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## Studies of Peruvian Birds. No. 65 The Jays (Corvidae) and Pipits (Motacillidae)

BY JOHN T. ZIMMER

I am again indebted to Mr. James Bond and Mr. Rodolphe de Schauensee of the Academy of Natural Sciences of Philadelphia, and to Dr. William H. Phelps of Caracas, Venezuela, for the generous loan of important comparative material used in the following studies. I am also grateful to Prof. Jacques Berlioz of the Museum of Natural History of Paris, Dr. G. C. A. Junge of the Leiden Museum, and Dr. Erwin Stresemann of the Zoological Museum of Humboldt University of Berlin for critical examination of certain specimens in their respective institutions and informative reports on the same.

Names of colors are capitalized when direct comparison has been made with Ridgway's "Color standards and color nomenclature."

### *Cyanocorax mystacalis* (Geoffroy Saint-Hilaire)

*Pica mystacalis* GEOFFROY SAINT-HILAIRE, 1835, Mag. Zool., vol. 5, cl. 2, pl. 34—Guayaquil [Ecuador]; Acad. Nat. Sci. Philadelphia.

*Cyanocorax uroleucus* HEINE, 1860 (March), Jour. f. Ornith., vol. 8, p. 115—"Bolivia (Warscewicz)"; *errore*; I substitute Sullana, Dept. of Piura, north-western Perú; type in Halberstadt Mus.

*Cyanocorax bellus* SCHLEGEL, 1867, Muséum d'Histoire Naturelle des Pays-Bas, vol. 1, livr. 9, Coraces, p. 50—no locality; Leiden Mus.

*Cyanocorax Ortoni* LAWRENCE, "Nov., 1875" [= Feb., 1876], Ann. Lyc. Nat. Hist. New York, vol. 11, p. 166—Pacasmayo and "Ticapa" [= Tecapa], Perú; cotype from "Ticapa" in Amer. Mus. Nat. Hist.

Tecapa, 1 ♂ (cotype of "*Ortoni*"); Alamor, 1 ♀, 1 (?); Paletillas, 1 ♀; Sullana, 2 ♂, 1 ♀; Pilares, 2 ♂; Chilaco, 1 ♂; Somate, 3 ♀; Chira River, 1 ♀; Palambla, 5 ♂, 1 ♀.

Compared with 24 specimens from western Ecuador (Daule, Chongón,

Chongocito, Santa Rosa, Zaruma, Milagro, and Casanga) without discovery of any distinctive characteristics.

Young birds are slightly duller than adults and have the light terminal space on the median rectrices shorter and largely gray or light brownish instead of white (with or without a dark apical margin). The whitish lunule above the posterior part of the orbit is lacking, and the white malar patch, so prominent in adults, is smaller (sometimes hardly encroaching on the basal part of the mandible) and duller.

Several adults, including the cotype of "*Ortoni*," have a slight bluish margin at the base of the outer rectrices, varying in extent and of no taxonomic importance here. Other specimens show elongated dark (blue or dusky) areas adjacent to the shaft, on one or both webs toward the base, and in one bird from southern Ecuador the size of the patch, confined to the outer web, decreases gradually from the submedian to the subexternal rectrix. Dr. G. C. A. Junge has kindly sent me a sketch of the tail pattern of the type of *Cyanocorax bellus* Schlegel, which shows this same sort of graduated marking on the outer web continued in this case to the outermost rectrix and with the addition of a blackish basal area on the adjacent inner webs of the submedian and two external feathers, not on the two other intermediate plumes. Dr. Junge also supplied other notes regarding the type, from which it is obvious that "*bellus*" can be only one expression of the individual variation of *mystacalis*.

Another divergence is in the purity of the white on the tips of the median rectrices with or without a dark apical border which, when present, may be sharply defined or rather diffuse. I can find no regularity in any of the variations discussed.

Additional Peruvian records are from Tumbes, Paita, Paucal, Guadalupe, and Pacasmayo.

#### *Cyanocorax violaceus violaceus* Du Bus

*Cyanocorax violaceus* DU BUS, 1847, Bull. Acad. Roy. Sci., Lettres et Beaux-Arts Belgique, vol. 14 pt. 2, no. 8, p. 103—"le Pérou"; restricted to Pebas by Gyldenstolpe, 1951; Brussels Mus.

*Cyanocorax Harrissii* CASSIN, 1848, Proc. Acad. Nat. Sci. Philadelphia, vol. 4, p. 26—"Guayaquil"; *errore*; I suggest Zamora, Ecuador; Acad. Nat. Sci. Philadelphia.

*Cyanocorax hyacinthinus* CABANIS, "1848" [= 1849], in Schomburgk, Reisen in Britisch-Guiana, vol. 3, p. 683—"Venezuela"; I suggest Barinas, Barinas; Berlin Mus.

A series of birds taken from the Orinoco Valley to southern Perú is not clearly divisible. The Orinoco Valley specimens average lighter,

especially on the under parts, than the Andean examples, but some of the latter from the southern end of the range and elsewhere are just as light. The darker extreme is not quite equaled in the Orinoco series. Specimens from the eastern side of the Andes in Colombia, even from the identical localities, show similar irregularity. None of the palest birds quite reach the extreme condition found in *pallidus* of the Caribbean coastal region of Venezuela. Some of the variation exhibited is doubtless due to post-mortem alteration in old skins and some to fading on the living bird as the plumage became worn or exposed to light. It is not clear, therefore, that subspecific separation is desirable, although it is not impossible. Should such distinction be found advisable, it is probable that the name *hyacinthinus* would be available for the lighter-bellied part of the population in the north which would still be distinguishable from *pallidus*.

The type locality of *hyacinthinus* has frequently been cited as the Canuku Mountains, British Guiana, but this has been quite in error. Cabanis clearly described a bird that he said had been in the Berlin Museum for some time, originating in Venezuela and bearing on its label the name "*Corvus hyacinthinus* Natterer." In a succeeding paragraph, Schomburgk supplied the information that he had only a single example of this species in his British Guiana collection, a skin from the Canuku Mountains [presumably the specimen in the Berlin Museum accredited to Schomburgk]. The specimen from Venezuela in the Berlin Museum must, however, be the type of the species.

Dr. Stresemann has kindly confirmed my supposition with the added information that this type was collected by Karl [Carl] Moritz who visited Venezuela from 1835 to 1837, collecting plants and animals in the region north of the Apure and Orinoco rivers, particularly in Trujillo and Mérida. Natterer visited the Berlin Museum in 1839, at which time he must have examined the bird on whose label he wrote the name later adopted by Cabanis. No locality other than "Venezuela" is mentioned on the label, and the question arises as to whether or not Moritz may have secured a specimen of the pale-bellied subspecies recently described by Dr. William H. Phelps and myself (*Cyanocorax violaceus pallidus* Zimmer and Phelps, 1944, Amer. Mus. Novitates, no. 1270, p. 12—Barcelona, Anzoátegui, Venezuela). Dr. Stresemann writes that the ventral color of the type is now about the color we ascribed to *pallidus* and that he does not think the type has faded since its collection over one hundred years ago, although the specimen was mounted; it was never unduly exposed to the light. It is difficult to believe, however, that some fading has not taken place during this long

period, and the present coloration of the specimen is hardly a safe criterion by which to judge its original appearance. I hesitate, therefore, to supplant a name based on fresh material from a known locality by one dependent for identification on an ancient mounted specimen from an unknown locality. In the present case, we have no more certain locality than "Venezuela" which is not definitive as between *violaceus* and *pallidus*. Furthermore, I can find no trace of Moritz's travels in Venezuela within the limited area occupied by *pallidus*. That he was in the range of *violaceus* there is no doubt from his own writings; I have found mention of Caracas, Maiquetia near La Guayra, San Esteban, the valleys of Aragua, and in one case (1837, Arch. Naturgesch., 3d year, vol. 1, p. 192) the interior of "Varinas" [= Barinas] in which area is the locality of the same name that I have selected as restricted type locality for *hyacinthinus* and where the type specimen may easily have been collected.

Other interesting points have come to light in this connection. Berlepsch (1884, Ibis, ser. 5, vol. 2, p. 433) recorded a specimen of this jay from Angostura as the first known evidence from Venezuela, overlooking not only the record by Cabanis but also another of a later date in which Natterer again had a place. Pelzeln (1870, Ornithologie Brasiliens, pt. 3, p. 190) reported a male secured by Natterer opposite San Carlos, Rio Negro, and Natterer added the comment that he saw a flock of these jays on a little island in the Casiquiare, above its junction with the Negro. Both localities are in Venezuela, although this is not so stated in Pelzeln's account. Nevertheless, Natterer's route map clearly shows that he crossed the Brazilian boundary into Venezuelan territory in that general region, a detail that may have escaped Berlepsch's attention.

Burmeister (1856, Systematische Uebersicht der Thiere Brasiliens, vol. 3, p. 287) makes the curious statement that this species is of the same size and color as the allied *coeruleus* except that the top of the head and neck are blue, not black, and the wings are much more completely blue than the rump. I have seen no specimen of *violaceus* even suggesting the character of the head that he describes nor any other jay that answers the description. Where Burmeister could have obtained the diagnosis is puzzling; he admits he had no specimens of the form in question!

Records from Peruvian localities not included in the list of specimens examined are from Pebas, Rio Javari, Chayavitas, Santa Cruz, "Upper and Lower Ucayali," Shanusi, Tocache, Rio Cadena, Huaynapata, Escopal, and Cosñipata.

## SPECIMENS EXAMINED

*C. v. violaceus*.—

## VENEZUELA:

(Ciudad Bolívar, Caicara, Altagracia, El Llagual, Suapure, La Prisión, Mato River, foot of Mt. Duida, mouth of Río Ocamo, and Boca de Sina), 15 ♂, 15 ♀, 1 ?♀.

(San Félix, Ciudad Bolívar, Santa Rosalia, Caño Guaniamo, Guanare, Barinas, Ciudad Bolivia, Santo Domingo, Sanariapo, and Caño Cata-niapo)<sup>1</sup>, 10 ♂, 7 ♀, 4 (?).

## COLOMBIA:

(La Morelia, Buenavista, Villavicencio, Barrigón, and "Bogotá"), 4 ♂, 5 ♀, 7 (?).

## ECUADOR:

(Río Suno, above Avila, below San José, Río Napo, "Napo or Amazon," Río Cumchumbleza, and Zamora), 3 ♂, 8 ♀, 4 (?).

## BRAZIL:

Río Juruá, 1 (?).

## PERÚ:

Puerto Indiana, 2 ♂, 3 ♀;

mouth of Río Curaray, 3 ♂, 3 ♀;

mouth of Río Santiago, 1 ♂, 1 (?);

"lower Napo," 1 (?);

Sarayacu, 1 ♂;

Santa Rosa, Ucayali, 2 ♀;

Lagarto, 1 ♂, 2 ♀;

mouth of Río Urubamba, 2 ♂, 2 ♀;

Puerto Bermúdez, 2 ♀<sup>2</sup>;

Chuchurras, 1 ♀;

Pizana, 1 (?);

Lopuna, 1 (?);

Río Comerciato, 1 ♂;

Candamo, 1 ♀;

Río Inambari, 1 ♀;

Río Tavera, 2 ♂, 1 ♀;

"Perú," 1 (?).

*C. v. pallidus*.—

## VENEZUELA:

Barcelona, 2 ♂<sup>1</sup> (including the type on deposit in the American Museum of Natural History);

Pfritu, 1 ♂<sup>1</sup>.

*Cyanocorax yncas longirostris* (Carriker)

*Xanthoura yncas longirostris* CARRIKER, 1938 (March 24), Proc. Acad. Nat. Sci. Philadelphia, p. 30—Soquián, Marañón Valley, Prov. Huamachuco, Dept. [La] Libertad, Perú; 8000 feet; ♂; Acad. Nat. Sci. Philadelphia.

<sup>1</sup> Specimens in Phelps Collection, Caracas, Venezuela.

<sup>2</sup> Specimens in Chicago Natural History Museum.

This form is unsatisfactory but has just enough average distinction from the general series of *yncas* (from Ecuador to Bolivia) to give it a place. The best criteria for it are the paler yellow belly and the tendency toward a longer and more slender bill. The tail and wing average shorter than in *yncas* but with considerable overlap as, indeed, there is in the length of bill, but in the last respect it is the length combined with slenderness that marks *longirostris*, not the length alone.

Thus I have the following figures from the material I have measured. The measurements are in millimeters; those of *yncas* are in brackets following those of *longirostris*.

	MALES	FEMALES
Wing	119-128 [121-131]	119-123 [120-130]
Tail	136-152 [144.5-162]	134-148 [140.5-152.5]
Bill from nostril	19- 20 [17-20]	18 [17-18.5]

The slenderness of the bill is not easily expressed in figures, since it is largely a matter of attenuation beyond the nostrils, and measurement of width at the nostrils does not always show the distinction. It is, however, usually appreciable by simple inspection.

I can find no increase of blue on the upper parts as described for *longirostris* nor any difference in the length of the frontal crest. Both features are equally variable throughout the range of *yncas yncas* and *longirostris*.

A problem exists with respect to the proper name for the Marañón population. There is just a chance that one or more of the various names applied to Peruvian birds of this species had as foundation a specimen from the Marañón region. However, since it appears to be impossible to determine this point, I have proposed a restricted type locality for each of the old names which will make them certain synonyms of *yncas* (itself suspect in this regard) and applicable to the population to which the name *yncas* has long been accepted, leaving the name *longirostris* with a fixed original locality unaffected.

The range of *longirostris* is quite restricted, being confined to the region above the Río Marañón without invading the eastern side of the Central Andes, the home of *yncas yncas*. Presumably the habitat of *longirostris* is somewhat drier than that of *yncas* (reflected in the lighter color of the belly in the former), since there is no height of land between the two sufficiently high to form a barrier.

Records probably assignable to *longirostris* are from Soquián, Malca, Balsas, Arenal, Callacate, Guajango, and Tabaconas.

*Cyanocorax yncas yncas* (Boddaert)

*Corvus yncas* BODDAERT, 1783, Table des planches enluminées, p. 38—based on Daubenton, Planches enluminées, pl. 625; Perú; I suggest Chilpes, Dept. Junín, as restricted type locality.

[*Corvus*] *peruvianus* GMELIN, 1788, Systema naturae, vol. 1, p. 373—based on Daubenton, Planches enluminées, pl. 625—Perú; I suggest Chilpes.

*P[ica] Chloronotos* WAGLER, 1827, Systema avium, genus *Pica* [= sign. 21, p. (9)]—Perú (coll. Ryals and Leadbeater, London); I suggest Chilpes.

*Pica luteola* LESSON, 1831, Traité d'ornithologie, p. 331—"Patrie?"; I suggest Cajamarquilla, Dept. Pasco (formerly Junín, Perú).

*C[yanocorax] peruanus* TSCHUDI, 1846, Fauná Peruana, Aves, p. 232—*nomen emend. pro peruvianus*.

Except for the unsatisfactory population in the Marañón Valley, already discussed, I can find no obvious distinctions in the birds from the extensive area between southwestern Colombia, eastern Ecuador, and northern Bolivia. The depth of blueness of the upper parts is variable, and birds from the same locality show various combinations of the different details of coloration. Some examples have the crown and nape distinctly yellowish and the back clear green without any blue; others at the opposite extreme show the top of the head with a wash of light blue overlying a whiter (less yellowish) ground, and the back prominently tinged with blue, particularly on the upper mantle. Some birds with a yellowish cap and green back have a bluish collar preceding the mantle; some have the blue collar without the bluish tinge on the rest of the mantle; some have the bluish mantle without the tinge of blue on the cap. I can find no clear significance in these variations other than that of an individual nature. An immature example has the back brighter green than the adults and the top of the head prominently yellowish with the back of the crown and nape overlaid with a dull slaty blue-green (near Dark Glaucous-Gray) unlike the color shown in any of the adults. Another immature example is somewhat similar but has the back of the head more definitely bluish and the anterior mantle with a trace of the same color. It may be added that the birds with the bluish tinge on the cap have the anterior part of the crown, immediately behind the blue frontal crest, without the bluish tinge, although the width of this clear area is variable.

It is presumed that the various names given in the synonymy of *yncas*, including the name *yncas* itself, are applicable to the widely distributed form (in Perú) and not the Marañón population. Since only one of the type specimens is likely to exist, as far as I know, and it is not certain nor certainly identifiable as to subspecies, the problem can best be solved

by arbitrarily assigning a type locality which will place all the names together under the form to which they have been applied since their inception. It is probable that most, or all, of these early names were given to specimens that reached Europe through the agency of travelers who obtained them from a coastal port such as Callao to which they had been brought from the interior. Chilpes, which I have proposed as restricted type locality for most of the names, is a locality where the form occurs and which would have been accessible as a source of the original material, and the same holds true for Cajamarquilla.

There is one disturbing factor in this arrangement. Pucheran (1853, Rev. et Mag. Zool., ser. 2, vol. 5, p. 549) reported a specimen in the Paris Museum as the type of Lesson's "*Pica luteola*," noting that it was from Perú and had been presented in 1827 by "M. Ajasson." Professor Berlioz has been kind enough to examine this specimen for me and writes that there is nothing but Pucheran's statement to connect this specimen with Lesson's species. It was presented by Ajassou, not Ajasson, and, what is more significant, carries a locality of origin—Caxamarquilla [= Cajamarquilla]. It seems unlikely that Lesson would have given the locality of origin as unknown in view of this information.

Unfortunately for exact certainty, there are several places of the same name in Perú, although not all of them are within the known range of this species. One, in extreme northeastern La Libertad, is within the range of the form *longirostris*, but Professor Berlioz writes that he is unable to find any distinctive characters in the "Caxamarquilla" specimen. Another place, in Pasco, is in the range of *yncas yncas* and on the old highway down the upper Huallaga, and specimens from that locality could easily have found their way to the port of Callao. Whether or not the specimen under discussion actually is Lesson's type, its locality of origin should be accepted as the place in Pasco, allowing the name to remain in the synonymy of *yncas*—the most satisfactory plan in view of the age of the specimen and its uncertain identity. To accept the La Libertad locality as the correct one would necessitate replacing *longirostris* by *luteola* with a type specimen that presumably shows none of the, at best, weak characters of that form. If the specimen in question is not the type of *luteola*, the same restriction of type locality may be made, as has been done in the foregoing synonymy, with the same result.

Peruvian records are from "Guayabamba" [= Huayabamba Valley], Palto, Chirimoto, Huambo, Río Jelashte, Tarapoto, Ropaybamba, Eneñas, Utcubamba, Huiro, and Pangoa. It may be added that Pangoa would appear to be at too low an elevation to support this Subtropical Zone



jay, if the maps I have consulted are accurate, but perhaps an outlier of the zone is near enough to furnish the necessary habitat. (Pangoa lies on the river of the same name in southeastern Junín.) Nearly the same situation exists with respect to the locality Tarapoto in northeastern San Martín, whence Berlepsch recorded two specimens of *yncas* collected by the brothers Garlepp. Tarapoto, also, is in the Tropical Zone, but an eminence not far away appears to be just high enough perhaps to give residence to the species.

I can find no characters that appear to be adequate for the recognition of a monotypical genus *Xanthoura* as distinct from *Cyanocorax*. *Xanthoura* (Bonaparte, 1850, *Conspectus generum avium*, vol. 1, p. 380) was proposed without generic description for three of what are now subspecies of *yncas*, and, as implied by the name, was to be distinguished by the yellow (and green) coloration which is still its only claim to recognition. Its other external features are to be found singly or in different combination in the various members of *Cyanocorax* under which I believe it is properly placed, as was proposed by Amadon (1944, *Amer. Mus. Novitates*, no. 1251, pp. 8-10).

Amadon mentions a proportionately longer tail in *C. [yncas] luxuosa* as a possible additional character of "*Xanthoura*" as compared with the rest of *Cyanocorax*, though not of generic value, but this distinction disappears in some of the forms of the species. In *yncas yncas*, for example, the tail/wing index is 119 as compared with the 130 he reports for *luxuosa*, while in the Marañón form, *longirostris*, it lowers to 83 which is within the range of figures given for various other congeners. The yellow color of the belly is shared, furthermore, by *C. chrysops*, although it is a fugitive color in that species, fading pronouncedly in museum specimens which it does not do so markedly in *yncas*.

The occurrence of *yncas yncas* in the southern portion of the Western Andes of Colombia, as recorded by de Schauensee (1951, *Caldasia*, vol. 5, no. 25, p. 883) is surprising but is confirmed by a specimen at hand from Cerro Munchique. Another skin, however, from Popayán, is not distinguishable from the series of *galeatus*, having a frontal crest pronouncedly longer than that of any specimen I have seen of *yncas*. The segregation of subspecies in this region requires further study.

Van Rossem (1934, *Bull. Mus. Comp. Zoöl.*, vol. 77, p. 396) proposed to adopt the name "*chloronota*" (*P[ica] chloronota* Wagler, 1829, *Isis*, vol. 7, col. 749) for the Venezuelan subspecies of *yncas* long known presenting a "*descriptio completior*" of his earlier (1827) "*Pica Chloro-* under the name *caeruleocephala*. Wagler, however, in this instance was *notos*" from material other than that he had at hand originally, and the

name *chloronota* thus must stand as an objective synonym of *chloronotos*. Van Rossem later, in personal conversation, conceded this fact. At the same time he maintained his conviction that the type of "*guatimalensis*" (*X[anthoura] guatimalensis* Bonaparte, 1850, *Conspectus generum avium*, vol. 1, p. 380—"Guatimala") was, as he had set forth in his 1934 paper, a specimen of *caeruleocephala* and hence that this subspecies was entitled to be called *guatimalensis* through priority. [This allocation was suggested by Sclater many years earlier (1879, *Ibis*, ser. 4, vol. 3, p. 88).] In his published account, van Rossem stated that the type agreed with *caeruleocephala* in "all of its characters." These presumably would be a longer frontal crest than in the Guatemalan birds, a deeper yellow belly (if unfaded), and larger size. Some specimens from the respective regions are very similar, but distinction should be possible, and hence the misnomer must be retained for the Venezuelan population in question. The Guatemalan population was renamed *centralis* by van Rossem (*ibid.*, vol. 77, p. 397).

*Cyanocorax yncas galeatus* ranges eastward in Colombia to the western side of the Eastern Andes, while on the eastern side of that cordillera another form replaces it. This form, *cyanodorsalis* Dubois, has, in recent years, been considered as extending into the mountains of northwestern Venezuela in spite of the fact that the birds of the Mérida region were once distinguished (*X[anthoura] yncas andicola* Hellmayr and Seilern, 1912, *Arch. Naturgesch.*, vol. 78, div. A, pt. 5, p. 72). Hellmayr later repudiated the form, possibly because it had been originally described through misidentification of west-Colombian *galeatus* as *cyanodorsalis*, but the material now at hand points to its probable validity. Thirteen "Bogotá" skins and three specimens from Quétame, Colombia, are distinguishable from 31 specimens from western Venezuela with which a single example from Gramalote, near Cúcuta, Colombia, agrees.

The west-Venezuelan and Gramalote birds have the blue of the cap a little lighter than that in the Bogotá series, with the nape rather duller and paler and merging gradually into the green of the mantle; the back is inclined to yellowish green, rarely tinged with bluish and never very strongly; and the tail is somewhat greener on the median rectrices and not so bluish as in the Bogotá series. The bases of the feathers of the hind neck and adjoining areas are extensively and decidedly yellowish.

The Bogotá birds, on the other hand, have a darker and more bluish green back; the top of the head averages stronger or darker blue with the hind neck nearly as deeply colored and with the blue carried over part of the mantle; the median rectrices are bluer green or even dark blue in

some lights. The bases of the feathers in the region of the hind neck are less prominently yellow than in the Mérida birds and sometimes largely dull grayish, with little yellow. The frontal crest averages longer, and the white post-frontal band averages wider, but these features are less constant than the others mentioned.

Resemblance of *andicola* is closer to *guatimalensis*, but the frontal crest averages slightly longer, the white post-frontal band is always well developed, and the bill is heavier, at least in most cases.

#### SPECIMENS EXAMINED

##### *C. yncas luxuosus*.—

###### UNITED STATES:

Texas, Brownsville, 27 ♂, 17 ♀, 1 (?);  
Lomitas, 3 ♂, 5 ♀;  
Cameron County, 3 ♂, 1 (?);  
Arroyo Bravo, 1 (?);  
Arroyo Colorado, 1 ♂.

###### MÉXICO:

Tamaulipas, Matamoros, 1 ♂;  
San Fernando de Presas, 1 ♀;  
Victoria, 4 ♂, 2 ♀;  
Tampico, 1 ♂;  
Río Corona, 1 ♀;  
Montemorelos, 1 ♂;  
Boquillo, 1 ♀;  
Veracruz, Orizaba, 2 (?);  
San Lorenzo, 1 ♂;  
Jalapa, 1 ♂, 2 ♀, 1 (?);  
Coátepec, 1 ♂, 1 ♀;  
Rivera, 1 ♂;  
south of Alvarado, 1 ♀.

##### *C. y. speciosus*.—

###### MÉXICO:

Jalisco, Los Masos, 2 ♂;  
Wakenakili Mountains, 2 ♂, 1 ♀;  
Salsipuede, 1 ♂;  
Hacienda Santa Gertrudis, 1 ♂.

##### *C. y. vividus*.—

###### MÉXICO:

Tehuantepec, Chimalapa, 4 ♂, 2 ♀.  
Santa Efigenia, 1 ♂, 2 (?).

##### *C. y. maya*.—

###### MÉXICO:

Yucatán, Mérida, 1 ♂, 1 (?);  
Quintana Roo, 1 ♂;  
Chichén Itzá, 3 ♀;  
Yucatán, 1 (?).

*C. y. centralis*.—

## GUATEMALA:

Secanquim, 17 ♂, 7 ♀, 1 (?);  
 Finca Chamá, 1 ♂, 3 ♀;  
 Vera Paz, 1 (?);  
 "Guatemala," 3 (?);  
 (Guatemalan skins), 7 (?).

## HONDURAS:

Santa Barbara, 2 ♂;  
 Las Penitas, 2 ♂, 2 ♀;  
 Cerro Nieve, 1 ♀;  
 Cerro Higuaita, 1 ♂;  
 San José, 1 ♀;  
 "Honduras," 1 (?).

## MÉXICO:

"Yucatán,"? (*errore*), 1 ♂, 1 (?).

*C. y. guatemalensis*.—

## VENEZUELA:

(Cerro de Avila, Cumanacoa, El Guácharo, Cumbre Chiquita, San Esteban, Campos Alegre Valley, hills of Quebrada Seca, Bucarito, Las Quiguas, Puerto La Cruz, coast range above La Guaira, 8 miles east of Caracas, Colonia Tovar, San Antonio, Cuchivano, La Latal, Río Neveri, and Carapas), 18 ♂, 14 ♀, 4 (?).

*C. y. andicolus*.—

## VENEZUELA:

(Mérida, El Valle, Hechisera, and Chama), 7 ♂, 7 ♀, 4 (?);  
 Táchira, Queniquea, 1 (?)<sup>1</sup>;  
 Zulia, Kunana, Sierra de Perijá, 3 ♀<sup>1</sup>;  
 Camp Base, Cerro Pejochaina, Perijá, 2 ♂<sup>1</sup>;  
 Cumbre, Cerro Pejochaina, 1 ♀<sup>1</sup>;  
 Falda o Cerro Yan-taima, 1 ♂<sup>1</sup>, 1 ♀<sup>1</sup>;  
 Barinas, Altamira, 1 ♀<sup>1</sup>;  
 Lara, Cubira, 1 ♂<sup>1</sup>;  
 Trujillo, Páramo Misisí, 1 (?)<sup>1</sup>;  
 Páramo Cendé, 1 ♂<sup>1</sup>.

## COLOMBIA:

Gramalote, 1 (?).

*C. y. cyanodorsalis*.—

## COLOMBIA:

Quétame, 3 ♂, 1 ♀, 1 (?);  
 "Bogotá," 11 (?).

*C. y. galeatus*.—

## COLOMBIA:

(Aguadita, La Frijolera, Antioquia, Los Tambos, Torné, Salento, Andalucía, Medellín, east of Palmira, Santa Elena, Subia, La Palma, El Edén, Anolaima, above Salento, and Popayán), 18 ♂, 16 ♀, 11 (?);  
 "Bogotá," 7 (?);  
 "Colombia," 1 (?).

<sup>1</sup> Specimens in Phelps Collection, Caracas, Venezuela.

*C. y. yncas*.—

## COLOMBIA:

Cerro Munchique, 1 ♀.

## ECUADOR:

(Baeza, below Baeza, Mirador, Ambato, Macas region, San José, Río Oyacachi below Chaco, lower Sumaco, lower Río Sardinas, Zamora, Sabanilla, and "Ecuador"), 21 ♂, 16 ♀, 9 (?).

## PERÚ:

La Lejía, 3 ♂;  
 San Pedro, 1 ♂, 1 (?);  
 Levanto, 2 ♂, 1 ♀;  
 Molinopampa, 2 ♂<sup>1</sup>, 1 ♀<sup>1</sup>;  
 Uchco, 1 ♂<sup>1</sup>;  
 Cueva Seca, 1 (?);  
 Nuevo Loreto, 1 (?);  
 Chinchao, 1 ♀<sup>1</sup>;  
 Cushi Libertad, 1 ♂, 1 ♀;  
 Chilpes, 1 ♂, 3 ♀, 2 (?);  
 Chanchamayo, 1 ♂;  
 Idma, 1 ♂, 1 (?);  
 San Miguel, 1 ♀;  
 San Miguel Bridge, 1 ♂;  
 Santa Rosa, Urubamba Canyon, 1 ♀;  
 Santo Domingo, 3 ♂, 1 ♀;  
 Inca Mine, 1 ♂, 1 ♀.

## BOLIVIA:

Yungas [La Paz], 1 (?);  
 Incachaca, 2 ♂, 1 ♀;  
 Roquefalda, 1 ♂.

*C. y. longirostris*.—

## PERÚ:

San Ignacio, 3 ♂, 3 ♀;  
 Lomo Santo, 1 ♂;  
 Jaén, 2 ♂, 1 ♀.

*Cyanolyca turcosa* (Bonaparte)

*Cyanocitta turcosa* BONAPARTE, 1853, Compt. Rendus Acad. Sci. Paris, vol. 37, p. 830—"de Colombie et de l'Equateur"; type in the Paris Museum said to be from "Colombie"; Puerres, Nariño, suggested by de Schauensee, 1951.

If the *armillata* group of this genus is to be united with the *viridi-cyana* group, as has been concluded by various recent authors, the present form should go with them. Except for its shorter and less strongly graduated tail, its distinctive characters are, in a sense, intermediate or at least show approximation first to one, then to the other, of the two series. There is no doubt of the close relationship of the three groups, but I be-

<sup>1</sup> Specimens in Chicago Natural History Museum.

lieve that there is just enough positive distinction to justify maintaining three species for them.

There is no proof of the occurrence of *turcosa* with either of the other two groups, but the ranges are very close and, especially in the case of the *armillata* group in the north, overlap would not be surprising. *Turcosa* has been found at Puerres, Colombia, on the western side of the Eastern Andes, while *armillata angelae* occurs at Pun, Ecuador, on the eastern side of the same range, very slightly to the southward but across a height of land that should be no barrier to these Temperate Zone birds. Only a little farther southward from Pun, *turcosa* occurs on the same side of the Eastern Andes (as well as across to the western side of the Western Andes).

In the case of *turcosa* and the *viridi-cyana* group, the ranges are a little farther apart, with *turcosa* at El Tambo, west of the Western Andes, and *v. jolyaea* at Tambillo, on the eastern side of the same range but a little farther away although separated by no zonal barrier. The proximity of ranges both in the north and south suggests the desirability of keeping *armillata*, *turcosa*, and *viridi-cyana* specifically distinct, at least until more is known of them.

I may add that *armillata angelae* (*Cyanolyca angelae* Salvadori and Festa, 1899, Boll. Mus. Zool. Torino, vol. 14, no. 357, p. 30—Pun, Ecuador) is rather weakly distinguishable from *quindiuna* of central Colombia, according to the limited material of *angelae* now before me. Hellmayr noted specimens from Valle de las Papas, Colombia, as being exactly like one of the paratypes of *angelae*, but these Valle de las Papas birds are not pronouncedly more deeply colored (more violaceous blue) than *quindiuna*, although they surpass the lighter examples of the latter form. Two birds without exact locality agree best with *angelae* and should go with that form if it continues to be recognized.

The specimens from El Tambo furnish the only records of *turcosa* in Perú.

#### *Cyanolyca viridi-cyana jolyaea* (Bonaparte)

*Cyanocitta jolyaea* BONAPARTE, Sept. 25, 1852, Tagebl. 29 Versamml. Deutsche Naturf. u. Aerzte in Wiesbaden, Beilage, Nachtrag, p. 89—"Amer. m."; type in Paris Museum is from Perú; Molinopampa suggested by Zimmer, 1930.

There is a certain amount of distinction observable between the birds of northern Perú and those from the Junín region in the central part of the country, but it is ill defined. The northern birds, as a rule, have the bill smaller or at least more slender, and the general color darker and

more violaceous, but there is overlap in both particulars and I believe it to be inadvisable to attempt subspecific separation.

Records assignable to *jolyaea* are from Tambillo, Pangoa, Higos, Tambo de Aza (Maraynioc), and Tamiapampa, as well as some of the localities from which material has been examined. Tschudi (1846, Fauna Peruana, Aves, p. 233) reported that he had seen the bird but once, on the western side of the mountains at 10,000 feet elevation. If this were correct, it would be the only record from that slope of the cordillera. He recorded *C. yncas* from the same western side of the cordillera at a lower elevation, but that record, also, has never been duplicated. However, in his "Reiseskizzen" (1846, vol. 2, p. 209) he notes both species in his account of his descent of the eastern slope, presumably below Tarma, Junín. It is safe to conclude, therefore, that he meant the eastern and not the western slope in both cases which agrees with other known facts of distribution of the two species. Tschudi recorded the bird as *viridi-cyana*, but it undoubtedly was the present form, *jolyaea*, which Bonaparte did not describe until a few years later.

*Cyanolyca viridi-cyana cyanolaema* Hellmayr

*Cyanolyca viridicyana cyanolaema* HELLMAYR, 1920 (Febr. 25), Verhandl. Ornith. Gesell. Bayern, vol. 13, p. 107—Chuhuasi [= Uruhuasi], 15 miles north of Ollachea, near Macusanai [= Macusani], Andes of Carabaya, Perú; 7000 feet; ♂; Munich Mus.

*Cyanolyca viridicyanea cuzcoensis* SCLATER, 1917 (Oct.), Ibis, ser. 10, vol. 5, p. 465, pl. 8, fig. 1—Huasampilla [= Huaisampillo], Perú; British Mus.

Material is too scanty to demonstrate any notable amount of individual variation. A young male from Limbani, Perú, has the blue of the throat both light and dull, with poorly defined whitish shaft marks on the upper and lateral parts and even less well-defined whitish terminal margins on the lower feathers preceding the strong white posterior border of the whole area which is evident even in the young bird. The white post-frontal band is present but somewhat weak, and the blue of the general plumage is relatively dull. I have no exactly comparable examples of *v. viridi-cyana*.

Two examples in the Chicago Natural History Museum, collected by Ockenden and labeled as from "Quispicanchis, Marcapata" are somewhat equivocal as I noted in an earlier paper (1930, Field Mus. Nat. Hist., zool. ser., vol. 17, p. 401). If the locality is correct, they must be *cyanolaema*, but they have the throat less bluish than should be the case in adults of that form. Hellmayr (1934, Field Mus. Nat. Hist., zool. ser., vol. 13, pt. 5, p. 42) concluded they were immature examples of *ciano-*

*laema* rather than wrongly labeled specimens of *viridi-cyana*, which assignment I cannot dispute at the present writing.

Records other than those matched by material examined are from Uruhuasi, Macusani, and Torontoy.

#### SPECIMENS EXAMINED

*C. a. meridana*.—

VENEZUELA:

(Mérida, El Escorial, Hechisera, Culata, and El Valle), 7 ♂, 9 ♀, 3 (?)

*C. a. armillata*.—

COLOMBIA:

Anolaima, 1 ♂;  
Choachi, 1 (?);  
"Bogotá," 3 (?).

*C. a. quindiuna*.—

COLOMBIA:

Laguneta, 2 ♂,  
"Quindía," 2 (?);  
Torné, 1 ♂, 1 ♀;  
"Columbia," 1 (?).

*C. a. angelae*.—

COLOMBIA:

Valle de las Papas, 1 ♂, 2 ♀;  
"Columbia," 1 (?).

No LOCALITY: 1 (?).

*C. turcosa*.—

COLOMBIA:

"Bogotá," 1 ♂, 1 (?).

ECUADOR:

Pichincha, 1 ♂, 2 ♀;  
west side of Pichincha, 1 ♂;  
Papallacta, 3 ♂, 1 ♀;  
above Baeza, 5 ♂, 5 ♀;  
upper Sumaco, 2 ♂, 3 ♀;  
"Quito," 1 (?);  
Taraguacocha, 3 ♂, 2 ♀;  
El Paso, 1 ♀;  
Loja, 4 ♂, 2 ♀, 1 [♀];  
Ambato, 1 (?);  
Napo, 1 (?);  
"Ecuador," 2 (?).

PERÚ:

El Tambo, 2 ♂, 1 ♀.

*C. v. jolyaea*.—

PERÚ:

San Pedro, 2 ♂, 1 ♀;  
Chachapoyas, 1 ♂;



Leimebamba, 1 ♂, 2 ♀;  
 Molinopampa, 1 ♂<sup>1</sup>, 4 ♀<sup>1</sup>;  
 above Panao, 4 ♂<sup>1</sup>, 1 ♀<sup>1</sup>;  
 Rumicruz, 4 ♂, 2 ♀.

*C. v. cyanolaema*.—

PERÚ:

Limbani, 2 ♂, 1 ♀;  
 Huaisampillo, 1 ♂.

*C. v. viridi-cyana*.—

BOLIVIA:

Nequejahuira, 2 ♂, 1 ♀, 2 (?);  
 Chaco (Yungas), 1 ♀;  
 San Cristóbal, 1 ♀;  
 Cocapata, 2 "♂?";  
 Incachaca, 1 ♀.

*Anthus furcatus brevirostris* Taczanowski

*Anthus brevirostris* TACZANOWSKI, 1874, Proc. Zool. Soc. London, p. 507—  
 Junín, Perú; ♂; Warsaw Mus.

A good series of specimens, in both fresh and worn plumage, shows that *brevirostris* can be distinguished from *furcatus furcatus* by the buffier, less grayish, margins of the dorsal feathers, especially noticeable on the uropygium where reduced dark streaking emphasizes the light marginal coloration. The wing bars and the margins of the tertials are broader as well as more buffy. Wing and tail appear to average slightly larger, but there is considerable overlap in this particular.

The differences of coloration are somewhat less pronounced in worn plumage, but still noticeable. I am unable to confirm the possibly greater extension of white on the tail that I at one time noted (1930, Field Mus. Nat. Hist., zool. ser., vol. 17, p. 413). It may be pointed out here that the pattern of the tail is an excellent accessory character of this species, being approached by occasional specimens of the long-clawed *A. correndera* or the little *A. chii* groups. The outer rectrix has a dark stripe on the inner web, extending from the shaft at the base to the inner margin somewhere beyond the middle of the feather. The subexternal has the inner margin broadly dark, leaving a white stripe adjoining the shaft that usually begins near the base of the feather and extends quite to the tip, widening gradually distad if not of nearly equal width throughout.

There are few records of this bird from Perú where it is confined to high altitudes; Junín, Ingapirca, Santa Lucia, Desaguadero, and Ttica-Ttica.

<sup>1</sup> Specimens in Chicago Natural History Museum.

## SPECIMENS EXAMINED

*A. f. furcatus*.—

## BRAZIL:

Rio Grande do Sul, Quinta, 1 ♂, 2 ♀;  
 Palmares, 1 ♂, 1 ♀;  
 south of Santa Victoria, 2 ♀.

## ARGENTINA:

Buenos Aires, 1 ♂;  
 Mar del Plata, 1 ♂;  
 Barracas al Sud, 5 ♂, 2 ♀.

*A. f. brevisrostris*.—

## BOLIVIA:

Valle Grande, 2 (?);  
 Cuchacancha, 1 ♀;  
 Poopo, 1 ♂;  
 Hanguaqui, 1 ♂.

## PERÚ:

Tirapata, 7 ♂, 3 ♀;  
 Puno, 5 ♂, 1 ♀, 4 ♂<sup>1</sup>;  
 Anta, 2 ♂;  
 Huánuco Viejo, 2 ♀<sup>1</sup>.

*Anthus chii peruvianus* Nicholson

*Anthus peruvianus* NICHOLSON, 1878, Proc. Zool. Soc. London, p. 390—  
 "Catarindon" [= Catarindos] Valley and Islay, Perú; ♂ type from Catarindos  
 Valley in British Mus.

The coastal Peruvian subspecies is perhaps the best marked of the conspecies. Its lighter coloration reflects the arid terrain which is its habitat.

Records are from Catarindos Valley, Islay, Tambo Valley, Huacho, and Lima, as well as from Trujillo from which locality a number of specimens are listed below. Hellmayr (1935, Field Mus. Nat. Hist., zool. ser., vol. 13, pt. 8, p. 92, footnote) has already called attention to the presumed errors in the records from Arequipa and Tinta. Both localities are at considerably higher elevations than this species is otherwise known to inhabit.

Since describing *A. chii chacoensis* (Jan. 29, 1952, Proc. Biol. Soc. Washington, vol. 65, p. 31) I have examined another specimen of that form as well as two more *c. chii*, all from Colonia Nueva Italia, Paraguay. The specimen of *chacoensis* was collected in August and presumably not breeding, so it adds no clue to the breeding range of that form. Nevertheless, the occurrence of both *chii* and *chacoensis* at the same locality is now demonstrable. Furthermore, more extended studies of the various

<sup>1</sup> Specimens in Chicago Natural History Museum.

species of pipits have given greater appreciation of the constancy and diagnostic value of the tail pattern and conformation of the hind claw in these birds, in both of which features (as well as some characteristics of color) *chacoensis* maintains its individuality. I now believe, therefore, that *chacoensis* is entitled to recognition as a separate species.

Although I gave no reasons in the paper cited for adopting the specific name *chii* in preference to *lutescens*, I believe the course was justifiable. A careful reading of Azara's description of his *Alondra chii* (no. 146), the basis for *Anthus chii* Vieillot, shows no such uncertainty of application as Hellmayr (1921, El Hornero, vol. 2, p. 183, footnote) thought to exist. Even were the details of coloration less precise than they are, the short tail and tarsi recorded by Azara indicate the present species or *chacoensis* while the long hind claw (noted as 6 lines) and the pattern of the tail (with a longitudinal white stripe on the subexternal rectrix) narrow the application still further. Neither of these features belongs to *chacoensis*.

*Anthus chii parvus*, the subspecies found in Panamá, is very similar to *abariensis* of Venezuela, the Guianas, and northeastern Brazil, and on the upper parts shows no appreciable distinctions. Below, however, the belly has more color, showing less contrast to the ground color of the breast, while the pectoral streaking may be slightly heavier. The outer two pairs of rectrices may possibly have less dusky markings, but there is so much overlap in this particular that it is not of much service. *Parvus* is slightly smaller, on average, than *abariensis*, but again there is much overlap. *Parvus* (including both sexes and non-sexed skins) has the wing 56–63 mm. and the tail 38–45, while *abariensis* shows the wing 58–65 and the tail 41.5–48. Only 12 of 27 *parvus* have the wing 60 mm. or over, while all but one of 20 *abariensis* do so. The slight difference indicated might well disappear in larger series. However, since the ranges are well separated, the two forms may well be given continued recognition in spite of the weak differences.

I have seen no Bogotá skins of the species and cannot say what their affinities may be.

In citing the material examined, I do not repeat the specific localities detailed in my 1952 paper but cite only the totals for each country with subsequent additions.

#### SPECIMENS EXAMINED

*A. c. abariensis*.—

VENEZUELA:

(Previously cited), 6 ♂, 2 ♀, 2 (?).

CAYENNE: 1 ♂.

BRITISH GUIANA: 2 ♂, 2 (?).

## BRAZIL:

(Previously cited), 3 ♂;

Limão, 2 ♂.

*A. c. chii*.—

BRAZIL: 11 ♂, 9 ♀, 10 (?).

ARGENTINA: 9 ♂, 4 ♀, 1 (?).

## PARAGUAY:

(Previously cited), 6 ♂, 4 ♀;

Colonia Nueva Italia, 2 ♂.

## BOLIVIA:

Todos Santos, 1 ♂, 1 ♀;

Trinidad, Río Mamoré, 1 ♂, 1 ♀.

*A. c. peruvianus*.—

## PERÚ:

Begueta, Lima, 1 ♀;

Trujillo, 5 ♂, 4 ♀;

Moquegua, 1 ♀;

Ilo, 1 ♂;

Cocachacra, 5 ♂;

Chorrillos, 3 ♀.

*A. c. parvus*.—

## PANAMÁ:

Panamá, 1 ♂ (cotype), 1 ♀ (cotype), 1 “?♀”;

Savanna near Panamá, 2 ♂, 1 ♀, 1 (?);

La Chorrera, 2 ♂;

Monte Oscuro, 2 ♂, 2 ♀;

Frances, Chiriquí, 2 ♂, 3 ♀;

Agua Dulce, 1 ♂, 1 “♂?”; 2 ♀;

Santiago, Veraguas, 2 ♂, 3 ♀, 1 “?♀”.

*A. chacoensis*.—

ARGENTINA: 2 ♂, 3 ♀ (including type).

## PARAGUAY:

(Previously cited), 2 ♀;

Colonia Nueva Italia, 1 ♀.

*Anthus correndera calcaratus Taczanowski*

*Anthus calcaratus* TACZANOWSKI, 1874, Proc. Zool. Soc. London, p. 507—marshes of [Lake] Junín.

The Peruvian form of this species is extremely like the north-Argentine *catamarcae*, if the single available specimen of *calcaratus* is normally colored. The measurements are slightly smaller than those of *catamarcae*, but the upper parts are no more deeply ochraceous (on the lighter markings) than those of the Argentine birds. A larger series might substantiate the supposed character.

Records are few and include only Puno, Anta, and Lake Junín, including Ingapirca where the specimen at hand was obtained.

## SPECIMENS EXAMINED

*A. c. calcaratus*.—

## PERÚ:

Ingapirca, 1 ♂.

*A. c. catamarcae*.—

## ARGENTINA:

Catamarca, Laguna Blanca, 1 ♂;

Antofogasta, 1 ♀;

Ama Pampa, Puna, 1 ♂.

*A. c. chilensis*.—

## CHILE:

(Punta Arenas, Ancud, Isla Mocha, Maquehué, Angol, Tierra del Fuego, Bertrand Island, "53°40' S. and 64° W.," and "Chili"), 13 ♂, 4 ♀, 3 (?).

*A. c. correndera*.—

## URUGUAY:

Mouth of Río Jaguarão, 3 ♂.

## BRAZIL:

Santa Catarina, Palmital, 1 ♂;

São Paulo, São Sebastião, 2 ♂, 6 ♀;

Rio Grande do Sul, Casino and west of Lagôa Manguera, 1 ♂, 1 ♀.

## ARGENTINA:

(Barracas al Sud, Chascomús, Mar del Plata, and Ajo Los Ingleses), 10 ♂, 4 ♀, 1 (?).

*A. c. grayi*.—

## FALKLAND ISLANDS:

Port Stanley, 18 ♂, 7 ♀, 1 (?);

Port Stephens, 1 ♂, 1 ♀;

East Falkland Island, 1 ♂.

*Anthus hellmayri hellmayri* Hartert and Venturi*Anthus hellmayri* HARTERT AND VENTURI, 1909 (Dec.), Novitates Zool., vol. 16, no. 2, p. 165—Tucumán, Argentina; ♂; Amer. Mus. Nat. Hist.*Anthus bogotensis pallidus* CARRIKER, 1933 (Mar. 24), Proc. Acad. Nat. Sci. Philadelphia, vol. 85, p. 34—Oconeque, Prov. of Sandia, Dept. of Puno, 8000 feet, Perú; ♂; Acad. Nat. Sci. Philadelphia.

A single Peruvian specimen is at hand, from Limbani, near Oconeque. I have not seen the type of *pallidus* which Bond and de Schauensee (1941, Proc. Acad. Nat. Sci. Philadelphia, vol. 94, p. 267) found to belong to the *hellmayri* group and not to *bogotensis* as described. Through the kindness of Mr. Bond I have, however, examined part of the Bolivian series with which they associated the Oconeque bird and which they thought might belong to the subspecies *dabbenei*. These birds are all *hellmayri hellmayri* as is my Limbani specimen and as the relative positions of the localities would further indicate, including, for the Bolivian series, some breeding examples. *A. h. dabbenei* unquestionably migrates northward in winter from its breeding range, well to the southward in Argen-

tina and Chile, and reaches the Tucumán region of Argentina where *h. hellmayri* is resident, but at present it is not known to go beyond this area, although occurrence in southern Bolivia would not be unduly surprising.

*Dabbenei* is a paler bird than *hellmayri*, with the pale markings on the outer rectrices more nearly (or quite) whitish and more extensive, including a white spot on the tip of the third (from outside) rectrix which is no more than weakly suggested in one or two *hellmayri* at hand and even there without the extensive white stripe on the second feather. The pale dorsal streaking also is extensively whitish without the brown coloration that is pronounced in most *hellmayri*.

In the allied *A. h. brasiliensis* there is usually a little larger light area on the second rectrices than in *hellmayri*, but it is equally smoky in tone instead of the purer whitish of *dabbenei*. Included in the series of that form is one example from Ipiranga, São Paulo, Brazil, bearing the name "*Anthus nattereri*" on the label (from the Rothschild Collection). The identification is, I believe, incorrect, although I have only a single example of *nattereri* for comparison. In *nattereri*, the pronounced yellowish tone of coloration, the white mid-belly in contrast to the buffy flanks and under tail-coverts, the pointed rectrices, the relatively heavy bill, and the long hind toe and claw together equaling the tarsus are not found in the Ipiranga bird. The tail of the specimen of *nattereri* is incomplete, but what appears to be the second outer rectrix has as much whitish (of a smoky hue) as the most strongly marked example I have of *dabbenei* and decidedly more than in any *brasiliensis*, in which respect the Ipiranga bird again agrees with the *brasiliensis* series.

Other than the type of "*pallidus*" and the Limbani specimen, there are no recorded specimens of *hellmayri* from Perú.

#### SPECIMENS EXAMINED

##### *A. h. hellmayri*.—

###### PERÚ:

Limbani, 1 ♂.

###### BOLIVIA:

Cochabamba, Chorros, 1 ♂<sup>1</sup>;

Santa Cruz, Samaipata, 2 ♂<sup>1</sup>, 1 ♀<sup>1</sup>;

Chuquisaca, Padilla, 1 ♀<sup>1</sup>.

###### ARGENTINA:

Tucumán, 3 ♂ (including type), 1 ♀;

Taff del Valle, 4 ♂, 6 ♀;

Sarmiento, 2 ♂, 1 ♀;

Las Pavas, 2 ♂.

<sup>1</sup> Specimens in the Academy of Natural Sciences of Philadelphia.

*A. h. dabbenei*.—

## ARGENTINA:

Tucumán, Sarmiento, 1 ♂<sup>1</sup>;Angaco Sud, 1 ♂<sup>1</sup>;Concepción, 1 ♂<sup>1</sup>, 1 ♀<sup>1</sup>.*A. h. brasilianus*.—

## BRAZIL:

Rio de Janeiro, Alto Itatiaya, 2 ♂, 1 ♀;

Rio Grande do Sul, (Conceição do Arroio, San Fernando de Paula, Quinta, Vaccaria, Palmares, Candiota, north of Tahyn, and Ipiranga), 18 ♂, 2 ♀.

## ARGENTINA:

Mar del Plata, 1 ♂.

*A. nattereri*.—

## BRAZIL:

Rio Grande do Sul, Conceição do Arroio, 1 ♂.

*Anthus bogotensis immaculatus* Cory

*Anthus bogotensis immaculatus* CORY, 1916 (Aug. 30), Field Mus. Nat. Hist., ornith. ser., vol. 1, p. 345—mountains east of Balsas, Perú; 10,000 feet; ♂; Chicago Nat. Hist. Mus.

The reduced spotting on the breast of the Peruvian birds, the more deeply colored inner margins of the remiges, and the generally paler hues of the under parts set this form sufficiently apart from *bogotensis* to justify its retention as a distinct subspecies.

The sharp definition of the dark and light areas on the outer rectrices in comparison with the condition in Venezuelan birds, to which I called attention in an earlier paper (1930, Field Mus. Nat. Hist., zool. ser., vol. 17, p. 412) is confirmed in the material now before me. It is necessary, however, to establish the fact that the Venezuelan birds differ in the same way from Colombian specimens (of which I had none in 1930). Since the Colombian birds are true *bogotensis*, the Venezuelan population is entitled to separation and is described below.

Peruvian records presumably assignable to *immaculatus* are from Cutervo, Patás, Atuén, above Pomayaco, Huancavelica, La Raya, and Lauramarca. The bird described as *Anthus bogotensis pallidus* proves to have been a misidentified *A. h. hellmayri* as is discussed under that heading.

Specimens from Bolivia, kindly lent by Mr. James Bond of the Academy of Natural Sciences of Philadelphia, are closest to *A. b. shiptoni* of northwestern Argentina, although not exactly similar. The light areas of the outer rectrices are not so whitish as in some (but not all) Argen-

<sup>1</sup> Winter visitants.

tine specimens. The inner margins of the remiges are rather dull and not so warmly colored as in *immaculatus*, but the pectoral markings are relatively heavy, and at least one of the specimens has the belly lighter and less buffy than the Peruvian series and more as in the Argentine birds. This coloration of the inner margins of the remiges is variable in Ecuadorian birds. Many of the latter agree with Colombian and Venezuelan specimens in this particular, but some are not different from Peruvian specimens, although the Ecuadorian series as a whole shows the darker under parts and heavier pectoral markings that are found in *b. bogotensis*. The series at hand indicates fairly logical association of Ecuadorian and Colombian populations.

One feature, however, points to possible distinction. The Ecuadorian males before me show a wing length of 79.5 to 87 mm.; females, 78–84. The Colombian specimens, all non-sexed (except one young male) have the wing 75–79. If they were males, the difference might be significant, but there is no assurance of it. Sclater's type of *bogotensis* was given a wing length of 3.2 inches [= 81.3 mm]. Peruvian *immaculatus* shows 75.5–84 for the males and 74–75.5 for the females, and *shiptoni*, 79–87.5 and 79.5–82, respectively. The Venezuelan form described below is large, with wings 83–87 for the males and 82 in the single female. The alternation of larger measurements in Venezuela, Ecuador, and Bolivia and Argentina, and smaller in Colombia and Perú will need to be confirmed by longer series of sexed material before it becomes established as accurate. The comparative lengths of tails, it may be added, follow those of the wings although less pronouncedly.

*Anthus bogotensis meridae*, new subspecies

TYPE: From Escorial, near Mérida, Venezuela; altitude 2500 meters. No. 500471, American Museum of Natural History. Adult male collected January 28, 1896, by Salomón Briceño Gabaldón.

DIAGNOSIS: Much like *A. b. bogotensis* of eastern Colombia and Ecuador, but differs by having the dark and light areas on the outer rectrices less contrasting and less sharply defined. Size possibly larger than the Colombian portion of the population of *bogotensis* as discussed elsewhere.

RANGE: Northwestern Venezuela in the Andes of Mérida and probably Táchira and Trujillo.

DESCRIPTION OF TYPE: Upper surface with blackish centers and pale borders, buffy on the top of the head and the hind neck, more grayish on the lower mantle, and duller and browner on the uropygium. Sides of



head, including a superciliary stripe, buff; auriculars with rather indistinct darker streaks; malar region in part with fine brown dots. Throat and belly Pale Ochraceous-Buff  $\times$  Light Buff; breast warmer and more tawny, with paler tips, marked with prominent, wedge-shaped spots of blackish brown that become smaller on the sides, weaker on the upper flanks, and again prominent but streak-like on the lower flanks; dorsal portion of the flanks darker and browner than the breast; under tail-coverts light buff, with dark streaks on the longer feathers. Remiges dark brown; primaries with fine pale buffy outer margins; secondaries with these margins broader and more deeply colored; tertials edged with whitish; upper wing-coverts with blackish centers and buff margins, giving a spotted appearance, most conspicuous on the median series; under wing-coverts Pinkish Buff; inner margins of remiges dull Tilleul-Buff at least on basal portions of outer feathers, more extensively on the inner ones. Outer rectrices with outer webs and tips whitish; a dark brown stripe on inner margin of inner web from the shaft near the base diagonally to the inner margin about at the terminal fourth; rest of inner web light grayish brown, not sharply defined from the darker area except near the base; subexternal pair with a pale tip and light outer margin, including the whole outer web on the distal portion; remaining rectrices blackish, with light outer margins. Bill (in dried skin) with maxilla blackish; mandible basally dull yellowish, terminally dusky; feet near Clay Color. Iris dark blue, according to the label. Wing, 85 mm.; tail, 62; exposed culmen, 13; culmen from base, 19; tarsus, 26.

REMARKS: Range of measurements: males, wing, 83–87 mm. (84.8); tail, 57–65 (60.5); culmen from base, 16.5–19 (17.3); tarsus, 25–26 (25). Female: wing, 82; tail, 57; culmen from base, 18; tarsus, 25.

The distinction in the pattern of the tail is seen best in comparison with Ecuadorian and other more southern specimens. Colombian examples of *bogotensis* usually have the tail markings in agreement with these others, but some are less well marked although not in full agreement with *meridae*. It is possible that *meridae* will be found on the Colombian side of the Venezuelan border, but I have no assurance of it at the moment.

#### SPECIMENS EXAMINED

##### *A. b. meridae*.—

###### VENEZUELA:

Escorial, 4 ♂ (including type), 1 ♀;

La Culata, 2 ♂;

Quintero, 1 ♂;

"Mérida ?," 1 (?).

*A. b. bogotensis*.—

## COLOMBIA:

- Cundinamarca, 1 ♂;  
 Subia, 2 (?);  
 Choachi, 2 (?);  
 "Bogotá," 2 (?).

## ECUADOR:

- Mt. Chimborazo, 4 ♂, 3 ♀;  
 Valle de Vicioso, near Cotopaxi, 1 ♀;  
 Cayambe, 1 ♂;  
 Antisana, 1 ♀;  
 Cerro Huamani, 1 ♂, 1 ♀;  
 Taraguacocha, 1 ♂;  
 Bestión, 3 ♂, 3 ♀, 1 (?);  
 "Quito," 1 (?);  
 "Ecuador," 2 (?).

*A. b. immaculatus*.—

## PERÚ:

- Mountains east of Balsas, 1 ♂ (type) <sup>1</sup>;  
 mountains above Huánuco, 2 ♂ <sup>1</sup>;  
 Huamachuco, 2 ♂;  
 Cajamarca, 1 ♀;  
 Chachapoyas, 3 ♂, 1 ♀;  
 Junín, 1 ♂.

*A. b. shiptoni*.—

## BOLIVIA:

- Incachaca, Cochabamba, 2 ♂ <sup>2</sup>;  
 Cerro del Juno, 1 ♂ <sup>2</sup>.

## ARGENTINA:

- Aconquija, 2 ♂;  
 above Taff del Valle, 7 ♂, 8 ♀.

*"Anthus paytensis Lesson"*

*Anthus Paytensis* LESSON, 1837, Histoire naturelle et generale . . . (Complement de Buffon), vol. 8, p. 167—Payta, Perú.

The original description of this supposed *Anthus* shows clearly that it is not a pipit but is certainly the bird later redescribed as *Geositta peruviana paytae* by Ménégau and Hellmayr (1906, Mém. Soc. Hist. Nat. Autun, vol. 19, p. 46—Payta, Dept. Piura, Perú). Professor Berlioz writes me that there is a specimen in the Paris Museum, labeled in Hellmayr's handwriting: "*Geositta paytensis*, type de l'espèce," which may be Lesson's specimen. It was collected by Gaudichaud, possibly on the voyage of the "Uranie." The type of *paytae* was obtained on the voyage of the "Venus."

<sup>1</sup> Specimens in Chicago Natural History Museum.

<sup>2</sup> Specimens in the Academy of Natural Sciences of Philadelphia.

The curious fact is that Lesson's name appears to have escaped consideration or, at least, definite assignment in spite of the clarity of the description. Sharpe (1885, Catalogue of birds in the British Museum, vol. 10, p. 629) cites it as an *Anthus* unidentified by him. Gray (1869, Hand-list of birds, vol. 1, p. 250) lists it but includes Brazil in its range for some unaccountable reason. Bonaparte (1850, *Conspectus generum avium*, vol. 1, p. 249) similarly lists it from Perú, without comment. Nowhere in Hellmayr's published writings can I find any mention of it either under *Anthus* or *Geositta*, and Dr. A. L. Rand, of the Chicago Natural History Museum, writes me that he has been unable to find it discussed in Hellmayr's manuscript notes now preserved in that institution, which is particularly surprising in view of the Paris Museum specimen mentioned.

Regardless of these uncertainties, the application of Lesson's name is undoubted. The description fits "*Geositta peruviana paytae*" in detail, and that form is the only *Geositta* known from Payta and also the only bird occurring at Payta to which the diagnosis can apply. It is necessary, therefore, to use the older name for the subspecies in question. Fortunately, the two names are so similar that confusion will be at a minimum. Unfortunately, *paytensis* also antedates *peruviana*, the name of the species (*Geositta peruviana* Lafresnaye, 1847, *Rev. Zool.*, vol. 10, p. 75), and it will be necessary to call the two conspecies *Geositta paytensis paytensis* (Lesson) and *Geositta paytensis peruviana* Lafresnaye, respectively.

Only the necessity of disposing of a supposed Peruvian *Anthus* has brought the discussion of this case into the treatment of the family Motacillidae.

#### CORRIGENDA

Zimmer, "Studies of Peruvian birds, no. 57" (1950, *Amer. Mus. Novitates*, no. 1463), page 24, line 8 from bottom: For "Lawrence's" read "Elliot's."

Zimmer, "Studies of Peruvian birds, no. 60" (1951, *Amer. Mus. Novitates*, no. 1513), page 3, lines 13 and 21: For "*Eugenes*" read "*Eugenia*."

