temperate Zone form and the sides are spotted as in *caucæ*.

Three males from Mt. Chimborazo and one from Quito have the large size and particularly long tail which characterize the Temperate Zone race.

One of the Mt. Chimborazo specimens is almost unspotted below. The others have a few small linear spots on the sides. It is evident therefore that there are two forms of *sparverius* in Ecuador, a smaller one with heavily spotted sides which inhabits the Tropical and Subtropical Zones, and a larger one with longer tail and with comparatively few spots on the sides which inhabits the Temperate Zone. The former is near the west Colombian race, the latter agrees in dimension with the type of *æquatorialis*.

The specimens collected by Rhoads at Huigra and at the junction of the Chanchan and Chiguancay Rivers indicate that these two forms intergrade. It is most unfortunate that in addition to being without a locality, the type of *æquatorialis* should be to some extent intermediate between these two Ecuadorian forms. It agrees with the Temperate Zone race in measurements, but in its spotted sides more nearly resembles *caucæ*. I have, however, already given reasons for the belief that to some extent these spots are due to immaturity, and it is my opinion that when mature the type of *æquatorialis* would not differ materially from Chimborazo specimens. I therefore adopt the name *æquatorialis* for the large Sparrow Hawk of the Temperate Zone of Ecuador and southward in Peru. Even should it prove to have the sides more spotted than our specimens indicate, and thus more closely approach *caucæ* in color, it may readily be distinguished from that form as well as from *ochracea* by its large size.

Specimens examined.—Ecuador: Quito, 1 ♂, 1 ♀; Mt. Chimborazo, 3 ♂♂; Riobamba, 1 ♂; Chunchi, 1 ♀; Ambato, 2 ♀♀; "Ecuador," 1 ♂ (type).

***Cerchneis sparverius cinnamomina* (Swains.).**

Falco cinnamominus SWAINS., Anim. in Menag., 1837, p. 281 (Chile).

Char. subsp.—Very closely related to *C. s. australis* but male with the subterminal tail-band narrower, particularly on the outer rectrix, when it is sometimes obsolete; the tips of the central pair of rectrices rufous, the remaining rectrices more or less tipped with rufous; the outer rectrix less frequently with more than the subterminal bar.

Range.—Chile (and southern Peru? ¹).

¹ Two males from Cuzco are intermediate between this form and *æquatorialis* but because of their rufous tail tips are in my opinion to be referred to the former rather than the latter; though it is by no means improbable that they may represent an undescribed race.

Remarks.—The characters here given are shown by six males from various localities in Chile on comparison with fourteen males from Chapada, Pernambuco, and San Paulo, Brazil. In only one of the Brazilian birds, an immature specimen from Chapada, Matto Grosso, is the tail appreciably tipped with rufous; nor do I find this character shown by other South American forms, except in *C. s. fernandensis* which is presumably an offshoot of *cinnamomina*. Five of the Chilean birds have only the subterminal bar on the outer rectrix. The sixth specimen has three bars on this feather. On the other hand, eleven of thirteen Brazilian birds have the outer rectrix with two or more bars, while only two have but the subterminal bar. Possibly this marking may here have a racial significance. It should be observed, however, that of twelve specimens of *fernandensis*, obviously an island representative of *cinnamomina*, five have the outer rectrix with only a subterminal band while seven have two or more bands on this feather.

Specimens examined.—*Chile:* Chile, 2 ♂♂, 1 ♀; Corral, 1 ♀; Santiago, 1 ♀; Valdivia, 1 ♂; Cautin, 1 ♂, 2 ♀♀; Ancud, 2 ♂♂.

***Cerchneis sparverius fernandensis* subsp. nov.**

Char. subsp.—Similar to *C. s. cinnamomina* but more deeply colored and more heavily marked; ventral region and lower tail coverts clear buff; male with the upperparts darker, the black bars less sharply contrasted with the rufous interspaces, the underparts more heavily washed and with the spots larger and more numerous, those on the flanks being, in some specimens, broad black bars; female darker above, the black bars less sharply defined, the underparts (except throat) much deeper, in some specimens dull rufous obscurely streaked and spotted with blackish.

Type.—No. 2335, Brewster-Sanford Coll. ♂ ad. Juan Fernandez (Masatierra) Island, Jan. 14, 1914; R. H. Beck.

Range.—Island of Juan Fernandez, off Chile.

Remarks.—The Brewster-Sanford collection, which is on deposit in the American Museum, contains an excellent series of this strongly marked form collected by R. H. Beck. For comparison with this large series I have six males and five females of *cinnamomina* from Chile. The rufous at the tip of the rectrices, which is the chief distinguishing feature of *cinnamomina*, is present in a greater or less degree in *fernandensis*. As regards the markings of the outer rectrix, five males of *fernandensis* have only a subterminal bar on this feather while seven have two or more bars.

In the rich coloration, especially of the ventral region, and heavy markings of the underparts, the male of *fernandensis* is approached only by another insular form, *C. s. antillarum*. The females of these two races,

however, represent the extremes in color of this sex, the latter being sharply streaked with black while the underparts of *fernandensis* are heavily washed with rufous, with darker, obscure shaft streaks. It thus bears some resemblance to three females of *ochracea* in juvenal plumage.

I have been permitted to name this interesting island race through the courtesy of Dr. L. C. Sanford and Mr. Frederick F. Brewster, whose collection contains the only specimens of it known to me.

Specimens examined.—Juan Fernandez, 12 ♂♂, 11 ♀♀.

***Cerchneis sparverius australis* (Ridgw.).**

Falco gracilis (nec Lesson) SWAINS., Anim. in Menag., 1838, p. 281 (Bahia, Brazil).

Falco sparverius var. *australis* RIDGW., Hist. N. A. Birds, III, 1874, p. 166.

Char. subsp.—Adult male with the underparts largely white and more or less thickly marked with round black spots; the back and scapulars usually with broad, numerous black bars; average female paler below than in more northern forms. Closely resembling *C. s. cinnamomina* but male usually with no rufous in the tip of the tail.

Range.—From the eastern slopes of the Andes in Peru and Bolivia (and Argentina) eastward to the Atlantic (north to the Amazon?).

Remarks.—Assuming that Ridgway's name of *australis* was proposed as a substitute for *gracilis* of Swainson, preoccupied, Bahia is the type-locality of this race. Unfortunately two males from Pernambuco and one from San Paulo are the only specimens I have seen from the Brazilian coast. In color and markings of the underparts and back, practically the entire range of variation shown by the 16 males from the range I ascribe to this form is covered by these birds. In one Pernambuco specimen the outer pair of rectrices is lost; in the other these feathers are broadly barred with black from base to end. In the Rio Grande do Sul specimen the terminal half of this feather is barred. Two of Chapada specimens have the outer rectrix with two or more bars, while two have only the subterminal bar. Two or more bars appear therefore to be the more frequent marking among Brazilian specimens.

In size, as the appended table shows, there is much variation but apparently no constant or racial difference in dimensions. Birds from Chapada have the tail comparatively short but they are matched by Pernambuco specimens and exceeded in size by a male from San Paulo.

Of *Cerchneis s. peruana* Cory (Field Mus. Pub. 182, p. 296, Feb. 1915) I have seen only two males and a female from Macate, Peru, loaned me by Mr. Cory. These specimens can be matched in color and in size by birds in our series from Brazil, and I am unable therefore to separate them from

the form to which I apply the name *australis*. One of the Macate males has the outer tail-feather with only the subterminal bar. In the other this feather is somewhat less than half grown, but the portion of the feather visible is whitish with three black bars.

Specimens examined.—*Brazil*: Pernambuco, 2 ♂♂; Rio Grande do Sul, 1 ♂, 1 ♀; Chapada, Matto Grosso, 11 ♂♂, 18 ♀♀. *Bolivia*: Yungas, 1 ♀. *Peru*: Macate, 2 ♂♂, 1 ♀.

Measurements of Males.

Name	Locality	Wing	Tail	Tarsus
<i>C. s. isabellina</i>	Maripa, E. Venez.	173.5	114	34
<i>C. s. ochracea</i>	Tachira, W. " (Type)	191	125	34
" " "	Villavicencio, Col.	188	126	37
" " "	Fusugasugá "	180	121	34
" " "	Honda "	169	113	35
" " "	" "	182	128	35.5
<i>C. s. caucae</i>	Miraflores "	180	126.5	35
" " "	Palmira "	177.5	119	33
" " "	Cali "	176	122.5	34
" " "	La Florida "	183	125	34.5
" " "	Gualea, Ecuador	189	128	33
" " "	Huigra "	184	127	36
" " "	" "	187	129	37
<i>C. s. æquatorialis</i>	Quito "	197	137	37
" " " (Type)	" "	197	137	38
" " "	(Mt. Chimborazo, 12000 ft.)	194	136	37
" " "	" "	201.5	145	37.5
" " "	" "	206	135	36
" " "	Riobamba	189	134	36
" " "	Chanchan and Chiguancay Rivers	194	134	37
<i>C. s. cinnamomina</i>	Valdivia, Chile	186	127	36.5
" " "	Cautin "	193	133.5	36.5
" " "	Ancud "	182	127	36.5
" " "	" "	191	131	36.5
" " "	" "	191	131	36.5
" " ?"	Cuzco, Peru	195	133	35
" " "	" "	188	133	35.5
<i>C. s. australis</i>	Macate, Peru	188	130	35
" " "	" "	183	134	35
" " "	Chapada, Brazil	185	126.5	34.5
" " "	" "	184	126	35
" " "	San Paulo "	198	133	36
" " "	Pernambuco "	173	120	35
" " "	" "	181	126	35
<i>C. s. fernandensis</i>	Juan Fernandez	192	132	36
" " "	" "	190	134.5	34
" " "	" "	190.5	133	36.5
" " "	" "	185.5	128.5	35

Measurements of Females.

Name	Locality	Wing	Tail	Tarsus
<i>C. s. isabellina</i> ,	Maripa, E. Venez.	183	125	33
" " "	" "	181.5	119	33
<i>C. s. ochracea</i>	Tachira, "	200	135	36
" " "	El Piñon, Col.	184	129	35
" " "	Honda "	196	136	35
<i>C. s. cauce</i>	Laguneta "	194.5	132.5	36
" " "	Miraflores "	196	137.5	36
" " "	Palmira "	184	128	33
" " "	Popayan "	193	134	35.5
" " "	"Ecuador" ¹	195	129	38
" " "	Lima, Peru,	184	127	35
<i>C. s. æquatorialis</i>	near Quito, Ecuador	204	138	38
" " "	Ambato "	206	138	37.5
" " "	Chunchi "	208	148	39
<i>C. s. cinnamomina</i>	Corral, Chile	195.5	136.5	36
" " "	Santiago "	197	132	37
" " "	Cautin "	198.5	134	36
" " "	" "	194	129	35
" " "	Puno, Titicaca, Peru	210.5	148.5	37
" " "	" " "	212	149	39
" " "	" " "	198	132.5	37
" " "	Cuzco " "	200	143	36
<i>C. s. australis</i>	Macate, Peru	194	132	37
" " "	Chapada, Brazil	189.5	124.5	35.5
" " "	" "	199.5	132	35
" " "	" "	189	127	33
" " "	Rio Grande do Sul	192	122	34
<i>C. s. fernandensis</i>	Juan Fernandez	200	134	35.5
" " "	" "	203	140	36
" " "	" "	199	139.5	37
" " "	" "	203	142	35.5

***Pyrrhura melanura pacifica* subsp. nov.**

Char. subsp.— Similar to *P. m. melanura* but smaller, the tail, relatively, much shorter; primary coverts not tipped with yellow; tail, above, redder; forehead, greener; bare orbital region blackish instead of whitish (in dried skins); bill less stout, mandible blacker.

Type.— No. 117615, Am. Mus. Nat. Hist., ♂ ad., Buenavista (alt. 1200 ft.), Nariño, southwestern Colombia, Sept. 28, 1912; W. B. Richardson.

Remarks.— Richardson obtained two males and a female of this species at Buena Vista and they appear to be the first specimens of the genus *Pyrr-*

¹ Female "Type" of *æquatorialis*.

rhura to be recorded from the Pacific coast region in South America. In the shortness of their tails, as the appended measurements show, and the blackish skin of the orbital area, they differ from all their allies. Unfortunately I have no authentic specimens of *souancei* for comparison, but if that species is figured with even approximate correctness by its describer (Verreaux, Rev. et Mag., 1858, p. 437, pl. xii) it has the margins of the breast-feathers much wider and much whiter than in *pacifica*. In the proposed new race the markings of that area agree with those of a specimen of *melanura* from Pebas, Peru, but are somewhat more pronounced and slightly redder in tone. It should be stated, however, that in the Pebas skin the breast feathers are somewhat worn.

Measurements.

Name	Locality	Sex	Wing	Tail
<i>P. m. pacifica</i>	Buenavista, Col.	♂	123	101
" " "	" "	♂	122	92
" " "	" "	♀	123.5	95
<i>P. m. melanura</i>	Pebas, Peru	♂	127	119
<i>P. souancei</i> (fide Verreaux),	Napo, Ecuador		130	120
<i>P. berlepschi</i> ,	Aplobamba, Bolivia	♀	134	145
<i>P. rupicola</i>	Yungas "		126	117

***Psittacula conspicillata caucæ* subsp. nov.**

Char. subsp.—Similar to *P. c. conspicillata* Lafr., of the Bogotá region but larger, the wings and tail constantly longer, the bill averaging heavier, the blue areas of the rump, inner wing quills, upper and under wing-coverts decidedly less purple, spectrum-blue, rather than Hay's-blue or blue-violet in color.

Range.—Tropical Zone in the Cauca Valley ranging upward to the lower margin of the Subtropical Zone and westward over the San Antonio Pass to the arid basin of the upper Dagua Valley.

Type.—No. 107754, Am. Mus. Nat. Hist., ♂ ad., Cali (3500 ft.), Cauca Valley, Colombia, Dec. 21, 1910; W. B. Richardson.

Remarks.—This form is based on a series of twelve males and three females from the Cauca region, representing *caucæ*, and eleven males and six females, from the Magdalena Valley and Buena Vista, representing true *conspicillata*. The extremes in color are shown by three males from Caldas in the singular arid basin of the upper Dagua Valley, on the otherwise humid western slope of the Western Andes, and three from Puerto Berrio in the humid Tropical Zone of the Magdalena Valley, which have the rump, etc. hyacinth-blue, while their underparts are more glaucous less yellowish than other specimens from the Magdalena Valley.

Further south, in the more arid parts of the Magdalena Valley specimens are found which approach Cauca Valley birds in color but resemble in size the Puerto Berrio birds. A specimen from Buena Vista, near the eastern base of the Eastern Andes, resembles specimens from Honda at the western base of the range showing that this form occurs throughout the restricted Bogotá region.

Lafresnaye's description of the rump, etc. of *conspicillata* as "*pulcherrime indigotinis*" in connection with our knowledge of the sources whence Colombia birds skins were received in 1848, when he described this species, makes it more than probable that his type came from the Bogotá region and I therefore suggest Honda on the upper Magdalena River, at the foot of the trail to Bogotá, as an appropriate type-locality for *Psittacula conspicillata conspicillata*.

Measurements of Males.

	Locality	Wing	Tail
<i>Psittacula conspicillata caucæ</i> ,	Caldas	82	39
" " "	"	79	40.5
" " "	San Antonio	80	40
" " "	Cali	83	43
" " "	"	81.5	43
" " "	"	82	44
" " "	Palmira	85	41
" " "	"	80	41
" " "	"	81	41
" " "	Rio Frio	83	43
<i>Psittacula conspicillata conspicillata</i> ,	Chicoral	76	35
" " "	"	78	30
" " "	"	77.5	37
" " "	Honda	76.5	37.5
" " "	"	73.5	37
" " "	Puerto Berrio,	74.5	37.5
" " "	" "	75	36
" " "	Buena Vista	78.5	36.5

***Curucujus massena australis* subsp. nov.**

Trogon massena HELLM. (nec Gould), P. Z. S., 1911, p. 1193 (Noanama, Col., ♂ ad.).

Char. subsp.— Similar to *C. m. massena* but smaller, male with the exposed upper surface of the inner rectrices bluish green, much as in *C. melanurus*, rather than a bronze green; female decidedly darker gray.

Type.— No. 117725, Am. Mus. Nat. Hist., ♂ ad., Barbacoas (sea-level), Colombia, Aug. 30, 1912. W. B. Richardson.

Remarks.—The occurrence of a form of *Curucujus* at Barbacoas extends the known range of this species southward from Noanama in western Colombia. From Noanama Hellmayr (*l. c.*) records an adult male which evidently belongs to the form I have here described, since he states that “compared with others from Central America, this bird is smaller, and has the middle pair of rectrices washed with dull bluish instead of bronze green.” A female from Bagado, near Quibdo, further confirms the belief that *C. m. australis* is the form of this region. It agrees with a female from Barbacoas in color but has the tail considerably longer. The tail in the Barbacoas specimen, however, is so much shorter than the wing that it is difficult to believe the specimen is of normal size.

Unfortunately I have only one female from Barbacoas and this with the type and the Bagado female are all the specimens I have seen of the proposed new form. Of *C. m. massena* we have an excellent series taken from Mexico to Panama.

Measurements.

	Sex	Wing	Tail	Culmen	Width of rami
Barbacoas, Col.	♂	166	160	25	19
Panama R. R.	♂	162	160	27	22
San Rafael, Nic.	♂	168	167	26	20
Rio Coco “	♂	179	170	25.5	21
Oaxaca, Mex.	♂	176	173	26.5	22
Barbacoas, Col.	♀	154	133	24	19.5
Bagado “	♀	147	149	24	20
Gatun, Panama	♀	167	167	25	20
Matagalpa, Nic.	♀	170	168	25	21.5
Veragua “	♀	175	172	25	21
Talpaneca “	♀	178	176	25.5	21

***Andigena nigrirostris occidentalis* subsp. nov.**

Char. subsp.—Similar to *A. n. spilorhynchus* (Gould) but with the red area at the base of the bill larger on the maxilla and crossing the base of the mandible.

Type.—No. 107922, Am. Mus. Nat. Hist., ♂ ad., San Antonio (alt. 6600 ft.), Western Andes, above Cali, Colombia, Jan. 8, 1911; W. B. Richardson.

Range.—Subtropical zone of the Western Andes of Colombia.

Remarks.—In this race, which is based on twelve specimens, chiefly from the type-locality, we have the extreme departure from the *nigrirostris* type of bill coloration, the first stage of which is marked by *A. n. spilorhynchus*. A specimen of the last-named form from Ecuador, has much less red at the base of the maxilla and none at all on the mandible. In describing

spilorhynchus from eastern Ecuador, Gould (P. Z. S., 1858, p. 149) states that it differs from *nigrirostris* in having "obscure brownish red at the base of the upper mandible"; and Sclater (P. Z. S., 1858, p. 75) writes that Napo specimens "have an obsolete orange band at the base of the upper mandible, which extends rather more forward in front of the nostrils." Three specimens from the Central Andes, where singularly enough this species appears to inhabit the Temperate Zone, are evidently intermediate between *spilorhynchus* and *occidentalis* but are nearer the former. They have more red on the maxilla than in a specimen from Ecuador, but none or practically none on the mandible. It appears therefore that *A. n. nigrirostris* is restricted to the Eastern Andes and *occidentalis* to the Western Andes of Colombia, while *spilorhynchus*, an intermediate form, inhabits the Central Range and extends southward into Ecuador.

***Chloronerpes rubiginosus buenavistæ* subsp. nov.**

Char. subsp.— Similar to *C. r. meridensis*, but upperparts and olive bars of underparts darker, cheeks grayer, bill longer; similar to *C. r. canipileus* (D'Orb.)¹ but with much more red and consequently darker, less golden in color. Similar to *C. r. alleni* (Bangs) but olive bars of underparts wider and yellowish ones narrower; tail always (?) unbarred; posterior underparts, especially lower tail-coverts, less distinctly barred.

Type.— No. 121768, Am. Mus. Nat. Hist., ♂, Buena Vista (above Villavicencio, 4500 ft.), Eastern Andes, Colombia, March 5, 1913; Geo. K. Cherrie.

Remarks.— The unbarred tail-feathers distinguish this bird from true *rubiginosus* and its nearer allies and indicates its closer relationships with *meridensis* and *canipileus* of which it is the obvious geographical representative. Of *buenavistæ* we have five specimens all from Buena Vista and the characters separating it from *meridensis* are based on comparison of these specimens with the type and five topotypes of the last-named form. Of *alleni* I have examined the type and topotype. Of *canipileus*, however, we have only a single authentic specimen; a female collected by Rusby at Reyes, Bolivia. This bird agrees with the Buena Vista specimens in size, but has the back less ruddy, more golden, as stated above.

Possibly a large series may show that the bird for which I have here proposed the name *buenavistæ* may not be separable from the Bolivian bird, but this seems improbable. In any event, the current reference of *canipileus* to *rubiginosus* is obviously incorrect since the Bolivian bird is a member of the group with unbarred rectrices. It should be added, however,

¹ *Picus canipileus* d'Orb. Voy. Am. Mer., IV, 1835-44, p. 379 (Chupé, Yungas, Bolivia).

that this character, while apparently reasonably constant in some forms is not so in others. Thus of nineteen specimens of *C. r. gularis* only two show traces of bars on the outer rectrices, but on the other hand ten out of eighteen specimens of *C. r. rubripileus* have these feathers barred. Of twelve specimens of *rubiginosus*, *trinitatis* and *tobagensis* not one is without bars. Six specimens of *meridensis* and four of *buenavistæ* are essentially unbarred, but of nine specimens of *alleni* seven are with bars. This form therefore seems to be, in respect to this marking, intermediate between the barred *rubiginosus* type and the unbarred Central American forms.

Measurements.

	Sex	Wing	Tail	Culmen
Merida, Venezuela	♂	121	68.5	24
" " "	♂	122	74	24.5
Buena Vista, Col.	♂	125	77	28
" " "	♂	126	77	26
Merida, Venezuela	♀	123	75	23
" " "	♀	120	70	23
Buena Vista, Col.	♀	124	74	28
" " "	♀	123	72	28

***Atlapetes gutturalis brunnescens* subsp. nov.**

Char. subsp.— Similar to *A. g. gutturalis* but back, flanks and under tail-coverts browner, the former between olive-brown and fuscous rather than deep mouse-gray; the flanks and under tail-coverts buffy brown rather than mouse-gray; yellow of throat averaging paler and more restricted.

Type.— No. 77885, Am. Mus. Nat. Hist., ♂, Sept. 13, 1901, Boquete, Chiriqui, J. H. Batty.

Remarks.— Comparison of 35 specimens of this form (Boquete, Chiriqui, 26; San Jose, Costa Rica, 1; Irazu, Costa Rica, 1; San Rafael and Matagalpa, Nicaragua, 6; Guatemala, 1) with about an equal number from Colombia, including topotypical 'Bogotá' specimens show that the characters above given are constant and diagnostic. Specimens in fresh, post-nuptial plumage are browner than those in worn breeding dress, but at any season Central American birds may be readily distinguished from Colombian ones.

There is a possibility that *Buarremon chrysopogon* Scl. ex Bp. MS., said to have come from "California" may be applicable to the Central American form but in the absence of means of determining whence it came, there appears to be no way of deciding whether or not it is synonymous with the

Central American form. The type which Sclater (P. Z. S., 1856, p. 86) examined in the Paris Museum, in 1856, is doubtless now too faded to be certainly identified with either form. Sclater, however, remarks that it resembles *A. albinucha*, except for the color of the underparts, when it may be of significance to observe that *albinucha* resembles *gutturalis* rather than *brunnescens* in the color of the back.