

# AMERICAN MUSEUM NOVITATES

PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY  
CITY OF NEW YORK      JANUARY 13, 1950      NUMBER 1449

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## STUDIES OF PERUVIAN BIRDS. NO. 55 THE HUMMINGBIRD GENERA *DORYFERA*, *GLAUCIS*, *THRENETES*, AND *PHAETHORNIS*

BY JOHN T. ZIMMER

I am greatly indebted to Mr. Rodolphe M. deSchauensee of the Academy of Natural Sciences of Philadelphia, Dr. Herbert Friedmann of the United States National Museum, Washington, D.C., Dr. Karl P. Schmidt and Mr. Emmet R. Blake of the Chicago Natural History Museum, and Dr. William H. Phelps of Caracas, Venezuela, for the generous loan of critical material used in the following studies, and to Captain Jean Delacour for making certain important comparisons of material in the British Museum, to the authorities of which institution I am likewise grateful for the courtesies involved.

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

### *Doryfera johannae johannae* (Bourcier)

*Troch[ilus] Johannae* BOURCIER, 1847, Proc. Zool. Soc. London, pt. 15, p. 45—"Le Pérou"; ♂; British Mus.

*Trochilus (Doryfera) violifrons* GOULD, 1847, Proc. Zool. Soc. London, pt. 15, p. 95—no locality; probably Bogotá; British Mus.

*Doryfera Euphrosinae* MULSANT AND VERREAUX, 1872, Ann. Soc. Linnéenne Lyon, new ser., vol. 18, p. 319—"L'Equateur."

I have no Peruvian specimens of this species of which there are records from Huambo and above Chayavitas. Neither locality can well be suggested as restricted type locality since I can find no evidence that Edward Matthews, who collected the type, ever

visited either place. He traveled down the Huallaga River to the mouth of the Río Mayo and turned inland through Tarapoto to Moyobamba. The occurrence of the bird at Huambo and in the mountains near Chayavitas suggests the possibility that it occurs also at Chachapoyas which Matthews also visited. The restriction of type locality to Chachapoyas is therefore tentatively suggested.

A specimen in the American Museum collection is marked "Type" but is hardly likely to be entitled to that rank. It has no original label and the existing tag bears the name "*Doryfera Johannaë*" whereas Bourcier described it as "*Trochilus*," and the locality is marked as "New Grenada" instead of "Le Pérou" actually specified by Bourcier. Boucard (1895, *Genera of humming birds*, p. 308) said that the type was then still in the Loddiges Collection (now in the British Museum), although he ascribes it to Colombia. The bird at hand is from the Elliot Collection, but Elliot in his monograph makes no mention of possession of the type as he did in certain other cases. He may have obtained the bird from Bourcier, as indicated on the label, but I judge it to be no more than a representative specimen, not the type.

Ecuadorian specimens have the bill a little longer on average than the Colombian birds (25.5–29.5 mm., as against 24–29), but the overlap is too great to indicate any subspecific distinction as has been proposed for *Doryfera ludovicae* in the same areas, discussed below under *ludovicae*. The Guianan-Venezuelan *D. j. guianensis* has a more consistently shorter bill and in addition differs by lighter ventral coloration of the males and less deeply violaceous frontal patch.

#### SPECIMENS EXAMINED

##### *D. j. johannaë*.—

###### COLOMBIA:

"Bogotá," 13 [♂], 2 [♀].

###### ECUADOR:

Below San José, 6 ♂, 5 ♀;

"Ecuador," 1 [♀].

##### *D. j. guianensis*.—

###### BRITISH GUIANA:

Merumé Mts., 1 ♂.

###### VENEZUELA:

Mt. Duida (750–5000 ft.), 5 ♂, 6 ♀;

Mt. Auyan-tepui, 1 ♂, 1 (?);

Mt. Roraima, Arabupú, 1 ♀.

### *Doryfera ludovicae ludovicae* (Bourcier and Mulsant)

*Trochilus ludovicae* BOURCIER AND MULSANT, 1847, Ann. Soc. d'Agric., Sci., Indus. Lyon, vol. 10, p. 136—Nouvelle-Grenade; Buena Vista, above Villavicencio, Colombia, suggested by Chapman, 1917.

*Doryfera rectirostris* GOULD, 1861, An introduction to the Trochilidae, p. 71—Ecuador; ♂♂, ♀ cotypes in British Mus.

*Doryfera ludoviciae grisea* CARRIKER, 1935 (Oct. 10), Proc. Acad. Nat. Sci. Philadelphia, vol. 87, p. 317—Calabatea, Río Coroico, Dept. La Paz, Bolivia; ♀; Acad. Nat. Sci. Philadelphia.

Chapman (1926, Bull. Amer. Mus. Nat. Hist., vol. 55, p. 282) has already called attention to the great variation in measurements shown by the present species from Venezuela and Colombia to southeastern Perú, and suggests the possibility that *rectirostris* might prove to be inseparable from *ludovicae*. With 21 additional specimens from Venezuela and Colombia (the latter, however, "Bogotá-skins" of uncertain sex), I find an overlap even greater than that pointed out by Chapman. The exposed culmen of the Colombian and Venezuelan birds ranges from a minimum of 29 mm. in the females to a maximum of 34 in the males; Ecuadorian and north-Peruvian birds: 32–36.5; southeast-Peruvian: 29–33.5. In the zone of overlap are 12 of 26 Colombian and Venezuelan birds, 19 of 24 Ecuadorian and north-Peruvian, and five of seven southeast-Peruvian specimens. The averages are slightly different: 31.6 for Colombia and Venezuela; 34 for Ecuador and northern Perú; and 32.0 for southeastern Perú—but the number of specimens unidentifiable by their measurements is so predominant that the criterion appears to be of no practical value.

It is admitted that the lumping together of the measurements of both sexes is open to some valid objections, but it is not certain that there is a positive difference in the bill lengths of males and females. Certainly in the series of sexed birds available the longest-billed bird is a female, as is the shortest-billed one, and in the series from eastern Ecuador and northern Perú, the average of the females is a fraction of a millimeter more than that of the males. In order to utilize the series of non-sexed "Bogotá-skins" and others, therefore, the complete range of measurements has been recorded without regard to sex.

There appears to have been some confusion also in regard to the sexual distinction in color. Hartert (1900, Das Tierreich, no. 9, p. 11), noted no distinctions. Simon (1921, Histoire naturelle des Trochilidae, p. 2) credited the females with an ab-

sence of the frontal patch. Neither statement is wholly correct. Some females lack all trace of the frontal patch (including one bird found on the nest and therefore certainly adult); others appear to have the patch as fully developed as the males; still others have the patch present but reduced in area, perhaps restricted to a few individual glittering feathers. The general coloration of the females may sometimes be slightly duller than that of the males, but in many examples there is no perceptible difference.

The Peruvian birds at hand have the upper tail-coverts a little less pronouncedly blue than the average example from farther north, but the Peruvian series is limited and numerous extremes from Ecuador, Colombia, and Venezuela are no different. Even if the character were found to be constant in a larger series from Perú, its value would still be questionable because of the number of northern examples possessing it. The same condition exists in *Doryfera johanna*.

Bond and deSchauensee (1943, Proc. Acad. Nat. Sci. Philadelphia, vol. 95, p. 200) found the type of "*grisea*" to be a young male indistinguishable from Ecuadorian specimens.

With these evidences of variation and overlap of characters, it seems best to join *ludovicae*, *rectirostris*, and *grisea* into a single subspecies while recognizing the fact that it reaches a peak of bill length in the heart of the range, in Ecuador. The Central American form, *veraguensis*, is quite distinctly darker and readily recognizable.

Additional Peruvian records of *rectirostris* are from Huambo, Río Jelashte, Chirimoto, Ray-urmana, Garita del Sol, Huaynapata, and Río Cadena.

#### SPECIMENS EXAMINED

##### *D. l. veraguensis*.—

###### COSTA RICA:

(La Estrella, Guayabo, La Hondura, La Palma, Irazú, and "Costa Rica"),  
5 ♂, 2 ♀.

###### PANAMÁ:

(Veragua and Chiriquí), 3 ♂, 1 (?).

##### *D. l. ludovicae*.—

###### VENEZUELA:

(Mérida, Nevados, El Hechisera, and Montañas Sierra), 7 ♂, 1 ♀, 5 (?).

###### COLOMBIA:

(Buena Vista, Salento, Miraflores, Medellín, and "Bogotá"), 1 ♂, 3 ♀,  
15 (?).

## ECUADOR:

(Oyacachi, lower Sumaco, below San José, Río Zamora or Río Pastaza, and "Quito"), 20 ♂, 14 ♀, 5 (?).

## PERÚ:

La Lejia, 1 ♂, 1 ♀;  
Santo Domingo, 1 ♂, 2 ♀, 1 (?);  
Inca Mine, 2 ♀.

***Glaucis hirsuta affinis* Lawrence**

*Glaucis affinis* LAWRENCE, 1858, Ann. Lyc. Nat. Hist. New York, vol. 6, p. 261—Ecuador; type from Río Napo; Amer. Mus. Nat. Hist.

*Glaucis hirsuta fusca* CORY, 1913, Field Mus. Nat. Hist., ornith. ser., vol. 1, p. 286—Orope, Zulia, Venezuela; ♂; Chicago Nat. Hist. Mus.

The arrangement of the present species is extremely unsatisfactory owing in part to the great individual variation exhibited throughout the range and in part to the fact that perfectly adult specimens are in the minority in the otherwise extensive series available for study. Young birds, recognizable by their more acute rectrices and buffy terminal margins of the dorsal feathering, white terminal spots on the remiges, and often by buffy, cinnamonaceous, or grayish tips on some of the pectoral and gular plumes, show much variation in these particulars that may be variously combined or individually lacking, and it appears likely that various ages are represented, but the fact remains that when any or all of these characteristics are present, subspecific distinction is rendered even more difficult than it is in the adults.

When only the male birds that appear to be fully adult are compared, it appears that male *affinis* is characterized by relatively dark and dull rufescent coloration of the throat and chest, and a grayish drab tone of the belly, occasionally washed with the color of the chest. Such material as I have from the eastern tier of Brazilian states indicates that *hirsuta hirsuta* (*Trochilus hirsutus* Gmelin, 1788, Systema naturae, vol. 1, pt. 1, p. 490—Brazil; I suggest Bahia as restricted type locality) is a little lighter and brighter on the breast and paler and more ochraceous or light rufescent on the belly. Taking these two standards for comparative purposes, I find that specimens from as far east as the Rio Madeira (both banks), south of the Amazon, are distinctly closer to *affinis* than to *hirsuta*, and even examples from the Rio Xingú are intermediate. Likewise specimens from the foot of Mt. Duida in Venezuela, although all show varying degrees of

immaturity, are certainly referable to *affinis*, although specimens from the lower Rio Negro are again intermediate. It may be noted that the type of *affinis* is not the darkest of the Ecuadorian birds at hand but still has enough of the grayish abdominal tone to assure its identification with the subspecies with which it has always been associated. At least one Rio Madeira bird, from Humaythá, is near the darkest extreme of the subspecies. The outside limit is shown by a male from below San José, Ecuador.

Females are less easily determinable than the males and although those of *affinis* average darker and duller below than those of *hirsuta*, the reverse is sometimes apparent.

I am not sure that Guianan and perhaps northeastern-Venezuelan birds are referable to *hirsuta hirsuta* and not to a separable form (for which names are available), but would need to see a good series of adult males from southeastern Brazil before assuring myself of the correctness of that idea. The northern birds appear to be brighter in coloration than the others. Birds from Bolivia and Matto Grosso likewise are uncertain in view of the limited material at hand.

I have been unable to discover any positive dimensional criteria in the species except in the case of the short-winged, short-tailed *aenea* of the Pacific coastal region. The Trinidad-Tobago-Grenada form, *insularum*, has the maximum average measurements of all of the recognized forms, but they are only average and one male *hirsuta* from the Paria Peninsula of Venezuela has a slightly longer tail than any example of *insularum* at hand. In this connection it may be of interest to call attention to two unusual specimens without accurate data that exceed the present series of *insularum* in both wing and tail measurement. One is labeled "Peru" and the other "Brazil" but both are dealer's skins from H. Whitely. Also, both are partially albinistic, although both have the under parts (anteriorly, only, in the "Brazil" specimen) relatively dark cinnamomeous as in many *insularis*. The bird from "Peru" has the wing 74 mm.; the tail, 46; the "Brazil" specimen: 71 and 45.5, respectively. The males of *insularum* at hand show 70 and 43, respectively, although Hellmayr and Seilern, in the original description of *insularum*, report maxima of 70 and 46. I believe, therefore, that these two birds are actually *insularum* with incorrect localities, supplied by the dealer.

Additional records of *affinis* from Perú are from Río Javari,

Pebas, "Peruvian Amazons," "Upper Ucayali," Yurimaguas, Santa Cruz, Moyobamba, and Chamicuros.

SPECIMENS EXAMINED

*G. h. hirsuta*.—

BRAZIL:

Bahia, Cajazeiras, 1 ♂, 1 (?);  
 "Bahia," 4 (?);  
 "Brasilia," 1 ♂, 1 ♀, 1 (?) (cotypes of "*ferrugineus*");  
 Matto Grosso, Chapada, 1 ♂;  
 Descalvados, 1 ♀;  
 "Pará," 1 (?);  
 Pará, Prata, 1 ♂, 1 (?);  
 Rio Xingú, Tapará, 1 ♂, 1 (?);  
 Porto de Moz, 3 ♂, 1 (?);  
 Villarinho do Monte, 1 ♂;  
 Villa Bella Imperatriz, 1 ♂, 1 ♀;  
 Rio Negro, Igarapé Cacao Pereira, 2 ♂, 1 ♀;  
 Rio Negro, 1 (?);  
 "Brazil," 4 (?).

BOLIVIA:

Mission San Antonio, 1 ♂, 2 ♀;  
 Todos Santos, 1 ♂.

CAYENNE:

(Roche Marie, Approuague, and "Cayenne"), 6 ♂, 2 ♀, 2 (?).

SURINAM:

(Near Paramaribo, Javaweg, Kwata, and "Interior"), 6 ♀, 3 (?).

"GULIANA": 1 (?).

VENEZUELA:

(Las Trincheras, Cumanacoa, Cristóbal Colón, Las Quiguas, San Antonio, San Estéban, El Limón, Temblador, Munduapo, La Prisión, "Orinoco," Roraima, and "Venezuela"), 9 ♂, 7 ♀, 3 (?).

*G. h. insularum*.—

TRINIDAD:

(Princetown, Carenage, Caparo, Laventille, Forres Park, and "Trinidad"),  
 13 ♂, 5 ♀.

TOBAGO:

(Castare, Richmond, Englishman Bay, and "Tobago"), 5 ♂, 5 ♀, 1 (?).

GRENADA: 1 ♀.

? "PERU" AND "BRAZIL" (loc. err.), 2 (?).

*G. h. affinis*.—

PERÚ:

Lagarto, Río Ucayali, 2 ♂, 3 ♀;  
 Santa Rosa, 1 ♂;  
 Pachiza, 1 ♀;  
 mouth of Río Cahuapanas, 1 ♂;  
 mouth of Río Cenipá, 1 ♂;  
 Iquitos, 1 ♂;

Jeberos, 1 (?);  
 mouth of Río Curaray, 4 ♂, 2 ♀;  
 Apayacu, 1 ♀;  
 "Perú," 1 ♂.

## ECUADOR:

Below San José, 1 ♂;  
 Napo River, 1 (?) (type).

## COLOMBIA:

La Morelia, 1 ♂, 1 ♀;  
 Villavicencio, 1 ♂;  
 Alto Bonito, 2 ♂;  
 Malena, 1 ♂;  
 Cunday, 1 [♂];  
 Cali, 1 "♂" [= ♀], 1 ♀;  
 "Bogotá," 3 [♂], 3 [♀];  
 Santa Marta, Don Diego, 1 ♂.

## VENEZUELA:

Mérida, 1 (?);  
 Mt. Duida, Playa del Río Base, 1 ♂;  
 Río Orinoco, LaLaja, 2 (?)

## BRAZIL:

Teffé, 1 ♀;  
 Rio Madeira, Rosarinho, 1 ♂;  
 Borba, 1 ♂;  
 Marmellos, 4 ♂, 2 ♀;  
 Calamá, 1 ♂, 1 (?);  
 Humaythá, 3 ♂, 1 ♀;  
 Igarapé Auará, 2 ♂;  
 Rio Preto, Santa Isabel, 2 ♂, 1 ♀.

## PANAMÁ:

El Real, Río Tuyra, 2 ♂, 2 ♀, 4 (?);  
 Boca de Cupe, 1 ♂;  
 Capeti, 2 ♂, 1 (?);  
 [Lion Hill], 1 ♂, 1 ♀, 1 (?);  
 New Culebra, 1 ♀;  
 "Panamá," 1 (?)

*G. h. aenea*.—

## ECUADOR:

Pambilar, 1 ♀;  
 Carondelet, 1 ♂;  
 San Javier, 2 ♂;  
 Esmeraldas, 3 ♂.

## COLOMBIA:

Barbacoas, 2 ♂;  
 San José, Cauca, 1 ♂.

## PANAMÁ:

Bogava, 1 ♂, 1 ♀;  
 Brava Is., 1 ♀;  
 Almiyas Is., 3 ♂, 1 ♀.



## COSTA RICA:

Guapiles, 1 ♀ ;  
El Pozo, 1 ♂.

***Threnetes leucurus cervinicauda* Gould**

*Threnetes cervinicauda* GOULD, 1855, Proc. Zool. Soc. London, "1854," p. 109—Quijos, Ecuador.

*T[hrenetes] hauxwelli* BOUCARD, 1895, Genera of humming birds, p. 371—Pebas, Perú.

This form ranges down the eastern side of the Andes from Colombia to northern Perú, north of the Amazon. It has been reported from south of the Amazon in Brazil, on the Rio Juruá (Gyldenstolpe, 1945, K. Svenska Vetensk. Akad. Handl., vol. 22, no. 3, p. 73), but the assignment may be open to some question since at the same time a specimen from near Moyobamba, Perú, is also identified as *cervinicauda*. The matter is further discussed under *T. l. rufigastra* where these records may belong.

The only Peruvian record of certain assignment to *cervinicauda* is that from Pebas. Possibly some of the "Napo" specimens in various collections may have come from what is now Peruvian territory.

***Threnetes leucurus rufigastra* Cory**

*Threnetes leucurus rufigastra* CORY, 1915 (Aug. 7), Field Mus. Nat. Hist., ornith. ser., vol. 1, p. 303—Moyobamba, Perú; ♀ ; Chicago Nat. Hist. Mus.

The exact status of this form is far from clear. Cory described it from a single female which he found to differ from typical *leucurus* of Guiana by having the sides, flanks, and abdomen more brownish buff and the back somewhat more bronzy green. The basal markings of the tail, obviously, were white as in *leucurus* and not cinnamon buff as in *cervinicauda*. Although the color of the back appears to be of little importance, specimens with the basal white markings of the tail and the brownish buff lower under parts have since been obtained by other workers in the Moyobamba region and in southeastern Perú as well as in northern Bolivia, all of which have been assigned to *rufigastra*. To these I am able to add a bird from Lagarto, upper Ucayali, Perú.

To complicate matters, however, other specimens from the Moyobamba region and one from Lagarto have come to light which, while they have the under parts more deeply colored than in *leucurus* and many *cervinicauda*, agree with the latter in the color of the tail. At present I have no evidence of the occurrence

of such birds in southeastern Perú and northern Bolivia, but it is not impossible that the birds recorded by Gyldenstolpe from the Rio Purús (see account of *cervinicauda*) may be found to belong in this mixed assemblage. Gyldenstolpe does not comment on any distinctions from average *cervinicauda* but does refer a specimen from near Moyobamba also to *cervinicauda* along with the Purús birds.

The distinction of the cinnamon-buff-tailed birds in question from *cervinicauda* is not great. In fact, if there were no other factors involved, the recognition of a north-central Peruvian form would be of dubious value. Nevertheless, there is a certain amount of distinction. Peruvian birds from south of the Amazon, whether white-tailed or buff-tailed, have the lower under parts rather more deeply brownish buff than most Ecuadorian and Colombian specimens of *cervinicauda*, as well as all *leucurus*, although the segregation is not complete. Occasional examples from north and south of the Amazon reverse the character. In addition, the southern birds have the bright band across the lower throat deeper in color and the males have the green pectoral patch somewhat narrower, although the differences in preparation of the skins make this last feature difficult to determine.

Within the assemblage of specimens from south of the Amazon, one interesting fact has been noted. Eleven examples are now before me, comprising five cinnamon-tailed and six white-tailed birds. (The tips of the rectrices are, of course, white in all forms.) Each group includes birds of both sexes and both adults and individuals presumably not fully adult, judging by more slender and more acute rectrices, somewhat prominent pale dots at the tips of most of the remiges, or extensive buffy terminal margins on much of the dorsal plumage, sometimes with combinations of these features. All six white-tailed birds in the series in question show one or more of the signs of immaturity; the cinnamon-tailed birds are more fully adult. The series is still too small to evaluate the situation with certainty, but it appears possible that the difference in the color of the tail is due to age. Young *cervinicauda* however, are like adults of that form in respect to the color of the tail, and young and adult *leucurus* agree with each other in the same particular. Nevertheless, the complete segregation of the age groups in the present instance is such that positive confirmation or refutation becomes highly important. A specimen with the tail in molt should furnish the needed evidence.

The fact that, aside from the color of the tail, the "white-tailed" and "cinnamon-tailed" birds from south of the Amazon agree in the characters that distinguish them from *leucurus* and *cervinicauda* points with some assurance to the concept of a single subspecies with a dichromatic tail, whether it be found to be a matter of age or other cause. It is difficult to accept *leucurus* and *cervinicauda* as specifically distinct, which might be necessary if the "white-tailed" and "cinnamon-tailed" birds in Perú were kept specifically distinct, due to their occurrence together (as at Lagarto, Río Ucayali). One male from Humaythá, Rio Madeira, Brazil, is an undoubted *leucurus* but has a slight suggestion of buffy yellowish on the tail, and a female from Teffé has the belly as noticeably cinnamonaceous as some of the specimens of *rufigastrea*. Furthermore, the form *medianus* of Pará is decidedly intermediate in taxonomic characters although not geographically. Elliot (1879, Smithsonian Contrib. to Knowledge, no. 317, p. 8) remarks that he had "specimens" of *leucurus* from Surinam which had buff on the rectrices. In his collection as preserved in the American Museum of Natural History are but two examples of the species labeled as from Surinam, both of which are trade-skins with consequently uncertain data. One of these is typical *leucurus*, but the other matches *medianus* so well in respect to the color of the tail and the dark hue of the belly that I believe it must belong to *medianus* and not to have originated in Surinam as claimed.

For these various reasons, therefore, I include in *rufigastrea* the various records and specimens of the species from Perú south of the Amazon and from northern Bolivia, whether with white or cinnamonaceous basal markings on the tail, and suggest that the records from the Purús may equally belong to the same dichromatic (in part) form. Peruvian records that will belong here are from Moyobamba and Yahuarmayo (white-tailed), and Roque and Chamicuros (cinnamon-tailed).

#### SPECIMENS EXAMINED

##### *T. l. leucurus*.—

###### SURINAM:

- Parakali, 1 (?);
- "interior," 2 ♂, 1 [♀], 1 (?);
- "Surinam," 1 [♂], 1 [♀].

###### BRITISH GUIANA:

- Minnehaha Creek, 1 ♀;
- mines district, interior, 1 [♀].

## VENEZUELA:

- Mt. Auyan-tepui, 1 ♀ ;  
 Mt. Duida (350-750 ft.), 2 ♂, 3 ♀ .

## BRAZIL:

- Rio Madeira, Igarapé Auará, 1 [♂], 1 ♀ ;  
 Humaythá, 1 ♂, 1 ♀ ;  
 Calamá, 1 ♂, 1 ♀ ;  
 Marmellos, 2 ♂, 1 ♀ ;  
 Paraizo, 1 ♂, 1 ♀ ;  
 Teffé, 1 ♂, 2 ♀ .

NO LOCALITY, 1 (?).

*T. l. medianus*.—

## BRAZIL:

- Pará, Utinga, 1 ♂ ;  
 Prata, 1 ♀ .

"SURINAM," 1 [♂].

*T. l. cervinicauda*.—

## COLOMBIA:

- La Morelia, 1 ♂ ;  
 Florencia, 1 ♀ ;  
 Mt. Macarena, 1 ♀, 1 (?);  
 "Bogotá," 2 ♂, 1 ♀, 7 (?).

## ECUADOR:

- Quijos, 1 ♂ ;  
 Archidona, 1 ♂ ;  
 Río Suno, above Avila, 1 ♂, 1 ♀ ;  
 below San José, 3 ♂, 2 ♀ ;  
 Gualaquiza, 1 [♂], 1 [♀] ;  
 Canelos, 1 (?);  
 "Napo," 1 [♀], 2 (?).

## PERÚ:

- Pomará, 1 ♀ ;  
 mouth of Río Santiago, 2 ♂, 1 ♀ ;  
 mouth of Río Curaray, 1 ♀ .

*R. l. rufigastra*.—

## PERÚ:

- (White-tailed):  
 Saposa, 2 ♂<sup>1</sup> ;  
 Lagarto, 1 ♀ ;  
 Candamo, 1 ♂ ;  
 La Pampa, 1 ♂ .  
 (Buff-tailed):  
 Río Negro, 2 ♂ ;  
 Río Seco, 2 ♀ ;  
 Lagarto, 1 ♂ .

## BOLIVIA:

- (White-tailed):  
 Todos Santos, 1 (?)<sup>1</sup>.

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

**Phaethornis guy apicalis** (Tschudi)

*Tr[ochilus] apicalis* "Lichtenst." TSCHUDI, 1844 (May), Arch. Naturgesch., 10th year, vol. 1, p. 296—Perú; I suggest Utcuyacu, Prov. Junín; Berlin Mus.

*G[uyornis] Guyi napensis* SIMON, 1921, Histoire naturelle des Trochilidae, pp. 18, 258—Napo Valley, eastern Ecuador.

Birds from Perú and eastern Ecuador appear to be inseparable in coloration and dimensions, and a few examples from the eastern side of the eastern Andes in Colombia agree with them, indicating the extension of *apicalis* at least that far to the northward. A single example from San Cristóbal, Táchira, Venezuela, in the Chicago Natural History Museum, has the bill of the same general length as these other specimens and carries the range of *apicalis* still farther to the northward.

In an earlier report (1930, Field Mus. Nat. Hist., zool. ser., vol. 17, p. 272), I commented on the difference in the lengths of bill that I found in two Peruvian birds as compared with 10 examples from Colombia, Ecuador, and Venezuela (the San Cristóbal specimen). The series then available was inadequate to establish the significance of the observed difference. With much more complete material now at hand, I am able to present more adequate data to demonstrate the reality of the distinction, although the material studied in 1930 apparently contained representatives of the two forms involved, *apicalis* and *emiliae*.

Fortunately, Bourcier and Mulsant (1846, Ann. Soc. d'Agric., Sci., Indus. Lyon, vol. 9, p. 317) give the length of the bill in the type of their *Trochilus Emiliae*, which they describe from "Bogotá," enabling us to determine to which form the name *emiliae* applies, since both it and *apicalis* are found in Bogotá collections. This length is given as 44 mm. ("0m044"). Specimens at hand from the upper Cauca Valley have the exposed culmen 40–44 mm., and 11 "Bogotá skins" range from 40 to 45. Two birds from Cunday, in the upper Magdalena Valley, show 40 mm. On the other hand, five other Bogotá specimens have the bill 35–39; three specimens from Buena Vista, above Villavicencio, 33–35; (three from Mt. Macarena are not adult and hence are inconclusive: 30–34); 19 east-Ecuadorian examples, 34–38; 10 Peruvian skins, 35–39. The San Cristóbal, Venezuelan example, according to my notes, has the bill 37 mm.; of seven Bogotá skins measured in 1930, five showed the bill 41.5–44, while two had only 36.5 and 37 (apparently representing the two subspecies);

a single Ecuadorian bird had 40 mm., the only specimen measured from that country with the bill quite that long.

It appears, therefore, that *emiliae* may be distinguished from *apicalis* by its longer bill. The Central American *coruscus* is intermediate in this respect, having the culmen 38.5–42.5, while typical *guy* of northeastern Venezuela and Trinidad is much the same as *coruscus*, with the bill 39–43 in the series measured. It may be pointed out that a male from Peque, Antioquia, Colombia, and a trade-skin, presumably also from the Antioquia region, agree closely with *coruscus* in distinction from the upper Cauca Valley examples of *emiliae*.

A word may be said concerning the restricted type locality of the species and nominate subspecies. Lesson (1833, *Les Trochilidées*, p. 119, and "Index," p. "xiv") described *Trochilus Guy* from "Le Brésil." The locality was eventually discovered to be erroneous and the correct range of the bird determined as Trinidad and northeastern Venezuela, but Hellmayr (1906, *Novitates Zool.*, vol. 13, p. 34) appears to have been the first to propose a formal substitution of Trinidad for "Le Brésil."

A single specimen from Huiro, southeastern Perú, has a pronounced brownish coloration beneath that I am unable to match even in typical *g. guy*. The bird is sexed as a male and if correctly so it is undoubtedly immature, which a certain laxness of plumage also suggests. A series from southeastern Perú might show some constancy in the brown tones that would be of significance, but I can find no mention of such characteristics in earlier citations of southeast-Peruvian specimens.

Records of *apicalis* are from Huaynapata, Río Cadena, San Antonio, Marcapata, Río San Miguel, La Gloria, Soriano, and Huambo.

#### SPECIMENS EXAMINED

*P. g. guy*.—

TRINIDAD:

- Aripo, 2 ♂, 1 (?);
- Savanna Grande, 3 ♂;
- Carenage, 1 ♂, 1 ♀;
- Princetown, 1 (?);
- "Trinidad," 1 ♂, 2 (?).

VENEZUELA:

- Cumanacoa, 1 [♂], 1 ♀;
- Cumaná, 1 (?);
- Quebrada Seca, 3 ♂, 1 ♀;

La Tigrera, 1 ♂;  
 Cristóbal Colón, 2 ♂, 4 ♀;  
 Yacua, 1 ♂;  
 "Venezuela," 1 (?).

*P. g. apitalis*.—

VENEZUELA:

San Cristóbal, Táchira, 1 [♂]<sup>1</sup>.

COLOMBIA:

Buena Vista, above Villavicencio, 1 ♀, 2 [♀];  
 Mt. Macarena, 2 ♂, 1 ♀;  
 "Bogotá," 4 [♂], 1 [♀].

ECUADOR:

Cerro Galeras, 1 ♂;  
 Río Suno, above Avila, 2 ♀;  
 below San José, 7 ♂, 4 ♀;  
 above Archidona, 1 ♀;  
 Ambato, 1 [♂];  
 Zamora, 2 ♂, 1 ♀.

PERÚ:

Uchco, east of Chachapoyas, 1 ♂, 1 (?);  
 Huarandosa, 5 ♂;  
 Vista Alegre, 1 ♀<sup>1</sup>;  
 Chinchao, 1 ♀<sup>1</sup>;  
 Utcuyacu, 1 ♂;  
 Tulumayo, 1 ♂;  
 Pozuzo, 2 ♂;  
 Huiro, 1 ♂.

*P. g. emiliae*.—

COLOMBIA:

Cunday, 1 [♂], 1 [♀];  
 "Bogotá," 6 [♂], 7 [♀];  
 within 20 miles of Honda, 1 ♂;  
 Miraflores, 1 ♀, 2 (?);  
 Las Lomitas, 3 ♂, 1 ♀;  
 San Antonio, 2 ♂.

*P. g. coruscus*.—

COLOMBIA:

Peque, 1 ♂;  
 ? Antioquia, 1 ♂;  
 east slope of Tacarcuna, 3 ♂.

PANAMÁ:

Tacarcuna, 3 ♂, 8 ♀;  
 Cituro, 1 ♂;  
 Chiriquí, 1 ♂, 1 [♀];  
 Boquete, 1 ♂, 1 [♀];  
 Calovevora, 1 [♀];  
 Veragua, 1 ♂;  
 Chitrá, 3 ♂, 3 ♀;

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

Santa Fé, Veragua, 4 ♂, 1 ♀, 1 (?);  
 Río Calovevora, 1 ♂, 1 ?♂, 2 ♀.

COSTA RICA:

(Turrialba, Guayabo, Hacienda Iberia, Bonilla, Dota Mts., Aquinares, Barranca, Coliblanco de Sarapiquí, Carrillo, Azahar de Cartago, and La Hondura), 20 ♂, 13 ♀.

**Phaethornis syrmatophorus columbianus** Boucard

*Phaethornis columbianus* BOUCARD, 1891 (March 1), Humming Bird, vol. 1, no. 3, p. 17—"Columbia"; received from Bogotá; I suggest La Palma, Huila, Colombia, as restricted type locality; type in Paris Mus.

*Phaethornis syrmatophorus huallagae* CARRIKER, 1935 (Oct. 25), Proc. Acad. Nat. Sci. Philadelphia, vol. 87, p. 344—Río Jelashte, Dept. San Martín, Perú; ♂; Acad. Nat. Sci. Philadelphia.

Two paratypes of *huallagae*, kindly lent by Mr. deSchauensee of the Academy of Natural Sciences of Philadelphia, have been compared with a series of east-Ecuadorian birds and two Colombian examples of the present form. I can find no adequate characters for the recognition of *huallagae*. One of the Peruvian birds, a female, is a little darker on the upper surface than the other, older skins, which vary considerably among themselves. The other Peruvian example is immature and matches comparable *columbianus* rather exactly. Typical *syrmatophorus* exhibits the same range of color on the mantle, as is shown by the present series. In the original description of *huallagae*, no mention is made of *columbianus*, but, instead, the distinctions from *s. syrmatophorus* are used as the basis for recognition of the supposed new form.

One of the Colombian examples of this form at hand is a "Bogotá" trade-skin, but at the same time three other "Bogotá" skins belong to *s. syrmatophorus*. The proportion, in view of the known ranges of the two forms, is curious but probably not significant. Since both forms occur in "Bogotá" collections, I have thought it advisable to suggest La Palma as a restricted type locality for *columbianus*.

There are no Peruvian records of the species except from Río Jelashte.

SPECIMENS EXAMINED

*P. s. syrmatophorus*.—

COLOMBIA:

Cocal, 1 ♀;  
 Salento, 1 ♂;  
 Cerro Munchique, 1 ♂, 1 ♀;



San Antonio, Cauca, 1 ♂, 2 ♀;  
 La Costa, El Tambo, Cauca, 1 ♂;  
 Alto de las Cruces (w. cordillera), 1 (?);  
 "Bogotá," 3 (?).

## ECUADOR:

Río Pescado, 3 ♂ (including type of "*berlepschi*"), 2 ♀, 1 (?);  
 Gualea, 1 ♂;  
 "Quito," 1 ♂, 1 (?).

NO LOCALITY: 1 (?).

*P. s. columbianus*.—

## COLOMBIA:

La Palma, 1 ♀;  
 "Bogotá," 1 (?).

## ECUADOR:

Upper Sumaco, 1 ♂;  
 lower Sumaco, 2 ♂;  
 Baeza, 4 ♂, 1 ♀;  
 below Baeza, 1 ♂;  
 east of Baños, 5 ♂, 1 ♀.

## PERÚ:

Río Jelashte, 1 ♂<sup>1</sup>, 1 ♀<sup>1</sup>.

### ***Phaethornis malaris moorei* Lawrence**

*Phaethornis moorei* LAWRENCE, 1858, Ann. Lyc. Nat. Hist. New York, vol. 6, p. 258—Ecuador (type labeled "Napo"); [? ♂]; Amer. Mus. Nat. Hist.

*Phaethornis superciliosa Moorei* var. *nigella* SIMON, 1921, Histoire naturelle des Trochilidae, pp. 13, 252—Bogotá.

The present form ranges from the eastern side of the Eastern Andes of Colombia (at least in the southern part of the country) southward across eastern Ecuador to the north bank of the Amazon in northern Perú and westernmost Brazil, although in the Peruvian part of its range it appears not to reach the left bank of the Marañón farther than somewhere near the mouth of the Río Santiago. A single specimen from Pomará, farther upstream, belongs to a different subspecies, as will be noted below.

Specimens from the range indicated agree well among themselves and appear to represent but a single form. Judging by the measurements of the type, which is a non-sexed specimen, it is a male. The wing measures 64 mm., which is average for the males (59–65) but longer than in any female examined (55–61.5). As other of W. E. Moore's "Napo" birds, it may have come from what is now Perú, but since Moore is reported to have traveled the whole length of the Napo, this is uncertain, and the locality may be left within Ecuadorian boundaries.

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

The placement of *moorei* with *malaris* rather than with *superciliosus* hinges on an intermediate new form from the Casiquiare region of Venezuela in the discussion of which the matter is treated in detail. The account of this new form follows.

Peruvian records that should belong to *moorei* are from Nauta and Iquitos.

**Phaethornis malaris insolitus**, new subspecies

TYPE: From Río Huaynia, junction with Río Casiquiare, right bank (west bank), Venezuela. No. 431897, American Museum of Natural History. Adult male collected May 9, 1929, by the Olalla brothers.

DIAGNOSIS: Most nearly resembling *P. m. malaris* of Cayenne but somewhat smaller, especially in length of bill; central gular streak of males usually more pronounced; under tail-coverts averaging lighter ochraceous and terminal margins of outer four pairs of rectrices less deeply rufescent; top of head more dusky, less strongly glossed with green; malar and supra-auricular stripes often more buffy, less whitish.

RANGE: Known only from the western side of the upper Rio Negro, the Casiquiare, and the uppermost Orinoco in Venezuela, Brazil, and Colombia.

DESCRIPTION OF TYPE: Top of head blackish with a faint greenish gloss, more pronounced on the hind neck where the feathers have narrow dusky terminal margins; mantle glossy Roman Green, with similar dark margins; rump similar but with cinnamonaceous buff margins beyond the dark border; upper tail-coverts with the dark and cinnamonaceous margins broader. Lores and auriculars black, connected by a black stripe under the eye; above the auriculars a broad stripe of Cinnamon-Buff; a somewhat lighter and narrower stripe from the base of the bill below the black facial area to the mid-point below the auriculars; sides of throat anteriorly broadly blackish becoming lighter posteriorly and with an inconspicuous median streak of dull brownish buff; breast light buffy brown, darker on the sides, and passing into a brighter Pinkish Buff  $\times$  Cinnamon-Buff on the belly; under tail-coverts near Pinkish Buff, with brownish shaft stripes. Remiges blackish, with a purplish luster; outer primary with fine, pale outer margin; greater upper coverts and primary-coverts similar; remainder of upper coverts green like the mantle; under wing-coverts largely blackish, with a fine buffy brown line along

the carpal margin. Rectrices basally grayish green, followed by a subterminal area of black on the elongated median rectrices; this black area passes into white over most of the narrowed terminal prolongation; on the remaining four pairs there is a latero-terminal patch of rufescent buff on each web narrowly connected across the tip of the feather. Maxilla (in dried skin) black; mandible yellowish, becoming blackish brown distally; feet yellowish brown. Wing, 67 mm.; tail, 70.5; culmen, 38.5.

REMARKS: Females are slightly smaller, with shorter and more arcuate bill, and have less pronounced black on the throat, but the under tail-coverts are ochraceous as in the males. Except for this last feature and the rufescent terminal markings on the four outer pairs of rectrices they resemble the males of *P. s. superciliosus*. Young birds have the cinnamon-buff terminal margins of the uropygium broader than in adults and present also on the feathers of the mantle and top of the head.

The discovery of this form opened an intensive study of *malaris* and *superciliosus* that has led to the conclusion that most of the subspecies usually assigned to conspecific association with *superciliosus* show greater affinity to *malaris*, excepting only *saturationior* of the upper Orinoco and Caura regions of Venezuela. It appeared even that it might be possible to consider *malaris* and *superciliosus* as terminal forms of a "ring species," having a common origin and eventually finding themselves side by side, as it appears they exist in Cayenne. There is no doubt that some of the forms show one or more of the characters of *superciliosus* while retaining others of *malaris*, but in the main their relationship is fairly clear, and I believe that the two species are, indeed, closely related but still distinct enough to maintain their specific rank.

One of the first characters to come to notice in the distinction of the two species is the greater curvature of the bill in *superciliosus* and *saturationior*, coupled usually with shorter length. When comparative observations of the bill are made, it is important to keep the sexes distinct. In both *malaris* (and its affines) and *superciliosus* (and *saturationior*) the bill of the female averages both shorter and more curved than that of the male, and is often pronouncedly so. Consequently a female of the *malaris* group may have a bill approximating the shape and dimensions of that of a male of *superciliosus*.

A second important character, subject to some variation, is the color of the under tail-coverts and the terminal spots on the

outer four pairs of rectrices. In *superciliosus* and *saturator* these areas are distinctly whitish, although there is sometimes a buffy tinge on the coverts or a trace of rufescence on the rectrices. In most of the *malaris* group, the under tail-coverts are buffy or ochraceous, sometimes deeply so, sometimes of a paler tint, and the tail markings show varying degrees of rufescence but are rarely all white except in *baroni* of western Ecuador and northwestern Perú, and, as far as the tail-coverts are concerned, in *muelleri* of the south bank of the lower Amazon. As a matter of fact, a female of typical *malaris* from Cayenne has both under tail-coverts and tail markings very nearly white, although other features and size point to its proper identity.

Other than these features, the members of the *malaris* group usually show more heavily shaded sides of the throat and broader (as well as more rufescent) tail markings, although these characters are far from constant within any population. The strong greenish gloss on the top of the head in *m. malaris* appears not to be duplicated except in the distant *malaris mexicanus*.

As far as present material demonstrates, the present form, *insolitus*, is confined to the western side of the Orinoco-Casiquiare-Negro river system, while *superciliosus* occupies the eastern side. It is possible, however, that this geographical segregation will not be found exact. Pelzeln (1868, *Zur Ornithologie Brasiliens*, p. 27), reported a specimen of *superciliosus* from Marabitanas, which is in the range of *insolitus*, and Hellmayr (1906, *Novitates Zool.*, vol. 13, p. 374) comments on this specimen, among others, without finding any distinction from Guianan *superciliosus*. Likewise, the hiatus between the known range of *insolitus* and that of *malaris* is such that a connectant population may yet be found there. It may be argued, of course, that *superciliosus* presumably occupies this area and that the apparent geographical replacement of it by *insolitus* across the Orinoco-Casiquiare-Negro river complex indicates that *insolitus* and *superciliosus* are conspecific rather than *insolitus* and *malaris*. Nevertheless, I believe that the relationship is as I have postulated.

The measurements of the pertinent forms, as nearly as I can determine them, are given in table 1.

To augment the limited number of specimens of *m. malaris* available for measurement, I have included the figures given by Berlepsch (1908, *Novitates Zool.*, vol. 15, p. 262).

The difference in the lengths of bill in *superciliosus* and *satura-*

TABLE 1  
COMPARATIVE MEASUREMENTS, IN MILLIMETERS (AVERAGES IN PARENTHESES)

	Wing			Tail			Culmen		
<i>s. superciliosus</i>									
Males	57	-63	(60.1)	62	-71.5	(66.8)	34	-39.5	(37.4)
Females	54	-62	(58.7)	60	-71	(65.8)	33	-37	(34.8)
<i>s. saturator</i>									
Males	56	-62	(59.0)	62	-70	(66.3)	33	-37	(35.3)
Females	55	-59	(57.2)	62.5-66		(64.1)	32.5-35		(33.8)
<i>m. malaris</i>									
Males	65.5-70		(67.0)	73.5-75.5		(74.8)	45	-46	(45.5)
Females	61	-66.5	(63.6)	69	-75	(73.1)	40	-43.5	(42.3)
<i>m. insolitus</i>									
Males	62	-67	(64.7)	64.5-70.5		(67.9)	38	-42.5	(40.0)
Females	61	-63	(64.0)	67			35	-37	(36.0)
<i>m. moorei</i>									
Males	59	-65.25	(63.4)	61	-69	(64.8)	38	-43	(40.7)
Females	59	-61.5	(60.1)	62.5-66		(64.1)	36	-38.5	(37.8)

*tior* is somewhat more positive than the above figures may indicate. Of 34 males of *superciliosus*, 30 have the culmen over 36 mm. in length; 11 of 12 *saturator* have a measurement of 36 mm. or less. The slightly deeper ventral coloration of *saturator* supplements this distinction. The measurements of wing and tail are too nearly the same in both forms to serve as criteria.

I believe that the Central American forms, *m. cephalus* and *m. cassinii*, have somewhat different distributional limits than those usually attributed to them. The material at hand indicates that *cephalus*, in Panamá, occupies only the Pacific side of the cordillera west of the Canal Zone, while *cassinii* crosses the Canal Zone from the east and occupies the Caribbean slopes westward to Almirante, and apparently a portion of the Cape Mala Peninsula on the Pacific side. Three specimens from Cerro Montoso, Cape Mala Peninsula, are as dark as east-Panamanian skins, while two from La Marea, 20 miles south of Santiago, not far distant, are among the lightest examples of *cephalus*. As pointed out by Griscom (1932, Bull. Mus. Comp. Zool., vol. 72, p. 329), there is considerable confusion in the Central American forms, and I am not sure that *cassinii* and *cephalus* deserve separate recognition.

It is possible that there is a minor confusion with respect to the type locality of *cassinii*. Lawrence (1866, Ann. Lyc. Nat. Hist. New York, vol. 8, pp. 347-348) cites the "Habitat" of the form as "New Granada, Carthagená" and states that since the male

(of the two examples he had in hand) was in such poor condition, he selected the female as type. The male was from Turbo, but since Lawrence particularly called attention to that fact, it is presumed that the female was from Carthagena. Unfortunately he cited the same Smithsonian Museum catalogue number for both birds—17918. Later, Berlepsch (1888, Proc. U. S. Natl. Mus., vol. 11, p. 560) gives critical remarks on the male which he took for the type, and Ridgway (1911, Bull. U. S. Natl. Mus., no. 50, pp. 321–322) gives Turbo as the only Colombian locality for what he calls *cephalus*, although strangely enough he does not cite the name *cassinii* in the synonymy. It seems certain that Lawrence's male specimen is not the type of *cassinii* and that Carthagena and not Turbo is the type locality.

***Phaethornis malaris ucayalii*, new subspecies**

TYPE: From Lagarto, right bank of the upper Río Ucayali, Perú. No. 238865, American Museum of Natural History. Adult male collected March 11, 1928, by Carlos Olalla and sons.

DIAGNOSIS: Intermediate between *P. m. moorei* of the Río Napo and *P. m. ochraceiventris* of the south bank of the Amazon from northeastern Perú to the Rio Madeira, Brazil. Dorsal coloration more coppery than in *moorei* and under parts decidedly more ochraceous, less grayish. Dorsal coloration about as in *ochraceiventris* but under parts duller, less brightly ochraceous.

Compared with *P. m. bolivianus* of southeastern Perú and northern Bolivia, the bill is longer (although the general size is only slightly larger); the uropygial area is duller, less brightly cinnamonaceous, and more sharply barred as a rule; the under tail-coverts are a little paler buff, and the latero-terminal margins of the four outer pairs of rectrices are less strongly rufescent and show a greater amount of white or whitish tendency.

RANGE: Perú south of the Amazon (including the west bank of the middle Marañón), east to the Río Ucayali (both banks), and south to the Chanchamayo Valley.

DESCRIPTION OF TYPE: Pattern as described for *insolitus* with colors differing as follows. Top of head dusky brown with slight bronzy lights; hind neck and mantle near Medal Bronze with coppery reflections. Supra-auricular and malar stripes Pinkish Buff; sides of throat buffy gray with blackish subterminal portions of the feathers not entirely concealed; median gular stripe obvious, Pale Pinkish Buff; breast near Pinkish Buff,

darker on the sides; belly deeper in tone; under tail-coverts buff with dusky shaft stripe; latero-terminal margins of outer four pairs of rectrices cinnamomeous, somewhat paler on submedian pair than on outermost. Bill and feet as in *insolitus*. Wing, 64 mm.; tail, 61.5; culmen, 40.

REMARKS: The females appear to average darker below than the males, with the sides of the throat more pronouncedly dusky, giving a marked suggestion of *baroni* of the western side of the Western Andes. As in the other forms, this sex is a little smaller than the male sex and has the bill shorter and more curved as a rule. Two examples at hand on all these counts have been wrongly sexed as males. The rest of the series show the characters mentioned.

The available series shows the following measurements: males, wing, 59–65 mm. (average, 62.8); tail, 62–68 (65.1); culmen, 39.5–41 (40.0); females, wing, 59–63 (71.0); tail, 60–65.5 (63.1); culmen, 37–41 (38.9). Measurements of *bolivianus* are given under that form.

One male from the type locality shows an unusual depth of ochraceous coloration on the under side, approaching *ochraceiventris*, but it is still not so deeply colored as the type of that form and three other specimens in agreement with it, discussed under the heading of that form.

Although *moorei* follows the north bank of the Amazon at least as far west as the mouth of the Río Santiago and might be expected to pass beyond that point to the left bank of the middle Marañón, a male at hand from Pomará is exactly like the Ucayali birds in clear distinction from the east-Ecuadorian form. Presumably, therefore, *ucayalii* occupies the northern part of Perú south of the Amazon from just west of the Marañón to the eastern side of the Ucayali. Accordingly, records from Yurimaguas, Jeberos, Chayavitas, and "Peruvian Amazons" may be placed under the present form.

The records from "Peruvian Amazons" are of specimens collected by Bartlett whose only definite localities of record for Peruvian specimens of this group are from Jeberos and Chayavitas. It is possible that he may have obtained examples of *moorei* from north of the Amazon in Perú, but in the absence of certainty, the Bartlett records may be placed here. There is a more dubious record of a specimen collected by Jelski, ostensibly at Lima (Taczanowski, 1874, Proc. Zool. Soc. London, p. 541). The

locality is highly questionable, and Taczanowski later (1884, *Ornithologie du Pérou*, vol. 1, p. 265) cites only "Pérou central" as credited to Jelski. Berlepsch (Berlepsch and Stolzmann, 1892, *Proc. Zool. Soc. London*, p. 401) examined the specimen in question (a mounted bird without original label) and concluded that its country of origin was Cayenne, which Jelski had visited immediately prior to his journey to Lima, but Taczanowski, in a letter to Berlepsch, insisted on the central Peruvian origin. Since the specimen presumably no longer exists, exact determination is now impossible except in the realization that "Lima" must have been an error.

### ***Phaethornis malaris ochraceiventris* Hellmayr**

*Phaethornis affinis ochraceiventris* HELLMAYR, 1907 (Feb. 28), *Bull. Brit. Ornith. Club*, vol. 19, p. 54—Humaythá, Rio Madeira (left bank), Brazil; *Amer. Mus. Nat. Hist.*

A single specimen from Orosa, south bank of the Amazon, northeastern Perú, is in good agreement with three Brazilian specimens of this form, including the type, and apparently indicates the approximate western limit of range. The Orosa specimen has the back greener than that of any of the three other examples, but the same type of variation exists in *ucayalii* and *bolivianus*, both of which have the dorsum commonly coppery but sometimes green. All four specimens have the under parts more pronouncedly cinnamomeous than any other form of the species, and the latero-terminal margins of the outer four pairs of rectrices and the under tail-coverts also at a maximum depth of coloration. Judging by the slightly shorter and somewhat more arcuate bill of the type, I suspect it to be a female; it was not sexed by the collector.

As suspected by Todd (1937, *Ann. Carnegie Mus.*, vol. 25, p. 247) the female from Calamá, east bank of the Madeira, Brazil, which Hellmayr assigned to *ochraceiventris*, is best referred to *insignis*. However, both it and a male from Borba, also east bank of the Madeira, have the mantle bronzy as in most *ochraceiventris*, while three skins of *insignis* from the left bank of the Rio Tapajoz have this area green, a character mentioned by Todd in the description of *insignis*, although, as noted above, the dorsal color is not perfectly constant in *ochraceiventris* and some other forms. Nevertheless, the character of the Borba and Ca-



lamá birds may be one of intermediacy between the two adjacent forms mentioned.

### **Phaethornis malaris bolivianus** Gould

*Phaethornis Boliviana* GOULD, 1861, Introduction to the Trochilidae, p. 42—Bolivia; British Mus.

Specimens from the southeastern corner of Perú are somewhat intermediate between *ucayalii* and Bolivian examples of *bolivianus* but agree better with the latter. In addition to their short bills, they have the uropygial area usually brighter than in *ucayalii* and with the bright portion of the feathers more extensive and the dark bars less prominent, and the latero-terminal margins of the outer rectrices more deeply rufescent. The under tail-coverts also are more deeply ochraceous, on average, than in *ucayalii*, although those of the Bolivian examples are somewhat deeper. The general color of the under parts averages a little lighter and clearer than in *ucayalii*, but the resemblance is close, and the upper parts are equally coppery, though occasionally definitely green in both forms.

The only Peruvian record assignable to *bolivianus* is from Cosñipata, based on specimens collected by Whitely, one of which is before me.

The series at hand shows the following measurements: males, wing, 61.5–64 mm. (average, 62.5); tail, 63.5–66 (64.9); culmen, 35–38 (36.3); females, wing, 56–59 (57.0); tail, 59–65 (62.8); culmen, 33–36 (34.5).

### **Phaethornis malaris baroni** Hartert

*Phaethornis baroni* HARTERT, 1897, Ibis, ser. 7, vol. 3, p. 426—Naranjal, Río Pescada, western Ecuador; Amer. Mus. Nat. Hist.

This form has the latero-terminal spots of the outer four pairs of rectrices white, rarely with a trace of cinnamon, and the under tail-coverts also are white more often than not though sometimes pale buff. The central gular stripe is strong and buffy and the sides of the throat are heavily shaded, while the breast shows more prominent dusky tips on the feathers than is usual in the species, most members of which show indications of the same marking. The belly also is whitish or weakly ochraceous tinged, while the upper tail-coverts have quite extensive ochraceous or cinnamomeous areas. It is a well-marked form but certainly a geographic representative of the *malaris* group.

The realignment of the boundary between Ecuador and Perú has brought *baroni* into the Peruvian avifauna on the basis of three localities from which specimens are at hand. These localities were so close to the former boundary that the occurrence of the subspecies on the Peruvian side of the line was to be expected, although no specimens had actually been obtained there.

## SPECIMENS EXAMINED

*P. malaris mexicanus*.—

## MÉXICO:

Dos Arroyos, Chilpancingo, Guerrero, 2 (?) (including type).

*P. m. veraecrucis*.—

## MÉXICO:

Mineral San Sebastian, Jalisco, 1 ♀ ;

"México," 1 ♂.

*P. m. longirostris*.—

## GUATEMALA:

(Secanquim, Vera Paz, and Coban), 8 ♂, 3 [?♀], 6 (?).

*P. m. cephalus*.—

## NICARAGUA:

(Río Coco, Savala, San Rafael del Norte, Matagalpa, Tuma, and Los Sabalos), 6 ♂, 1 "♂" [= ♀], 2 ♀, 1 ?♀.

## COSTA RICA:

(Pozo del Río Grande, Orotina, Parismina, Puerto Jiménez, Guapiles, El Pozo, Atalanta, Volcán de Oso, Palmar, Pozo Azul de Pirrís, Miravalles, Siquirres, and Boruca), 17 ♂, 6 ♀, 3 (?).

## PANAMÁ:

(La Marea, Bogava, Boquete, Chiriquí, Wilcox Camp, and "Panamá"), 1 ♂, 4 ♀, 3 (?).

*P. m. cassinii*.—

## PANAMÁ:

(Almirante, Cocoplum, Cerro Montoso, Río Calovevora, Capeti, Cape Garachiné, Tapalisa, and El Real, Río Tuyra), 12 ♂, 2 ♀, 1 ?♀, 1 [♀].

## COLOMBIA:

Bahía de Solano, 1 ♂.

*P. m. susurrus*.—

## COLOMBIA:

(Santa Marta, Cacagualito, and Las Nubes), 5 ♂, 4 (?).

*P. m. malaris*.—

## CAYENNE:

(Pied Saut, Ipousin, Roche Marie, and "Cayenne"), 2 ♂, 2 [♂], 3 ♀, 1 [♀], 1 (?).

*P. m. insolitus*.—

## VENEZUELA:

Río Huaynia, junction with the Casiquiare, 7 ♂ (including type); terrain between junction of Huaynia and Casiquiare, 1 ♀ ;

Yavita-Piminchin portage, 3 ♂<sup>1</sup>, 1 ♀<sup>1</sup>, 2 (?)<sup>1</sup>;  
 El Carmen, Río Negro, 1 (?)<sup>1</sup>;  
 San Carlos, Río Negro, 1 (?)<sup>1</sup>.

## COLOMBIA:

Mouth of Casiquiare, 1 ♂.

## BRAZIL:

Tahuapunto, Rio Uaupés, 1 ♂, 1 ♀;  
 Tabocal, 2 ♂.

*P. m. moorei*.—

## COLOMBIA:

La Morelia, 2 ♂;  
 Florencia, 2 ♀;  
 "Bogotá," 2 (?)

## ECUADOR:

"Napo," 1 ♂ (type), 2 (?);  
 "Quito," 2 (?);  
 Río Suno, above Avila, 3 ♂, 2 ♀;  
 lower Río Suno, 3 ♂;  
 below San José, 5 ♂, 1 ♀.

## PERÚ:

Puerto Indiana, 1 ♂;  
 Pebas, 1 ♂;  
 Apayacu, 1 ♂, 1 ♀;  
 mouth of Río Curaray, 8 ♂, 2 ♀;  
 mouth of Río Santiago, 1 ♂.

## BRAZIL:

Tonantins, 5 ♂<sup>2</sup>.

*P. m. baroni*.—

## ECUADOR:

Naranjal, 1 (?) (type);  
 (Chone, Esmeraldas, Santa Rosa, Chongon Hills, "Quito," and "N.  
 Ecuador"), 4 ♂, 4 ♀, 3 (?)

## PERÚ:

Alamor, 1 ♂, 1 ♀;  
 Guainche, 2 ♂;  
 Cebollal, 1 ♂.

*P. m. ucayalii*.—

## PERÚ:

Pomará, 1 ♂;  
 Lagarto, 5 ♂ (including type), 1 "♂" [= ♀];  
 Santa Rosa (Ucayali), 1 "♂" [= ♀], 3 ♀;  
 mouth of Río Urubamba, 1 ♂;  
 Chuchurras, 1 ♂;  
 Chanchamayo, 2 ♀;  
 Río Tapiche, 1 (?);  
 "Perú" [probably Jeberos or Chayavitas], 1 (?)

<sup>1</sup> Specimens in collection of W. H. Phelps, Caracas, Venezuela.

<sup>2</sup> Specimens in Carnegie Museum, Pittsburgh.

*P. m. bolivianus* —

## PERÚ:

- Cosñipata, 1 ♂;  
 Astillero, 2 ♂, 4 ♀;  
 La Pampa, 1 ♂, 1 ♀;  
 Candamo, 1 ♂, 1 [?♀].

## BOLIVIA:

- Tres Arroyos, 1 ♀, 1 (?);  
 Santa Cruz, Cochabamba, 1 ♂;  
 mouth of Río San Antonio, 1 ♂.

*P. m. ochraceiventris*.—

## PERÚ:

- Orosa, 1 ♂.

## BRAZIL:

- Teffé, 1 ♂;  
 Humaythá, 1 ♂, 1 [?♀] (type).

*P. m. insignis*.—

## BRAZIL:

- Calamá, 1 ♀;  
 Borba, 1 ♂;  
 Rio Tapajoz, Limoãl, 1 ♂, 2 ♀.

*P. m. muelleri*.—

## BRAZIL:

- Rio Tapajoz, Aramanay, 1 ♀;  
 Pará, Utinga, 1 ♂;  
 Prata, 1 ♂, 1 ?♀.

*P. s. superciliosus*.—

## CAYENNE:

- (Pied Saut, Ipousin, and "Cayenne"), 2 ♂, 1 ♀, 2 (?).

## SURINAM:

- Rijweg, 1 ♂.

## BRITISH GUIANA:

- (Annai, Ourumee, Essequibo River, Atapurau River, Tumatumari, Minnehaha Creek), 6 ♂, 1 ♀, 1 (?).

## VENEZUELA:

- Mt. Auyan-tepui, 2 ♂, 2 ♀;  
 Mt. Duida, (Río Pescada, Pie del Cerro, Playa del Río Base, Valle de los Monos, and Caño Seco), 20 ♂, 4 ♀;  
 Río Orinoco, mouth of Río Ocamo, 1 ♂;  
 Río Paragua, Raudal Guaiquinima, 1 ♂<sup>1</sup>;  
 Vaipan-tepui, Bolívar, 1 (?)<sup>1</sup>.

## BRAZIL:

- Rio Negro, Cucuhy, 1 ♂, 1 ♀;  
 São Gabriel, 1 ♂, 1 ♀;  
 Campos Salles, Manaus, 5 ♂, 2 ♀;  
 Rio Jamundá, Faro, 1 ♂, 2 ♀.

<sup>1</sup> Specimens in collection of W. H. Phelps, Caracas, Venezuela.

*P. s. saturatior.*—

## VENEZUELA:

- Río Orinoco, Nericagua, 5 ♂, 5 ♀ ;  
 Munduapo, 6 ♂ ;  
 Río Caura, La Prisión, 1 ♂, 1 ♀, 2 (?) ;  
 Suapure, 4 ♂, 4 ♀ .

**Phaethornis hispidus (Gould)**

*Trochilus* (—?) *hispidus* GOULD, 1846, Proc. Zool. Soc. London, pt. 14, p. 90—Perú?; *errore*—type from Bolivia; British Mus.

*Trochilus oseryi* BOURCIER AND MULSANT, 1852, Ann. Soc. d'Agric., Sci., Indus. Lyon, ser. 2, vol. 4, p. 139—banks of the Río Pastaza, Ecuador; type lost?

*Phaethornis villosus* LAWRENCE, Ann. Lyc. Nat. Hist. New York, vol. 6, p. 259—"Ecuador. Santa Fe de Bogota"; type from "Napo"; Amer. Mus. Nat. Hist.

Mouth of Río Curaray, 3 ♂, 2 ♀ ; Puerto Indiana, 1 ♂ ; "Perú" (= probably Pebas), 1 ♂ ; Samiria, 1 ♂ ; Sarayacu, 1 ♂, 1 ♀ ; Lagarto, 2 ♂ ; mouth of Río Urubamba, 1 ♂ ; Pachisa, 1 ♂ ; Astillero, 1 ♂ .

I can find no clear distinctions in over 80 specimens from southwestern Venezuela, eastern Colombia, eastern Ecuador, northern Bolivia, and the Peruvian localities listed above. The supposed character of buff instead of hoary or whitish tips on the uropygial feathers of "*villosus*" claimed by Hellmayr (1910, Novitates Zool., vol. 17, p. 374) appears to be a sign of immaturity and occurs throughout the range.

Lawrence did not specify the number of specimens he possessed of his "*villosus*," but only one example of his former specimens is marked in his handwriting as "Type of *villosus*"—a Napo specimen collected by W. E. Moore.

Additional records of *hispidus* are from Pebas, upper Ucayali near Cashiboya, Yurimaguas, and Iquitos.

The neighborhood of Mt. Duida, Venezuela, may be added to the known range of the species. Specimens are at hand from Caño León and Valle de los Monos on Mt. Duida, Lalaja and the mouth of the Río Ocamo on the Orinoco, and El Meray on the Casiquiare.

**Phaethornis bourcieri bourcieri (Lesson)**

*Trochilus Bourcieri* LESSON, 1832, Les Trochilidées, p. 62, pl. 18—"le Brésil."

*Ametrornis abnormis* PELZELN, 1868, Zur Ornithologie Brasiliens, pp. 27, 56—Marabitanas, Brazil; ♂ ; Vienna Mus.

Griscom and Greenway (1941, Bull. Mus. Comp. Zoöl., vol. 88, no. 3, p. 168) selected the Rio Tapajoz, Brazil, as type locality of this form, and Friedmann (1948, Proc. U. S. Natl. Mus., vol. 97, p. 420) suggested the desirability of still further restriction to Aramanay, the locality from which Griscom and Greenway apparently had the single specimen on which they based their proposal. I find myself unable to accept this restriction on the basis of the evidence submitted, but refrain from making an alternative proposal, at least until more is known of the lower-Amazonian distribution of the species. I have doubts that the supposed Aramanay specimen is correctly labeled. If *bourcieri* occurs in the neighborhood of Santarem (near Aramanay), it would be very strange if the abundant material that has come from that region in years past failed to include it. There is no other evidence that the species reaches the Amazon Valley except far back toward the eastern face of the Andes. I believe the Aramanay record and type locality restriction are best held in abeyance until supporting evidence is forthcoming.

I find the racial segregation of *P. b. whitelyi* Boucard [1891, Humming Bird, vol. 1, p. 18—Roraima, "British Guiana" (= Venezuela)] fairly complete if it is restricted to the birds from the Guianas, but not otherwise. Specimens from the upper Rio Negro, Brazil, and the neighborhood of the Casiquiare and Mt. Duida, Venezuela, are definitely like Ecuadorian and Peruvian specimens and, in fact, include some of the most sharply marked examples with the grayish tone of the under parts, the clear white gular stripe, and the whitish belly. Four southeast-Colombian birds are in poor condition, and one of them, it must be admitted, shows a close approach to *whitelyi*, but others from the same locality (La Morelia) do not. The color of the upper parts is inconclusive for, although typical *bourcieri* more often than not has the back dark green while *whitelyi* tends toward a more golden green coloration, both extremes occur in both series. One bird labeled "Peru" is an undoubted Cayenne trade-skin and agrees with other Cayenne material.

Pelzeln's description of the gular area in his Marabitanas bird shows that example to have resembled *bourcieri* rather than *whitelyi*.

Peruvian records are from Jeberos, Chayavitas, Chamicuros, and Yurimaguas. Apparently it does not extend eastward on the south bank of the Amazon as far as the Ucayali.

## SPECIMENS EXAMINED

*P. b. bourcierii*.—

## PERÚ:

- Apayacu, 1 ♂;
- Puerto Indiana, 1 ♂;
- mouth of Río Curaray, 2 ♂.

## ECUADOR:

- Río Suno, above Avila, 4 ♂, 2 ♀;
- below San José, 6 ♂.

## COLOMBIA:

- La Morelia, 3 ♂;
- Florencia, 1 ♂.

## BRAZIL:

- Río Negro, Tatú, 1 ♂, 1 ♀.

## VENEZUELA:

- Buena Vista, Río Casiquiare, 1 ♂;
- opposite El Meray, 1 ♂;
- Río Orinoco, mouth of Río Ocamo, 1 ♂;
- Mt. Duida, [western] foot, 1 ♂;
- Valle de los Monos, 1 ♀;
- Campamento del Medio, 1 ♂, 1 ♀.

*P. b. whitelyi*.—

## CAYENNE:

- Ipousin, 1 ♂;
- "Cayenne," 3 (?);
- "Peru" [= Cayenne], 1 (?).

## BRITISH GUIANA:

- Minnehaha Creek, 1 ♀;
- Kamakusa, 1 (?);
- Merume Mts., 1 (?).

***Phaethornis philippii* (Bourcier)**

*Trochilus Philippii* BOURCIER, 1847, Ann. Soc. d'Agric., Sci., Indus. Lyon, vol. 10, p. 623—"la Bolivie"; Amer. Mus. Nat. Hist.

The actual country of origin of the type of *philippii* has never been determined satisfactorily. Bourcier cited Bolivia, but Gould (1854, A monograph of the Trochilidae, text to pl. 21) remarked that he believed Bourcier to be unaware of the correct region and in 1861, in the "Introduction to the Trochilidae" (p. 43), gave the distribution as Perú or Bolivia without stating where he obtained the suggestion of Perú. Mulsant, Verreaux, and Verreaux (1866, Essai d'une classification méthodique des trochilidés, p. 18) and Bourcier and Mulsant (1874, Hist. Nat. Oiseaux-Mouches, vol. 1, p. 87) included both countries in the range. Salvin and Elliot (1873, Ibis, ser. 3, vol. 3, p. 13) discount Gould's Perú and accept Bourcier's Bolivia as does Berlepsch (1889, Jour. f. Ornith., vol.

37, p. 100). Bond and deSchauensee (1943, Proc. Acad. Nat. Sci. Philadelphia, vol. 95, p. 200) conclude that the species was described from eastern Bolivia but had no Bolivian material; Gyldenstolpe (1945, K. Svenska Vetensk. Akad. Handl., vol. 22, no. 3, p. 74), recording specimens from the Rio Juruá, Brazil, accepts "Upper Amazonia" which is somewhat generalized but closer to the mark than "Bolivia" where the bird is not known to occur.

Gould's assumption of Perú as a possible country of origin is now justified. I have before me four examples from northeastern Perú, three from the south bank of the Amazon, and one from the right bank of the upper Río Ucayali. These localities fit very well with the antecedent records from western Brazil, south of the Amazon, ranging from São Paulo de Olivença to the right bank of the Rio Madeira, a fairly compact area. If the type of *philippii* actually came from Bolivia, it almost certainly must have come from the extreme northern (not eastern) part of the country, although it has never been taken anywhere with certainty within Bolivian boundaries.

To make matters more complicated, the type is clearly labeled "Peru," although it is not certain who wrote the locality on the label. Judging by the styles of handwriting and the crossing of the lines in one place, the small tag that serves for a label was first inscribed: "Type/Dephilippi." Subsequently the generic name "Phaethornis" was added above the specific name, and below it "Peru" and "Bourcier" were written on separate lines. I judge the original inscription was by Bourcier himself, and the generic name may possibly have been added later by him, although he described the species as a *Trochilus*. The words "Peru" and "Bourcier" are in Elliot's handwriting, agreeing with similar inscriptions on other birds from the Elliot Collection. It is strange that he should have given the locality as Perú since in his "Classification and synopsis of the Trochilidae" (1879, Smithsonian Contrib. to Knowledge, no. 317, p. 13) he cites the locality as Bolivia, although the type was by that time in his possession!

The type is more deeply rufescent below and on the tips of the lateral rectrices than any of the 21 other specimens I have of the species, and also has the uropygial feathering more broadly and deeply rufescent at the tips. Some of this may be due to immaturity, of which there are slight suggestions, although the deeper coloration may be the result of post-mortem change. The nearest



approach in most of the characters mentioned is to be seen in a specimen from Orosa, Perú, although a Teffé bird is a little deeper in color on the anterior under parts, not so dark as the type. The series of fresh specimens is too uniform to suggest any subspecific distinctions.

I have omitted the published synonymy of the various references to this bird that consist mostly of emendations of spelling of the specific name as "*Filippi*," "*de Filippi*," "*Philippi*," etc., including "*Dephilippi*" on the label of the type, as mentioned above.

#### SPECIMENS EXAMINED

*P. philippii*.—

PERÚ:

Orosa, 3 ♂;

Lagarto, Río Ucayali, 1 ♀.

BRAZIL:

Teffé, 3 ♂, 6 ♀;

Rio Madeira, Borba, 1 ♂;

Alliança, 1 ♀;

Calamá, 1 ♀;

Humaythá, 1 ♀;

Igarapé Auará, 1 (?);

Rio Machados, Jamarysinho, 1 (?).

#### *Phaethornis ruber nigricinctus* Lawrence

?*Trochilus Adolphei* LESSON, 1843 (?Oct. 22), *Echo du monde savant*, vol. 10, no. 32, col. 756—Acapulco.

*Phaethornis nigricinctus* LAWRENCE, 1858, *Ann. Lyc. Nat. Hist. New York*, vol. 6, p. 260—Ecuador [type from Río Napo]; [♂]; *Amer. Mus. Nat. Hist.*

This little bird, apparently the smallest form in the genus *Phaethornis*, has a fairly wide distribution from the Casiquiare region of southern Venezuela to northern Perú, south of the Marañón, including the lower Río Ucayali. It most nearly resembles *P. r. episcopus* of British Guiana and the Orinoco and Caura valleys, which reaches the neighborhood of Mt. Duida and the upper Casiquiare and appears again near the mouth of the Rio Negro at Manaus, possibly reaching this latter area by extension from British Guiana since connection with the Orinoco seems to be blocked by the interposition of *nigricinctus*.

The differences from *episcopus* are well marked. In addition to the smaller dimensions of *nigricinctus*, this latter form has the back, and the top of the head also in the adult males, dark green

without the bronzy hue of *episcopus* (and *r. ruber*), while the females may have a more bronzy tone approaching that of *episcopus*; the maxilla is lighter and more brownish than blackish, and the mandible is pale nearly or quite to the tip, being a little more extensively shaded in the females examined than in the males; the rufous patch on the uropygium is a little more restricted, equally sharply defined in the males, and in the females more restricted than in the same sex of *episcopus*. The rectrices of the adult males have the same coppery tone and blackish margins or dusky subterminal area as are found in *episcopus* in contrast to the lighter and more evenly colored tail of *ruber*. The tails of the females of the two forms are similar (except in length) and not always distinguishable from the tail of *ruber*, although they reach a darker extreme, with pronounced marginal and subterminal blackish markings.

Friedmann (1948, Proc. U. S. Natl. Mus., vol. 97, p. 420) recorded *episcopus* from three localities on the Casiquiare, in Venezuela, and one from the Orinoco. Through his kindness I have been enabled to examine these specimens and have found that the examples from the upper Casiquiare and the Orinoco are certainly *episcopus*, while those from near the mouth of that waterway belong to *nigricinctus* as does a specimen in the American Museum collection from that same area. The National Museum specimens are, as Friedmann remarked, in poor condition, but measurements and such details of coloration as can be observed make their identification possible. Apparently, therefore, both *episcopus* and *nigricinctus* occur on the Casiquiare although not in the same restricted areas.

An error of long standing concerns four specimens from San Agustín, eastern Bolivia, recorded by Hartert (1897, Ibis, ser. 7, vol. 3, p. 429) as *nigricinctus*. These four birds are before me and unquestionably are not *nigricinctus*. Bond and deSchauensee (1943, Proc. Acad. Nat. Sci. Philadelphia, vol. 95, p. 201) similarly identified nine Bolivian specimens as this form. Through their kindness I have examined these examples and find them exactly like the four San Agustín birds. In addition, five specimens from the Rio Madeira and four from Teffé fit well into this series. Just what these should be called is not perfectly clear. They agree very closely with *P. r. ruber* and such distinctions as they show are not very satisfying, being overcome by the individual variation of *ruber*. These distinctions consist of a somewhat

shorter dusky tip on the mandible and a greener back on an average. In the southwestern population, the dark tip of the mandible ranges from 6 to 9 mm. in length, averaging 7.5; in the rest of the series of *ruber* it ranges from 7.7 to 12.5, averaging 9.6. Unfortunately seven of the 17 southwestern birds have this tip within the limits of the rest of the series in which 13 of 29 examples measured have the marking as short as is shown by some of the southwestern series. This distinction is thus of limited value. Likewise the dorsal coloration is not a safe criterion, although the trend is noticeable. Consequently I believe it is best to refer these Bolivian and southwest-Brazilian specimens to typical *ruber*. The tendency toward a shortening of the dark tip of the mandible and a darker green back probably reflects an approach toward *nigricinctus* in which both details are carried to a greater extreme together with a reduction in size not shown by the Bolivian and Brazilian birds.

A single female from the lower Ucayali, in Perú, on the other hand, is *nigricinctus*, the only example I have from south of the Amazon. Other records that presumably belong here are from Nauta, Chayavitas, Chamicuros, Jeberos, Yurimaguas, and "Upper Amazons."

I am not sure that the name *adolphei* is not applicable to the present form. Simon (1921, *Histoire naturelle des Trochilidae*, p. 262) includes a reference to Lesson's description and name in the synonymy of "*pygmaea*" [= *ruber*], with a note to the effect that the account must refer to "*pygmaea*" because of the mention of the black chest-band that occurs in that form. Unfortunately for this definite allocation, the band is even more pronounced in *episcopus* and *nigricinctus* than in *ruber* where, however, it does occur, and slight disarrangement of the pectoral feathering of various other species often gives a false impression of similar marking. Furthermore, Lesson describes the bill as black above and white below, which is inaccurate for any of the three forms mentioned, unless the "blanc en dessous" be taken to indicate a mandible without any terminal dark area as it is in some *nigricinctus*. The back is said to be dark green, with no mention made of the bronzy reflections found in *ruber* and *episcopus*. The graduated tail with rufescent margins (?tips) is not distinctive, nor is the rufescent lower surface of the body. "Acapulco" is, of course, an error, as pointed out by Simon, although it gives no clue as to the possible correct locality.

Lesson's entire diagnosis is very brief, being quite at variance with the detailed descriptions he customarily provided. No mention is made, for instance, of the facial pattern or of the rufous uropygial patch, both of which are conspicuous features of these birds. The paper in which the account appears is, in fact, a mere summary of the species which the author planned for a supplementary fourth volume of his "Histoire naturelle" of the hummingbirds—a volume that was never published although 100 plates were said to have been prepared for it. "*Trochilus Adolphei*" was to be figured on plate 24. If this "manuscript" plate is still in existence, it might be possible to determine precisely to which form the name properly applies. There is enough uncertainty at present to make me unwilling to supplant the name *nigricinctus*, whose application is unquestionable, by *adolphei*, which is still in doubt.

***Phaethornis stuarti longipennis* Berlepsch and Stolzmann**

*Phaethornis rufigaster longipennis* BERLEPSCH AND STOLZMANN, 1902, Proc. Zool. Soc. London, vol. 2, p. 19—Chanhamayo, Perú = La Merced; ♀; Warsaw Mus.

This form was described as identical with Brazilian "*rufigaster*" [= *ruber*] except for longer wing—41.5 and 43.75 mm. (elsewhere in the account, 42.75). Simon (1921, Histoire naturelle des Trochilidae, p. 21, footnote) notes two central-Peruvian birds as like "*pygmaea*" [*ruber*] but larger, with wing 39 mm. *P. stuarti* of Bolivia, which has a wing of somewhat the same length, is at once suggested, although Berlepsch and Stolzmann note that the median rectrices of *longipennis* are tipped with rufous, not white as in *stuarti*; Simon states that in one of his two birds, the median rectrices are reddish bronze as in *P. r. episcopus*, and adds an additional character of uncertain value—the black ocular band broader anteriorly than in "*pygmaeus*" [*ruber*]. The latter feature is found also in *stuarti*, but the reddish bronze median rectrices I have not observed in this form to a degree comparable with *episcopus*.

To make matters more confusing, Tschudi (1844, Fauna Peruana, Aves, p. 243) describes as "*pigmaeus*" (*pygmaeus* on other pages) one or more specimens (unquestionably from central Perú) as having white tips on all the rectrices except the outermost where they are buffy ("falb"); the tail is said to be colored like the back; wing, "1" 7'" (in "Old Prussian" = 41.4 mm.);

superciliaries white (as in *stuarti* but not in *r. ruber*). I cannot find any reference to Tschudi's record in subsequent papers by workers in this group. No one seems to have succeeded in identifying it or to have taken the trouble to comment on it. His description agrees well with some examples of *stuarti*, but does not accord with *ruber* which Berlepsch and Stolzmann say their *longipennis* duplicates in all but size. Tschudi gives the length of bill as 12 lines, which in "Old Prussian" measurements equals 26.1 mm., a length that is more than Berlepsch and Stolzmann cite for *longipennis* (21.75–20.75 mm.) and equaled, in other central Peruvian forms that might enter the present discussion, only by *P. longuemarea atrimentalis*. This last-named bird has white superciliaries, white-tipped rectrices, long wing and tail, and long bill, but does not have the uniformly colored under parts Tschudi describes.

Mr. deSchauensee of the Academy of Natural Sciences of Philadelphia has kindly lent me a specimen from southeastern Perú, identified as *longipennis*, which throws considerable light on this puzzling problem. Although this specimen differs in minor details from the accounts of both Tschudi and Berlepsch and Stolzmann, it tends to combine the essential points of both and to indicate the probability that a single form is involved with a certain amount of individual variation sufficient to cover the discrepancies in the two descriptions. The bird is sexed as a male but, judging by certain details of tail structure, noted in many species of the genus, presumably is a female or a young male.

The bird in hand bears a certain resemblance to *P. r. ruber* but has the mantle greener, less bronzy, the black malar stripe broader beneath the orbit, the entire under parts lighter and duller, less rufescent, the superciliaries more whitish, the blackish area in the center of the breast small and with pale buffy tips on the feathers, and the wing, tail, and bill longer. In these respects it may be matched quite closely with some specimens of *stuarti* and not with any of the series of *ruber* examined.

The tail offers further evidence of affinity to *stuarti*, and it is in respect to this member that Tschudi's account disagrees with that of Berlepsch and Stolzmann. The general color of the rectrices, particularly the median ones, is lighter green than the back but darker than in most *r. ruber* in comparable plumage. The median feathers are narrowly tipped with white and have a small patch

of buff on the outer web extending a little basad from the white tip. The second and third pairs of rectrices have rather broad (4 mm. at shaft) cinnamomeous tips, with a touch of whitish at the extreme apex of the second pair, and while the bright area is a little longer on the outer margin than on the inner one, its proximal border is relatively straight and there is no sharp discontinuity at the shaft with a pronounced basad extension on the outer web such as occurs in *ruber*. The two outer pairs of rectrices are also rufous tipped, with a stronger basad extension of the color along the outer margin.

*Stuarti* males, of course, have the tail-feathers, at least the median two or three pairs, broadly tipped with white. Females, however, may have the tips of the median pair white but those of the remaining pairs rufescent, sometimes with a trace of white on the submedian pair. The demarcation between the dark base and bright tip is, at least in some specimens, of the pattern described in the preceding paragraph for the Peruvian specimen. In fact, one female of *stuarti* is very like the Peruvian specimen, except that the white tips on the median rectrices are twice as long. This resemblance includes the general coloration, as well as the tail characters, although the Peruvian specimen is a little darker in tone.

The affinity of the Peruvian specimen to *stuarti* rather than to *ruber* is thus unquestionable. It is not toptotypical and hence may differ slightly from central-Peruvian specimens, of which unfortunately none is available for study. Berlepsch and Stolzmann, as noted above, describe the tips of the median rectrices as rufous, not white, and perhaps this may be true for toptotypical females, including the type. The southeast-Peruvian bird (?female) is exactly intermediate in this character between the type of *longipennis* (as described) and the nearest approach in *stuarti*. No other positive difference is apparent. Tschudi's account rather certainly concerns the male plumage and shows no character that gives a clue to distinction from males of *stuarti*. Such distinction, if it exists, must await exact comparison by someone with males of both for comparison. In the meantime, *longipennis* may, I believe, be safely transferred to conspecific status with *stuarti*.

Records are from La Merced and Borgoña. Tschudi's exact locality was not specified but is certain to be in the same general region.

## SPECIMENS EXAMINED

*P. r. ruber*.—

## SURINAM:

Near Paramaribo, 1 ♂.

## CAYENNE:

Tortue, Approuague River, 1 ♀;

Cayenne, 1 ♂, 1 ♂<sup>1</sup>, 1 (?)<sup>1</sup>.

## BRAZIL:

Faro, 1 ♀;

Pará, 1 (?);

Prata, Pará, 5 ♂, 1 ♀;

Goiaz (Goiaz and Rio Uruhu), 1 ♂, 1 (?);

Bahia (Bahia, Boa Nova, Cajazeiras, and Baixão), 8 ♂, 3 (?);

Rio de Janeiro, 4 (?);

Rio Tocantins, Mocajuba, 1 (?);

Rio Tapajoz (Santarem, Itaituba, Igarapé Amarin, and Caxiricatuba), 1 ♂,  
3 ♀;

Teodoro River, 1 ♂;

Rio Madeira (Humaythá, Calamá, and Rosarinho), 1 ♂, 2 ♀, 1 (?);

Teffé, 2 ♂, 2 (?);

"Brazil," 1 ♀, 3 (?).

## BOLIVIA:

San Agustín, 3 [♂], 1 (?);

Chifñiri, Río Kaka, 1 ♂<sup>1</sup>, 1 ♀<sup>1</sup>;Susi, Río Beni, 1 ♂<sup>1</sup>;Santa Ana, Río Coroico, 2 ♀<sup>1</sup>;Huanay, Río Mapiri, 1 ♂<sup>1</sup>, 2 ♀<sup>1</sup>;Teoponte, Río Kaka, 1 ♀<sup>1</sup>.*P. r. episcopus*.—

## BRITISH GUIANA:

Annai, 1 ♂;

Potaro Landing, 1 ♂;

Kamakusa, 1 (?);

Demerara, 1 [♂], 1 [♀].

## VENEZUELA:

Mt. Auyan-tepui, 1 ♀;

Suapure ("mountains"), 3 ♂, 1 ♀;

Nericagua, 1 ♂, 1 ♀;

Munduapo, 3 ♂, 2 ♀;

La Prisión, Caura, 1 ♂;

Boca de Sina, 1 (?);

Lalaja, Río Orinoco, 1 ♂, 2 ♀;

Puerto Ayacucho, 1 ♂<sup>2</sup>;

Mt. Duida (Esmeralda, Playa del Río Base, Pie del Cerro, Caño Seco,

Campamento del Medio, and Savana Grande), 3 ♂, 5 ♀;

Brazo Casiquiare, below mouth of Río Paciba, 1 ♂<sup>2</sup>, 1 (?)<sup>2</sup>.<sup>1</sup> Specimens in Academy of Natural Sciences of Philadelphia.<sup>2</sup> Specimens in United States National Museum.

## BRAZIL:

Manaos, 3 ♂, 2 ♀.

*P. r. nigricinctus*.—

## VENEZUELA:

Buena Vista, Casiquiare, 1 ♀ ;

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

Cerro Guanari, 1 ♀<sup>1</sup>.

## COLOMBIA:

Río Uaupés, opposite Tahuapunto, Brazil, 1 ♀

## BRAZIL:

Río Negro, Cucuhy, 2 ♂, 2 ♀.

## ECUADOR:

"Napo," 1 [♂] (type).

## PERÚ:

Pebas, 1 [♂], 1 (?) ;

Sarayacu, Río Ucayali, 1 ♀.

*P. s. stuarti*.—

## BOLIVIA:

Salinas, Beni, 5 (?) (including type);

Mission San Antonio, 1 ♂ ;

Tres Arroyos, 1 ♂ ;

Todos Santos, 1 ♂, 1 "♀" [?=♂] ;

mouth of Río San Antonio, 2 ♀ ;

Province of Sara, 3 ♂, 1 ♀.

*P. s. longipennis*.—

## PERÚ:

La Pampa, Sandia, 1 "♂"<sup>2</sup>.

### *Phaethornis griseogularis griseogularis* Gould

*Phaethornis griseogularis* GOULD, 1851 (Nov.), A monograph of the Trochilidae pt. 2, pl. [14] and text [= vol. 1, pl. 30 of completed work]—Bogotá and Quito; Bogotá skins in British Mus. considered as "types" [= cotypes].

*Trochilus Aspasiae* BOURCIER AND MULSANT, 1856, Ann. Soc. Linnéenne Lyon, new ser., vol. 3, p. 188—"Nouvelle Grenade"; [♀]; Amer. Mus. Nat. Hist.

A good series of specimens ranging from eastern Colombia to the eastern face of the Andes of northern Perú is relatively uniform in characters.

Unless there has been incorrect sexing of many of the specimens of the series (the Bogotá trade-skins, of course, are not sexed), I am unable to get a clear picture of the sexual distinctions in this species. Two types of presumably adult plumage are exhibited in the series. In one of these, the submedian rectrices are shorter than the median pair by an amount rather less than the difference between the submedian and third pair; sometimes median and

<sup>1</sup> Specimens in United States National Museum

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



submedian are subequal. There is some development of white at the tips of the submedian feathers and a trace of it sometimes on the third pair, especially on the inner web. The under parts are relatively deeply rufescent, with the chin showing an ill-defined dusky area and the breast often duller rufous than the lower under parts. The rufous feathers of the uropygium are deeply colored and usually show definitely greenish centers, sometimes strongly developed. Birds of this nature include some sexed as males but none sexed as females, and I believe this is the adult male plumage, judging by the sexual distinctions shown by certain other species of the genus.

The other type of plumage shows considerable elongation of the median rectrices beyond the adjacent pair. The tips of the median feathers are white, but those of the submedian pair are rarely more than buff and often as strongly ochraceous as the tips of the outer three pairs. The under parts average a little lighter in color than in the other type of plumage; the chin is often whitish; the rufous uropygial area shows less development of the green central spots on the feathers. Birds of this sort include examples sexed as females and others sexed as males. I suspect that the plumage is that of the adult females, although young males may wear it for an undetermined period. Curiously, of 28 Bogotá skins, 22 show this sort of plumage, and only six are in the other dress.

There appear to be no earlier Peruvian records of certain assignment to true *griseogularis*. Specimens from Callacate presumably belong to the form next to be discussed, and a specimen from "Perú" recorded by Elliot and now before me is almost certainly a Bogotá trade-skin in the "female" plumage; the type of "*Aspasiae*" is of exactly comparable nature.

The specimen from Florencia, Colombia, recorded by Chapman (1917, Bull. Amer. Mus. Nat. Hist., vol. 36, p. 283) as *griseogularis* belongs to *P. longuemareus atrimentalis*.

### ***Phaethornis griseogularis zonura* Gould**

*Phaethornis zonura* GOULD, 1860, Proc. Zool. Soc. London, pt. 28, p. 305—Perú; I suggest Santa Rosa, middle Marañón Valley; British Mus.

*Phaethornis aphaeles* HEINE, 1884, Jour. f. Ornith., vol. 32, p. 235—Perú; I suggest Santa Rosa, middle Marañón Valley; Halberstadt Mus.

It is with considerable trepidation that I identify Gould's and Heine's birds with five specimens now before me from the middle Marañón region of northern Perú. Neither original description

agrees in all details with the birds at hand nor do they agree in all details among themselves, but it is impossible to assign them to *P. griseogularis* or to *P. porcellae*, to each of which they show some resemblances as well as some differences. Both Gould and Heine were convinced that they had a bird distinct from *griseogularis* (*porcellae* was not then known), although later authors have not been so certain. The names *zonura* and *apheles* have been moved around in curious fashion, as is shown below.

Salvin and Elliot (1873, *Ibis*, ser. 3, vol. 3, p. 273) examined the type of *zonura* which they considered identical in all particulars with *griseogularis*.

Heine (*loc. cit.*) does not mention *zonura* but says that *apheles* had long been confused with *griseogularis*, proceeding then to compare his bird with "*adolphi*" (Bourcier) without stating how it differs from *griseogularis*.

Berlepsch (1887, *Ibis*, ser. 5, vol. 5, p. 291), after examination of the type of *apheles*, discusses it in comparison with *P. nattereri* which he described on an earlier page.

Hartert (1892, *Catalogue of the birds in the British Museum*, vol. 16, p. 281) places *zonura* in the synonymy of *griseogularis* but omits any mention of *apheles*. Later (1900, *Das Tierreich*, no. 9, Trochilidae, p. 24) he continues to subordinate *zonura* under *griseogularis* and at the same time (p. 26) recognizes *apheles* as a distinct species.

Simon (1921, *Histoire naturelle des Trochilidae*, p. 261) recognizes *zonura* as a distinct species and places *apheles* under it with a query.

Peters (1945, *Check-list of birds of the world*, vol. 5, p. 16) follows Simon's treatment.

Gould compares his *zonura* to *griseogularis* and notes the larger size of *zonura*; the strongly contrasted black basal portion of the tail with the central rectrices broadly tipped with white (no mention of the gray subterminal area he describes for *griseogularis*); white on the inner web of the tip of the submedian rectrices, buff on the inner web; under parts buff with the chin whitish; basal half of the mandible yellow (basal two-thirds noted for *griseogularis*); wing,  $1\frac{3}{4}$  inches; tail,  $1\frac{5}{8}$ ; bill, 1. The measurements are somewhat greater than are shown by any of the birds I have assigned to *zonura*, but, being in inches and large fractions, are rather too generalized for complete accuracy. In any case, I have been able to secure more serviceable data.

Captain Jean Delacour, on a recent visit to London, very kindly examined the type of *zonura* in comparison with the type of *griseogularis* and other specimens of the latter form, and confirmed my suspicions concerning the identity of *zonura*. He found the bill to be broken and lacking the terminal third of the maxilla, possibly accounting for Gould's failure to comment on the degree of curvature; the tips of the median rectrices are clear white, without a grayish or brownish subterminal band; the under parts are lighter than in *griseogularis*; the yellow basal portion of the mandible is shorter than in the type of *griseogularis*—less than one-half of the total length in both cases; wing, 40 mm.; tail, 39; bill, ? These figures agree well with the measurements of the birds now before me.

One important detail that Gould does not mention is the curvature of the bill, and his plate in his monograph does not give any indication of difference from *griseogularis* in this respect. Actually, the five birds now before me have the bill distinctly more curved than any *griseogularis* I have examined, agreeing in this particular with *porcullae*. The yellow basal portion of the mandible varies from about one-third to one-half of the length of this member, while in *griseogularis* it varies from one-half to three-fifths. The white tip of the median rectrices sometimes is preceded by a gray subterminal band or by a gradual development of a grayish tinge, usually not clearly defined from the white apex. The white tips on the submedian rectrices are broad and may be without any trace of ochraceous color, while the third pair in the majority of the series has noticeable white at the apex, although most of the tip is pale ochraceous. The superciliary stripe is whitish, with a slight tinge of ochraceous posteriorly, without the richer coloration shown by *griseogularis*. The under parts of the body are paler ochraceous than in *griseogularis* and in one example from Cabico, Río Chamaya, closely approximate the appearance of *porcullae*, although the back is not so dark green and the outer tail-feathers are not sufficiently white to allow the bird in question to be referred to the more western form.

Heine's description of *apheles* presumably concerns a different example of the same form as Gould's type, although his description gives nothing by way of comparison to *griseogularis* but only to Bourcier's "*adolphi*," while Berlepsch's comments on the type refer only to *nattereri*. Nevertheless, *apheles* would appear to have been based on a bird with measurements much like those of

the type of *zonura* (wing, 41; tail, 45; culmen, 23), with prominent white tips on the median rectrices and noticeable white on the apices of the otherwise rufous tips of the submedian feathers; the remaining rectrices are rufous tipped; throat and mid-belly whitish (perhaps as in the Cabico bird mentioned above).

Through the kindness of Dr. Karl P. Schmidt and Mr. Emmet R. Blake of the Chicago Natural History Museum I have been able to consult a transcript of notes on the type of *apheles* made by Count Berlepsch and preserved by C. E. Hellmayr. Berlepsch gives a more complete description of the type than was supplied by Heine, although he again compares it to the Matto Grosso bird (obviously *nattereri*) with additional comparison to *longuemareus* from which he says it differs by the long ochraceous tips on the outer rectrices and the rusty white throat. His measurements are slightly different from those of Heine: wing, 42.5 mm.; tail, 42; culmen (defective), 22.5. There is again no reference whatever to *griseogularis*! However, the description of the tail may be matched in the series at hand except for the complete length which is greater than in any of the five birds. Berlepsch describes the tail as golden bronze at the base; median rectrices with a median black area 11 mm. wide; tip white with a light brownish white area between it and the black space; submedian feathers rufous brown on outer web and tips of both webs white; other rectrices with rufescent tips without white admixture. Median feathers 42 mm. in length; submedian, 32; outermost, 20. (The lengths of submedian and external feathers agree with the limits of *zonura* as here identified but are outside those of *griseogularis*.) Upper tail-coverts green, with narrow, dull rufous terminal margins (but specimen here defective). (The shorter upper tail-coverts of some of the birds at hand show this feature, which is well-developed in *porcellae*.) A light brownish white tinge in the subterminal portion of the median rectrices, between the black basal area and the white tip, is suggested in part of the present material.

Both Gould's and Heine's specimens were collected by Warszewicz, and while I have not been able to determine his Peruvian itinerary with any certainty, it is fairly evident that he was in the region of the middle Marañón—the area covered by the birds I have identified as *zonura*. *Lepidocolaptes lacrymiger warszewiczi*, for example, was named for him from material he collected and is

confined to this area (see Zimmer, 1934, Amer. Mus. Novitates, no. 753, p. 22).

Two birds from the Moyobamba region have their bills somewhat more strongly arcuate than the great majority of *griseogularis*, and one of them has the yellow of the basal portion of the mandible relatively restricted as in *zonura*, but the appearance of the tail is exactly as in *griseogularis* females, although one of the two birds is sexed as a male with enlarged gonads; the other is non-sexed. Since two males of *griseogularis* are at hand from the upper Huayabamba Valley, not far from Moyobamba and on the same eastern face of the Andes, it seems unlikely that the Moyobamba specimens (Uchco and Río Seco) belong to *zonura*. On the character of the bill, and the coloration of the under parts, they are intermediate between *zonura* and *griseogularis*. On the other hand, *zonura* is intermediate between *griseogularis* and *porcullae*. At first glance, *porcullae* appears to stand well apart from *griseogularis*, but *zonura* forms a bridge. The dorsum resembles that of *griseogularis* at its darker extreme; the under parts are lighter than those of *griseogularis* and sometimes show a close approximation of those of *porcullae*; the coloration and length of the tail are exactly intermediate, with more white than occurs in *griseogularis* and more rufescence than in *porcullae*; the bill is greatly curved as in *porcullae* though no longer than in *griseogularis*. It may be noted that the specimen that shows the closest approach to *porcullae* is the bird already mentioned from Cabico, a locality just east of Porculla Pass.

The measurements of the three presumed subspecies are difficult to present owing to the uncertainty of sexing (or lack of it) in much of the material at hand. This is unfortunate in respect to the tail, since females and apparently young males have a longer tail than the adult males. Wing and bill are not so obviously different. Regardless of sex, however, *griseogularis* has the wing 33–41 mm. (average, 33.6); tail, 29.5–38.5 (34.4); culmen, 20–23 (21.0). *Zonura*: wing, 38–42 (40.2); tail, 36–39 (37.9); culmen, 20–23 (21.6). (Including Heine's figures, *zonura* shows 38–42, 36–45, and 20–23, respectively.) *Porcullae* (including Carriker's figures for the type): wing, 40–44 (42.4); tail, 37–46 (41.8); culmen, 23.5–25 (24.4).

Obviously a larger series of middle Marañón birds would be highly desirable to determine the full extent of individual variation both in size and coloration, but the few examples now at

hand indicate the distinction of the population as well as its intermediate position sufficiently well to recommend the arrangement I have adopted.

Three specimens collected by Stolzmann at Callacate appeared of probable reference to *zonura*. One of these, in the British Museum, also was examined by Captain Delacour who advised me that it showed the bill distinctly more strongly curved than that of *griseogularis*; clear white tips on the median rectrices; under parts even duller than in the type of *zonura*; wing, 37 mm.; tail, 33; culmen, 22. The measurements of wing and tail are slightly smaller than any others I have for *zonura*, but the other characters and the geographical position of the locality point so strongly to assignment here that I think there can be no question of it.

Except for the Callacate birds and the types of *zonura* and *apheles*, there are no other recorded specimens of probable assignment to this form.

### ***Phaethornis griseogularis porcellae* Carriker**

*Phaethornis porcellae* CARRIKER, 1935 (Oct. 25), Proc. Acad. Nat. Sci. Philadelphia, vol. 87, p. 345—Porculla Pass, Dept. Lambayeque, Perú; ♀; Acad. Nat. Sci. Philadelphia.

Three males and one non-sexed bird from Palambla belong to this western form which I believe must be considered as a subspecies of *griseogularis* for reasons discussed under *P. g. zonura*. It is well marked, with strongly curved bill, dark green (but not bronzy) back, sooty brown cap, whitish superciliaries, pale under parts, reduced rufescent area on the uropygium, almost entirely white tips on all the rectrices, and longer wing, tail, and bill, on average, than either *griseogularis* or *zonura*. All four birds have the rufous uropygial feathers with more extensive green central areas than are shown by the other forms, although there is some development of the character in undoubted males of *griseogularis* and it is suggested in *zonura*—perhaps equally well developed as described for "*apheles*." The yellow at the base of the mandible occupies less than half of the length of that member. The gray subterminal area on the median rectrices varies from a short triangular space on the inner web in one example to a fairly well-defined band as in *griseogularis*. The superciliary stripe is white or light buffy.

There are no earlier records assignable to *porcellae* except those

of the original description, the type and one paratype from Porculla Pass.

#### SPECIMENS EXAMINED

*P. g. griseogularis*.—

COLOMBIA:

Mt. Macarena, 1 [♂], 1 [♀];

“Bogotá,” 29 (?) (including type of “*Aspasiae*”).

ECUADOR:

Río Suno, above Avila, 1 ♀;

below San José, 3 “♂”;

Zamora, 4 [♂].

PERÚ:

Andoas, 1 “♂” [= ♀];

Uchco, 1 “♂”;

Río Seco, 1 [♀];

Huayabamba [Valley], 2 ♂.

*P. g. zonura*.—

PERÚ:

San Ignacio, 1 [? ♂];

Santa Rosa, 1 “♀,” 2 (?);

Cabico, 1 ♀.

*P. g. porcullae*.—

PERÚ:

Palambra, 3 ♂, 1 (?).

#### *Phaethornis longuemareus atrimentalis* Lawrence

*Phaethornis atrimentalis* LAWRENCE, 1858, Ann. Lyc. Nat. Hist. New York, vol. 6, p. 260—Ecuador = Napo; [♂]; Amer. Mus. Nat. Hist.

*Phaethornis riojae* BERLEPSCH, 1889, Ibis, ser. 6, vol. 1, p. 182—Rioja, Perú; ♂; Frankfort Mus.

I have already (1930, Field Mus. Nat. Hist., zool. ser., vol. 17, p. 273) commented on the identity of *riojae*, from information supplied by the late C. E. Hellmayr. There is little to add here. Seventeen birds from eastern Ecuador and northern Perú are relatively uniform within limits of variation apparently due to sex and age, of which further mention is made in the discussion of the following form.

Additional records (as *atrimentalis*, *striigularis*, and *riojae*) are from Rioja, Chayavitas, and Nuevo Loreto (Palma). It is possible that the type was collected on a portion of the Río Napo now in Peruvian territory, but there is no assurance of it.

Among the specimens examined for comparison with the present form are two from a new locality for the species, the right bank of the Rio Tapajoz, Brazil. They present certain marked dis-

tinctions from *atrimentalis* to which, however, they bear more resemblance than to any other conspecies, and deserve separate recognition as follows.

***Phaethornis longuemareus aethopyga*, new subspecies**

TYPE: From Caxiricatuba, Rio Tapajoz (right bank), Brazil. No. 285949, American Museum of Natural History. Male (possibly adult), collected May 20, 1931, by Alfonso M. Olalla.

DIAGNOSIS: Most nearly resembling *P. l. atrimentalis* of eastern Ecuador and Perú, but with uropygium more strongly and clearly rufescent; subterminal area of median and submedian rectrices brownish rufous instead of gray; outer margins of rectrices at base strongly white or gray; point of chin white; gular area more broadly black (in male), nearly obliterating the pale malar stripe which is more rufescent than in *atrimentalis*; under parts (in male) more deeply rufescent, including the under tail-coverts; dark pectoral band virtually obsolete; dark tip of mandible shorter.

RANGE: Known only from the type locality.

DESCRIPTION OF TYPE: Back glossy Hellebore Green, carried forward over the head but becoming duller and changing to brown on the forehead; rump similar with bright rufescent margins; upper tail-coverts clear Sanford's Brown with central shaft streaks of green barely suggested. Loes brown; narrow subocular line and auriculars blackish, separated from the cap by a white superciliary stripe not reaching forward beyond the mid-point of the orbit; point of chin white; upper throat broadly black, almost in contact with the black of the auriculars but separated by a weak malar stripe, white anteriorly, rufous posteriorly; chest dull Cinnamon-Rufous, darkening on sides of neck to Hazel; upper breast Sanford's Brown  $\times$  Burnt Sienna, changing to light Cinnamon-Rufous on belly and deepening again on the under tail-coverts. Remiges and greater upper wing-coverts Dusky Drab, with traces of fine, pale tips on a few of the inner coverts; rest of upper wing-coverts green; under wing-coverts deep Sanford's Brown. Tail graduated; rectrices, except outermost pair, with a strong white area at base of outer web and on inner web also of median pair where the white mark nearly reaches the shaft and extends as far as the tips of the upper tail-coverts; remainder of median pair (to near tip) dark brown with a greenish sheen, followed by a subterminal band of Hazel, and broad white tip;



submedian pair similar but basal portion with little greenish sheen and white tips reduced; rest of rectrices similar with white tips only faintly suggested. Maxilla (in dried skin) black; mandible largely dull yellowish with a short (5–8 mm.), poorly defined brownish tip; feet yellowish with black claws. Wing, 42.5 mm.; tail, 35; culmen, 25.

REMARKS: A second specimen from the same locality is not sexed but differs from the type in much the same way that females of *atrimentalis* differ from males of that form, being paler in ventral coloration and with the dark gular area reduced to dusky-centered feathers edged with light ochraceous. The point of the chin remains white (slightly suggested in a single female of *atrimentalis*) and the under tail-coverts are ochraceous like the belly. The tail markings are like those of the type, except that the white basal area of the male is replaced by gray. I judge, therefore, that this second example is a female.

The dark pectoral band or blotch present in *atrimentalis* males is not pronounced in *aethopyga*, since the light-colored tips of the feathers in question are brown rather than blackish and the terminal margins are broader.

It has become evident in the study of *Phaethornis* that there may be a series of plumages between immaturity and full adulthood in many, if not all, of the species. In some of the species there is a notable difference between the tails of females and adult males. In the females, the central rectrices will be elongate and broadly tipped with white and at least the three outer pairs of feathers will be broadly tipped with rufous, while in the males the median and submedian feathers may be nearly equal in length and the terminal margins of all the rectrices narrow and white. When the available series of such forms is even moderately large, specimens can be found that show the tail in various stages of intermediacy between that of the females and that of the adult males. Some of these intermediate specimens appear to be adult as far as texture of plumage, absence of bright edging on the back, glossy crown, and other such details indicate. There is opportunity for interesting aviary studies of this situation. The point of present concern is that the type of *aethopyga* appears to be of this intermediate nature, having the median rectrices as elongate as those of the probable female and not at all in form like those of fully adult *atrimentalis*, although the bird otherwise appears to be adult. In any case, among the females and "intermediate-stage" males of

*atrimentalis* there is no suggestion of the coloration of the tail exhibited by the two examples of *aethopyga*.

The length of the dusky tip on the mandible is an excellent character by itself. In *atrimentalis* this tip ranges from 12 to 16 mm. in length and is blacker than in *aethopyga* where it is duller and greatly reduced in length.

In the investigation of the synonymies of the present species it came to light that the name *adolphi* given by Gould (1857, A monograph of the Trochilidae, pt. 14, pl. [15] and text [vol. 1, pl. 35 of completed work]) to the bird from Córdoba, México, is preoccupied by *Trochilus Adolphei* Lesson, 1843. The identity of Lesson's bird is open to question (see account of *Phaethornis ruber nigricinctus*), but the priority is not and it becomes necessary to supply a new name for Gould's bird. Accordingly I propose *Phaethornis longuemareus cordobae* as a new name for *Phaethornis adolphi* Gould (*loc. cit.*). Although Gould's and Lesson's birds were named for different individuals (Adolphe Boucard and Adolphe Lesson, respectively), both specific names were based on the same given name and the difference in spelling falls under the provisions of Article 35 of the International Code of Zoological Nomenclature under which homonymy is established.

#### SPECIMENS EXAMINED

*P. longuemareus cordobae*.—

MÉXICO:

Córdoba, 1 ♂, 1 ♀, 1 "♂" [?= ♀];

México, 1 ♂.

*P. l. saturatus*.—

GUATEMALA:

(Secanquim and Vera Paz), 3 ♂, 1 (?).

NICARAGUA:

(Río Tuma, Tuma, Chontales, Volcán Chinandega, Volcán Viejo, Los Sabalos, Uluce, Muy Muy, and Río Coco), 8 ♂, 2 ♀.

COSTA RICA:

(Bonilla, Puerto Jiménez, Miravalles, Limón, Buenos Aires, Bebedero, Aquinares, Carrillo, Guapiles, Boruca, and "Costa Rica"), 8 ♂, 5 ♀, 1 (?).

PANAMÁ:

(Río Calovevora, Boqueron, Boquete, Bogava, El Villano, Almirante, Santa Fé, Gatun, [Lion Hill], and Brava Is.), 8 ♂, 7 ♀, 3 (?).

NO LOCALITY: 1 [♂].

*P. l. subrufescens*.—

PANAMÁ:

(Cape Garachiné, El Real, and Cituro), 1 ♀, 3 (?).

## COLOMBIA:

(Barbacoas [including type], Cocal, Nóvita, and Nariño), 3 ♂, 1 ♀, 2 (?).

## ECUADOR:

(Chimbo, Mindo, below Mindo, Esmeraldas, Lita, Duran, Bucay, Naranjal, Cachabí, and "w. coast"), 10 ♂, 5 ♀, 4 (?).

*P. l. striigularis*.—

## COLOMBIA:

(Puerto Valdivia, near Honda, and "Bogotá" [including type of *amaura*]), 1 ♂, 36 (?).

*P. l. atrimentalis*.—

## COLOMBIA:

Florencia, 1 ♀.

## ECUADOR:

(Napó [including type], Río Suno, and below San José), 2 ♂, 3 ♀, 7 (?).

## PERÚ:

Mouth of Río Curaray, 1 (?);

Puerto Indiana, 1 ♀;

mouth of Río Cinipá, 1 ♀;

Chuchurras, 1 ♀;

Puerto Bermúdez, 1 ♀<sup>1</sup>.

*P. l. aethopyga*.—

## BRAZIL:

Rio Tapajoz, Caxiricatuba, 1 ♂ (type), 1 [♀].

*P. l. idaliae*.—

## BRAZIL:

(Rio de Janeiro, and Espirito Santo [Lagôa Juparaná] and Baixo Guandú), 4 ♂, 3 ♀, 1 "♂" [?= ♀].

*P. l. longuemareus*.—

## CAYENNE:

(Cayenne, Approuague, and Roche Marie), 9 ♂, 3 ♀, 3 (?).

## SURINAM:

(Kwata and near Paramaribo), 6 ♂, 3 (?).

## TRINIDAD:

(Carenage, Caparo, Savannah Grande, Heights of Aripo, and Princetown), 6 ♂, 4 ♀, 3 (?).

No LOCALITY: 3 (?).

*P. l. ignobilis*.—

## VENEZUELA:

Las Quiguas, 2 ♀.

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

