

# AMERICAN MUSEUM NOVITATES

PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY  
CITY OF NEW YORK      NOVEMBER 24, 1950      NUMBER 1475

---

STUDIES OF PERUVIAN BIRDS. NO. 59

THE GENERA *POLYTMUS*, *LEUCIPPUS*,  
AND *AMAZILIA*

BY JOHN T. ZIMMER

I am indebted to Mr. James Bond and Mr. Rodolphe M. de-Schauensee of the Academy of Natural Sciences of Philadelphia, and to Dr. William H. Phelps of Caracas, Venezuela, for the loan of important comparative material used in the following studies.

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

## ***Polytmus theresiae leucorrhous* Sclater and Salvin**

*Polytmus leucorrhous* SCLATER AND SALVIN, 1867, Proc. Zool. Soc. London, p. 584—"Cobati, Rio Negro" [=Rio Cubate, an affluent of the Rio Içanna], Brazil; cotypes in British Mus.

*Polytmus leucoproctus* [errore] G. R. GRAY, 1869, Handlist of birds, pt. 1, p. 128.

Two specimens from northern Perú are not distinguishable from north-Brazilian and south-Venezuelan specimens of this form. Neither Peruvian specimen has any green markings on the under tail-coverts, although Taczanowski (1884, Ornithologie du Pérou, vol. 1, p. 373) describes a north-Peruvian male as having a small green spot on these feathers.

A good series of specimens from other parts of the range shows that the character is not perfectly constant as, indeed, Taczanowski's description also indicates. Eight birds from Mt. Duida have immaculate under tail-coverts, and two have a very slight green or brown shaft-streak on a few feathers. Thirteen of 21 Río Huaynia birds have the coverts pure white; six have a slender

green streak on a few feathers; two have a more prominent central spot of green. Upper Rio Negro (Brazil) birds have the proportion of 2/2/5. None of these last five or the two most strongly marked Huaynia birds have the coverts entirely green as they are in many of the males of typical *theresia*, but show a prominent white border enclosing the green spot. Hence, since the localities are very near the type locality of *leucorrhous* and since some of the examples show the immaculate coverts, I refer all these specimens to *leucorrhous*.

Some of the specimens from the Rio Madeira have the under tail-coverts no more solidly green than the extreme examples mentioned from the Huaynia and the upper Negro, but those so marked are either females or young males, with the tips of the outer three or four pairs of rectrices white. Only one bird in adult male plumage (although sexed as a female) is at hand from the Madeira, and it has the under tail-coverts almost entirely green, agreeing with males from Pará, the Tocantins, and the Tapajoz, from which it is evident, as claimed by Hellmayr, that the Madeira population belongs to typical *theresia*. Purús birds, according to Todd, are *leucorrhous*.

Although the type locality, "Cobati," is in the general upper Rio Negro region of northern Brazil, it is not directly on the Negro. Wallace, in his "Travels on the Amazon," recounts his visit to the Rio Cobati (Cubate on the Millionth Map of the American Geographical Society), a southern affluent of the Rio Içanna, up which he traveled for parts of three days before establishing himself at a native village he does not name. This is undoubtedly the place where the present form was collected.

Sclater (1892, Catalogue of birds in the British Museum, vol. 16, p. 177) indicates specimens collected by Bartlett on the upper Amazon as [co]types of *leucorrhous*, but the original description mentions no locality but "Cobati" which is therefore accepted as the true type locality.

I am unable to appreciate any generic distinction among *Polytmus*, *Smaragdites*, and *Waldronia*. All three have the same peculiar style of iridescence and the same general coloration, with the tips of the outer three or four pairs of rectrices of the females and young males broadly white and the throat similarly spotted. "*Smaragdites*" has a small amount of white at the bases of the rectrices, "*Waldronia*" has more, and *Polytmus* (*sensu stricto*) has the most. "*Smaragdites*" has no white tips on the rectrices of the

adult males, "*Waldronia*" has more, and *Polytmus* (*sensu stricto*) has most. All three have the same shape of bill. *Polytmus guainumbi* has fine serrations toward the tip of the maxilla, "*Smaragdites*" does not, and while "*Waldronia*" appears to lack them, there is, in various specimens, a definite suggestion of irregular serration along the terminal part of the maxillary tomia. I believe, therefore, that there is not sufficient ground for the generic separation of *guainumbi* from the other two species, each of which, like *guainumbi*, is the type of a supposed monotypic genus. I propose the inclusion of "*Smaragdites*" and "*Waldronia*" in the genus *Polytmus*, including *Polytmus theresiae theresiae*, *Polytmus theresiae leucorrhous*, and *Polytmus milleri*.

Peruvian records are from Jeberos (including "Huallaga River"), upper Amazon, and "Siguin, Ecuador" [= Siguiri, Perú].

#### SPECIMENS EXAMINED

##### *P. t. leucorrhous*.—

###### VENEZUELA:

Mt. Duida (Esmeralda, LaLaja, Campamento del Medio, Valle de los Monos, and Savana Grande), 7 ♂, 3 ♀.

###### COLOMBIA:

Río Huaynia, junction with the Casiquiare, 20 ♂, 1 [♀].

###### BRAZIL:

Rio Negro (Cucuhy and Tatú), 9 ♂.

###### PERÚ:

Jeberos, 1 ♀;

"Perú," 1 ♂.

##### *P. t. theresiae*.—

CAYENNE: 5 ♂, 2 ♀.

###### SURINAM:

("Surinam" and near Paramaribo), 1 ♂, 1 ♀.

###### BRITISH GUIANA:

(Tumatumari, Annai, Merumé Mountains, Wismar, and "British Guiana"), 4 ♂, 1 "♀" [= ♂], 1 ♀.

###### BRAZIL:

Rio Jamundá, Faro, 1 ♂;

Rio Negro (Manaos and Muirapinima), 2 ♂, 4 ♀, 1 "♂" [= ♀];

Pará (Pará and Prata), 2 ♂;

Rio Tocantins, Mocajuba, 3 ♂, 1 ♀, 1 (?);

Rio Tapajoz (Igarapé Amorin, and Igarapé Brabo), 3 ♂, 1 ♀;

Rio Madeira (Borba and Humaythá) 4 ♂, 1 "♀" [= ♂], 1 ♀;

Rio Preto, Santa Isabel, 1 ♀.

### **Leucippus baeri** Simon

*Leucippus Baeri* SIMON, 1901, Ornith., vol. 11, p. 202—Tumbes, Perú = Caleta Grau, Province of Tumbes; cotypes (not sexed) in Amer. Mus. Nat. Hist.

The three original specimens of this species are at hand. They are labeled "type" but must be considered as cotypes. The original description cites no individual specimen as holotype.

A fourth individual from Alamor, Piura, demonstrates a slight extension of range to the southward. This bird, a male (the cotypes are not sexed), differs from the other examples to a minor degree by having the chin a little more whitish, with faintly indicated darker centers, the breast slightly grayer and less brownish, and the subterminal dusky band on the outermost rectrices broader, with a correspondingly narrower grayish terminal area without the white terminal edge that may, however, have been worn off since the tail is somewhat abraded. All specimens have the tips of the median rectrices golden brown as described by Simon.

There are no other Peruvian records. Alamor is not to be confused with the town of the same name in southern Ecuador, farther upstream above the Río Alamor at an elevation of 4550 feet. The Peruvian locality is on the lower part of the Río Alamor, about 4 miles below the junction of the Quebrada Pílares, on the western side of the Alamor, at an elevation of 350 feet. The river at this point forms the international boundary, but Alamor is on the Peruvian side.

### **Leucippus hypostictus hypostictus** (Gould)

*Aphantochroa hyposticta* GOULD, 1862, Proc. Zool. Soc. London, p. 124—Ecuador; British Mus.

Examples are at hand from the mouth of the Curaray and the "Headwaters of Marañón" which are quite indistinguishable from east-Ecuadorian birds and permit the inclusion of *h. hypostictus* in the Peruvian list. No definite locality on the Marañón is established and in view of the extensive collections made at the mouth of the Napo without the species being found at that spot, it appears probable that it is withdrawn a short distance upstream and does not reach the Marañón itself, except perhaps farther to the westward. Some such distribution was found in *Chrysura oenone oenone*, although, as mentioned in the discussion of that

species (1950, Amer. Mus. Novitates, no. 1474, p. 27), the allied *C. o. josephinae* occurs at the mouth of the Napo. In the present species, no representative form is known in the area in question, and *h. peruvianus* does not cross the Marañón to the north bank as far as is known.

There are no earlier Peruvian records except of examples presumably referable to *peruvianus*.

### ***Leucippus hypostictus peruvianus* (Simon)**

*T[ephropsilus] hypostictus peruvianus* SIMON, 1921, Histoire naturelle des Trochilidae, pp. 103, 319—Perú (San Antonio, valley of Paucartambo, Soriano, and Huambo) and Bolivia (Mapiri).

I am not certain of the validity of this supposed subspecies. The character of bill longer than in *hypostictus* is certainly useless, since specimens of that form at hand are as long-billed as *peruvianus* is said to be (24–25 mm.), although others are not. A male from Río Seco, west of Moyobamba, which is tentatively referred to *peruvianus*, has the bill only 23 mm. in length; in the series of *hypostictus* it varies from 20.5 to 25.5. The Río Seco bird, however, has the scapulars and upper wing-coverts greener than the decidedly coppery interscapulars, in which respect it cannot be matched exactly by any bird at hand from north of the Marañón, and since this is one of the characters given by Simon, it may well substantiate his claim for the distinction of *peruvianus*. Various specimens of *hypostictus* are as coppery or bronzy as the Río Seco bird, but the color is uniform over the back. Many examples, however, are not at all bronzy above, and the whole dorsal surface is dark green. I am unable to appreciate the violaceous tone of black he mentions on the terminal portion of the outer two pairs of rectrices, or the bluish hue of the median feathers. Some of the specimens of *hypostictus* have the tail noticeably bluish, but the Río Seco bird does not.

The characters of *peruvianus* are, therefore, not very satisfactory and as exhibited by the Río Seco specimen are of such a nature that they should be substantiated by a good series from Perú (south of the Marañón) and northwestern Bolivia before unqualified admission of validity. In the meantime, tentative recognition is here accorded to the form.

If the form is valid, records assignable to *peruvianus* are from Huambo, Soriano, San Antonio, Escopal, and Río Cadena.

I am unable to recognize the genus *Talaphorus* as distinct from *Leucippus*, especially after the species *chionogaster* and *viridicauda* are removed to *Amazilia*, as I believe they should be. In other words, *hypostictus*, *taczanowskii*, and *chlorocercus* appear to belong with *baeri* and *fallax* in *Leucippus*. Even with this arrangement, the assemblage is somewhat heterogeneous, especially as regards *hypostictus*, which may, perhaps, deserve segregation in a separate genus. The heavy coloration and the short under tail-coverts with strong green or bronzy centers, narrowly margined with whitish, give the species a distinctive appearance that sets it apart from any of the members of near-by genera and give it a superficial resemblance to certain species with which it cannot be associated. A generic name, *Taphrospilus*, is available for it, but I hesitate to recognize another monotypic genus on the basis of details of coloration alone, and continue the association with *taczanowskii* and its congeners in *Leucippus*.

#### SPECIMENS EXAMINED

##### *L. h. hypostictus*.—

###### ECUADOR:

Below San José de Sumaco, 3 ♂;  
Río Pastaza, 5 (?);  
Zamora, 4 ♂, 3 ♀;  
"Ecuador," 3 (?).

###### PERÚ:

Mouth of Río Curaray, 3 ♂, 1 ♀;  
headwaters of Marañón, 7 (?).

##### *L. h. peruvianus*.—

###### PERÚ:

Río Seco, west of Moyobamba, 1 ♂.

#### *Leucippus taczanowskii* (Sclater)

*Thaumasius taczanowskii* SCLATER, 1879, Proc. Zool. Soc. London, p. 146—Guajungo [Guajango, Province of Cajamarca], Perú; ♀; Warsaw Mus., presumably now lost.

*Thaumasius taczanowskii fractus* BANGS AND NOBLE, 1918, Auk, vol. 35, p. 451—Huancabamba, Perú; ♂; Mus. Comp. Zool., Cambridge.

Huancabamba, 1 ♂, 5 ♀, 1 (?); Pucará, 1 ♂, 1 ♀; Sondorillo, 1 ♂, 1 ♀; Callacate, 1 ♂, 1 ♀; Jaén, 1 ♀; San Felipe, 1 ♀; Perico (Río Chinchipe), 1 ♂, 1 ♀; Cajabamba, 1 ♀, 1 (?); Malca, 4 ♂; Succha, 1 ♂, 1 ♀; Viña, 1 ♀; Araqueda, 1 (?).

I do not see how "*fractus*" can well be maintained. In the first place, it was founded on a misconception of the type locality of

*taczanowskii*, and comparison was made with birds from "Malea" [Malca] and Otusco, both of which localities are somewhat distant from Guajango, which is not far from the mouth of the Río Huancabamba. Although I have not seen Guajango specimens, they are more likely to agree with Río Huancabamba specimens than with those from Malca and near-by localities. Two examples from Callacate, even closer to Malca than is Guajango, are like the Huancabamba series at hand. Sclater (1892, Catalogue of birds in the British Museum, vol. 16, p. 193) erroneously cites other Callacate specimens as "types," although his original account concerned only material from Guajango.

Compared with Río Huancabamba and Callacate examples, the specimens I have from the Cajabamba region (including Malca) are doubtfully distinct. They may average a little less deeply green on the upper parts, although only two specimens from the Huancabamba region are definitely darker; the under tail-coverts average less prominently centered with brown; and the wings average a trifle longer although with considerable overlap (66.5 to 73 mm. as against 64.5 to 71). The range of measurement in the bills is identical in both series (22 to 25.5), although one of the diagnostic features of "*fractus*" was said to be its much shorter bill.

I am doubtful, therefore, of the distinctness of the Huancabamba and Cajabamba populations and believe in any case that the Huancabamba birds will be found to agree with Guajango examples. If such is the case, "*fractus*" would fall as a synonym of *taczanowskii* even should the Cajabamba population be considered a distinguishable form. At present I am unwilling to admit it.

It may be noted that the two Callacate birds are more brownish on the upper surface than any of the others which agree well among themselves in this respect. I have seen no specimens from the western side of the Western Andes of which there are several records, nor from the Central Andes, of which there are two records. Records are from Guajango, Paucal, Choquisongo, Otusco, Araqueda, Chusgón, Cajamarca, Balsas, and Huaylillas.

### **Leucippus chlorocercus Gould**

*Leucippus chlorocercus* GOULD, in Sclater and Salvin, 1866, Proc. Zool. Soc. London, p. 194—upper Ucayali, Perú [?Cashiboya]; cotypes in British Mus.

Pebas, 1 ♂, 1 ♀; Apayacu, 2 ♀; mouth of Río Curaray, 2 ♀; "Napo," 1 (?); Sarayacu, 2 ♂.

This species, similarly to *viridicauda*, has a limited distribution and is of uncertain affinities. In some respects it resembles *viridicauda*, as mentioned under that form, but it differs in various other particulars and no relationship is clearly evident.

Additional records are from Nauta, Iquitos, and Elvira. Cashiboya is tentatively suggested as the type locality since it was the highest point on the Ucayali reached by Bartlett, the collector of the type, but it remains to be demonstrated that the species occurs that far up the river. My only Ucayali birds are from Sarayacu.

### ***Amazilia chionogaster chionogaster* (Tschudi)**

*Tr[ochilus] leucogaster* TSCHUDI (*nec* Gmelin), 1844 (May), Arch. Naturgesch., 10th year, vol. 1, p. 297—Perú [=Chanchamayo Valley; I suggest La Merced]; Mus. Neuchâtel.

*Tr[ochilus] chionogaster* TSCHUDI, 1845, Fauna Peruana, Aves, p. 39, pl. 22, fig. 2 [*Trochilus leucogaster* on plate]—new name for *Trochilus leucogaster* Tschudi.

*Leucippus pallidus* TACZANOWSKI, 1874, Proc. Zool. Soc. London, p. 542—Huantá, Perú; ♂; Warsaw Mus., presumably lost.

This form occupies most of the Peruvian part of the specific range, except in the extreme southeastern portion of the country where the next form appears to exist. A single female from Santa Ana, Urubamba Valley, is still closer to *chionogaster* than to *hypoleuca*, although it shows some reduction in the spotting on the sides of the throat—a character of *hypoleuca* that is not entirely definitive.

One character that appears to be of considerable value in the distinction of the females of *chionogaster* and *hypoleuca* but that I have not found mentioned by other workers is the pattern of the outer three pairs of rectrices. Judging by the few females of *chionogaster* I have available, including the Santa Ana bird, in females of that form the inner web of the outermost rectrix is almost entirely white or whitish, with only an indistinct or at least poorly defined and limited area of shading toward the tip and with no more than a narrow terminal border of white on this and the two or three adjoining feathers. In the females of *hypoleuca* there is a sharply defined and broad white patch at the tip of the inner web of the three outer rectrices, and the inner margins of these feathers are narrowly but rather sharply white. Infrequently there is an approach toward the pattern of *chionogaster* on



the outermost feather, but the dark subterminal area is farther from the tip than in the typical form, leaving the white tip still of the characteristic breadth. In the males, the narrower dark tips of the feathers in *c. chionogaster*, with the inner webs of the outer feathers white to the shaft, exposed beyond the tips of the under tail-coverts, sometimes to the tips of the feather, supplement the less broadly white under parts as diagnostic characters. The bill averages shorter in *chionogaster*, but there is too much overlap for the character to be of any value except in extreme cases.

Since *A. viridicauda* occurs at very nearly the same place in the Urubamba Valley (and perhaps elsewhere) as *chionogaster*, it is impossible to say whether an unspecified number of specimens secured by Whitely at Huiro may not have included the present species. Berlepsch obtained one of the Whitely birds and found it to belong to a new species which he named *viridicauda* (see account of that species) and Sclater identified a male in the British Museum from the same source as that form. Both Taczanowski and Simon include Huiro in the range of both species, but without critical comment to show that they had seen the pertinent material. I judge, therefore, that these two authors gave uncritical acceptance of the first recording of all the Whitely specimens as *chionogaster* before *viridicauda* was described (Sclater and Salvin, 1876, Proc. Zool. Soc. London, p. 17).

There may be other records in the following list of localities that belong to *viridicauda*, but without the specimens I am unable to determine the fact with certainty. None of them suggest the existence of such error. The localities of record, other than those from which material has been examined, are Río Jelashte, Huacapistana, Auquimarca, Hacienda Huarapi (Dept. Huánuco), Chirimoto, Pumamarca, Soriano, La Merced, Pampa Jesús (Junín), Higos, Moyocuchu, Charay, Huanta, Anco, Araqueda, and Huamachuco. The Warszewicz female from "Perú" mentioned by Sclater (1892, Catalogue of birds in the British Museum, vol. 16, p. 202) as the probable female of *viridicauda* must belong to *chionogaster* or *hypoleuca*, since it is said to have the base of the rectrices pale, which is not the case in *viridicauda*.

#### ***Amazilia chionogaster hypoleuca* (Gould)**

*Trochilus* (—?) *hypoleucus* GOULD, 1846 (Nov.), Proc. Zool. Soc. London, pt. 14, p. 90—Bolivia; ♀ ♀ cotypes in British Mus.

*Trochilus Turnerii* BOURCIER, 1846 (Nov.), Rev. Zool., vol. 9, p. 313—Bolivia: ♂; Amer. Mus. Nat. Hist.

*Leucippus leucogaster longirostris* SCHLÜTER, 1913, Falco, p. 42—Province of Salta, Argentina.

Three male specimens in the Academy of Natural Sciences of Philadelphia, kindly lent by Mr. deSchauensee, furnish the only indication of the occurrence of this subspecies in Perú. They are rather darker green on the upper parts than the remainder of the series of *hypoleuca*, and the spotting on the sides of the throat is present but weak (being matched by examples both of *chionogaster* and *hypoleuca*). The limited extent of white on the inner webs of the outermost rectrices, however, points clearly to the Bolivian subspecies. There is a prominent but narrow white inner margin on these and the adjacent feathers, but the broader whitish base is entirely concealed beneath the under tail-coverts, leaving the exposed portion of the inner web, except for a narrow terminal border and the inner marginal line, broadly dark. This condition is found in *hypoleuca* but apparently not in *chionogaster*.

There is a question as to which of the names, *hypoleuca* or *turnerii*, has priority, since both appear to have been published in November, 1846. I therefore follow the first acceptance of one name in preference to the other which appears to have been given by Simon in 1921. Curiously, both Mulsant and Verreaux, and Elliot, cite Gould's name as of 1857 which is quite incorrect.

Simon (1921, Histoire naturelle des Trochilidae, p. 318) makes the curious statement that Tschudi's *leucogaster* was another species than his *chionogaster*, basing this conclusion on part of the original diagnosis that appeared to be at variance with the present species. Tschudi, however, repeats these characters in the diagnosis of *chionogaster* which he further says is a new name for *leucogaster*, preoccupied for another species. If one name is inapplicable to the present species, the other is equally so; but there is little doubt that the present species is the proper recipient of the name *chionogaster* and Tschudi's longer description can apply to no other species.

I am unable to consider this species and the next to be discussed, *viridicauda*, as belonging to the genus *Leucippus*. I believe they are so close to *Amazilia candida* and *chionopectus* that all of these must be congeneric, and since it appears impracticable to separate *candida* and *chionopectus* from the genus *Amazilia*, I place *chionogaster* and *viridicauda* also in *Amazilia*.

## SPECIMENS EXAMINED

*A. c. chionogaster*.—

## PERÚ:

Guayabamba (Huayabamba), 3 ♂, 1 ♀;  
 Nuevo Loreto, 2 (?);  
 Chachapoyas, 3 ♂, 1 ♀;  
 ?Piña, 1 (?);  
 Utcuyacu, 5 ♂, 3 ♀;  
 Rumicruz, 1 ♂;  
 Garita del Sol, 1 ♀;  
 Huánuco, 2 ♂<sup>1</sup>;  
 Chinchao, 2 ♂<sup>1</sup>;  
 Santa Ana, Urubamba, 1 ♀.

*A. c. hypoleuca*.—

## PERÚ:

Oconeque, 3 ♂<sup>2</sup>.

## BOLIVIA:

"Bolivia," 1 ♂ (type of "*Turnerii*");  
 (Impona, Río Cachimayo, Tujma, Santa Cruz, California, Songo, Parotani,  
 Pulque, Chilón, Río Pilcomayo, and Province of Sara), 20 ♂, 1 "♂"  
 [= ♀], 7 ♀, 2 [♀], 2 (?).

## ARGENTINA:

(Tucumán, Tapia, Salta, and Río Bermejo), 7 ♂, 2 ♀, 2 (?).

***Amazilia viridicauda* (Berlepsch)**

*Leucippus viridicauda* BERLEPSCH, 1883, Ibis, ser. 5, vol. 1, p. 493—Huiro, Perú; ♂; Frankfort Mus.

Idma, 1 ♀, 1 (?); San Miguel, 1 ♀; Pozuzo, 1 ♀.

This species is very curious. It resembles *A. chionogaster* in so many particulars that relationship with that species might be indicated were it not for the fact that both occur in the Urubamba Valley very near to each other, quite probably together although the localities of record are slightly separated. At any rate, there is no other hummingbird to which *viridicauda* shows as close resemblance as it does to *chionogaster* from which it differs solely, as nearly as I can determine, by lacking all trace of the white basal portion of the rectrices and by having a noticeable greenish gloss on the under side of these feathers (as in *Amazilia chlorocercus*).

A female from Pozuzo offers a new locality for *viridicauda*. This specimen has the spotting on the sides of the throat and breast somewhat coarser than in the Urubamba specimens at

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

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

hand, and the upper parts are more bronzy, less dark green, although this latter feature is exhibited as an individual variation in *chionogaster* and may be of similar unimportance in the present species. This spotting tends also to occupy a wider area than is shown by the Urubamba specimens and may indicate a trend toward some form that has a completely spotted throat and breast as in *Amazilia chlorocercus*, although this species is not clearly involved. The limited distribution of *viridicauda* suggests that it may be allied to some more widely distributed species, but no such integration is evident. More information concerning this bird is highly desirable.

One Urubamba bird is not sexed; the other three examples are females, while the type and the Huiro bird in the British Museum are sexed as males. As noted under *chionogaster*, the British Museum specimen listed as a female of *viridicauda* cannot belong to this species, since the basal part of the tail is said to be whitish, the character of *chionogaster*.

Records are from Huiro, Ollantaytambo, and Marcapata. Simon (1921, *Histoire naturelle des Trochilidae*, p. 319) cites the last-named locality without further comment, and I am not familiar with the basis for its inclusion, although it is not improbable. He also cites "Sa. Anna" which may have reference to Idma, above Santa Ana, from which place specimens are before me.

### ***Amazilia fimbriata laeta* (Hartert)**

*Agyrtria fluviatilis laeta* HARTERT, 1900 (July), Jour. f. Ornith., vol. 48, p. 360—Nauta, Perú; Amer. Mus. Nat. Hist.

I am a little hesitant to recognize this subspecies whose color characters are not stable. The problem is rendered especially difficult by the uncertain type locality of *fluviatilis*, given simply as "Banks of the River Napo," whereas, if *laeta* is to be recognized, it also occurs on the Río Napo. However, Gould gives the measurements of his *fluviatilis* and, if we are willing to assume that he transposed the figures for the wing and bill, as seems obvious, *fluviatilis* is a longer-billed subspecies than *laeta*, as was maintained by Hartert when he described *laeta*. It is not, however, longer-winged on an average, although it reaches a slightly greater maximum. The same is true of the tail. Assuming that all the

"Napo" birds at hand came from the upper part of the river in Ecuadorian territory, only four of 15 Ecuadorian and Colombian birds measured have the wing longer than any Peruvian specimen; both series reach the same minimum. One Ecuadorian bird has a longer tail than any Peruvian specimen, but five of 36 Peruvian and west-Brazilian examples are shorter tailed than the Ecuadorian minimum. In respect to the bill, there is greater average distinction but still considerable overlap. Only one Peruvian bird comes within the average of the Ecuadorian examples; four others are very close and actually are at the figure of greatest frequency in the Ecuadorian measurements; but if one "Napo" bird is discounted as possibly from the lower part of the river, the remaining 34 Peruvian and Brazilian specimens have the bill shorter than any Ecuadorian or Colombian bird at hand. With the exception, then, of the single "Napo" specimen and five Peruvian birds, the 18 Ecuadorian-Colombian and 39 Peruvian-Brazilian specimens separate readily into two series, based solely on bill length. (Different numbers of specimens were measured for wing, tail, and bill lengths, since these members were imperfect in some examples.)

The measurements of the available series of both forms are given in table 1. I have detected no difference in dimensions of the sexes and, since much of the "Napo" material is non-sexed, I have used the figures irrespective of sex.

TABLE 1

COMPARATIVE MEASUREMENTS, IN MILLIMETERS (AVERAGES IN PARENTHESES)

	Wing	Tail	Culmen
<i>fluviatilis</i>	51-59 (55.1)	28-32 (29.7)	19 -24 (21.3)
<i>laeta</i>	51-57.5 (55.0)	26-31 (28.7)	17.5-22 (19.1)

The color of the tail, used by Hartert to distinguish *laeta*, appears too variable to be of service. Hartert found *fluviatilis* (adult males) to have a broad, steel-blue tip on the median rectrices, while *laeta* had these feathers entirely green. Gould described the tail of *fluviatilis* as nearly uniform dull black. All three conditions occur throughout the ranges of both *fluviatilis* and *laeta*, and I am unable to make any clear segregation on this basis. In *fluviatilis* (as here recognized) one specimen has the exposed portion of the median rectrices nearly entirely blackish; nine have the tips blue, the basal portion green; two have these

feathers dull (dusky or bluish) green; five, clearer green. In *laeta*, the figures are seven, six, two, and six, respectively. There is thus a greater proportion of *laeta* with blackish, green, or dark green median rectrices, and a smaller proportion with dark-tipped green feathers, but the overlap is too great to make the character of much service.

With the separation indicated by the length of bill, *laeta* appears to extend up the Napo at least as far as the mouth of the Curaray and to range along the north bank of the Amazon from Nauta westward to a point I am unable to determine. Birds from Zamora, Ecuador, are assignable to *fluviatilis*, and I have no evidence that *fluviatilis* crosses the Peruvian border, although it may do so. Records presumably assignable to *laeta* include those from Yurimaguas, Jeberos, Tarapoto, and lower Ucayali.

There are several specimens that have the maxilla pale brownish instead of blackish, and various intermediates also occur. I am unable to correlate this with season, sex, or age. Several individuals exhibit a decidedly coppery hue on the upper tail-coverts, and others have the top of the head bronzy. All these features appear to represent only individual variations.

In describing *apicalis*, Gould called attention to pure white tips on the four outer tail-feathers. Simon (1921, *Histoire naturelle des Trochilidae*, p. 320, footnote 5) remarked that two Bogotá-skins in the British Museum considered as types of *apicalis* disagreed with this diagnosis and belonged to *terpna* (*A[gyrtria]* *terpna* Heine, 1863, *Jour. f. Ornith.*, vol. 11, p. 184—Bogotá) which was separated from *apicalis* by Heine by reason of a shorter bill and lack of the white tips on the rectrices. The last-named character is not of subspecific value, since it is of variable occurrence throughout the species, particularly among the females. The supposed difference in length of bill is problematical, since Gould's measurement was in the broad figure of "1 inch." The Gould skin at hand marked as "a type" has the exposed culmen only 21.5 mm. in length, but the culmen to concealed base is 26. The extreme tips of the outer two pairs of rectrices are quite narrowly pure white, preceded by broader grayish spaces. It is quite possible that these details are what Gould had in view. At any rate, "*terpna*" is a synonym either of *apicalis* or of *fimbriata*, as is further noted below.

The arrangement of the extralimital subspecies creates a great problem owing to the great amount of individual variation ex-

hibited by the birds from every locality. With the assistance of a fine series generously lent by Dr. William H. Phelps of Caracas, Venezuela, I have been able to reach a fairly satisfactory conclusion regarding the birds of that country where the greatest problem has centered.

In the first place, I am unable to find any distinction between the birds from Cayenne (*fimbriata*) and those from British Guiana and Mt. Roraima, Venezuela (*maculicauda*). The series at hand from these two areas cover the same range of variation from green to bronzy green on the upper surface of the median rectrices. A comparable series from Surinam is not greatly different, although it shows a slightly more bronzy extreme on the feathers mentioned, with only the slightest trace of coppery tinge in the most extreme examples. I consider, therefore, that *fimbriata fimbriata* ranges across all three Guianas to southeastern Venezuela. A few specimens from Mt. Ptari-tepui and immediately adjoining localities also agree well with the Guianan birds, but between this area and the lower Orinoco there is a significant approach toward the characters of the lower and middle Orinoco River birds. It is not certain to which form they are best referred.

South of the Roraiman highlands, specimens from the Rio Surumú and the upper Rio Negro, Brazil, are not distinguishable from *fimbriata*. Birds from the upper Orinoco of Venezuela and Colombia show their greatest affinity here also, although there is some indication of approach toward the middle Orinoco population. Even more significant, two birds from Villavicencio, Colombia, are still inseparable from *fimbriata* and can be matched with Guianan specimens. It appears, therefore, that *fimbriata* ranges south of the Pacaraima highlands and westward as far as the eastern face of the Eastern Andes of Colombia in the Orinoco drainage. In the Amazonian drainage, *fluviatilis* occurs.

The identity of the Villavicencio birds is interesting, since they do not agree with Bogotá trade-skins, representing *apicalis*. Of *apicalis* I have eight "Bogotá-skins," including one received by Elliot from Gould, the author of that form, and marked "a type," possibly a cotype; also one apparently compared with original material and marked "agrees with type of *apicalis*." These birds have a heavier and often longer bill than *fimbriata*; the green of the breast has a definite bluish tone; and the median rectrices are not at all bronzy, in one case they are somewhat bluish. They do not have the under tail-coverts so heavily marked as *fluviatilis*

and cannot be assigned to that form, although their bluish tinge suggests that they represent a population intermediate between that form and *fimbriata*. What exact area they occupy in Colombia, I am unable to tell with the material at hand. It is possible that "*terpna*" will be found to belong in this population.

It has been suggested that the type of Elliot's *Thaumantias nitidicauda* (1878, Ibis, ser. 4, vol. 2, p. 38—Cayenne) originated in the mountains of British Guiana, but this, I believe, is erroneous. The type, now before me, appears to be a "Cayenne" trade-skin, as was evidently concluded by Elliot when he gave the locality as Cayenne. The matter is of minor importance, since *nitidicauda* is antedated by *fimbriata* from Cayenne and *maculicauda* from British Guiana.

The birds of the lower and middle portions of the Orinoco show a definite shift in the scale of variability in the color of the median rectrices, compared with *fimbriata*. Greenish coloration without bronzy tones is uncommon, and at the opposite end of the scale there is a pronounced coppery hue that is absent from all the *fimbriata* I have except a single bird from Maipures, upper Orinoco. Occasional specimens show the median rectrices dark, without much coloration of green, bronze, or coppery tone, but this variation is found also in *fimbriata*, of even less common occurrence.

Birds from the northern coast of Venezuela are indistinguishable from the Orinocan specimens, and a series from the intervening plains shows no recognizable distinction. The average coloration of the median rectrices in this entire assemblage is definitely bronzy to coppery, and, in series compared with *fimbriata*, the distinction from the more definite green of that form is readily appreciated. For this population the name *elegantissima* Todd is available.

The lower Amazonian population appears to constitute a fairly consistent and recognizable form, for which I can find no available published name. It has been characterized by various authors as intermediate between *fimbriata* and *nigricauda*, but it also shares one character with *laeta*, *fluviatilis*, and *apicalis*—the bluish tinge on the green of the anterior under parts. There is only one specimen in a series of more than 70 that has the median rectrices black and none that has the under tail-coverts completely white—characters that are preponderant in *nigricauda*. On the other hand, the under tail-coverts are not, with few exceptions, so



heavily centered or shaft-streaked with brown as in most *fimbriata* (even less so in comparison with *laeta* and *fluviatilis*), and the median rectrices are without even as much bronzy sheen as is prevalent in *fimbriata*. Only one Cayenne specimen out of over 60 from the three Guianas has the breast as bluish as do almost all of the lower Amazonian birds. This population, therefore, is as stable as any of the others, and since it occupies a fairly extensive region (from the left bank of the Rio Madeira to the Tocantins on the south bank of the Amazon, and the lower reaches of the Negro and Jamundá on the north bank) it appears to be entitled to a name. It may be known as follows:

***Amazilia fimbriata alia*, new subspecies**

TYPE: From Porto de Moz, Rio Xingú, Brazil. No. 429106, American Museum of Natural History. Adult male collected September 13, 1931, by Alfonso M. Olalla.

DIAGNOSIS: As detailed above.

RANGE: Rio Negro and Rio Jamundá near their mouths (north of the Amazon) and from the left bank of the Rio Madeira to the Rio Tocantins.

DESCRIPTION OF TYPE: Most of upper parts shining green, more golden away from the light, more bluish toward the light; upper tail-coverts with a deep bronzy tone; sides of head rather duller, with a small, white, postocular spot. Chin, throat, and breast glittering Emerald Green × Vivid Green away from the light, Skobeloff Green toward the light; mid-line of lower breast and belly narrowly white; flanks shining green, becoming weaker posteriorly; a white femoral patch; under tail-coverts whitish, with a moderately broad shaft-stripe of light brown. Remiges violaceous black, with a pale marginal line on the outer web of the outer remex; upper and under wing-coverts green, with a white line along the carpal margin. Median rectrices light Empire Green; remaining pairs black, with a trace of green toward the base of the outer web; outer two pairs with a grayish subterminal space; all rectrices, except the median pair, with a narrow white terminal margin. Bill (in dried skin) with the maxilla dark brown, darker toward the tip; mandible mostly yellowish, becoming brownish distally; feet dark brown. Wing, 58 mm.; tail, 32.5; exposed culmen, 20.5.

## SPECIMENS EXAMINED

*A. f. fimbriata*.—

## CAYENNE:

(Cayenne, Mana, Roche Marie, Approuague, Isle Le Père, and "Cayenne-skins"), 12 ♂, 1 ?♂, 13 ♀, 6 (?) (including type of *nitidicauda*).

## SURINAM:

(Kwata, "savannah," and near Paramaribo), 10 ♂, 4 ♀, 4 (?).

## BRITISH GUIANA:

Annai, 3 ♂, 1 ♀;

"British Guiana," 1 (?).

## VENEZUELA:

Roraima, 3 ♂, 4 ♀, 1 (?);

Mt. Ptari-tepui, 2 ♀<sup>1</sup>, 1 (?)<sup>1</sup>;

Mt. Paurai-tepui, 1 (?)<sup>1</sup>;

Candelaria, 1 (?)<sup>1</sup>;

[Puerto] Ayacucho, 4 ♂, 2 ♀;

Río Cataniapo, 1 ♀;

Yavanari, 2 ♀;

San Fernando de Apure, 2 (?);

Mouth of Río Meta, 1 ♀;

Cerro Yavi, 2 ♀<sup>1</sup>, 2 (?)<sup>1</sup>;

El Platanal, 1 ♀<sup>1</sup>;

San Fernando de Atabapo, 3 ♀<sup>1</sup>, 1 (?)<sup>1</sup>;

Cerro Yapacana, 1 ♂<sup>1</sup>, 4 ♀<sup>1</sup>;

Atures, 6 ♂<sup>1</sup>, 2 ♀<sup>1</sup>, 1 (?)<sup>1</sup>;

El Oro, Río Ventuari, 1 ♂<sup>1</sup>, 1 (?)<sup>1</sup>.

## BRAZIL:

Carvoeira, 2 ♂;

Frechal, Rio Surumú, 3 ♀.

## COLOMBIA:

Maipures, 4 ♂, 2 ♀;

Villavicencio, 2 ♂.

*A. f. fimbriata* × *elegantissima*.—

## VENEZUELA:

El Palmar, Bolívar, 2 ♂<sup>1</sup>, 2 ♀<sup>1</sup>, 1 (?)<sup>1</sup>;

Turmeremo, 1 ♂<sup>1</sup>, 1 ♀<sup>1</sup>, 1 (?)<sup>1</sup>;

Cerro Tigre, 2 ♂<sup>1</sup>, 4 ♀<sup>1</sup>, 1 (?)<sup>1</sup>;

Hacienda Santa Teresa, 1 ♂<sup>1</sup>;

La Paragua, 6 ♂<sup>1</sup>, 1 ♀<sup>1</sup>.

*A. f. elegantissima*.—

## VENEZUELA:

[Guasipata], 1 (?);

Las Barrancas, 1 ♂;

Ciudad Bolívar, 3 ♂, 3 ♂<sup>1</sup>, 6 ♀, 1 ♀<sup>1</sup>, 3 (?)<sup>1</sup>;

Agua Salada de Ciudad Bolívar, 1 ♀;

Suapure, 1 ♂, 1 ♀;

Caicara, 1 ♂, 8 ♂<sup>1</sup>, 1 ♀, 4 ♀<sup>1</sup>, 3 (?)<sup>1</sup>;

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

Altagracia, 3 ♂, 2 ♀;  
 Caño Guaniamo, 2 ♂<sup>1</sup>, 1 (?)<sup>1</sup>;  
 Union of Guaniamo and Cuchivero, 2 ♀<sup>1</sup>;  
 Cuchivero, 1 ♂<sup>1</sup>;  
 Cabruta, 4 ♂<sup>1</sup>, 1 ♀<sup>1</sup>;  
 Santa Rita, Guarico, 1 ♂<sup>1</sup>;  
 Pariaguán, Anzoategui, 1 ♀<sup>1</sup>, 1 (?)<sup>1</sup>;  
 Santa Maria de Ypire, Guarico, 1 ♂<sup>1</sup>, 2 ♀<sup>1</sup>, 7 (?)<sup>1</sup>;  
 Altagracia de Orituro, 4 ♀<sup>1</sup>, 1 (?)<sup>1</sup>;  
 El Socorro, 2 ♂<sup>1</sup>, 2 (?)<sup>1</sup>;  
 Palenque, 2 ♂<sup>1</sup>, 1 ♀<sup>1</sup>;  
 La Caimarea, 1 ♂<sup>1</sup>;  
 Calabozo, 1 ♀<sup>1</sup>;  
 El Pilar, Sucre, 1 ♂<sup>1</sup>;  
 Bergantín, Anzoategui, 1 ♂<sup>1</sup>, 1 (?)<sup>1</sup>;  
 Cerro Negro, 1 ♂<sup>1</sup>, 3 ♀<sup>1</sup>, 2 (?)<sup>1</sup>;  
 La Cumbre, Sierra Carabobo, 1 ♀<sup>1</sup>;  
 Hacienda Altamira, 1 ♀<sup>1</sup>;  
 Puerto Cabello, 1 (?)<sup>1</sup>;  
 Quiguas, 1 ♀<sup>1</sup>;  
 Urama, 2 (?)<sup>1</sup>;  
 San Casimiro, Aragua, 1 ♂<sup>1</sup>;  
 San Estéban, 1 ♂, 1 ♀;  
 Las Trincheras, 2 ♂;  
 Caracas, 1 ♂, 1 (?)<sup>1</sup>;  
 Canoa, Estado Miranda, 1 (?)<sup>1</sup>;  
 La Ciénaga, 1 ♀<sup>1</sup>, 1 (?)<sup>1</sup>;  
 San Felipe, Yaracuy, 1 ♀<sup>1</sup>;  
 road, San Felipe to Nirgua, 3 ♂<sup>1</sup>;  
 Cumareba, 1 ♀<sup>1</sup>.

*A. f. apicalis*.—

COLOMBIA:

"Bogotá" 8 (?) (including "a type").

*A. f. fluviatilis*.—

COLOMBIA:

La Morelia, 1 ♂.

ECUADOR:

"Napo," 9 (?);

Gualaquiza, 1 ♀;

Zamora, 1 ♂, 3 ♀;

Río Pastaza, 2 ♂, 1 ♀.

*A. f. laeta*.—

PERÚ:

Mouth of Río Curaray, 4 ♂;

Apayacu, 5 ♂;

Puerto Indiana, 5 ♂, 6 ♀;

Pebas, 1 ♂;

Nauta, 1 ♂ (type), 2 ♀;

Iquitos, 2 ♂;

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

Río Mazán, 1 ♂;  
 Río Tapiche, 1 (?);  
 "Headwaters of Marañón," 1 (?);  
 Sarayacu, 3 ♂, 1 ♀;  
 Río Ucayali, 1 (?);  
 "Upper Ucayali," 2 (?).

BRAZIL:

Teffé, 5 ♂, 1 ♀.

*A. f. alia*.—

BRAZIL:

Rio Madeira (Rosarinho and Borba), 9 ♂, 6 ♀, 1 (?);  
 Villa Bella Imperatriz, 7 ♂, 4 ♀, 5 (?);  
 Rio Tapajoz (Tauary, Piquiatuba, Igarapé Amorín, Igarapé Brabo, Inajutuba, Itaituba, and Urucurituba), 7 ♂, 8 ♀;  
 Rio Xingú (Porto de Moz and Tapará), 4 ♂ (including type), 4 ♀;  
 Rio Tocantins, Baião, 2 ♂, 3 ♀;  
 Rio Negro (Igarapé Cacao Pereira, and Campos Salles, Manaos), 3 ♂, 3 ♀;  
 Rio Jamundá, Faro, 4 ♂.

*A. f. nigricauda*.—

BRAZIL:

Maranhão (Kelsú, São Luiz, Santa Filomena, Flores, Barão de Grajaú, Rosário, and São João dos Patos), 4 ♂, 3 ♀, 6 (?);  
 Pernambuco, Garanhuns, 1 ♂, 2 ♀, 3 (?);  
 Ceará, Viçosa, 1 ♂, 4 (?);  
 Piauí (Freicheiras, Urussuhy, "Tocums," Gilbues, Bello Horizonte, Corrente, and Parnaguá), 5 ♂, 7 (?);  
 Bahia (Orobó, Iracema, Santa Ritta, Jiquy, Morro de Chapéu, Tambury, Barra, and Bahia, 17 ♂, 11 ♀, 11 (?);  
 "Bahia" (trade-skins), 2 ♂, 15 (?);  
 Goiás (Rio Thesouras and Leopoldina), 2 ♂, 2 ♀;  
 Espírito Santo, 2 (?);  
 Matto Grosso (Tapirapoan and Utiarity), 2 ♂, 1 ♀;  
 "British Guiana" (= Bahia trade-skin), 1 (?);  
 "Cayenne" (= Bahia trade-skin), 1 (?);  
 "Trinidad" (= Bahia trade-skins), 3 (?) (type and paratypes).

BOLIVIA: 1 ♀.

*A. f. tephrocephala*.—

BRAZIL:

Santa Catharina, 1 (?);  
 São Paulo (Ubatuba and São Sebastião), 1 ♀, 1 (?);  
 "Brazil," 4 (?).

***Amazilia lactea bartletti* (Sclater and Salvin)**

*Thaumantias bartletti* SCLATER AND SALVIN, 1866, Proc. Zool. Soc. London, p. 194—"Upper Ucayali" [= Sarayacu, lower Ucayali, Perú]; cotypes in British Mus. and Amer. Mus. Nat. Hist.

Río Seco (near Moyobamba), 3 ♂, 1 ♀; Río Negro, 1 ♂; Rioja, 1 ♂; Tarapoto, 1 (?); "Huallaga sup.," 1 ♂; La Merced,

3 ♂, 1 ♀; Perené, 1 ♂, 1 ♀; Lagarto (Río Ucayali), 1 ♀; Santa Rosa, 2 ♂; Yarina-cocha, 1 ♂, 1 (?); "Perú," 1 ♂ (co-type).

I can find no constant distinctions in this series from different parts of its range. Since it is recorded from the La Paz region of Bolivia, it may possibly occur in the southeastern corner of Perú, although there are no records from that area. Records, other than those from localities represented in the specimens at hand, are from Sarayacu, Moyobamba, San Ramón, and Chanchamayo.

The type locality of *bartletti* is given by Sclater and Salvin, from notes by Gould, as "Upper Ucayali," but the only material available to Gould and to Sclater and Salvin comprised seven examples from Sarayacu which may thus be taken as the restricted type locality, although it is on the lower portion of the Ucayali. One of the original specimens (all collected by Bartlett) is in the collection at hand; its original label unfortunately has been replaced by the special label that Elliot supplied for much of his collection. According to Elliot (1878, Ibis, ser. 4, vol. 2, p. 53) Bartlett's seven specimens were still at that time the only ones known. Since six of Bartlett's birds remained in the British Museum, there is assurance that the example in hand is one of the original specimens.

The three subspecies of *lactea* are singularly scattered in distribution, with no other forms that appear to be likely candidates for the role of connectants.

### ***Amazilia franciae cyanocollis* (Gould)**

*Agyrtria* (—?) *cyanocollis* GOULD, "1853" [1854], Proc. Zool. Soc. London, pt. 21, p. 61—eastern slope of the Andes of Perú; I suggest Huancabamba, Perú; ♂♂ cotypes in British Mus.

Viña, 1 ♂, 1 ♀; San Marcos, 1 ♂; Malca, 1 ♀; Callacate, 1 ♂, 1 ♀; Pucará, 1 ♂, 1 ♀; Lomo Santo, 1 ♂, 1 ♀; Cabico, 2 ♂; Jaén, 1 ♂, 3 ♀, 1 (?); Santa Rosa (Marañón), 1 ♂; Huancabamba, 5 ♂; Huarandosa, 2 ♂, 1 (?); Perico, 2 ♀; San Ignacio, 2 ♂.

Apparently restricted to the northern part of Perú in the Upper Tropical and Subtropical Zones. The cotypes were collected by Warszewicz, about whose uncertain itinerary I have had earlier occasion to comment. It is known, however, that he was in the general area covered by the localities here listed, from which I select Huancabamba as a satisfactory restricted type locality.

Other records are from Chirimoto, Succha, Chachapoyas, Utcubamba, and Balsas.

I can find no subspecific distinctions among the specimens examined.

### ***Amazilia amazilia dumerilii* (Lesson)**

*Ornismya Dumerilii* LESSON, 1832, *Historie naturelle des colibris*, Supplément des oiseaux-mouches, p. 172, pl. 36—northern provinces of Chile [errore]; western Ecuador suggested by Chapman, 1926.

A [mazilia] *Amazilicula* "SAUC." REICHENBACH, 1854, *Jour. f. Ornith.*, vol. 1, Beilage zu Extraheft, p. 24—no locality [= western Ecuador].

This northwestern form of the species barely reaches Perú near the Ecuadorian boundary. This general area is occupied by a population that is variable, with tendencies toward *alticola* and *leucophoea* in such mixed degree that assignment to a single subspecies becomes problematical. Chapman (1926, *Bull. Amer. Mus. Nat. Hist.*, vol. 55, pp. 292–294) has discussed the problem with particular reference to the Ecuadorian specimens, and detailed comment need not be given here. The Milagros specimen at hand has the characters of *dumerilii* well marked; the Paletillas birds show a certain amount of rufous tinge on the outer rectrices as a suggestion of *alticola*, or possibly *leucophoea*.

Other than the localities mentioned, the only Peruvian record is from Tumbes.

### ***Amazilia amazilia alticola* Gould**

*Amazilia alticola* GOULD, 1860, *Proc. Zool. Soc. London*, p. 309—"Said to be the Puna district of Peru"; British Museum.

I hesitate to include this subspecies in the Peruvian list, since there is no unquestionable record of it from that country. Gould himself appeared to question the Peruvian origin of the type. There is, however, a limited area in the highlands of northern Perú, just south of the Ecuadorian boundary, from which I have no specimens or records, and it is not impossible that *alticola* reaches this region. Specimens of *leucophoea* from Palambra (the nearest locality to this area from which I have material) show a slight trace of *alticola* features. One specimen at hand, labeled "Perú," is intermediate in the direction of *leucophoea*, but without a more definite locality it offers no positive evidence for a solution of the problem. For the present, therefore, I believe *alticola* may

be retained in the Peruvian account. The "Puna region" undoubtedly is erroneous in any case, since the species does not inhabit the Páramo Zone anywhere in its range.

### ***Amazilia amazilia leucophoea* Reichenbach**

*Amazilia leucophoea* REICHENBACH, 1854, Jour. f. Ornith., vol. 1, Beilage zu Extraheft, p. 24—"Süd-Peru, Vulkan Arequipa" [*errore*, I suggest Trujillo, Perú]; cotypes in Frankfort Mus.

I can see no justification for continuing the belief that Warszewicz collected *leucophoea* on the volcano Mt. Misti in Arequipa, or anywhere else in that part of Perú. No subsequent collector has been able to find it there, although birds referable to that form occur commonly in northwestern Perú, with two quite different subspecies living in the intervening area of western Perú, even as close to Arequipa as the department of Ica. It is obvious that some of the material collected by Warszewicz was inadequately or incorrectly labeled: for example, "*Chlorestes Euchloris*" Reichenbach, said to be from northern Perú but subsequently found only in Colombia. For this reason I have suggested, as a suitable restricted type locality, Trujillo.

One of the birds collected by Warszewicz is at hand, labeled "a type," but probably not one of the original specimens on which Reichenbach based his description; it may have been obtained from Gould who had several specimens from the same collector. At any rate, it permits comparison of a so-called "Arequipa" specimen with north-Peruvian specimens with which it agrees closely. The terminal green band on the median rectrices is weak in color, but the northern series is variable in this respect and I doubt any significance in this detail.

One female from Trujillo shows an approach toward *alticola* by reason of an unusual amount of green on the rectrices and traces of green centers on some of the upper tail-coverts. Six specimens from Palambla show similar traces on the coverts in varying degree, and two of them also show a slight increase in the width of the terminal band, although not to the extent exhibited by the Trujillo female mentioned.

Five specimens from Alamor, Perú (not the Ecuadorian locality of that name), show an even more definite trend toward a green tail, which may be considered as a transition toward either *alticola* or *dumerilii*. Two of the specimens are nearly or quite unmodified *leucophoea*. Two have the median rectrices mostly green, with a

rufescent basal area concealed by the upper tail-coverts which, in turn, are largely green in one specimen and largely rufescent in the other. The fifth bird has the median rectrices entirely green, the next pair almost as extensively so, and broad external margins of green on the next three pairs. The rufous area of the breast is not broken in the middle as in many *alticola*, and the bill is not so long as in that form, which leaves the balance in favor of considering the trend to be toward *dumerilii* rather than toward *alticola*.

Three birds from Pucará, Río Huancabamba, on the eastern side of the Western Andes, might be expected to show some approach toward *alticola* that also crosses the cordillera in southern Ecuador, but they show no such indication. Six birds from Palambla have the terminal green band on the median rectrices a little deeper in tone than usual, and in some of them a little wider than the average, while the upper tail-coverts have a trace of greenish color on the centers of some of the feathers, not well defined in all six examples. The rufous color of the rectrices is of a slightly darker shade than appears in most of the series of *leucophoea*. These various features apparently are in the direction of *alticola*, although the birds are still referable to *leucophoea*.

Specimens from the higher elevations within the Tropical Zone (to which the species is confined) have somewhat larger dimensions than birds from nearer the coast, but there is no clear division indicated and well over half the specimens fall within the same range of measurements.

Additional records assignable to *leucophoea* are from Callacate, Chepen, Paucal, and Tembladera.

In his "Trochilinarum enumeratio" (1855, p. 8 and pl. 777) Reichenbach became quite confused as to the identity of *leucophoea* and "*Amazilicula*." The latter name he used in 1853 for a bird (cf. synonymy of *A. a. dumerilii*) that he considered distinct from *leucophoea* by reason of its green tail. In 1855 he placed *leucophoea* in the synonymy of "*Amazilicula*" and referred to figures 4805-4806 of plate 777 where the two figures in question show *dumerilii*. At the same time he cited *dumerilii* and referred to figures 4803-4804 which illustrate a bird surprisingly like the then undescribed *alticola*, with the median rectrices green and the rest of the tail rufous, with dark margins on the feathers. Fortunately, none of the names was here published for the first time, so the confusion does not affect the nomenclature.



The line of separation between the range of *leucophoea* and that of the next form, *amazilia*, apparently lies between Huarmey and Huacho. There is a record of *amazilia* from Paucal, but the proximity of that locality to Chepen and Tembladera, well to the north of Huarmey, from both of which I have *leucophoea*, suggests that the record belongs with that form and not *amazilia*. Other records than those from which material has been examined are, then, Paucal and Callacate.

### ***Amazilia amazilia amazilia* (Lesson)**

*ornismya Amazilia* Lesson, 1828, Manuel d'ornithologie, vol. 2, p. 81—environs of Lima, Perú.

*Amazilia pristina* GOULD, 1857, A monograph of the Trochilidae, vol. 5, [pt. 13] pl. 303 and text—neighborhood of Lima, Perú; cotypes in British Mus.

[*Amazilia*] *Lessoni* MULSANT, VERREAUX, AND VERREAUX, 1866, Essai d'une classification méthodique des trochilidés, p. 35—Perú.

*Amazilia forreri* BOUCARD, 1893, Humming Bird, vol. 3, p. 7—"Mazathan" [errore = western Perú]; Paris Mus.

This form, in which the extensive white pectoral patch of *leucophoea* is much reduced or wanting, occupies the coastal area of Perú from Huacho and Sayán south to Pisco and Ica. Birds from these southernmost localities show a slight approach toward *caeruleigularis* by reason of a little more bluish green on the anterior under parts and wider green tips on the central rectrices than in most other *amazilia*, although the latter character is matched by some examples from farther north. The extent of the white pectoral patch is variable, but this area is never so extensive as in *leucophoea* and in most cases is obsolete or represented only by pale margins on the green pectoral feathers.

All localities of record are included in the list of specimens examined except the generalized "Rimac Valley" in which some of these localities are situated.

### ***Amazilia amazilia caeruleigularis* Carriker**

*Amazilia caeruleigularis* CARRIKER, 1933 (March 24), Proc. Acad. Nat. Sci. Philadelphia, vol. 85, p. 6—Nazca, Department of Ica, Perú; ♂; Acad. Nat. Sci. Philadelphia.

This well-marked subspecies is known only from the type locality. If any form of the species occurs on Mt. Misti (see account of *leucophoea*) it might well be this one whose range comes nearest to that mountain although still some distance away. It is

doubtful if any form of *amazilia* occurs on Misti. No collector has succeeded in finding one there since *leucophoea* was described, ostensibly from that volcano.

## SPECIMENS EXAMINED

*A. a. dumerilii*.—

## ECUADOR:

(Esmeraldas, Chongón Hills, Chone, Chongocito, Durán, Daule, Guayaquil, Salado, Manaví, San Martín, Naranjal, Isla de Puna, Cebollal, "W. Ecuador," "W. coast," and "Río Napo" [errore]), 22 ♂, 14 ♀, 2 ♀, 7 (?).

## PERÚ:

Milagros, 1 ♂;  
Paletillas, 3 ♂.

*A. a. alticola*.—

## ECUADOR:

(Lunamá, Río Pindo, Portovelo, "Chongón," Casanga, Guainche, Loja, Zamora, Sabanilla, and "Ecuador"), 16 ♂, 5 ♀, 12 (?).

## ? PERÚ:

"Perú," 1 (?).

*A. a. leucophoea*.—

## PERÚ:

Pacasmayo, 1 ♂;  
Platanar, 1 ♂;  
Tembladera, 2 ♂;  
Alamor, 4 ♂, 1 ♀;  
Chepen, 1 ♂;  
Choquisongo, 6 (?);  
Pucará, 1 ♂, 2 ♀;  
Palambra, 4 ♂, 2 (?);  
Chilaco, 1 ♂, 1 ♀;  
Virú, 2 ♂, 7 ♀;  
Poroto, 2 ♂, 1 ♀;  
Somate, 2 ♀;  
Sullana, 2 ♂;  
Trujillo, 1 ♂, 6 ♀;  
Talara, 2 ♂;  
Huarmey, 1 (?);  
Hacienda Llagueda, 1 ♂<sup>1</sup>;  
"Arequipa," 1 ♂ ("a type").

*A. a. amazilia*.—

## PERÚ:

Huacho, 5 ♂, 5 ♀;  
Sayán, 2 ♂;  
Huaral, 7 ♂, 2 ♀;  
Lima, 4 ♂, 1 ♀, 1 (?);

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

Vitarte, 1 ♂<sup>1</sup>, 1 ♀ ;  
Callao, 1 ♂<sup>1</sup>;  
Barranco, 1 ♂;  
Pisco, 1 ♀ ;  
Ica, 1 ♂, 1 ♀ ;  
"Perú," 1 ♂, 1 ♂<sup>1</sup>, 2 (?);  
"Am. Cent." [errore], 1 (?);  
no locality, 1 (?).

*A. a. caeruleigularis*.—

PERÚ:

Nazca, 1 ♂, 1 ♀ .

[***Amazilia versicolor millerii*** (Bourcier)]

*Trochilus millerii* BOURCIER, 1847, Proc. Zool. Soc. London, pt. 15, p. 43—Rio Negro, Brazil.

Simon (1910, Rev. Française d'Ornith., vol. 2, p. 262) makes the puzzling statement that "*A. Milleri*" is recorded from Iquitos, but I can find no basis for this claim. It is not repeated in the "Histoire naturelle des Trochilidae" and may well have been a *lapsus calami*. At any rate, I know of no definite record of any form of *versicolor* from Peruvian territory.]

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

