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## NOTES ON SOME PERUVIAN BIRDS

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The following notes are based on two small collections of Peruvian birds recently received at Chicago Natural History Museum. The first was collected at Chanchamayo, Junín, between 1,200 and 1,500 meters, by José M. Schunke during the latter half of 1948. The second was collected at Hacienda Cadena, Marcapata, Cuzco, at about 1,100 meters, by Celestino Kalinowski during the winter of 1948-49. The avifaunae of both these regions are fairly well known, but there were a few species concerning which points of interest were raised, and they are discussed below. I wish to thank the authorities of the following institutions for the loan of comparative material: the Museum of Comparative Zoology, the American Museum of Natural History, the Academy of Natural Sciences, the National Museum and Carnegie Museum.

All measurements are in millimeters and the wings are measured flat.

### *Malacoptila fusca* Gmelin

*Bucco fuscus* Gmelin, 1788, Syst. Nat., 1, pt. 1: 408—Cayenne.

Two males from Chanchamayo average larger and darker than specimens from British Guiana, Ecuador and northern Peru. The ground color above is darker, more blackish, and the shaft streaks on the head are paler, more nearly white. The edgings of the throat and breast feathers are also darker, but the difference is less evident. Variation in size is shown in the table below:

<i>M. fusca</i>	Wing	Tail	Culmen
British Guiana . . . . . 1♂ 2♀	88, 88, 88	63, 64, 68	26.5, 26.5, 27
Ecuador . . . . . 1♂	89	65	28.5
Huánuco, Peru . . . . . 2♂	88, 92	63, 62	., ., 27
Chanchamayo . . . . . 2♂	93, 94	67, 68	29.5, 28

<i>M. semicineta</i>	Wing	Tail	Culmen
Brazil, Rio Purus . . . . . 3♂ 2♀	85-89 (86.8)	62-70 (67)	25.5-28 (26.9)

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It is apparent that there is a cline in size from the Guianas to central Peru, the largest population being in the latter region. This cline, however, is not in the direction of *M. semicineta* of southeastern Peru, western Brazil, and northern Bolivia. The latter is similar in size to the Guiana population and smaller than the central Peruvian birds.

In color the Chanchamayo birds are not intermediate between *fusca* and *semicineta* either. Although the head is darker in *semicineta* than in *fusca*, it is gray-brown rather than fuscous as in the Chanchamayo birds, and the shaft streaks are pure white. The color of the back is similar to the Guiana birds and paler than those from Chanchamayo. The latter show no suggestion of the rufous hind collar that is characteristic of *semicineta*.

Peters (1948, p. 16) considers *semicineta* a race of *fusca*, and there seems to be no doubt that they are representatives and closely related. However, the characters that separate them, particularly the chestnut hind collar in *semicineta*, are most distinctive and there is no suggestion of intergradation through individual variation. Neither is there any evidence of an intermediate population in Peru, since the Chanchamayo birds, which differ from the more northern populations of *fusca*, vary away from the characters of *semicineta* rather than toward them. Therefore, unless further collecting uncovers an intermediate population, there seems no reason to believe that *fusca* and *semicineta* would behave as anything but different species if their ranges overlapped, and they should be recognized as distinct species for the present.

#### ***Aulacorhynchus derbianus nigrirostris* subsp. nov.**

*Type*.—Chicago Natural History Museum No. 67836, from Huachipa, Huánuco, Peru, altitude ca. 4,000 feet. Adult male, collected October 4, 1922, by J. T. Zimmer. Original number 2994.

*Diagnosis*.—Differs from *A. d. derbianus* in the almost complete absence of red on the bill, this color being restricted to traces on the terminal 15 mm. of the culmen, and on the base of the culmenal ridge and mandible; averages slightly smaller and with shorter chestnut tips to the rectrices; differs from the three eastern races of Venezuela and British Guiana, *duidae*, *whitelianus*, and *osgoodi*, in much blacker bill, larger size and larger chestnut tips to the rectrices.

*Range*.—Subtropical zone of eastern Ecuador, and northeastern Peru, south through the Department of Huánuco.



## MEASUREMENTS

	Wing	Tail	Culmen	Chestnut tips of central rectrices
5♂ <i>nigrirostris</i> .....	125-136 (130.4)	122-134 (126.8)	79-92 (86.4)	22-35 (28.8)
8♂ <i>derbianus</i> .....	134-143 (137.5)	118-138 (127.7)	84-103 (91.7)	32-47 (37.6)
5♂ <i>duidae</i> *.....	118-125 (121)	111-119 (115)	73-78 (75)	....
4♂ <i>whitelianus</i> *.....	114-122 (118)	100-114 (107)	67-77 (71)	....
1♂ <i>osgoodi</i> *.....	114	105	72	none

\* From E. R. Blake, 1941, Field Mus. Nat. Hist., Zool. Ser., 24: 229.

*Remarks.*—The most important character in separating *nigrirostris* from the nominate race is the almost total absence of red on the bill of the former. On the base of the mandible and on the sides of the culmen in *derbianus* there are extensive red patches that in extreme examples may extend for a third of their lengths. The red streak on the tip of the culmen is much more extensive, being present for a third to a half of its length. Two birds from Chanchamayo are intermediate in the amount of red, but two specimens from Eneas, on the Rio Perené, are typical *derbianus*, and the population from Junín should be placed with the nominate race. The range of the latter extends from central Peru to northeastern Bolivia. Aside from the two geographically intermediate Chanchamayo specimens, no example of either race even approaches by individual variation the characters of the other.

The decrease from south to north in size and in the chestnut tips of the central rectrices is clinal in character, and of itself would not serve to separate the two forms. The sharpest break in these characters, particularly length of culmen and extent of the chestnut tips, comes not in central Peru where the diagnostic bill change occurs, but between the Ecuadorean and Peruvian populations. The bills of two male *nigrirostris* (one the type) from Huánuco, Peru, measure 91 and 92, about the average for *derbianus*, and the chestnut tips measure 34 and 35, nearer the average for *derbianus*. However, in the diagnostic character of bill coloration they are typical *nigrirostris*, a race that is therefore shown to have a north-south cline in size.

The discovery that birds from Huánuco are characterized by blackish bills forces a change in the restricted type locality of the nominate race. Peters (1948, p. 70) designated the Province of Huánuco as the type locality, presumably basing his action on a statement in the second edition of Gould's *Monograph of the Ramphastidae* (1854, pl. 43) that *derbianus* was a "native of the Peruvian Andes, particularly the Province of Huánuco."

However, the provenance of the type was unknown to Gould at the time of the original description (1835, p. 49) or of the first edition of the Monograph (1835), although in the latter he gave the range as the Cordilleran Andes. The plate (1st ed., pl. 32) shows, however, that Gould's type definitely belongs to the red and black billed form, and could not have come from Huánuco. I therefore designate the Yungas of Cochabamba, Bolivia, as type locality for *Aulacorhynchus derbianus* Gould, since this region was known by Gould, at the time of the second edition, to be within the range of the species, and the latter has since been found to be common there.

*Specimens examined*.—*A. d. nigrirostris*: Ecuador: Sumarco, 3 males. Peru: Nuevo Loreto, 1 male; Huánuco, 2 males.—*A. d. derbianus*: Peru: Junín, 2 males, 2 females; Cusco, 1 male, 2 females; Puno, 1 female. Bolivia: Yungas of Cochabamba, 5 males, 5 females.

### **Picumnus castelnau** Malherbe

*Picumnus castelnau* Malherbe, 1862, Monog. Pic., 2: 281; 4: pl. 117—Sarayacu, Ecuador.

A male and a juvenal female of this species from Hacienda Cadena, Marcapata, are the second record of this species from southeastern Peru. Seilern (1936, p. 39) records a single male from San Gaban (2,500 feet) in the Sierra de Carabaya. The male differs from descriptions of the species in being lightly barred on the breast, instead of being plain yellowish below. Seilern also reported that his adult male was marked below. The juvenal female is plain dirty white below; three adult feathers just coming in on the head show that the crown will be black with white speckling, similar to the male except for the red tipping in the fore part of the head.

### **Turdus albicollis spodiolaemus** Berlepsch and Stolzmann

*Turdus phaeopygus spodiolaemus* Berlepsch and Stolzmann, 1896, Proc. Zool. Soc. Lond., 1896: 326—La Gloria, Chanchamayo.

This race is restricted to the Chanchamayo Valley, and is apparently quite rare within its range. Hellmayr (1934, p. 369) had only three specimens available and was uncertain as to the validity of the race. However, a male from Chanchamayo shows the characters postulated for the race, and differs markedly from a specimen of *T. a. berlepschi* from Rioja, San Martin, in northern Peru. It lacks the warm russet color above shown by the latter, being a dark olive-brown. The gray of the rump is restricted to the longer tail coverts, and the wing is longer, 120 mm. as opposed to 110.

In the last two characters it shows an approach to *contemptus* of Bolivia, but is clearly separated from that form by the pure gray under parts.

The race *spodiolaemus*, therefore, seems to be a valid one, with a restricted range in the Chanchamayo Valley of central Peru.

### **Xanthornus atro-virens** d'Orbigny and Lafresnaye

*Cassicus atro-virens* d'Orbigny and Lafresnaye, 1838, Syn. Av., 2, in Mag. Zool., 8, cl. 2: 1—Yungas, Bolivia.

Four specimens from Chanchamayo, when first compared to ten specimens from Cochabamba, Bolivia, were seen to be strikingly different by virtue of their small wing size and yellow foreheads. Birds with yellow foreheads have been noted in the literature from various localities and have been considered a common color variant of the typical form with all-green head. However, whenever the measurements of the yellow-browed specimens have been recorded, as in Cassin (1867, p. 69), Selater (1883, p. 152) and Taczanowski (1884, p. 406), they are always smaller than those of the green-browed birds. In order to determine the significance of this variation, which is obviously more than just a case of two color phases, virtually all the available material in this country was borrowed.

A study of the resultant series of fifty-six specimens from Bolivia and Peru revealed that the yellow-browed specimens, which are found throughout the range of the species, are the immature birds, and that the yellow forehead is retained through the first breeding season. The striking difference in size is due to the retention of the juvenal wing and tail feathers throughout the first year. The comparative wing measurements of adult and first-year birds are: adults, males (17) 223–254 (av. 239), females (30) 178–199 (av. 187); first year, males (9) 197–214 (av. 206), females (8) 165–185 (av. 176).

The difference is most striking in the males, where there is no overlap in measurements. Besides the difference in size, there is a difference in the shape of the wing and of the individual feathers. The wings of the first-year birds are more rounded than in the adult, and the tips of the primaries are more rounded, less tapered and pointed. The outer pair of rectrices in the young birds are more pointed than those of the adults. A final character that serves to distinguish the young from the adults is the color of the bill, which in dried skins is a yellowish-ivory in the first-year birds and dusky olive, at least at the base, in adults.

The presence of a yellow forehead is rather common in the genus *Xanthornus*, but except in *atro-virens* it is found in adults and frequently serves as a subspecific character. In the species *angustifrons*, the race *alfredi* of Peru is separated from the nominate race by its yellow forehead and yellowish bill, both characters that in *atro-virens* are found only in young birds. The yellow forehead is also characteristic of the races *atrocastaneus*, *salmoni*, *sincipitalis*, and *neglectus*, but is lacking, except sporadically, in *oleagineus*. On the other hand, in the related form *Zarhynchus wagleri*, Chapman (1928, p. 126) noted that three young birds from Panama (two of them nestlings) had yellow supraloral marks, and a single immature female from central Veracruz, Mexico, in Chicago Museum, has a pale yellow strip along the forehead. It is possible that a yellow forehead is a primitive character that has been lost in some forms and restricted to the young of others.

The much smaller size of the juvenal remiges and their retention during the whole of the first year appear to be characteristic of the genus *Xanthornus*. Wing measurements of a series of males of *X. decumanus* show a separation in size between adults and immatures similar to that in *atro-virens*: adults (14) 232-261 (av. 245); immature (7) 201-224 (av. 213). This is almost the identical difference shown by *atro-virens*, the wing length of the immature being 87 per cent of that of the adult in *decumanus* and 86 per cent in *atro-virens*. Although the retention of juvenal remiges through the first breeding season is common in passerine birds, it is seldom that there is such a marked difference in size.

With specimens before me taken during every month of the year, it is possible to determine the molts and plumages in considerable detail. The terminology and presentation is that of Dwight (1900) for the passerine birds of New York.

1. Natal Down. No specimen seen.

2. Juvenal Plumage. Acquired by a complete postnatal molt. Above, brownish olive-green; crown dull brownish; supraloral spots and forepart of crown pale yellow; lower back and rump rufous; upper tail-coverts olive rufous; tail with the two central and the terminal pairs of rectrices dark olive-green, the subterminal pair olive-green on the outer and yellow on the inner webs, the remaining two pairs bright yellow; wings dark brown, all the remiges except the outermost primary edged with olive-green; below, similar to above but paler and with a yellowish cast on throat and auriculars; crissum pale rufous. "Iris brown, bill pale greenish ivory, feet

black." (A December juvenal from Peru, collected by M. A. Carriker, Jr.)

The breeding season must begin in September because I have an October nestling from Bolivia and the above December juvenal from Peru.

3. First Winter Plumage. Acquired by a partial post-juvenal molt that involves the body plumage and wing coverts but not the rest of the wings or the tail. Whole bird dark olive-green, supralorals and forehead bright yellow, lower back, rump and crissum rufous. "Iris blue, bill yellowish pea-green, feet black." (An April male from Bolivia, collected by M. A. Carriker, Jr.)

The post-juvenal molt apparently takes place between December and February, since the December juvenal is just beginning to molt the feathers of the back, and all March and April specimens are in fine fresh plumage.

4. First Nuptial Plumage. Acquired by wear, which gives the birds a ragged appearance but does not change the color of the plumage. A few of the feathers of the head may be replaced in August, but there is no regular pre-nuptial molt. The amount of wear of the body plumage is variable between different localities, but the wing and tail feathers are always badly worn by the end of the breeding season in December.

5. Adult Winter Plumage. Acquired by a complete post-nuptial molt that appears to extend from January to April in Bolivia and from February to June in Peru. The year-old birds undergoing their first post-nuptial molt may begin earlier than the adults, since a single December year-old male is in full molt. The adult winter plumage is identical with the first winter plumage, except that the forehead and supralorals are dark green, similar to the head, and the adult wings are longer and more pointed. The bill becomes pea green.

6. Adult Nuptial Plumage. Acquired by wear, with a few feathers of the head being replaced in August. The effects of wear are seldom pronounced, except on the head, and this plumage differs little from the adult winter plumage.

### **Ramphocelus nigrogularis** Spix

*Tanagra nigrogularis* Spix, 1825, Av. Bras. Spec. Nov., 2: 35, pl. 47—Rio Solimoes, Brazil.

A single juvenal from the Nusiniscato River, Marcapata (alt. 630 meters), belongs to this species. This is apparently the first

record for this species from southeastern Peru, although it is common in northern Peru and northern Brazil along both banks of the Amazon.

### **Lysurus castaneiceps** Sclater

*Buarremon castaneiceps* Sclater, 1859, Proc. Zool. Soc. Lond., 1859: 441—Rio Napo, Ecuador.

A male and female of this rare species were collected at Hacienda Cadena, Marcapata. This is apparently the second record for southeastern Peru, the only other record being a specimen from Marcapata in the Berlepsch collection (Berlepsch, 1911, p. 1104). Since the population of the Marcapata Valley is separated from the Ecuadorean and Colombian populations by some six or seven hundred miles, specimens from the latter two countries were borrowed for comparison.

When the two Marcapata birds are compared directly with specimens from Colombia and Ecuador there is virtually no discernible difference in either color or size. The Marcapata specimens are a trifle darker green above, but since the other skins were all over twenty-five years old, this difference is almost certainly due to age. The wing size of the different specimens was:

	Males	Females	Unsexed
Marcapata.....	82	76	....
Ecuador.....	..	....	79, 80
Colombia.....	83	76, 76	....

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