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STUDIES OF PERUVIAN BIRDS. NO. XXXVI[1]

THE GENERA *ELAENIA* AND *MYIOPAGIS*

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I am greatly indebted to Mr. Rudyerd Boulton, of Field Museum of Natural History, Chicago, and to Mr. Rodolphe de Schauensee and Mr. James M. Bond, of the Academy of Natural Sciences, Philadelphia, for the loan of various critical specimens used in the present study.

Names of colors are capitalized when direct comparison has been made with Ridgway's "Color Standards and Color Nomenclature."

Elaenia flavogaster semipagana Sclater

Elainea semipagana SCLATER, 1861, P. Z. S. London, p. 406—Babahoyo, Ecuador; ♂; British Mus.

Eleven birds from six localities in northern Perú, west of the middle Marañón but on the eastern side of the Western Andes, are so nearly like the west-Ecuadorian *semipagana* that I believe they may be referred to it without straining its subspecific characters. They are quite readily distinguishable from typical *flavogaster*, which reaches southeastern Perú, by reason of the darker back, more sooty crest, clearer whitish throat, somewhat more grayish (less drab) chest, and frequently more grayish forehead. These characters are more strongly developed in the west-Ecuadorian birds but some of the latter are exactly like the Peruvian specimens. Not all of them have the grayish forehead, even in the Ecuadorian series.

I include in *semipagana* two skins from Barbacoas, southwestern Colombia, that are like the north-Peruvian specimens, rather closer to this form than to true *flavogaster*. Chapman (1917, Bull. Amer. Mus. Nat. Hist., XXXVI, p. 455) assigned these birds to *flavogaster* but noted their resemblance in certain respects to *semipagana*.

It is interesting to find this western subspecies crossing the Western Andes in the manner shown by the present series. There is no form of the species found east of the Andes in Ecuador nor west of them in Perú, so far as available material and records show. This distribution is intelligible in the light of one of the theories of the geological history of this part of the Andean system. According to this explanation, the Western Andes of Perú have no direct relationship to the Western Andes of Ecuador but turn westward to the coast in two branches, the northernmost of which does not pass beyond the Sierra de Amotape. The intercordilleran belt between the Eastern and Western Andes of Perú was thus open at the northern end to access from western Ecuador, presumably before the Nudo de Sabanilla was formed, the present obstacle that now closes this gap and that may have been the leading cause that forced the waters of the Upper Marañón to find, or make, an opening eastward through the main range to the Amazonian drainage. With this history behind the present confusing picture of the mountains in northern Perú, there may have been a time when *E. f. semipagana* had an open passageway from western Ecuador to the Upper Marañón.

It is, of course, possible that *semipagana* does occur west of the Andes in extreme northwestern Perú but to have found its way over the Huancabamba Pass to the eastern side of the range, at least after the present zones were established, it would have had to enter the Subtropical Zone,

[1] Earlier numbers in this series comprise American Museum Novitates, Nos. 500, 509, 523, 524, 538, 545, 558, 584, 646, 647, 668, 703, 728, 753, 756, 757, 785, 819, 860, 861, 862, 889, 893, 894, 917, 930, 962, 963, 994, 1042, 1043, 1044, 1045, 1066, 1095.

whereas it is a species restricted to the Tropical Zone.

There is an apparently wide hiatus between the area of Perú occupied by *semipagana* and that where *flavogaster* is found, while there is fairly close connection with the ranges of the two forms in western Colombia. It is probable, therefore, that *semipagana* developed from the Colombian population of the typical subspecies.

There are no earlier records of *semipagana* from Perú except for Chapman's general inclusion of northern Perú in the range of the subspecies (1926, Bull. Amer. Mus. Nat. Hist., LV, p. 506). Records of "*pagana*" and "*flavogaster*" from northern Perú east of the Eastern Andes probably all belong with *E. spectabilis*, discussed on a later page.

Elaenia flavogaster flavogaster (Thunberg)

Pipra flavogaster THUNBERG, 1822, Mém. Acad. Sci. St. Pétersb., VIII, p. 286—Brazil = Rio de Janeiro; Mus. Univ. Upsala.

Muscicapa pagana LICHTENSTEIN, 1823, Verz. Doubl, Berliner Mus., p. 54—Bahia; Berlin Mus.

Muscicapa brevirostris WIED, 1831, Beitr. Naturg. Bras., III (2), p. 799—Rio de Janeiro; ♂, ♀ cotypes in Amer. Mus. Nat. Hist.

Elaenia flavogaster macconnelli CHUBB, 1919, Ann. Mag. Nat. Hist., (9) IV, p. 304—Supenaam, British Guiana; British Mus.

Except for *E. f. semipagana* in western Ecuador, southwestern Colombia, and northwestern Perú, I can find no recognizable differentiation in the birds over the entire South American range of this species. There is, however, some confusion in eastern Brazil where the ranges of *flavogaster* and *spectabilis* appear to overlap, and although I am able to refer certain specimens to one or the other, I have a number of specimens from Rio de Janeiro and Bahia, including the male cotype of Wied's "*Muscicapa brevirostris*," that are not certainly assignable to either species. These birds are discussed more fully in the treatment of *spectabilis* on a later page.

Typical *flavogaster* reaches the southeastern part of Perú whence I have specimens from Idma and Santa Ana and records from Cosñipata and Maranura.

In Brazil, I have specimens from Chapada, Matto Grosso, and several localities in the southern part of that state and one skin from Calamá, upper Rio Madeira (August), but from the Amazon I have no specimens from west of Villa Bella Imperatríz. On the other hand, my series of *spectabilis* ranges from the Ucayali in eastern Perú eastward only as far as Villa Bella Imperatríz, but southward to include Calamá and Chapada and eastward to Pernambuco, Bahia, and Rio de Janeiro. The type locality of *spectabilis* is in Goyaz. Some of the conflict in ranges may be due to migratory individuals of one or the other species, but there is some evidence that the breeding ranges also overlap. Consequently I must consider *spectabilis* as specifically distinct from *flavogaster* until workers in the field may be able to show a definite geographical or ecological segregation of the two groups.

I am not convinced of the validity of *E. f. pallididorsalis* Aldrich and Bole (1937, Sci. Publ. Cleveland Mus. Nat. Hist., VII, p. 106—Paracote, Panamá). In a series of eighty-two birds from Panamá north to Mexico, there is rather obviously darker average coloration in the birds from Costa Rica northward than in the Panamanian specimens, but I can find no clear distinctions between birds from Caribbean and Pacific Panamá while two skins from El Villano, Veraguas, Panamá, that ought to belong to the supposedly paler *pallididorsalis*, are among the darkest specimens in the entire series. Careful revision of the Central American forms is needed.

Elaenia spectabilis spectabilis Pelzeln

Elainea spectabilis PELZELN, 1868, Orn. Bras., II, p. 176—City of Goiaz; Munich Mus.

Elaenia boliviana TODD, 1913 (Aug. 8), Proc. Biol. Soc. Wash., XXVI, p. 171—Puerto Suarez, Río Paraguay, Bolivia; ♀; Carnegie Mus.

There are at hand twenty-seven specimens that appear definitely to represent this somewhat controversial species. Most of them are from localities outside of the known range of *E. flavogaster* but some of them are from places where the other species also has been found. Certain specimens taken from November to February [Agua Blanca de Corumba (Matto Grosso),

Bello Jardim and Rio Blanco (Pernambuco), Brazil; Perico (Jujuy) and Embarcación (Salta), Argentina] are marked as with gonads at least slightly enlarged, but it is impossible to say whether these localities are within the breeding range or only in areas reached during migration, if such, indeed, takes place.

In any case, there are two other Pernambuco birds at hand (São Lourenço and Garanhuns) that cannot be separated from *flavogaster*. The Garanhuns example was taken in February, as were the two skins of *spectabilis*, although it is marked as having the gonads not enlarged and the localities are not identical. Consequently there is no certain conflict of breeding ranges of the two species although there is a strong probability of it.

The most serious part of the problem arises in connection with certain examples from Bahia and Rio de Janeiro, involving one of the cotypes of Wied's "*Muscicapa brevirostris*" (see synonymy of *E. f. flavogaster*). Before discussing these specimens, however, it may be well to give some of the results of a comparative study of the two species.

E. flavogaster flavogaster is characterized by moderately large size with wing usually not more than 80 mm. though sometimes 85.5; tail usually below 70 mm. (sometimes 76); crest long with a variable amount of white at the bases of the central feathers (sometimes none) with this white tending to extend distad along the inner margins of the feathers (not broadly and sharply truncate as in *martinica*, *gigas*, *albiceps*, *chiriquensis*, and *parvirostris*); bill distinctly broad at the base and with culmen not very sharply ridged; throat dull whitish, often tinged with drab; breast drab grayish, with yellowish flammulations; upper part of lores and a narrow eye-ring whitish, often quite pronouncedly; two broad and distinct wing-bars, often without a trace of a third but sometimes with well-marked narrow tips on the lowermost lesser coverts, forming a third bar; outer marginal stripe on inner tertials usually broad and not very sharply defined along its inner edge; outer margins of secondaries distinctly yellowish, in contrast to the margins of the primaries, but with a rather definite, dusky, quadrate speculum just beyond the lower wing-bar; bill usually brownish rather than blackish. Thirty-four males measure: wing, 71–85 mm. (av., 79.3); tail, 60–76 (av., 68.5). Twenty-five females: wing, 70–84 (av., 76.1); tail, 60–72.5 (av., 66.2).

E. spectabilis superficially resembles *flavogaster*, having the same sort of crest but with an average of less white at its base; size larger, with wing from 82 to 93 mm. and tail always 70 mm. or more, up to 86; general dorsal color averages darker than in *flavogaster*, sometimes decidedly so; bill usually blackish, averaging proportionately narrower at the base and sometimes longer; culmen appears to average more sharply ridged; throat purer white or more clearly pale grayish but without a tinge of drab; breast clearer pale gray; wing-bars always three in number with the uppermost well marked; lores and eye-ring not distinctly paler than the rest of the sides of the head; outer marginal stripe on inner tertials narrow and sharply defined; outer margins of secondaries somewhat olivaceous or dull yellowish but not so conspicuous as in *flavogaster* and with the basal dusky speculum also less pronounced. Thirteen males measure: wing, 83–93 mm. (av., 88.7); tail, 70–82.5 (av., 76.3). Nine females: wing, 82.5–89.5 (av., 87); tail, 70–77.25 (av., 73.4).

Freshly plumaged specimens of *spectabilis* and *flavogaster* can be distinguished quite readily but old, worn examples are a source of trouble. In the series before me, seven birds from the city of Bahia, three from La Raiz (near Rio de Janeiro), and the female cotype of "*Muscicapa brevirostris*" are fairly typical *flavogaster*. Another male from the city of Bahia is certainly *spectabilis* which it matches well in color though its size is inconclusive owing to the condition of molt. Another male, from Cajazeiras, Bahia, is like the Bahia male just mentioned but is larger though also in molt. A "Rio" trade-skin is in worn condition which prevents accurate comparisons of color while the size (wing, 85 mm.; tail, 75) is similarly inconclusive though the tail of this specimen is longer than I have found

in any undoubted *flavogaster*. Likewise, the male cotype of "*Muscicapa brevirostris*" is of indeterminate identity with wing, 85 mm., and tail, 74, but with plumage badly worn. Two worn trade-skins from "Bahia" resemble this Rio skin and the male cotype of "*brevirostris*" in general appearance but are much smaller (wing, 77, 77 mm.; tail, 68, 69) and on that basis must be referred to *flavogaster*. Another Rio skin, not so badly worn, is rather pale throughout, with broadly white throat but with some yellow flammulations on the chest (wing, 81.5 mm.; tail, 71).

All these dubious skins have triple wing-bars, clear white throats, little or no pale tint on the lores, and small though relatively slender bills. Their exact identity is doubtful. Only two of them, Bahia trade-skins, are sufficiently definitive in size to be referred to one of the two species, in this case *flavogaster*. Two more, from Bahia and Cajazeiras, are fresh enough to show the colors of *spectabilis*, though their size is inconclusive. The others are equivocal. If *flavogaster* and *spectabilis* were conspecies, these indeterminate specimens might be considered as simple intermediates and, in any case, may be hybrids. Longer series than I have from eastern Brazil will be required to determine the true status of the two groups. In the meantime, since any attempt to supplant *spectabilis* by the earlier name *brevirostris* (on the grounds that the male cotype of *brevirostris* shows some of the characteristics of *spectabilis*) would result in more confusion than clarity, especially since the identity of the male cotype is by no means certain, and in view of the fact that the female cotype of *brevirostris* definitely is identifiable, I hereby restrict the application of the name *brevirostris* to the form to which the female cotype belongs, thus keeping *brevirostris* in the synonymy of *flavogaster* where it has been for many years.

The specimen from Ocampo, Argentina, recorded by Hartert and Venturi (1909, Novit. Zool., XVI, p. 199) as *E. f. flavogaster*, I place, rather, in *spectabilis*. Venturi records eggs collected on December 2.

Three specimens from Campos Salles, near Manaos, Brazil, are the only examples at hand from north of the Amazon, although Pelzeln found the species at Barcellos, also on the Rio Negro, in August. The Campos Salles birds also were collected in August. A Teffé bird is dated July; one from Sarayacu, Perú, April; five Rio Madeiran birds, April, and one, August; two Villa Bella Imperatríz, August; three Chapada, Matto Grosso, May, September, and no date; one Agua Blanca de Corumbá, November; one Ceará specimen, November; six north-Argentine birds, January and February.

These dates strongly suggest the possibility that *spectabilis* breeds only in the southern part of its range and in the elevated campos northeastward as far as Pernambuco and that it visits the Amazonian region only as a migrant. Field studies will be needed to confirm this supposition. Conflict with *flavogaster* in breeding range has yet to be established.

Peruvian records tentatively assigned to *spectabilis* are from Chamicuros, Chayavitas, Huayabamba, and Jeberos and I follow Hellmayr's assignment of Pebas, Nauta, Moyobamba, Chirimoto, and Puerto Arturo (Yurimaguas).

I have used a trinomial for this species since I believe that *Elainea* (sic) *ridleyana* Sharpe (1888, P. Z. S. London, p. 107—Fernando Noronha) is a subspecies of *spectabilis* instead of *chiriquensis*. Seven skins from Fernando Noronha are darker and a little duller on the anterior under parts than mainland specimens of *spectabilis* but above are very like the darker mainland birds; lores and circumocular area dark; the bills also are darker and even more slender but equally long, and the wing and tail are within the measurements of true *spectabilis* (males: wing, 86–88 mm.; tail, 70.5–76.5; females: wing, 81–85.5; tail, 85.5–72); there are three well-marked wing-bars; the development of the crest and its basal white area approximates that of *spectabilis*. Since *E. s. spectabilis* reaches Pernambuco there is at least as close an approximation of ranges as was the case when *ridleyana* was considered as a form of *chiriquensis*.

SPECIMENS EXAMINED

E. f. flavogaster.—

BRAZIL:
São Paulo, Victoria, 3 ♂, 2 ♀;
Itararé, 1 ♂;
Bauru, 1 ♂;
Avanhandava, 1 ♀;
Espirito Santo, Lagôa Juparaná, 3 ♂, 3 ♀;
Minas Geraës, Rio Jordão, 1 ♂, 1 ♀;
Rio Caparão, 1 ♂;
Bahia, Bahia, 3 ♂, 4 ♀, 1 (?);
Cajazeiras, 2 (?);
"Bahia" (trade-skins), 2 (?);
Rio de Janeiro, La Raiz, 2 ♂, 2 ♀;
[Rio de Janeiro], 1 ♀ (cotype of *Muscicapa brevirostris*);
Pernambuco, São Lourenço, 1 ♂;
Garanhuns, 1 ♀;
Maranhão, Anil, 1 ♂;
Piauhy, Corrente, 1 ♂, 1 ♀;
Therezina, 1 ♀;
Matto Grosso, Chapada, 18 ♂, 10 ♀, 4 (?);
Juruena, 1 ♂;
Tapirapoan, 1 ♂;
Rio Madeira, Calamá, 1 (?);
Rio Amazonas, Villa Bella Imperatríz, 3 ♂, 2 ♀;
Rio Tapajoz, Tauarý, 6 ♂, 5 ♀;
Aramanay, 1 ♀;
Santarem, 1 ♂;
Rio Xingú, Porto de Moz, 4 ♂, 3 ♀;
Rio Tocantins, Baião, 1 ♂, 1 ♀;
Rio Jamundá, Faro, 4 ♂, 8 ♀;
Rio Branco, Caracarahy, 1 ♂;
Rio Cotinga, Limão, 1 ♀.

PARAGUAY:
Escobar, 1 ♂;
east of Caaguassú, 2 ♂, 1 ♀.

PERU:
Idma, 1 ♂;
Santa Ana, 3 ♂, 5 ♀.

BRITISH GUIANA:
Rockstone, 1 ♂, 1 ♀;
Wismar, 1 ♂, 1 ♀;
Annai, 1 ♂;
"British Guiana," 1 (?).

DUTCH GUIANA:
near Paramaribo, 5 ♂, 6 ♀.

FRENCH GUIANA:
Cayenne, 5 ♂, 3 ♀;
Roche Marie, 3 ♂;
Isle Le Pére, 1 ♀.

TRINIDAD:
(Caparo, Waterloo, Savanna Grande, Carenage, heights of Aripo, La Brea, Princestown, Leelet, Pointe Gourde, and "Trinidad"), 8 ♂, 10 ♀, 1 (?).

TOBAGO:
(Plymouth, Mondiland, and Lecito), 2 ♂, 7 ♀.

GRANADA:
1 ♂, 1 ♀.

ST. VINCENT:
(Boquié, Kingston, Wallilabo, and "Valley"), 3 ♂, 2 ♀, 2 (?).

VENEZUELA:
Cumanacoa, 3 ♀;
Cumaná, Campos Alegre Valley, 1 ♂, 1 ♀, 1 (?);
Río Orinoco, Altagracia, 2 ♂, 2 ♀;
Caicara, 3 ♂, 2 ♀;
Agua Salada de Ciudad Bolívar, 3 ♀;
Ciudad Bolívar, 2 ♂, 5 ♀;
Suapure, 1 ♂, 3 ♀;
Río Caura, Maripa, 4 ♂;
La Prición, 1 ♂;
Mt. Roraima, Paulo, 1 ♂;
Mt. Roraima, Philipp Camp, 1 ♀.

COLOMBIA:
(northern Antioquia, Choachi, Tenasuca, Los Cisneros, San Antonio, Las Lomitas, El Consuelo, El Carmen, Primavera, Río Frío, Chicoral, Popayan, Boca de Chimi, Andalucia, Honda, Cali, Quitame, east of Palmira, Caldas, Mambito, "Bogotá," Rio Magdalena, Calamar, Minca, Donama, Cacagualito, and Bonda), 22 ♂, 23 ♀, 20 (?).

E. f. semipagana.—

COLOMBIA:
Barbacoas, 2 ♂.

ECUADOR:
(Esmeraldas, Santa Rosa, Hacienda Ana Maria Quevedo, Paramba, Duran, Zaruma, coast of Manaví, Manaví, Río Pindo, Portovelo, Chone, and Puna Island), 11 ♂, 5 ♀, 2 (?).

PERÚ:
Perico, 2 ♀;
Pucará, 2 ♂;
Cabico, 1 ♀;
Jaen, 2 ♂, 1 ♀;
Huarandosa, 1 ♂, 1 ♀;
Tamborapa, 1 ♂.

E. s. spectabilis.—

BRAZIL:
Rio Negro, Campos Salles, 1 ♂, 2 ♀;
Rio Amazonas, Teffé, 1 ♀;
Villa Bella Imperatríz, 1 ♂, 1 (?);
Rio Madeira, Santo Antonio de Guajará, 3 ♂, 1 ♀;
Calamá, 1 (?);
Rio Tapajoz, Inajatuba, 1 ♂;
Porto Velho, 1 ♀;
Matto Grosso, Chapada, 2 ♀, 1 (?);
Agua Blanca de Corumbá, 1 ♂;
Bahia, Cajazeiras, 1 ♂;
Bahia, 1 ♂;
"Rio de Janeiro" (trade-skin), 1 (?);
Ceará, Viçosa, 1 ♂;
Pernambuco, Rio Branco, 1 ♂;
Bello Jardim, 1 (?).

ARGENTINA:
Santa Fé, Ocampo, 1 ♂;
Salta, Embarcación, 4 ♂, 1 ♀;
Jujuy, Perico, 1 ♂.

PERU:
Sarayacu, 1 ♂.

E. s. ridleyana.—

BRAZIL:
Fernando do Noronha, Borodó, 1 ♀;

Villa, 2 ♂;
The Peak, 1 ♂;
Quixaba, 1 ♂, 2 ♀.

Elaenia species incert.—

BRAZIL:
"Bahia" (trade-skin), 1 (?);
"Rio" (trade-skin), 1 (?);
Rio de Janeiro, 1 ♂ (cotype of *Muscicapa brevirostris*).

Elaenia albiceps albiceps (D'Orbigny and Lafresnaye)

M(uscipeta) albiceps D'ORBIGNY AND LAFRESNAYE, 1837, Mag. Zool., VII, Cl. 2, "Syn. Av.," p. 47—part., Yungas, Bolivia; cotypes in Paris Mus.

The nominate subspecies of *albiceps* is a relatively large form, relatively dark brown above, with broad and moderately well-defined and pale edges on the tertials, moderately prominent pale eye-ring and lores, brownish-gray chest and white belly rather contrasting with the greenish flanks, and with the concealed white area on the crown subterminally tinged with brownish.

There is a great deal of resemblance to *E. a. griseogularis* of Ecuador and no clear distinction in some examples although *albiceps* may have a longer crest, on average, with more extensive white at its base, and appears to have a more distinct pale eye-ring. Many examples of *griseogularis* are lighter on the back than my two specimens of *albiceps* but others are not and both forms have the white area on the crest tinged with brown toward the tips.

A male from Santo Domingo, Perú, differs from the two Bolivian birds at hand by having the throat and chest dingy grayish brown, but the general dorsal coloration is quite dark, the belly is white, and the whole appearance of the specimen more like *albiceps* than any other form of the species. This, together with the nearness of locality, induces me to place this specimen in *albiceps*.

Elaenia albiceps urubambae, new subspecies

TYPE from Chospiyoc, Urubamba Valley, Perú; altitude 10,000 feet. No. 305,831, American Museum of Natural History. Adult male "breeding" collected April 21, 1915, by Edmund Heller; original No. 44.

DIAGNOSIS.—Similar to *E. a. albiceps* of northern Bolivia but with upper parts paler brown; sides of head more uniform (without as prominent pale eye-ring and pale lores); flanks duller and less greenish; belly yellowish, not pure white; wing-bars duller and less sharply defined; bill apparently heavier. Differs from *E. a. chilensis* of southern Chile by more brownish, less olivaceous, upper parts; concealed patch at base of crest less purely white; sides of head more uniform in color; under parts more yellowish on the belly, duller and less greenish on the flanks; bill stronger. Somewhat resembles *E. modesta* of the coastal region of Perú in respect to reduced prominence of wing-bars but the bars are not so weak as in *modesta* and have the lower bar formed of rather definite, quadrate terminal spots on the outer webs of the greater wing-coverts, not merely of pale termino-marginal lines; a more obvious blackish "speculum" on the outer margins of the secondaries beyond the tips of the greater wing-coverts; under parts more yellowish, not ashy gray and white; maxilla more blackish brown; general plumage coarser, especially on the under parts.

RANGE.—Apparently restricted to the Urubamba Valley, Perú.

DESCRIPTION OF TYPE.—Upper parts dark Buffy Brown, the top of the head somewhat darker than the back; feathers of crown elongated to form a distinct, bifurcate crest with a large, barely concealed patch of yellowish white on the basal part of the central feathers, reaching to the tips of a few of the shorter, posterior plumes; sides of head a little paler brown than the back and with a faint suggestion of still lighter color around the eye and on the lores; throat pale Olive-Buff with chin a little whiter; chest a little darker, approaching the color of the back on the sides of the breast; belly Ivory Yellow with suggestions of brighter yellow flammulations; extreme lower part of belly medially more whitish, largely concealed; flanks broadly Dark Olive-Buff × Deep Grayish Olive; shorter under tail-coverts like the belly but longer ones largely Deep Grayish Olive with Ivory Yellow margins. Wings dark brown; primaries narrowly margined externally with Pale Olive-Buff, obsolete toward the tips; secondaries with median portion of outer margins dull Sea-foam Yellow, becoming whitish distally and with basal portion dusky, forming a squarish "speculum"; lesser upper wing-coverts like the back; median and greater series dark brown with rather inconspicuous paler terminal markings forming two wing-bars; the markings on the median series are Light Grayish Olive and cross both webs of the feathers at their tips; those on the greater series are slightly lighter in tone and cross the outer web only, meeting the shaft broadly; tertials like inner secondaries but with broader white at the tips of the outer webs; innermost tertial with whole outer web paler than inner web, palest along outer margin; under wing-coverts Dark Olive-Buff × Deep Olive-Buff; inner margins of remiges narrowly dull buffy whitish; tail dark brown with indistinctly pale, narrow tips and with outer margins of rec-

trices brownish olive. Maxilla (in dried skin) dark brown; mandible brownish buff; feet dark brown. Wing, 84 mm.; tail, 74; exposed culmen, 10.24; culmen from base, 14.25; tarsus, 21.

REMARKS.—Female like the male but smaller; wing, 74.5–79 mm. (av., 77); tail, 64.5–73 (av., 68.7); in males, wing, 79.5–85 (av., 81.1); tail, 69–74 (av. 71.2).

Five adult examples in the series are even yellower on the under parts than the type; the remainder are about like the type. The series, as a whole, presents a uniform appearance that is in decided contrast to the other subspecies, all of which have the belly white except for certain individuals whose cases are discussed elsewhere.

Elaenia albiceps griseogularis Sclater

Elainea griseogularis SCLATER, 1858, P. Z. S. London, XXVI, p. 554, Pl. CXLVI, fig. 1—Riobamba, Ecuador; British Mus.

As noted under *E. a. albiceps*, the present form is not profoundly different from the typical subspecies. It averages very slightly lighter on the upper parts, has less of a pale eye-ring, and usually has a shorter crest with less white at the base, but some specimens come very close to *albiceps*.

This form ranges down the Andes from northern Ecuador to northern Perú, being found in the Eastern Andes of northern Ecuador but occurring only in the western side of the Western Andes in southern Ecuador and northwestern Perú. Birds from this southern district are not clearly distinguishable from northern birds although there are certain individual specimens that show a surprising tendency toward the characters of *Elaenia pallatangae*, which occurs in the same region and which may hybridize with it.

Typical *griseogularis* is easily distinguishable from typical *pallatangae* by several characters. *Pallatangae* has the under parts largely bright lemon yellow, with the flanks olivaceous, sometimes with a slight shading across the chest and less often with the throat somewhat whitish; the under tail-coverts also are yellow and rarely show any prominent, dark central areas on these feathers. *Griseogularis* has the belly white, with the olive green of the flanks in rather marked contrast, the chest gray, the throat pale gray, and the under tail-coverts, at least the longer ones, brownish with narrow pale edges. *Pallatangae* has the back olive brown, the wings blackish with the wing-bars relatively narrow though well defined, nearly the whole outer web of the inner tertial whitish, and the white mark at the tip of the outer web of the second tertial relatively broad. *Griseogularis* usually is less olive and more brownish above, the wing-bars are broader and not so clear, the inner tertial has the outer web paler than the inner but not white except perhaps along the outer margin, and the pale marking on the second tertial is narrow or, if broad, is not so sharply defined. *Pallatangae*, furthermore, has a well-defined yellow eye-ring and pale loral spot, both of which are much less obvious in *griseogularis*, usually quite inconspicuous or obsolete. *Griseogularis* averages larger than the other species. The coronal patch of *pallatangae* is usually whiter.

In a small series of specimens from El Paso (near Nabon), Taraguacocha, San Bartolo, Sabanilla, and Zamora, a tentative division may be made on an arbitrary line drawn on the basis of the yellowness of the belly. The other characters are mixed. The single Taraguacocha bird is nearly typical *griseogularis* except for rather pronounced pale eye-ring and lores, not so yellowish as in *pallatangae*. Two San Bartolo females have the median under parts more whitish than yellowish though the breasts have a greenish tinge and the wing-markings are like those of *pallatangae;* one bird has prominent eye-ring and lores, the other does not. A male from the same locality is rather definitely *pallatangae* Two birds from Zamora and three from Sabanilla appear to belong to *pallatangae* although one of the Sabanilla specimens has an unusually whitish throat and traces of white along the median line of the belly and another Sabanilla specimen is as strongly yellow beneath as any in the series of *pallatangae*. The El Paso birds are nearest to *griseogularis*.

There is little possibility of considering *pallatangae* as belonging to the *albiceps* group. Although, for the most part, the specimens of each at hand were taken in

different localities, some of them are from the same localities as at Torontoy, Urubamba Valley, Perú, whence I have a male of *pallatangae* and a male of *albiceps urubambae*, both quite typical. Nevertheless, as stated in a previous paragraph, some hybridization is probable.

Among the northwest-Peruvian specimens, a young bird from Chugur, whence I have other *griseogularis* but no certain *pallatangae*, has a greenish-yellow tinge on the under parts and broad white outer web of the inner tertials that suggests its possible hybrid origin. Another young bird from the same place is much whiter underneath but it, too, has broad white on the tertials. The three adults from Chugur vary among themselves though none is referable to *pallatangae*.

One male from Alamor is very dark on the upper surface and very like typical *albiceps* except that the whitish coronal patch is more limited in extent. A male from Taulis, on the other hand, has an unusually large coronal patch though its general coloration is normal for *griseogularis*. Another Taulis skin has the coronal patch of normal size.

Across the Western Andes of Perú, on the eastern side of the cordillera a little to the southward, the greater extent of the light coronal patch becomes a regular feature, combined with certain other characters, and it appears desirable to recognize a separate subspecies for the birds of this region. This form may be known as follows.

Elaenia albiceps diversa, new subspecies

TYPE from Cajabamba, northern Perú; altitude 9000 feet. No. 499,426, American Museum of Natural History. Adult male collected in January, 1894, by O. T. Baron.

DIAGNOSIS.—Similar to *E. a. griseogularis* of Ecuador but throat whiter, chest grayer, and wing-bars distinctly less sharply marked though prominent; concealed white patch at the bases of the crest-feathers more extensive, usually markedly so; color of upper surface averaging paler. Differs from *E. a. albiceps* of northern Bolivia by paler upper parts, heavier bill, somewhat less strongly pronounced wing-bars, and less obvious eye-ring. Differs from *E. a. urubambae* of the Urubamba Valley, Perú, by whiter throat and belly and stronger wing-bars.

RANGE.—Subtropical Zone. Central and eastern side of Western Andes of northern Perú.

DESCRIPTION OF TYPE.—Upper parts Brownish Olive × Deep Olive; top of head a little darker with a bifurcate crest enclosing a large, concealed area of dull whitish, tinged with brownish subterminally and reaching the tips of some of the central-posterior feathers; sides of head a little paler than the back with lores and narrow eye-ring inconspicuously still paler; chin and throat whitish in some contrast to the chest which is Smoke Gray medially and brownish laterally, with slight traces of greenish-yellow flammulations in the middle; belly broadly white, with some yellowish flammulations laterally adjoining the Citrine-Drab flanks; under tail-coverts olive brownish with narrow pale margins. Wings as in *E. a. urubambae* except that the wing-bars and outer web of inner tertial are paler and somewhat better defined. Tail as described for *E. a. urubambae;* bill and feet as in the Urubamba form though bill is of smaller dimensions. Wing, 83.5 mm.; tail, 75.5; exposed culmen, 8.75; culmen from base, 13; tarsus, 20.

REMARKS.—Female not certainly known although, of the specimens at hand, two sexed as males are smaller than the others and may be wrongly sexed while of two birds without given sex, the smaller one also may be a female. These three questionable specimens have the wing, 76.5, 77, and 78 mm.; tail, 67, 70.5, and 73, respectively. The remainder, probably all males, have the wing, 81, 82.1, 83, and 83.5; tail, 73, 76, 73, and 75.5, respectively.

On the other hand, all these measurements, including those of the possible females, are above the minimum measurements of the males of *griseogularis* but below the maximum measurements of male *urubambae*. It is probable, therefore, that *diversa* is regularly intermediate in size between the Ecuadorian and Urubamban forms.

Elaenia albiceps chilensis Hellmayr

Elaenia albiceps chilensis HELLMAYR, 1927 (April 11), Field Mus. Nat. Hist. Publ., Zool. Ser., XIII (5), p. 413—Curacautin, Prov. Malleco, Chile; ♂; Field Mus. Nat. Hist.

As has been pointed out by various authors, the form of *albiceps* that breeds throughout most of lowland Chile, migrates somewhere in February and March, or April, returning in September and October to nest from November to February. Hellmayr (*loc. cit.*) doubted the supposition

that the birds migrated to the northward although he could offer no conjecture as to their non-breeding range.

As a matter of fact the birds do go northward and spend the southern winter in an extensive area from Perú to the eastern coast of Brazil and north to the Amazon, occasionally well north of it. A good series of birds from various parts of Perú, Bolivia, and Brazil, from Matto Grosso east to Bahia and Rio de Janeiro and north to the lower Rio Tapajoz show dates of collection from March to October (one skin from Urucum, Brazil, is dated November 26). Chilean and Argentine birds are dated from October to February, with certain December and January examples marked as breeding.

The migrants taken in their winter range agree with the Chilean specimens, showing extremes of freshness (October) and wear (March) with molt in the intervening period. The slender bill, dull chest, narrow but sharply defined wing-bars, relatively pure white coronal patch, usually with decidedly blackish areas on the feathers laterally adjacent, obvious pale lores and eye-ring, and characteristic wing-formula all identify these birds as *chilensis*. The wing-formula appears to have escaped observation but is a very good criterion for the recognition of the subspecies. In the non-migratory forms of *albiceps*, the tenth (outermost) primary is shorter than the fifth but in *chilensis* it is almost always longer. As frequently happens, the form accustomed to make long journeys has a more pointed wing than the forms of more stationary habits. There is no evidence of the migration of *chilensis* northward along the coast into Perú but only along, or over, the chain of the Andes. All the related birds from the coast of Perú are *E. modesta*.

A female from Tenasuca, above La Mesa, Colombia, is doubtfully referred here. It agrees with Chilean birds in color and size and differs only by reason of the outermost primary which is a little shorter than the fifth. However, the wings are in molt and have the fifth primaries fresh, the tenth of the left wing old though not badly worn, and the tenth of the right wing missing. Consequently the evidence is not conclusive that the wing-formula of this individual would not have been correct for *chilensis* when fully plumaged.

Elaenia modesta Tschudi

E(laenia) modesta TSCHUDI, 1844 (May), Arch. Naturg., X (1), p. 274—Perú; I suggest Lima; Mus. Neuchâtel.

The specific association of this bird with *albiceps* is not perfectly certain for several reasons. The various members of the *albiceps* group (*sensu strictu*) are inhabitants of the Temperate lowlands of Chile and the Temperate Zone of the Andes of more northern countries, or at most the Subtropical Zone, whereas *modesta* lives in the Arid Tropical Zone of the coast of Perú (and perhaps northern Chile) though it is found, at least at certain seasons, in portions of the Chinchipe, Huallaga, and Chanchamayo valleys and, in one case, has been found at the same locality as *albiceps diversa*.

Typical *modesta* is fairly easily distinguishable from the members of the *albiceps* group. The latter have broad and relatively well-marked wing-bars on a blackish or dusky ground with the lowermost bar composed of quadrate terminal spots on the outer webs of the greater wing-coverts. The inner tertial has a broadly whitish area on the outer web and there is a conspicuous blackish patch on the outer webs of the secondaries just beyond the greater wing-coverts. *Modesta* has the wing-bars, particularly the lower one, less conspicuous, with the lower one composed mostly of a pale marginal line on the greater coverts. The inner tertial is but faintly paler on the outer web than on the inner and is never broadly whitish while the basal portion of the outer webs of the secondaries is rarely conspicuously dark. *Modesta* has the lores and circumocular space dull and little if any paler than the adjacent areas while the remaining forms under discussion have more or less obvious pale lores and a pale eye-ring, sometimes quite marked. *Modesta* usually has more obvious dark centers and pale edges on the feathers of the top of the head giving a more speckled appearance than in the other forms in question. *Modesta* appears to have somewhat more com-

pact plumage than the others and is a paler and duller bird in nearly all respects.

These characters vary slightly but there are very few specimens that cannot be placed with certainty. Nevertheless, there is an occasional tendency in the direction of the characters of the highland forms sufficient to indicate the probable specific affinity. The principal obstacle to specific union lies in the apparent confusion of ranges. This difficulty, however, is not without a possible solution.

Sclater (1866, P. Z. S. London, p. 99) quotes Professor Nation to the effect that *modesta* leaves the vicinity of Lima in June and returns in December. The series before me shows the breeding of *modesta* at Lima in January and February. Furthermore, all the birds from the western coast were collected from December to July while all of the relatively limited series from interior localities were taken from May to December. It seems probable, therefore, that *modesta* leaves the coast for the interior after the breeding season and returns in time for the next nuptial period.

Such migratory movement of a purely tropical species would be unusual; at least it is a sort of which we have much to learn. The movement would take the birds away from the arid coast at about the time of the commencement of the annual *garua* or mist, marking the season of the most abundant vegetational growth of the year, and would carry them to the most arid portions of the interior at the driest periods for those regions. Decidedly, therefore, more data are required to confirm this apparent migration before it may be accepted as fact. In the meantime, it may be unsafe to continue the specific union of *modesta* with the *albiceps* group and, accordingly, I have given it specific rank.

Due to the confusion that has existed in the present genus, it is impossible to assign Peruvian records to their proper places except where the critical specimens have been reëxamined.

Specimens Examined

E. a. chilensis.—
Chile:
(Tofo, False Cape Horn, Punta Arenas, Londonderry Is., Río Blanco, Puerto Montt, Corral, Valparaiso, Los Andes, Isla Mocha, Maquehué, Chiloe Is., Concepción), 18 ♂, 13 ♀, 3 (?).

Argentina:
(Chubut, Fuerte de Andagala, Paraná, Flores, Cosquin, Mendoza, and above San Pablo), 7 ♂, 2 ♀, 1 (?).

Bolivia:
La Paz, Tucunguaya, 1 ♂;
Sara, Camp Woods, 1 ♀.

Paraguay:
east of Villa Rica, 3 ♂, 2 ♀.

Brazil:
Matto Grosso, Chapada, 3 ♂, 2 ♀;
Urucum, 1 ♂;
Rio de Janeiro, Maceiras, 4 ♂, 1 ♀;
Ponte Maromba, 1 ♂;
Bahia, Bahia, 1 ♂;
Rio Grando do Sul, Nonohay, 1 ♂, 1 ♀;
Rio Tapajoz, Igarapé Brabo, 1 ♂;
Piquiatuba, 1 (?).

Peru:
La Pampa, 1 ♂;
Tulumayo, 1 ♂;
Pozuzo, 2 ♂;
Huánuco, 2 ♂[1];
Huachipa, 1 ♀[1];
Perico, 1 ♀;
San Ignacio, 3 ♂, 1 ♀, 1 (?);
Moyobamba, 2 ♂[1], 5 ♀[1].

Colombia:
Tenasuca, 1 ♀.

E. a. albiceps.—
Bolivia:
Incachaca, 2 ♀.
Perú:
Santo Domingo, 1 ♂.

E. a. urubambae.—
Perú:
Chospiyoc, 2 ♂ (incl. type);
Pisac, 4 ♂, 2 ♀, 1 (?);
Torontoy, 1 ♂;
San Miguel, 1 ♂;
San Miguel Bridge, 1 ♀;
Huiro, 1 [♂].

E. a. diversa.—
Perú:
Chusgon, 1 "♂";
Cajabamba, 3 ♂ (incl. type), 1 "♂" [? = ♀];
Tayabamba, 2 (?);
Huachipa, 1 ♂[1], 2 ♀[1];
Vista Alegre, 1 ♂[1], 2 ♀[1];
Chinchao, 1 ♂[1];
Huánuco, 1 ♂[1], 1 ♀[1];
Cullcui, 1 ♂[1].

E. a. griseogularis.—
Perú:
Taulis, 2 ♂;
Seques, 1 ♂;
Chugur, 2 ♂, 2 ♀, 1 (?);

[1] Specimens in Field Museum of Natural History, Chicago.

Palambla, 2 ♂, 1 ♀;
Alamor, 1 ♂.

ECUADOR:
Gualea, 1 ♂;
Mt. Pichincha, 3 ♂, 3 ♀;
above Baeza, 3 ♂;
Oyacachi, 1 ♂, 1 ♀;
Cayambe Mts., 1 ♂;
Papallacta, 2 ♂;
Ibarra, 2 ♂;
Taraguacocha, 1 ♂;
Yanacocha, 1 ♀;
"Guayaquil," 1 (?);
"Ecuador," 2 (?);
near Nabon, 2 ♂, 2 ♀;
San Bartolo, 2 ♀.

E. modesta.—
PERÚ:
Vitor, 4♂, 4♀, 1 (?);
Ilo, 2 ♂;
Moquegua, 5 ♂, 1 ♀;
Ica, 1 ♂;
Lima, 5 ♂, 1 ♀, 1 (?);
Chosica, 1 ♂[1] 2 ♀[1];
Vitarte, 1♂, 2♀;
Sayan, 1♂;
Huacho, 11♂, 3♀, 1(?);
Huaral, 4♂, 4♀;
Santa Eulalia, 1 ♂[1];
Poroto, 1♂;
Virú, 1♂, 3♀, 1(?);
Trujillo, 1 ♂;
Huarandosa, 1 ♀;
Nuevo Loreto, 1 (?);
Vista Alegre, 1 ♀[1];
Moyobamba, 2 ♂[1], 1 ♀[1];
La Merced, 1 ♀;
Tulumayo, 2 ♂, 1 ♀;
Perené, 1 ♂.

Elaenia parvirostris Pelzeln

Elainea parvirostis (sic) PELZELN, 1868, Orn. Bras., II, p. 178—Curytiba, Borba, and Barcellos, Brazil; type from Curytiba in Vienna Mus.

Elainea hypospodia SCLATER, 1887, P. Z. S. London, p. 49—Valencia, Venezuela; ♂; British Mus.

Elainea albiventris CHAPMAN, 1897, Auk, XIV, p. 368—Cumanacoa, Bermúdez, Venezuela; ♂; Amer. Mus. Nat. Hist.

? *Elainea arechavaletae* BERTONI, 1901, Av. Nuev. Parag., p. 119—Alto Paraná, Paraguay.

Elaenia aenigma STRESEMANN, 1937 (May 2), Orn. Monatsb., XLV (3), p. 75—Mt. Illiniza, Ecuador; ♂; Berlin Mus.

This species appears to be migratory in habit, breeding in the latitude of northern Argentina some time about the end of January, leaving for the north, probably in March, and returning in September and October. A series of one hundred and fourteen specimens now before me shows twenty-nine out of thirty Argentine specimens to have been taken from October 17 to February 1 (one La Plata skin is dated May). Ten birds from the state of Rio Grande do Sul, Brazil, are dated from October 9 to December 14; two Paraguayan skins, October 13 and 21; one Uruguayan bird is dated November 12. One specimen from southeastern Perú (La Pampa) is dated November 23. The remainder of the series from regions as far north as northern Venezuela and Santa Marta, Colombia, shows dates only from April 8 to October 20. Berlepsch and Hartert (1902, Novit. Zool., IX, p. 44) and Cherrie [1916, Sci. Bull. Mus. Brookl. Inst. Arts. Sci., II (6), p. 229] describe the nest and eggs of a species identified by them as *parvirostris*, taken by Cherrie at Caicara, Venezuela, on April 2, but although *parvirostris* was collected at Caicara in May and June, the female taken with the nest and eggs in question, belongs to *E. chiriquensis albivertex*. There is no evidence of *parvirostris* breeding in Venezuela or elsewhere in northern South America. The late November specimen from southeastern Perú may be no more than a belated migrant.

All the Argentine and other southern birds are in various stages of simple wear of their plumage. October and November birds are relatively fresh; January and February specimens often badly worn. The northern birds that I consider as migrants show various stages of molt, mostly advanced (wing and tail) and possibly largely post-juvenal. Even April and May birds are fairly fresh and none are ragged like the January specimens from Argentina. The annual molt may proceed rapidly during March, a month not represented in the series at hand.

One male from Buena Vista, Río Cassiquiare, Venezuela, taken May 1, 1929, lacks the lipochrom tints and appears clearer gray and white, presumably like the type of Sclater's "*Elainea hypospodia.*"

The type of *Elaenia aenigma* Stresemann, kindly sent me by the describer for examination, proved to be *parvirostris*, the first to be found in Ecuador. The migra-

[1] Specimens in Field Museum of Natural History, Chicago.

tion route of the species appears to be largely east of the Andes and consequently Andean records are not numerous. Aside from the two birds now before me from southeastern Perú, there are records only from Xeberos, Chayavitas, and Pebas, originally published under *E. modesta* and *E. albiceps* and included in the present account only on the authority of Hellmayr who has examined the Pebas and Chayavitas specimens. Owing to the great confusion that has existed in the genus *Elaenia*, records by early authors cannot be assigned with certainty.

SPECIMENS EXAMINED

E. parvirostris.—

ARGENTINA:
Salta, Arenal, 1 ♀;
Embarcación, 6 ♂, 3 ♀, 1 (?);
Rosario de Lerma, 3 ♂;
Santa Fé, Ocampo, 1 ♂, 1 ♀;
Tucumán, Tapia, 2 ♂, 1 ♀;
Las Vasquez, 1 ♂;
Barracas al Sud, 1 ♂, 1 ♀;
Entrerios, La Soledad, 1 ♂, 1 ♀;
Buenos Aires, 2 ♂, 1 ♀;
La Plata, 1 ♂;
Flores, 1 ♂, 1 ♀.

URUGUAY:
mouth of Río Jaguarão, 1 ♀.

PARAGUAY:
Colonia Independencia, 2 ♂.

BRAZIL:
"Bahia," 1 (?);
Rio Grande do Sul, Palmares, 1 ♂;
Paccaria, 1 ♂;
west of São Lourenço, 1 ♂, 1 ♀;
Santa Isabel, 1 ♂, 1 ♀;
Lagôa dos Patos, 1 ♂;
Palmares, 1 ♂, 1 ♀;
São Francisco de Paula, 1 ♀;
Matto Grosso, Chapada, 2 ♂;
Rio Roosevelt, Carapaña, 1 ♀;
Rio Madeira, Borba, 1 ♂;
Rosarinho, 1 ♀;
Santo Antonio de Guajará, 1 ♂;
Rio Amazonas, Teffé, 3 ♂, 1 ♀, 1 (?);
Rio Tapajoz, Santarem, 1 ♀;
Piquiatuba, 1 ♂;
Caxiricatuba, 1 ♂;
Rio Negro, Santa Maria, 1 ♀;
São Gabriel, 1 ♂, 3 ♀;
Yavanari, 2 ♂, 1 ♀;
Tatú, 1 ♂, 1 ♀;
Mt. Curycuryari, 2 ♂, 1 ♀;
Yucabí. 3 ♀.

VENEZUELA:
Río Huaynia, junction of the Cassiquiare, 1 ♀;
Río Cassiquiare, Solano, 1 ♀;
Buena Vista, 8 ♂, 2 ♀, 1 (?);
Río Orinoco, opposite mouth of Ocamo, 1 ♂;
Caicara, 1 ♂, 3 ♀;
Las Barrancas, 1 ♂, 1 ♀;
Quiribana de Caicara, 1 ♀;
Puerto Cabello, 1 ♂;
Cristóbal Colón, 1 ♀;
Cumanacoa, Bermúdez, 1 ♂ (type of *albiventris*), 2 ♀;
Mérida, Escorial, 1 ♂, 1 ♀;
"Venezuela," 1 (?).

COLOMBIA:
Santa Marta, 3 (?);
Florencia, 1 ♂, 3 ♀, 1 (?);
"Bogotá," 1 (?).

PERU:
La Pampa, 1 ♂;
Río Inambari, 1 ♀.

ECUADOR:
Mt. Illiniza, 1 ♂[1].

Elaenia strepera Cabanis

Elainea strepera CABANIS, 1883, Jour. für Orn., XXXI, p. 215—foothills of Tucumán, Argentina; Berlin Mus.

A female from Santa Rosa, upper Río Ucayali, adds a species to the Peruvian list and gives an extension of range to this imperfectly understood bird. A young male from Cristóbal Colón, northern Venezuela, adds still another locality to the specific range, although there are three other known specimens in existence from Venezuela (El Callo, San German de Upata, and an "Orinoco" skin).

Of five birds at hand from the Province of Tucumán, Argentina, four are dated October 28, December 24, December 25, and January 23; the fifth is undated. The Peruvian specimen was taken on November 13; the Cristóbal Colón specimen, May 30; the El Callo bird said to have been collected May 10; the San German de Upata skin, June 2. These dates add weight to Dinelli's assertion, quoted by Hartert and Venturi (1909, Novit. Zool., XVI, p. 199) that the species is migratory, arriving in the neighborhood of Tucumán in the southern spring to breed locally and leaving in the fall. I am confident that the Peruvian and Venezuelan records all concern migrants *en route* or in their winter homes.

Elaenia gigas Sclater

Elainea gigas SCLATER 1871 (about March), P. Z. S. London for 1870, p. 831—Río Napo, Ecuador; British Mus.

[1] Specimen in Zoolog. Mus., Berlin.

This well-marked species appears to have no very close allies. It ranges from Colombia to southeastern Perú without any perceptible differentiations. It appears to be restricted to the Upper Tropical Zone on the eastern side of the Andes.

A female from Idma, Urubamba Valley, dated October 19, is noted as breeding and other specimens, dated from September to November, are marked as with enlarged gonads.

Earlier Peruvian records are from Huayabamba, Amable Maria, Ninabamba, Cosñipata, Monterico, Huiro, and Huambo.

SPECIMENS EXAMINED

E. gigas.—
PERÚ:
Inambari, 1 ♀;
Río Tavara, 1 ♀;
Astillero, 1 ♂, 1 ♀;
La Pampa, 1 ♂, 1 ♀;
Idma, 1 ♀;
Pozuzo, 2 ♂;
Perené, 2 ♂, 1 ♀;
La Merced, 1 ♂;
mouth of Río Urubamba, 3 ♂;
Santa Rosa, Río Ucayali, 1 ♂;
Vista Alegre, 1 ♂[1];
Río Colorado, 1 ♀[1].
ECUADOR:
Zamora, 3 ♂;
Archidona, 1 ♂;
Andoas, 1 ♂;
"Ecuador," 1 (?).
COLOMBIA:
Villavicencio, 2 ♂;
La Morelia, 1 ♀.

[**Elaenia pelzelni** Berlepsch

Elaenia pelzelni BERLEPSCH, 1907, Ornis, XIV, p. 397—Lamalonga, Rio Negro, Brazil; Vienna Mus.

This species has not been found in Perú, so far as I know, but occurs so near to it that a statement of the occurrence may not be out of place in the present series of papers. A male and a female from the mouth of the Río Curaray, eastern Ecuador, demonstrate a broad westward extension of range north of the Amazon and it is highly probable that the species exists also in Peruvian territory at the mouth of the Napo.

[1] Specimens in Field Museum of Natural History, Chicago.

Pelzelni also occurs on both sides of the Rio Madeira, as shown by numerous skins in the collection before me, representing the first recorded examples from the south bank of the Amazon.

A young male from Villa Bella Imperatríz differs from the adults by having two broad whitish wing-bars and a narrower third bar, a broad whitish stripe on the external margin of the inner tertial and extensive white toward the tips of the other tertials and at the tips of the secondaries and inner primaries, pale fulvous upper tail-coverts, and prominent white at the tip of the tail. The type of the species, said by Hellmayr to be immature, is described as having rufous wing-bars and fulvous under wing-coverts.

SPECIMENS EXAMINED

E. pelzelni.—
BRAZIL:
Rio Negro, Igarapé Cacao Pereira, 3 ♂, 1 ♀;
Faro, 3 ♂, 3 ♀;
Monte Alegre, 1 ♂;
Villa Bella Imperatríz, 3 ♂, 1 ♀;
Rio Madeira, Igarapé Auará, 1 ♀;
Rosarinho, 1 ♂, 2 ♀;
Santo Antonio de Guajará, 2 ♂, 5 ♀, 1 (?).
ECUADOR:
mouth of Río Curaray, 1 ♂, 1 ♀.]

Elaenia cristata Pelzeln

Elainea cristata PELZELN, 1868, Orn. Bras., II, pp. 107, 177—City of Goiaz, Brazil; Vienna Mus.

E(lainea) lophotes BERLEPSCH AND LEVERKÜHN, 1890, Ornis, VI, p. 13 (in text)—Merumé Mts., British Guiana; cotypes in Berlepsch Coll., Frankfort Mus.

Elaenia cristata whitelyi CHUBB, 1919 (Oct.), Ann. Mag. Nat. Hist., (9) IV, p. 304—Mt. Roraima, "British Guiana" [= Venezuela]; British Mus.

There is a single record of *cristata* from Santa Ana, Urubamba Valley, which not only is unique for Perú but provides a locality far removed from the nearest point in the otherwise known range of the species. A male and a female from Primavera and Juruena, respectively, in Matto Grosso, Brazil, are the most westerly specimens at hand from south of the Amazon although north of that stream the range includes Faro and the Guianas and extends west-

ward to Mt. Duida and, apparently, also in northern Venezuela at La Trilla.

The Peruvian bird, a male, is said to have the wing 78 mm. in length and the tail, 72, both measurements well above those of any of over a hundred specimens at hand from various parts of the range. However, Pinto (1936, Rev. Mus. Paulista, XX, p. 106) gives the measurements of some specimens from São Paulo that show correspondingly large size and it is not impossible that the Peruvian record is based on a migrant or straggler from near São Paulo. I am not sure, however, that this species migrates. Birds from different parts of the specific range show different seasonal conditions that do not fit into a picture of migrational movement. On the Orinoco where the bird breeds in April, specimens taken in April and May are badly worn, while from July to January there are varying degrees of freshness. On the other hand, specimens from southeastern Brazil are in fresh condition in March, April, and May. Dutch Guianan birds are molting in August; Faro specimens in December, lower Amazonian specimens in April as well as in August; Duidan skins in March.

There are puzzling variations discernible in the series of this species but I am unable to determine their significance. Perhaps the most striking differences are to be found in a few fresh skins from Piauhy and others from Bahia (Morro de Chapeu). The Piauhy birds agree well with most of the examples from throughout the range of the species, being relatively lightly colored on the back, with rather clear whitish wing-bars, and with the dark feathers of the crest margined with grayish; the largest male has the wing 70.25 mm. and the tail, 60. The Morro de Chapeu specimens are decidedly darker on the back, have the wing-bars slightly duller, and the black feathers of the crest unmargined; the wing is 74 to 75 mm. and the tail, 67. In comparison with the Piauhy birds, the differences are pronounced. Nevertheless, certain individuals from various places show decided trends toward these dark Bahian birds while several "Bahia" trade-skins show little or no tendency in that direction. Chubb (*loc. cit.*) described certain dark birds from Mt. Roraima and British Guiana as *"whitelyi"* and Wetmore (1939, Proc. U. S. Nat. Mus., LXXXVII, p. 233) has called attention to large, dark birds from northern Venezuela. The significance of these aberrant examples has yet to be determined. For the present, I am unable to discover sufficient regularity in the variation to warrant the recognition of more than one form of the species.

E. cristata differs from most of the other members of the genus by reason of its more linear nostril at the lower edge of the nasal operculum and by its wing-formula, with the outermost (tenth) primary very short, subequal to the second or third, and the ninth usually shorter than the sixth. *E. ruficeps* is very similar in these respects, going even farther in extreme cases away from the condition in most of the other *Elaenias*.

There is considerable resemblance between *cristata* and *ruficeps*, not only in the respects mentioned but also in general appearance. Some *cristata* have stronger indications of pectoral stripes than usual though far less than shown by *ruficeps*, and a few examples of *cristata* even show faint traces of a buffy cinnamomeous color on the tips of the occipital feathers in the region where *ruficeps* has its broad rufous patch. Possibly there is an ancient relationship hereby indicated. In any case I believe these two species should stand adjacent to each other as they were placed by Berlepsch. Both appear to be inhabitants of savanna, as recorded for *cristata* by Berlepsch and Hartert (1902, Novit. Zool., IX, p. 43) and as indicated for *ruficeps* on the label of the Faro specimen listed below.

Specimens Examined

E. cristata.—
Brazil:
Goyaz, Rio Esperanza, 1 ♂;
"Goyaz," 2 (?);
"Bahia," 4 (?);
Bahia, Morro de Chapeu, 4 ♂;
Primeira Cruz, 1 ♂;
Piauhy, Therezina, 2 ♂, 1 ♀, 1 (?);
Matto Grosso, Primavera, 1 ♂;
Juruena, 1 ♀;
Rio Tapajoz, Santarem, 2 ♂, 3 ♀, 1 (?);
Igarapé Brabo, 1 ♀;
Rio Jamundá, Faro, 1 ♂, 3 ♀;

Monte Alegre, 1 ♂.
FRENCH GUIANA:
Cayenne, 3 ♂, 3 ♀.
DUTCH GUIANA:
near Paramaribo, 1 ♂, 2 (?).
BRITISH GUIANA:
Annai, 1 ♀;
"Guiana," 1 ♂.
VENEZUELA:
Roraima, 2 ♂;
Mt. Duida, Valle de los Monos, 1 ♂, 4 ♀;
Esmeralda, 11 ♂, 15 ♀;
Río Orinoco, Altagracia, 3 ♂, 1 ♀, 1 (?);
Agua Salada de Ciudad Bolívar, 1 ♂;
Ciudad Bolívar, 1 ♂, 1 ♀;
Maripa, 2 ♂, 1 ♀;
Caicara, 1 ♂;
Quiribana de Caicara, 1 ♀.

E. ruficeps.—
BRAZIL:
Faro, 1 ♀;
Rio Negro, Yavanari, 1 ♀.
VENEZUELA:
Río Huaynia, junction of the Cassiquiare, 5 ♂, 1 ♀;
Río Cassiquiare, Buena Vista, 1 ♂;
Mt. Duida, Valle de los Monos, 2 ♀;
Savana Grande, 1 ♀.

Elaenia chiriquensis albivertex Pelzeln

Elainea albivertex PELZELN, 1868, Orn. Bras., II, pp. 107, 177—Ypanema, São Paulo, Brazil; Vienna Mus.

Elainea lundii REINHARDT, 1870, Vidensk. Medd. naturhist. Foren., p. 344, Pl. VIII, fig. 1—Lagôa Santa, Minas Geraës, Brazil; Copenhagen Mus.

Elainea gracilis TACZANOWSKI, 1884, Orn. Pérou, II, p. 271—Chirimoto, Perú; Warsaw Mus.

Elaenia sororia BANGS, 1898, Proc. Biol. Soc. Wash., XII, p. 175—Palomina, Santa Marta, Colombia; Mus. Comp. Zoöl.

Lomo Santo, 2 ♂; Perené, 2 ♂; Tulumayo, 1 ♀.

I can find no clear distinctions in a series of over two hundred and forty specimens from different parts of South America (excluding northwestern Ecuador and southwestern Colombia = *brachyptera*). The form breeds at Ciudad Bolívar, on the Orinoco, in April and at Belvedere de Urucum, Matto Grosso, in December and there is corresponding difference in conditions of molt at various places throughout the range.

Earlier records from Perú are from Chirimoto, Potrero, Chachapoyas, and Vista Alegre.

Elaenia obscura obscura (D'Orbigny and Lafresnaye)

M(uscipeta) obscura D'ORBIGNY AND LAFRESNAYE, 1837, Mag. Zool., VII, Cl. 2, "Syn. Av.," p. 48—Yungas, Bolivia; Paris Mus.

Muscipeta Guillemini D'ORBIGNY, 1839, Voy. Amer. Mérid., Ois., p. 319—new name for *Muscipeta obscura* D'Orbigny and Lafresnaye.

Muscicapa rustica CABANIS AND HEINE, 1859, Mus. Hein, II, p. 60, in text, in synonymy of *E. obscura.*

Elaenia frantzii stolzmanni RIDGWAY, 1906 (Sept. 6), Proc. Biol. Soc. Wash., XIX, p. 116—Tambillo, Perú; ♀; U. S. Nat. Mus.

Elaenia obscura tambillana BERLEPSCH, 1907 (Febr.), Ornis, XIV, p. 419—Tambillo, Perú; ♀; Frankfort Mus.

Peruvian birds appear to be inseparable from Bolivian specimens. There is some variation in the exact tone of coloration and in the amount of grayish suffusion of certain parts of the plumage but the upper surface is always definitely brownish in color rather than grayish olive, the distinguishing feature of Brazilian specimens as detailed in the description of the new form given below.

I have not seen the types of *stolzmanni* and *tambillana* but believe that both names were erected for the female sex of *obscura.* The supposed form, which would be entitled to the name *stolzmanni,* is said to be smaller than *obscura,* darker and browner on the upper surface and brighter yellow beneath, particularly on the throat. In the series of *obscura* now at hand, four of the birds are sexed as females and these four, two from Bolivia, one from central Perú and one from northern Perú, are smaller than the males, are brighter yellow below, particularly on the throat, and average darker brown above. Their measurements are equal to, or less than, those given for the two Tambillo specimens. The same relative characters appear, though less pronouncedly, in a longer series of Brazilian specimens belonging to the subspecies described below. One exception in the Peruvian series is a worn example, not fully adult, from Chachapoyas, sexed as a male but agreeing better with the females in regard to size and color. I consider *stolzmanni* as a pure synonym of *obscura.*

Although there are various points of re-

semblance between *obscura* and *frantzii*, I am not convinced that they belong in the same species and prefer to restrict *obscura* to the two forms discussed here. There is an appreciable gap between the ranges of the two species and no close approximation of coloration though there is of size. The pronounced pale area on the basal part of the inner webs of the tertials and the very broad pale stripe on the outer web of the innermost tertial are good diagnostic characters. In addition, *obscura* is much more deeply yellow beneath and the dusky spot before the eye is more pronounced. I consider *E. d. dayi* and *E. dayi tyleri* to be more closely related to *obscura* than is *frantzii* although the differences are, presumably, of specific value. Dr. Chapman (1929, Amer. Mus. Novitates, No. 341, p. 3) noted the resemblance of *dayi* to *obscura* when he described that Roraiman species.

Records of *obscura* from Perú are from Huiro, San Miguel Bridge, Paltaypampa (Jelski), Pumamarca, Ninabamba, Garita del Sol, Eneñas, Huacapistana, Tamborapa, and Chira.

Elaenia obscura sordida, new subspecies

TYPE from Franca, São Paulo, Brazil. No. 140,088, American Museum of Natural History. Adult female collected in September, 1910, by Garbe; original No. 26.

DIAGNOSIS.—Differs from *E. o. obscura* of northern Bolivia and Perú by darker, duller, and more olivaceous, less brownish, upper parts, with less contrast between the back and the head. and by darker, more grayish-tinged breast, throat, and flanks; wing and tail averaging longer.

RANGE.—Southern Brazil, from Minas Geraës south to Rio Grande do Sul and west to southern Matto Grosso, and eastern Paraguay.

DESCRIPTION OF TYPE.—Upper parts Deep Olive × Deep Grayish Olive, the top of the head a little darker; a dull olive yellowish superciliary stripe and a narrow subocular lunule of the same color; a dusky spot on lores immediately in front of the eye; auriculars largely like back but their bases and the malar region paler. Throat Grayish Olive, paler in the middle and with chin more grayish; breast Grayish Olive with a more grayish wash, strongest on the sides and continued broadly down the flanks; lower belly Reed Yellow, this color narrowing and weakening anteriad until it is lost in the color of the breast; under tail-coverts with broad centers olive gray margined with dull, pale yellow. Wings blackish brown with the primaries and secondaries narrowly margined exteriorly with Olive-Buff except at the distal ends of the primaries and the basal ends of the secondaries; tertials and inner secondaries with the margins broader and paler, the inner tertial with broad marginal stripe yellowish white; lesser upper wing-coverts like the back; median and greater series dusky brown with broad tips Pale Olive-Buff forming two conspicuous wing-bars, crossing both webs of the median series but largely restricted to the tips of the outer webs of the greater series; under wing-coverts Marguerite Yellow; inner margins of remiges Ivory Yellow. Tail blackish brown with exterior margins of rectrices olivaceous and with narrow, poorly defined pale tips. Bill (in dried skin) blackish brown, yellowish brown at base of mandible; feet dark brown. Wing, 86.25 mm.; tail, 81; exposed culmen, 11; culmen from base, 16; tarsus, 21.

REMARKS.—Males like the females but larger and averaging darker and duller; wing, 87–96 mm.; tail, 79–91 as compared with: females, wing, 81.5–89; tail, 75–82. In typical *obscura:* males, wing, 82.5–89; tail, 77.5–85.5; females, wing, 79–82; tail, 75.5–77.

There is considerable individual variation in the series of Brazilian birds, many of which are decidedly darker than the specimen I have taken for the type, reaching an extreme near Dark Olive. The appearance of the upper side is always a grayish olive in contrast to the definitely warmer and browner upper surface in *obscura*. Some examples of *obscura* have a grayish tinge on the breast and sides but, when compared with the same region in *sordida*, it has a browner tone.

There is occasional distinction in the width of the marginal stripe on the tertials in the two forms. In *obscura*, the white stripe on the inner tertial sometimes exceeds half the width of the outer web, rarely touching the shaft, while in *sordida* it appears always to be less than half the width of the outer web. This is not, however, constant since some *obscura* also have the stripe narrow.

Berlepsch and Ihering (1885, Zeitschr. Ges. Ornith., III, p. 132) noted the distinguishing characters of Brazilian birds in comparison with Bolivian and Peruvian specimens. They resurrected the name *rustica* for this form in the belief that this name had not been properly published theretofore and was available for subsequent use. Unfortunately the first pub-

lished usage of *rustica* was by Cabanis and Heine in the "Museum Heineanum," II, p. 60, 1859, where it appears in the synonymy of *Elaenia obscura* and, being without accompanying description, is identifiable only by the original descriptions of Tschudi and of D'Orbigny and Lafresnaye to which reference is made. Thus, *rustica* must be relegated to the synonymy of *obscura*. A second usage of *rustica* by Sclater, 1861, P. Z. S. London, p. 408, is likewise validated by a reference to Tschudi which is here placed subordinate to *rustica*. Consequently *rustica* is not available for the Brazilian birds.

Incidentally, Allen, 1889, Bull. Amer. Mus. Nat. Hist., II, No. 3, p. 206, discounted the findings of Berlepsch and Ihering because of an overlap in measurements and a belief that supposed differences of color might have been due to season. The material at hand, however, shows the differences to be present as indicated regardless of season.

Birds from the Tucumán region of Argentina are intermediate though they are browner above than most *sordida*. One female from near San Pablo is abnormally grayish but has more of a brownish than olivaceous tinge. Also in measurement Tucumán birds are intermediate although one male from near San Pablo has the tail as long as any *sordida*. The Argentine birds may be referred to *obscura* as the form to which they show the nearest approach.

SPECIMENS EXAMINED

E. o. obscura.—
PERÚ:
Tulumayo, 2 ♂, 1 ♀;
Chilpes, 1 ♂;
Chinchao, 1 ♂[1];
Molinopampa, 1 ♂[1];
Chachapoyas, 1 ♂, 1 "♂" [= ♀?], 1 ♀.
BOLIVIA:
Incachaca, 1 ♂, 1 ♀;
Camp Woods, Prov. Sara, 1 ♀.
ARGENTINA[2]:
Tafí Viejo, 1 ♂;
near San Pablo, 3 ♂, 3 ♀.
E. o. sordida.—
BRAZIL:
Santa Catharina, Poço Prieto, 1 [♀];
Rio Grande do Sul, Quinta, 1 [♂], 2 (?);
Taquará de Mundo, 1 ♀;
Hamburgo Velha, 2 ♂, 1 ♀;
Santa Cruz, 1 ♀;
Campo Bom, 2 ♂;
Sapyringa, 3 ♂, 2 ♀;
Lagôa dos Patos, 4 ♂;
São Paulo, Itararé, 1 ♂;
Victoria, 2 ♂, 2 ♀;
Franca, 1 ♀ (type);
Rio de Janeiro, Monte Serrat, 1 ♂, 1 ♀;
Minas Geraës, Varzea de Congonha, 1 ♀;
Casa Queimada, 1 ♂, 1 ♀;
Matto Grosso, Campanario, 1 ♂, 2 ♀.
PARAGUAY:
east of Caaguasú, 1 ♂;
east of Yhú, 1 ♂.

[1] Specimens in Field Museum of Natural History, Chicago.
[2] Not typical.

Elaenia pallatangae intensa, new subspecies

TYPE from San Pedro, south of Chachapoyas, Perú; altitude 8600–9400 feet. No. 235,568, American Museum of Natural History. Adult male (with greatly enlarged gonads) collected January 22, 1926, by Harry Watkins; original No. 10,001.

DIAGNOSIS.—Similar to *E. p. pallatangae* of Ecuador and Colombia but with yellow of under parts much more intense; top of head averaging nearer the color of the back, less contrastingly dark.

RANGE.—Subtropical Zone of Perú.

DESCRIPTION OF TYPE.—Upper parts a little browner than Olive; the top of the head with darker centers on crown and occiput, concealed by the overlying tips of the feathers; center of crown and occiput with a moderately large, concealed area of white, slightly tinged with brown adjacent to the Olive tips. Lores brownish, paler than the top of the head; a rather broad eye-ring of dull yellowish, interrupted at the anterior corner of the orbit; auriculars brown, tinged with yellowish at the bases of the feathers; chin dull grayish, tinged with yellow; throat more strongly yellowish; sides of breast much like the back, with the color tending to spread across the breast in a lighter tone, approaching Citrine Drab with some yellower flammulations; belly broadly rich Barium Yellow × Straw Yellow; flanks with darker (brownish) centers showing through the yellow tips; thighs light olive brownish; under tail-coverts like belly. Wings blackish brown; primaries, except outermost, and the distal portion of the other remiges with narrow outer margins pale, dull olivaceous; secondaries with outer margins more broadly dull Reed Yellow except toward the base where there is a squarish patch of dark brown; inner tertial with most of outer web Ivory Yellow and with the basal part of inner web broadly buffy; other tertials with a narrow marginal stripe Ivory Yellow, obsolete basally but broadening distally and rounding the tip of the feather; tips of secondaries with similar pale border and primaries with a fine pale terminal speck, nearly

obsolete; upper wing-coverts like back; median and greater series blackish brown with broad tips Ivory Yellow, forming two conspicuous wing-bars; under wing-coverts Naphthalene Yellow; inner margins of remiges dull Ivory Yellow. Tail blackish brown with Ivory Yellow terminal margins and with outer margins of all but external pair of rectrices Olive; external pair with outer web paler than the inner web though not conspicuously so. Bill (in dried skin) dark brown, maxilla more blackish; feet blackish brown. Wing, 77.5 mm.; tail, 68; exposed culmen, 10; culmen from base, 14.5; tarsus, 18.2.

REMARKS.—Females like the males but averaging slightly smaller. Wing, 70–75.25 as against 72.5–79; tail, 60–67 as against 63–69.

In worn plumage the wing-markings fade to white, the pale tips of the remiges and rectrices may wear off, the pale outer web of the outer rectrices becomes more conspicuous, the dark centers of the crown-feathers become more evident, and the yellow of the under parts fades perceptibly, but the distinctions from *pallatangae* are still present in comparison with specimens of the typical form in similar condition of plumage. Even the freshest skins of *pallatangae*, though the yellow of their under parts may be as strong as in the more faded *intensa*, and this is not always the case, have this yellow on the more greenish side of the spectrum, not tinged with Straw Yellow.

Some specimens of *pallatangae* are decidedly grayish olive on the chest and sides; *intensa* tends rather to brownish in this region as do some *pallatangae*.

One or two examples of *pallatangae* are as dark above as *olivina* of Mt. Roraima and Mt. Duida though with less of the greenish tinge of that form above and beneath. *Olivina* also has the bill averaging longer and the wing-bars averaging narrower but these characters are overcome by the individual variation of both forms. I see no reason to keep *olivina* specifically distinct from the *pallatangae* group where I place it.

Peruvian records presumably referable to *intensa* are from Paltaypampa, Churay, Tambopata, Pariayacu, Maraynioc, Tamiapampa, Cutervo, Chota, Tambillo, Huachipa, Chinchao, mountains near Huánuco, mountains near Panao, and near Molinopampa.

SPECIMENS EXAMINED

E. p. pallatangae.—
COLOMBIA:
Cerro Munchique, 1 ♂, 3 ♀;
La Florida, 1 ♂;
San Augustin, 1 ♀;
La Sierra, 2 ♂;
Mari Lopez, 1 ♀.
ECUADOR:
San Bartolo, 1 ♂;
Zamora, 1 ♂, 1 (?);
Sabanilla, 3 ♂;
"Quito," 2 (?).

E. p. intensa.—
PERÚ:
San Pedro, 1 ♂ (type), 1 ♀;
Chachapoyas, 1 ♂;
La Lejia, 2 ♂, 3 ♀;
Chilpes, 1 ♂, 3 ♀;
Rumicruz, 3 ♂, 3 ♀;
Torontoy, 1 ♂;
Marcapata, 1 ♂;
Limbani, 1 [♂].

E. p. olivina.—
VENEZUELA:
Mt. Roraima, Arabupu, 1 ♀;
Philipp Camp, 1 ♂, 1 ♀;
"Roraima," 2 ♂, 1 (?);
Mt. Duida, Laterite Valley, 1 ♂;
El Puente, 1 ♀;
"Primer Pico," 1 ♂, 1 ♀.

Myiopagis gaimardii gaimardii (D'Orbigny)

Muscicapara Gaimardii D'ORBIGNY, 1839, Voy. Amér. Mérid., Ois., p. 326—Yuracares, Bolivia; Paris Mus. and Mus. Comp. Zoöl.

The typical form of the present species is characterized by moderately clear olive-green back, neither so light as that of *bogotensis* nor as dark as in *guianensis;* Barium Yellow or Citron Yellow belly; breast with relatively strong yellow margins on the feathers in some contrast to the dark centers that may be present; throat with at least the lower portion tinged with yellow, sometimes the whole throat.

Two males from Mission San Antonio, Cochabamba, Bolivia, are unusually dull on the belly in comparison with a female from Todos Santos, while a male from Porto Velho, Rio Madeira, has the breast unusually olivaceous. A male from Pomará, northern Perú, has the throat more strongly yellow than any of the others in the series and a male from Río Negro, west

of Moyobamba, has the back darker green than the others; the Todos Santos female has the lightest back. There is thus considerable variation within the series represented by this range of localities, including one bird from Zamora, Ecuador, but it is impossible to segregate any parts of the series as representing different subspecies. For the present, therefore, I am obliged to consider typical *gaimardii* as being a rather variable form.

On the other hand, two specimens from Puerto Indiana, on the north bank of the Amazon at the mouth of the Río Napo, and a few specimens from Teffé and the left bank of the Rio Madeira, Brazil, are distinctly darker on the back and more strongly striped on the chest than even the Río Negro (Perú) example, agreeing better with Guianan specimens. They are discussed further under *guianensis*.

Records from Perú that belong with *gaimardii* are from Yahuarmayo, Rioja, and Moyobamba.

Myiopagis gaimardii guianensis (Berlepsch)

Elaenia gaimardii guianensis BERLEPSCH, 1907, Ornis, XIV, p. 421—Camacusa, British Guiana; ♂; Berlepsch Coll., Frankfort Mus.

Birds of this species from the three Guianas are darker on the upper surface than specimens from central and southern Perú and Bolivia, sometimes with exposed dark subterminal areas on the mantle feathers, and sometimes simply a darker olive. Even single specimens usually can be separated by this criterion while in series the distinction is quite apparent. Furthermore, the Guianan birds tend to have a little more pronounced dark centers on the pectoral feathering though this is too variable to be of any great service taxonomically. Both groups have the belly rather deeply yellow.

Using these characters as a basis for distinction, it appears that the specimens at hand from the Orinoco, Mt. Duida, the Cassiquiare, and the Rio Negro (Brazil) agree much better with the Guianan series than with true *gaimardii*. As noted under *gaimardii*, a small series from the upper Amazon, including the left bank of the lower Madeira, Teffé, and the mouth of the Napo, fits well into the same group, especially the Teffé and lower Napo birds which are as dark as any in the assemblage. These birds may well be separated as *guianensis*.

Contrary to expectation, specimens from Faro are not in agreement with Cayenne birds or Rio Negro specimens but are more like a long series of skins from the south bank of the lower Amazon, representing a form that has not heretofore been recognized. It is described below.

Judging by the lower Napo specimens, the record of *gaimardii* from Pebas should belong rather with *guianensis*.

Before leaving the discussion of *guianensis*, it will be well to mention a female from Mt. Roraima, 3500 feet elevation, collected by Whitely. This bird agrees with *guianensis* in coloration but is very large, with wing 66.75 mm. in length; tail, 58.5. The wing exceeds slightly the maximum I have for any form of the species and the tail is just under the maximum of *trinitatis*. Since *trinitatis* differs from *guianensis* only in size, this Roraiman specimen is indistinguishable from *trinitatis* but this association is not very probable. The skin agrees with Whitely's Guianan specimens in "make" and there is no evidence that it is erroneously labeled. Consequently I am unable to give a name to the specimen. Other Roraiman birds should be reëxamined.

Myiopagis gaimardii subcinereus, new subspecies

TYPE from Prata, near Pará, Brazil; altitude 45 meters. No. 499,546, American Museum of Natural History. Adult male collected December 2, 1905, by W. Hoffmanns; original No. 243.

DIAGNOSIS.—Similar to *M. g. gaimardii* of northern Bolivia and eastern Perú but with back duller greenish (sometimes tinged with brownish on mantle); throat usually clearer whitish; belly paler yellow; breast more predominantly ashy grayish, with less obvious yellow margins on the feathers. Differs from *M. gaimardii guianensis* of the Guianas, southern Venezuela, Rio Negro, Brazil, and other parts of its range by similar characters and with the mantle usually lighter as well as grayer olive.

RANGE.—Lower Amazonian region of Brazil; most typically from the region around Pará, Maranhão, and northern Goyaz; less typically

along the south bank of the Amazon westward to the right bank of the Rio Madeira and southward to northern Matto Grosso, and on the north bank of the Amazon near Faro.

DESCRIPTION OF TYPE.—Top of head Iron Gray with a large, imperfectly concealed patch of white in the center of the crown and occiput; hind neck lighter gray; mantle Citrine Drab; uropygium dull Light Yellowish Olive. Lores, superciliary stripe, and malar region whitish; auriculars light brownish with shafts pale at base; throat broadly whitish; breast light ashy gray with poorly developed yellowish margins on the feathers, not well defined; belly light Reed Yellow with grayish centers on the feathers of the upper abdomen and, less prominently, on the flanks; under tail-coverts yellow. Wings dusky brown; primaries with poorly defined, narrow, olivaceous margins; secondaries with distal part of outer margins more broadly Reed Yellow, leaving a dusky patch just beyond the tips of the greater wing-coverts; tertials with outer margins distinct, whitish on the innermost; lesser upper wing-coverts like the back; median series tipped and greater series externally margined with Marguerite Yellow, forming two conspicuous wing-bars; under wing-coverts largely Primrose Yellow but under primary-coverts paler and with exposed brownish centers; inner margins of remiges pale yellow. Tail lighter brown than the wings, with olive outer margins on the rectrices. Bill and feet (in dried skin) blackish brown. Wing, 58 mm.; tail, 55.5; exposed culmen, 9; culmen from base, 12.25; tarsus, 17.

REMARKS.—Female like the male in color but with shorter wing and proportionately still shorter tail. Wing, 54.25–59 mm. (males, 57–62.25); tail, 46–50 (males, 52–57).

The back in numerous examples of this form is as dark as in the lighter specimens of *guianensis*, sometimes similarly tinged with brownish, but apparently never as dark as in the more heavily marked Guianan birds. Occasional specimens, also, have the yellow margins of the feathers of the breast more strongly developed, presenting a more streaked appearance than usual, but the gray centers remain paler and more ashy than in *gaimardii* and *guianensis*. *Subcinereus*, therefore, is not an intermediate between the two adjacent forms mentioned but reaches a new extreme. Single specimens may prove troublesome to identify but in series the characters stand out reasonably well. With the recognition of this new form it is easier to assign a name to the lower Amazonian birds than was possible with the necessity of calling them either *gaimardii* or *guianensis*.

As in related forms, certain individuals have the white area of the top of the head noticeably tinged with pale yellow, a purely individual character.

Birds from northern Matto Grosso (Chapada and Tapirapoan) agree fairly well with the Borba examples of *subcinereus* and are better referred to this subspecies than to typical *gaimardii*. Pelzeln's name *elegans* (1868, Orn. Bras., II, pp. 107, 179—Engenho do Gama, Brazil) is unfortunately preoccupied by *Muscicapa elegans* D'Orbigny and Lafresnaye, 1837 = *Myiopagis viridicata* (Vieillot) or it might otherwise be available for the present form.

I adopt the generic name *Myiopagis* for the species *gaimardii*, *viridicata*, *cotta*, *flavivertex*, *subplacens*, and *caniceps* which I consider congeneric though generically distinct from *Elaenia*. *Elainopsis* Ridgway I take to be a synonym. The tarsal envelope is far from typically exaspidean as claimed by Ridgway (1907, Bull. U. S. Nat. Mus., L, pt. 4, p. 399). Although some of the scutes may just pass around the hinder edge of the tarsus, in most cases they either just reach the hinder margin or fail to reach even that far, leaving a space of skin that may be smooth or may even show reticulation. In *gaimardii*, this condition is so constant that in erecting the genus *Elainopsis* for this species, Ridgway placed it among the Cotingidae. I prefer to consider the genus as Tyrannine with a strong tendency toward the Cotingidae, its final position to be determined only by careful anatomical investigation.

SPECIMENS EXAMINED

M. g. gaimardii.—
BOLIVIA:
Mission San Antonio, 2 ♂;
Tres Arroyos, 1 ♂;
Todos Santos, 1 ♀.
BRAZIL:
Rio Madeira, Porto Velho, 2 ♂.
PERÚ:
Río Tavara, 1 ♂;
Prov. Junín, 1 (♀?);
Pomará, 1 ♂, 1 ♀;
Río Negro, west of Moyobamba, 1 ♂.

ECUADOR:
Zamora, 1 ♀.
M. g. guianensis.—
PERÚ:
Puerto Indiana, 2 ♀.
BRAZIL:
Teffé, 1 ♂;
Rio Madeira, Rosarinho, 1 ♂, 3 ♀, 1 (?);
Santo Antonio de Guajará, 1 ♂;
Rio Negro, Manaos, 1 ♂;
Tabocal, 1 ♀;
Santa Isabel, 1 (?);
Yucabí, 1 ♂, 2 ♀, 1 (?);
Tatú, 2 ♂, 1 (?);
Rio Uaupés, Tahuapunto, 1 ♀;
Ianarete, 1 ♂.
VENEZUELA:
Río Cassiquiare, Solano, 2 ♂, 1 ♀;
El Merey, 1 ♀;
opposite mouth of Río Ocamo, 1 ♂;
Mt. Duida, Esmeralda, 1 ♀;
"Pie del Cerro," 1 ♂;
Río Orinoco, Ayacucho, 1 ♂;
Lalaja, 2 ♀;
Nericagua, 1 ♂;
Maripa, 2 ♂;
Caicara, 1 ♀;
Altagracia, 1 ♂;
Suapure, 4 ♂, 2 ♀;
Maipures, 4 ♂, 2 ♀;
Mato River, 2 ♂;
Río San Feliz, La Cascabel, 1 ♂;
Río Caura, La Unión, 2 ♂.
BRITISH GUIANA:
Bartica Grove, 1 (?);
Quonga, 2 ♀;
Rockstone, 2 ♂;
Wismar, 1 ♂;
Mines district, 1 (?).
DUTCH GUIANA:
Lelydorp, 1 ♂;
Wanica, 1 ♂;
near Paramaribo, 1 ♂, 2 ♀.
FRENCH GUIANA:
Cayenne, 5 ♂, 3 ♀.
M. g. subsp.?—
VENEZUELA:
Roraima, 1 ♀.
M. g. subcinereus.—
BRAZIL:
Pará, Prata, 1 ♂ (type), 1 ♀;
Quati-purú, 1 ♀;
Goyaz, Fazenda Esperança, 1 (?);
Rio Thesouras, 1 (?);
Maranhão, As Mangueras, 1 ♂;
Rio Tocantins, Mocajuba, 2 ♂, 1 ♀;
Baião, 2 ♂, 2 ♀, 1 (?), 1 "♂" [= ♀];
Cametá, 2 ♂;
Rio Xingú, Tapará, 2 ♂, 1 ♀;
Porto de Moz, 3 ♀;
Rio Tapajoz, Tauarý, 3 ♂, 2 ♀;
Igarapé Brabo, 3 ♂, 4 ♀, 1 (?);
Aramanay, 2 ♂, 2 ♀;
Caxiricatuba, 1 (?);
Boim, 1 ♂;
Igarapé Amorin, 2 ♂, 1 (?);
Rio Amazonas, Villa Bella Imperatríz, 2 ♂;
Rio Madeira, Borba, 2 ♂, 2 ♀;
Matto Grosso, Chapada, 2 ♂, 1 ♀;
Utiarity, 1 ♀;
Rio Jamundá, Faro, 5 ♂, 3 ♀.
M. g. bogotensis.—
COLOMBIA:
"Bogotá," 6 (?);
Santa Marta, Bonda, 3 ♂, 3 ♀, 9 (?).
VENEZUELA:
Cumaná, Los Palmales, 1 ♂;
Campos Alegre Valley, 1 ♂, 1 ♀;
Quebrada Secca, 2 ♀;
Carabobo, Las Trincheras, 1 ♂, 2 ♀;
Bermúdez, Cumanacoa, 1 (?);
Sucre, Cristóbal Colón, 2 ♂, 1 ♀;
"Venezuela," 1 (?).
M. g. trinitatis.—
TRINIDAD:
(various localities), 18 ♂, 5 ♀, 1 "♀" [? = ♂].
M. g. macilvainii.—
COLOMBIA:
Carthagena, 1 (?) (type).
PANAMÁ:
Boca del Cupe, 1 ♂;
Cape Garachiné, 1 ♂.

Myiopagis flavivertex (Sclater)

Elainea flavivertex SCLATER, 1887, P. Z. S. London, p. 49—"Upper Ucayali" [= near Cashiboya], Perú; British Mus.

I can do very little with regard to the present species except to add a few localities to the known distribution. There is appreciable variation in the intensity of coloration throughout the range but I am unable to find any taxonomic value in it. Females, beside being smaller than the males, average somewhat more brightly colored, often with less blackish on the sides of the crown, though some examples are indistinguishable in color. A male from the Rio Xingú is the darkest above and dullest below of the series at hand and, in addition, is the largest bird in the series (wing, 63 mm.; tail, 59.5) though Hellmayr records a single specimen with still longer wing.

Young birds differ considerably from adults in certain particulars. I have no specimen in full juvenal plumage but four examples have much of the juvenal plumage still in place. These specimens show the upper wing-coverts to be cinnamon-drab (much as in young *M. viridicata*), the top of the head and back of the neck the same (lighter in tone than in *viridicata*),

and probably the rest of the upper parts the same color although only one specimen has any considerable part of the lower back not already changed to green. Sides of the head without the whitish eye-ring of *viridicata* which is present even in the young of that species. The under parts are much like those of the duller adults although there is a cinnamon-drab tinge on the sides of the breast. One young female from Lalaja, near Mt. Duida, Venezuela, has lost most of the juvenal plumage and the newly acquired feathers are unusually brightly colored, exceeding those of any adult.

Peruvian records of *flavivertex* are from Nauta, Elvira, and the Ucayali.

The species has a very interrupted distribution so far as is known. Possibly future field work may help to close some of the more extensive gaps but at present the records show four principal populations, as may be seen by the accompanying list of specimens examined.

SPECIMENS EXAMINED

M. flavivertex.—

PERÚ:
Sarayacu, 2 ♂, 1 ♀;
Lagarto, 1 ♀;
mouth of Río Urubamba, 1 ♂;
Orosa, 1 ♂;
Puerto Indiana, 1 ♂;
Anayacu, 1 ♀.

BRAZIL:
Teffé, 1 ♂;
Rio Madeira, Rosarinho, 1 ♂;
Borba, 1 ♂;
Igarapé Auará, 3 ♂, 3 ♀, 2 (?);
Rio Amazonas, Villa Bella Imperatríz, 2 ♂;
Rio Xingú, 1 ♂;
Rio Jamundá, Faro, 3 ♂, 2 ♀, 1 (?).

FRENCH GUIANA:
Roche Marie, 1 ♂.

DUTCH GUIANA:
Interior, 3 ♂, 1 ♀;
Ryweg, 1 ♂;
Kwata, 1 (?);
near Paramaribo, 1 ♂, 1 (?).

VENEZUELA:
Río Orinoco, Munduapo, 2 ♂, 2 ♀;
Lalaja, 1 ♂, 1 ♀;
Mt. Duida, Caño León, 1 ♂.

Myiopagis viridicata viridicata Vieillot

Sylvia viridicata VIEILLOT, 1817, Nouv. Dict. Hist. Nat., nouv. éd., XI, p. 171—based on Azara, No. 156; Paraguay.

M(uscicapa) elegans D'ORBIGNY AND LAFRESNAYE (nec Lesson, 1830), 1837, Mag. Zool., VII, cl. 2, "Syn. Av.," p. 52—Chiquitos, Bolivia.

Elaïnea grata CABANIS, 1883, Jour. für Orn., XXXI, p. 216—Biscacheral, Tucumán, Argentina; Berlin Mus.

Elaenia viridicata delicata BERLEPSCH, 1907, Ornis, XIV, p. 430—part; type from Bahia, Brazil (trade-skin); Frankfort Mus.

Myiopagis viridicata rondoni CHERRIE, 1916, Bull. Amer. Mus. Nat. Hist., XXXV, p. 188—Urucum, Matto Grosso, Brazil: ♂; Amer. Mus. Nat. Hist.

Idma, 1 ♂.

In a series of sixty birds from various parts of southern Brazil, Paraguay, Argentina, and Bolivia, including also the Peruvian skin listed above, I cannot satisfactorily distinguish any geographical subspecies. Differences exist that are not easily explained except on the basis of individual variations. In any case, there are available names in the synonymy listed above to supply any possible need that is suggested in the present series.

Earlier Peruvian records are from Maranura and Santa Ana, only a few miles from Idma.

In the comparative material examined in this connection, are seventy-six specimens representing *accola* and *pallens*. By far the largest part of this series shows no appreciable distinctions. Ten examples from various localities in Nicaragua are intermediate with *placens* but the Costa Rican, Panamanian, and Colombian specimens, with the possible exception of three Santa Martan birds, cannot satisfactorily be subdivided and should stand together as *accola*. The Santa Martan birds are slightly paler on the upper side and have the throat less purely white and the chest less strongly shaded with olive or grayish than the other birds mentioned. It is possible, therefore, to recognize *pallens* if its Colombian range is restricted to the Santa Marta region but not otherwise.

Five birds from Caicara and Quiribana de Caicara, in the Orinoco region of Venezuela, agree fairly well with the Santa Martan skins but have the margins of the greater and median upper wing-coverts finely and rather sharply outlined with pale yellowish green. They also have the bill a little smaller than in the Santa Martan birds, agreeing better, in this respect, with typical

viridicata and have the yellow of the crest slightly more strongly tinged with chrome. It is possible that they represent an unnamed form but may go with *pallens* for the present. A young bird from San Estéban, inland from Puerto Cabello, presumably belongs here also.

"*Elaenia viridicata huallagae*" Carriker, 1934, Proc. Acad. Nat. Sci. Phila., LXXXVIII, p. 326, is *Neopelma sulphureiventer*, of the family Pipridae. The type, kindly lent to me by Mr. de Schauensee and Mr. Bond of the Academy, has the yellow of the under parts a very little brighter than is shown by a series of Bolivian specimens and has a little less dark shading on the chest, somewhat more broadly margined with yellowish. However, the type of *sulphureiventer*, from Matto Grosso, Brazil, is described as having the whole under parts pale yellowish, apparently more like the Peruvian specimen than the Bolivian.

Carriker's record establishes the occurrence of *Neopelma sulphureiventer* in Perú since there are no earlier known examples from this country.

Myiopagis subplacens (Sclater)

Elainea subplacens SCLATER, 1861, P. Z. S. London, p. 407—Pallatanga, Río Chimbo, Ecuador; ♂ ♂ cotypes in Brit. Mus.

Milagros, 1 ♂, 1 ♀; Paletillas, 4 ♂, 3 ♀; Palambla, 1 ♂, 6 ♀.

There is no apparent difference between Peruvian and Ecuadorian birds, and little variation throughout a series of forty-three specimens from both countries. A female from Esmeraldas, Ecuador, is distinctly paler than the remainder of the series, with lighter and clearer greenish back, lighter sides of the crown, paler gray chest, and broader wing-bars. A bird from the same locality, without given sex, is little different from the average and more material from this northernmost part of the specific range will be necessary to determine any constancy in the characters noted.

There are Peruvian records from Lechugal. One from Paucal (Raimondi Collection) needs confirmation. Taczanowski's record from the "Upper Ucayali" is certainly erroneous though it is difficult to say where the record should go.

Myiopagis caniceps cinerea (Pelzeln)

Elainea cinerea PELZELN, 1868, Orn. Bras., II, pp. 108, 180—Marabitanas, Rio Negro, Brazil; ♂; Vienna Mus.

Serpophaga albogrisea SCLATER AND SALVIN, 1880, P. Z. S. London, p. 156—Sarayacu, Ecuador; British Mus.

Apayacu (Anayacu), 1 ♂, 1 ♀.

Apparently rather rare in Perú and not very abundant anywhere, judging by the number of specimens at hand or recorded. Other Peruvian records are only from Puerto Bermúdez and Chamicuros.

I have specimens from Tatú and San Gabriel (Rio Negro), Brazil; Tahuapunto and Ianarete (Rio Uaupés), Brazil; Río Huaynía, Solano (Río Cassiquiare), and Suapure (Río Orinoco), Venezuela, and although the two Peruvian specimens are immature, they obviously belong to *cinerea* as opposed to typical *caniceps*, having a strong yellowish suffusion over most of the under parts, especially in the young female.

The remaining Peruvian species, *leucospodia*, usually considered as belonging to the genus *Elaenia* (*sensu latu*), I believe is far out of place either in *Elaenia* or *Myiopagis* and probably closest to *Phaeomyias* under which I shall discuss it in a future paper.

CORRIGENDA

In No. XXXIII of the present "Studies" (1939, Amer. Mus. Novitates, No. 1045), p. 23, right hand column, line 27, before "Ecuador," insert: "*R. o. aequatorialis.*—"