

A REVISION OF THE WOOD-WARBLER GENUS BASILEUTERUS AND ITS ALLIES

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INTRODUCTION

The studies in systematic ornithology in which the writer has been engaged have served to show how far we still are from a proper understanding of the status and relationships of sundry familiar avian groups, and how many distributional problems concerning them still remain to be solved. The identification of specimens often involves extensive comparisons, and when it comes to the revision of a group as large as *Basileuterus*, the collection of no single institution is adequate for the purpose, and only by pooling all available resources can such a study be carried out. Some return is surely due those whose help must be sought before a paper of this kind can be produced, while the time and labor devoted to the research in question would seem to justify placing the full results on record for the benefit of other workers in the same field.

In preparing the present revision the writer has handled no less than 2,615 specimens, of which 231 are in the collection of the United States National Museum, including that of the Biological Survey. The remainder were drawn from the collections of the following American institutions: The American Museum of Natural History, the Museum of Comparative Zoölogy, the Carnegie Museum, the Academy of Natural Sciences of Philadelphia, and the Field Museum of Natural History, all of which contributed their full series of this group. From abroad small but important loans of material were made by the Senckenbergische Naturforschende Gesellschaft of Frankfort-am-Main, Germany, the Musée Polonais d'Histoire Naturelle of Warsaw, Poland, the museum of the Université de Neuchâtel, Switzerland, and the British Museum (Natural History) of London, England. To the authorities of these several institutions thanks are due for such courtesies extended. The writer is under obligations also to Mr. Donald R. Dickey of Pasadena, Calif., for the loan of certain pertinent specimens from Salvador, and to Dr.

C. E. Hellmayr of the Field Museum for some important information concerning specimens and localities. Dr. Charles W. Richmond of the United States National Museum has given advice on some points in nomenclature, while Mr. Ernest G. Holt has compiled most of the references for the synonymy.

One of the handicaps under which American ornithologists have long labored has been the difficulty of consulting type specimens contained in the various European museums, leading to much uncertainty and misapprehension as to the application of certain names. Of the 39 types examined in preparing the present paper 4¹ came from collections in Europe, having been sent by special request. The privilege of seeing these and the other types has been a boon not to be valued lightly. Sixty-seven forms are recognized in the present review, of which six are here described as new subspecies. In spite of the unrivalled series brought together, there remain several forms still inadequately represented by specimens, and others whose distribution is as yet imperfectly known.

The literature of the group has been thoroughly searched, and the references have all been personally verified. In order to reduce the bulk of the paper somewhat it has been decided to omit all references not serving some useful purpose, including those found in mere lists of species like Sharpe's "Hand-List," etc. The measurements² are all in millimeters, and the length of the bill is that of the exposed culmen. Unless otherwise specified, averages are based on a series of 10 specimens. The names of colors are mostly taken from Mr. Ridgway's "Color Standards and Color Nomenclature."

TAXONOMIC HISTORY

The history of this group goes back to 1821, when Maximilian, Prince of Wied, described *Muscicapa rivularis* from Brazil. In 1823 we have *Muscicapa stragolata* of Lichtenstein, a synonym of Wied's species, and *Sylvia leucoblepharides* of Vieillot, the latter redescribed by Swainson in 1838 as *Trichas superciliosus*. *Muscicapa fulvicauda* of Spix, another species from Brazil, was described in 1825. *Sylvia culicivora* of Lichtenstein came out in 1830, and *Muscicapa bivittata* of Lafresnaye and D'Orbigny in 1837. *Setophaga auricapilla* of Swainson also appeared about the same time. Giraud, in his celebrated paper on Texas birds in 1841, named *Muscicapa brasierii* and *M. belli*, and in 1845 Bonaparte described *Trichas luteoviridis*. About the same time von Tschudi described three new species from Peru, *Myiodioctes coronatus*, *M. tristriatus*, and *Setophaga chrysogaster*. He seems to have had a better idea

¹ *Myiodioctes coronatus* von Tschudi, *Basileuterus signatus* von Berlepsch and Stolzmann, *Setophaga chrysogaster* von Tschudi, and *Myiodioctes tristriatus* von Tschudi.

² Mr. M. Graham Netting is responsible for making some of the measurements.

of the real affinities of his new species than most of his predecessors had of theirs in the same group. This brings us down to the year 1847 with eleven valid names for species pertaining to the group called *Basileuterus* by Cabanis.

There is, however, an unfortunate complication affecting the name in question. Some authors date it from the *Archiv für Naturgeschichte* (vol. 13, pt. 1, 1847, p. 316), but there it is only a *nomen nudum*. The proper citation is apparently Schomburgk, "Reisen in British-Guiana (vol. 3, 1848, p. 666)." Here it is duly characterized, and one species, "*B. vermivorus* Cab.," is placed under it, which thus becomes the type by monotypy. But the specific name here used is not original with Cabanis; it is taken from Vieillot, as shown in the second reference quoted. Cabanis merely transfers Vieillot's species to his new genus *Basileuterus*. Now, it so happens that the *Sylvia vermivora* of Vieillot refers primarily to the *Motacilla vermivora* of Gmelin, the worm-eating warbler. The case has been fully discussed by von Berlepsch.³ Hence by a literal interpretation of the rules *Basileuterus* Cabanis becomes a synonym of *Helmitheros* Rafinesque, 1819. This is a pitiable end for a perfectly good generic name.⁴ But there is another rule, not formulated in any code and not in favor with the literalist, which we feel ought to be invoked at this point. This is the rule of common sense, which says that the bird Cabanis had in mind for the type of his new genus was none other than the one now known as *Basileuterus auricapillus olivascens* Chapman. This is clear from his remarks at the time, since he expressly distinguishes the "Contramaestre coronado" of Azara (which he must have supposed to be the base of Vieillot's *Sylvia vermivora*) from the *Helinaea vermivora* of Latham and Audubon. The circumstance that he inadvertently used a name for the former which had been originally applied to another and non-pertinent species ought not to be allowed to overthrow his action, and upset such a peculiarly appropriate and long-established name for a large and important group. The present writer does not care to take the responsibility for making a change under the circumstances, and for the purposes of this paper will continue to use *Basileuterus*.

³ *Ibis*, 1881, p. 240.

⁴ Dr. Charles W. Richmond, to whose attention this matter was called, writes as follows: "Canon XL of the revised A. O. U. Code seems to fit the case, where you will find in brackets the statement 'A generic name based upon a designated described species takes that species as its type, even though the founder of the genus may have misidentified the species.' * * * In addition to Canon XL of the A. O. U. Code, I think you will find Opinion 65 of the International Nomenclature Commission to bear on the case. In the summary of this opinion in the Proceedings of the Biological Society of Washington for 1926, headed 'Case of a Genus Based upon Erroneously Determined Species,' is the statement, 'If an author designates a certain species as genotype, it is to be assumed that his determination of the species is correct,' etc."

The new generic name came into use almost at once. Bonaparte, writing in 1850, placed 10 species under it, 2 of which he described as new; but not all of those he included are now considered members of the group, while he failed to recognize some others as properly belonging here. Four years later he added another species, *Basileuterus delatruii*, from Nicaragua. The first attempt to treat the genus from the monographic point of view was by Selater, in the Proceedings of the Zoological Society of London for 1865 (pp. 282-286). Here he listed 15 forms known to him, giving colored figures of four of them, with diagnoses and references. He had already described four new species between 1860 and 1864, and gave another in this last paper. Baird's review of the group appeared about the same time. He treated the seven species recognized from north of Panama at some length, and gave a list of 11 others from South America. Besides describing one species as new, he set up a new subgenus, *Idiotes*, based on *Setophaga rufifrons* of Swainson as type. His critical discussion of the characters and relationships of *Basileuterus* and related genera was well brought out, and may still be consulted with profit. He recognized *Myiothlypis* Cabanis as a good genus, and assigned to it a provisional new species, *flaveolus*, described from a single specimen from Paraguay. (*Myiothlypis* had been originally based on *Trichas nigrocristatus* Lafresnaye, with which Bonaparte had associated his *Trichas luteoviridis*, while Cabanis had described a *Myiothlypis striaticeps* in 1873.)

In the next 20 years no less than 10 new species were described by various authors, and of these names only one is now rated as a synonym. This brings us to Sharpe's review of the genus, which appeared in volume 10 of the "Catalogue of the Birds in the British Museum." He recognized 32 species and 3 additional "subspecies," of which total of 35 forms 5 are here described and named for the first time. Sharpe's descriptions are as always carefully drawn up: his lists of references are reasonably full, and his names generally acceptable. Yet his treatment of the group, standing as it does for the latest revision available to the student, is open to criticism in one important respect. The sequence of the species is not natural, related forms being widely separated. The "key to the species" is likewise highly artificial, and as a practical aid in identification is of little use, since it will not work. No real idea of the interrelationships of the various forms of this genus can be obtained from a study of Sharpe's paper.

Coming down to the present century, we find the Middle American forms comprehensively and carefully treated by Mr. Ridgway in his "Birds of North and Middle America."⁵ He offers also some perti-

⁵ Bulletin 50, U. S. National Museum, pt. 2, 1902, pp. 738-758.

nent critical remarks on the characters and scope of the group at large, and of certain extralimital species, but does not venture to formally subdivide it. Two new races are described in the course of his revision. Dubois, in his "Synopsis Avium," published in 1901, gave 26 species and 13 additional "varieties" under the genus. Sharpe in 1909 gave a list of 46 forms in the body of his "Hand-List," and 3 more in the appendix. Brabourne and Chubb, whose work on "The Birds of South America" was based on Sharpe, allowed 30 forms for that continent alone. Altogether 23 new forms of this group have been described since 1900 by the late Count von Berlepsch, Dr. C. E. Hellmayr, Dr. Harry C. Oberholser, Mr. Outram Bangs, Dr. E. W. Nelson, Mr. Robert Ridgway, Mr. Ludlow Griscom, Dr. Frank M. Chapman, and the present writer. Doctor Chapman's contributions to the literature have been noteworthy; he has no less than nine names to his credit, of which only one is now considered a synonym. With so many additions in the last few years, and so many forms still imperfectly understood, the time has seemed ripe for a new revision of the genus, which should attempt to bring our knowledge down to date.

GENERIC LIMITS

Authors are agreed in placing *Basileuterus* in the Setophagine division of the Mniotiltidae, comprising the so-called "flycatching" warblers. Baird indicated its true position many years ago in his "Review of American Birds," and his scheme has been closely followed by Mr. Ridgway. But as to the exact limits of the group there is no such unanimity. Baird recognized *Myiothlypis* Cabanis for the *Trichas nigrocristatus* of Lafresnaye and its allies, and set up a new genus, *Idiotes*, based primarily on *Setophaga rufifrons* Swainson, but including also the other species with the pileum rufous. Mr. Ridgway, on the other hand, would exclude the plainly colored species allied to "*Trichas*" *nigrocristatus*, but does not recognize *Idiotes*. Sharpe in 1909 retained *Myiothlypis* only for *nigrocristatus* and its races (*nigrivertex* and *euophrys*), relegating all the rest of the forms to *Basileuterus*. Thus he went beyond his arrangement of 1885 so far as *Myiothlypis* is concerned.

There was a time when the present writer was inclined to adopt Mr. Ridgway's suggested arrangement of 1902, but more study has convinced him that a further modification is desirable. In the first place, *Myiothlypis* is easily recognizable from *Basileuterus* by its shorter outer primary and vertical crest, but it will be necessary to restrict it to the type species,⁶ as Sharpe has done. This leaves the

⁶ *Basileuterus nigrivertex* Salvin is almost certainly a synonym of *Myiothlypis nigrocristata* (Lafresnaye), while *B. euophrys* Scater and Salvin (not seen by the writer) is probably conspecific.

plainly colored species *luteoviridis*, *signatus*, *flaveolus*, and *richardsoni* in *Basileuterus*. The forms with a short and bicolored tail, as well as those with a long slender tail, must both be removed before any pertinent diagnosis of the genus can be framed. Even with these changes made, there is still much diversity within the group. When we consider the size of this particular group, and remember that after all a genus is a more or less arbitrary assemblage of forms, and is not necessarily sharply cut off from other such groups, to several of which it may approximate, this is what might be expected.

PHYLOGENY

Basileuterus bivittatus may be taken as the central or most generalized form of the genus. It is related on the one hand to such species as *B. flaveolus*, *B. luteoviridis*, etc., which have the under parts yellow, but the pileum plain, and which lead off in the direction of *Myiothlypis*. On the other hand it seems to be allied to *B. griseiceps*, which stands as a connectant between the plainly colored forms typified by *B. rivularis* and those with olive green back, yellow under parts, and heavily streaked pileum of which *B. coronatus* is the best-known example. *B. rivularis* leads off through *B. bolivianus* and *B. mesoleucus* directly to the group which we are here characterizing as *Phaeothlypis*, while *B. coronatus* is not distantly related to *B. fraseri*, which in its turn approximates *Euthlypis*. The smaller species with streaked pileum (*B. auricapillus*, etc.) are obviously inter-related, and run in an unbroken chain, from which *B. tristriatus* is possibly an offshoot. *B. basilicus* and *B. belli* appear to be more or less isolated forms, whose relationships are possibly with *B. tristriatus*. *B. melanogenys*, *B. ignotus*, and *B. bensoni* constitute a compact group of uncertain affinities. *B. delatirii* also stands by itself, and leads off toward *Idiotes*.

To indicate these diverse and complex relationships in a "key" or linear sequence is decidedly out of the question, but they may be partially represented by using two dimensions. The accompanying figure (fig. 1) is an attempt at such a diagrammatic representation, the species alone being considered. It at once suggests how a genus, in the course of its development in time, may have given rise to offshoots so distinct as to require generic separation. In other words, we have here a clue to the origin of genera as such. Virtually all the color characters of *Myiothlypis nigrocristata* are foreshadowed, so to speak, in *Basileuterus luteoviridis* (both species of the Temperate Zone), and this in its turn is similarly related to *B. signatus* of the Subtropical and to *B. flaveolus* of the Tropical Zone. But *Myiothlypis* has developed structural characters of its own, by virtue of which we can separate it generically from *Basileuterus luteoviri-*

dis. Again, *Idiotes rufifrons* is clearly related to *Basileuterus delatryi*, as shown by their close resemblance in color pattern, but it is set off by its relatively longer and slenderer tail, a character

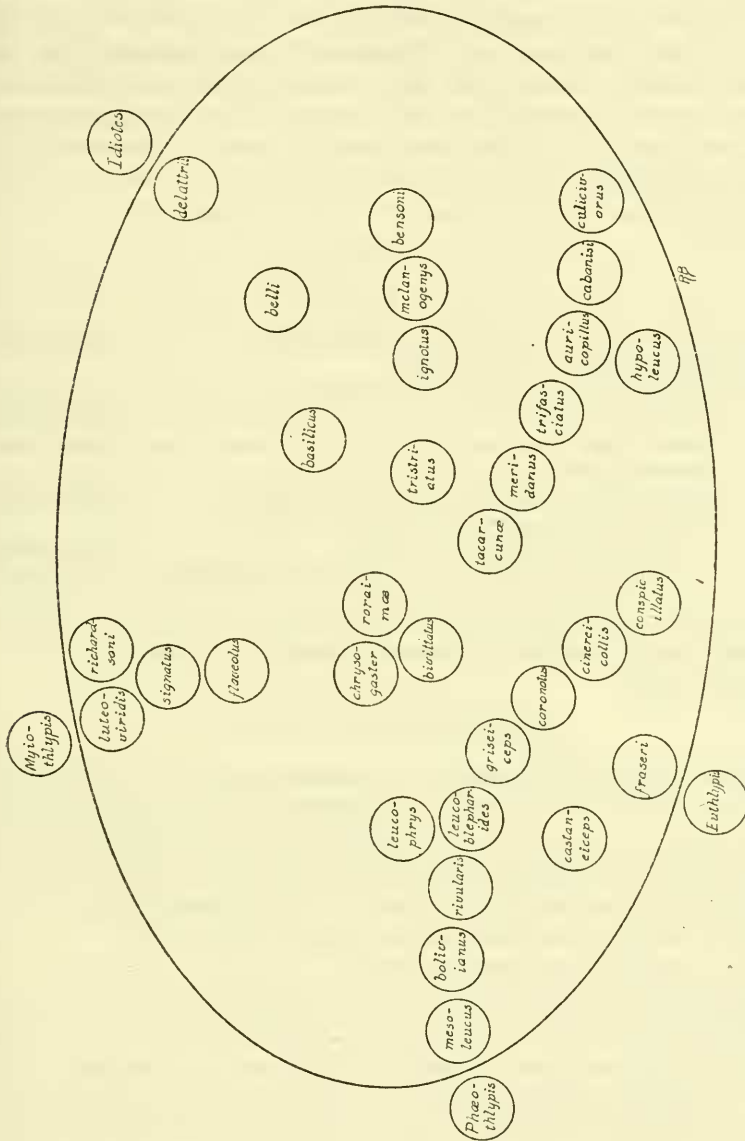


FIG. 1.—DIAGRAM OF THE PHYLOGENY OF *BASILEUTERUS* AND ALLIED GENERA

which may be considered to be of generic value. Tested by structural characters, *Euthlypis lachrymosa* is generically distinct from *Basileuterus fraseri*, but in color characters they are close. We must admit, too, that the zonal and geographical relationships of these

outlying genera with their respective affines in *Basileuterus* are such as to render highly probable this view of their relationship. The case of *Phaeothlypis*, however, is not quite so clear; it may have developed independently of *Basileuterus*, and some of its forms may eventually have been modified in the direction of the latter group. In all of the cases here cited we have a good illustration of the persistence and constancy of color characters as an indication of affinities between given forms, while so-called structural characters have been modified. How much weight should be accorded the former in discriminating genera one from the other is an open question, but it is clear that they should be used with caution.

SYNOPSIS OF THE GENERA

(*Basileuterus* and its Allies)

- A.¹ Pileum with a vertical crest; outer primary short-----*Myiothlypis*.
 A.² Pileum plain; outer primary longer.
 b.¹ Tarsus less than one-third as long as the wing; tail with white terminal spots -----*Euthlypis*.
 b.² Tarsus one-third as long as the wing, or longer; tail without white terminal spots.
 c.¹ Tail shorter than the secondaries, bicolored-----*Phaeothlypis*.
 c.² Tail longer than the secondaries, unicolored.
 d.¹ Tail shorter than the wing-----*Basileuterus*.
 d.² Tail longer than the wing, its rectrices narrowed-----*Idiotes*.

The genera *Myiothlypis* and *Euthlypis* (both monotypic) will not be further considered in the present connection. The others will be treated in detail.

PHAEOTHLYPIS, new genus

Generic characters.—Similar to *Basileuterus*, but with the bill relatively wider, always broader than deep at the nostrils; tail relatively shorter, much less than the distance from the bend of the wing to the end of the longest secondaries, the outstretched feet reaching beyond its tip; and style of coloration very different, the tail being always bicolor, with a pale basal and dark terminal half.

Type.—*Muscicapa fulvicauda* Spix.

Remarks.—It would seem as if this group ought to be removed from *Basileuterus*, if an intelligible diagnosis of the latter is to be achieved. The reduction in length of the tail is a marked feature, and is correlated with a color pattern that is unique in this family. The aquatic habits of the several species, which resemble those of the water thrushes (*Seiurus motacilla* and *S. noveboracensis*) have been commented on by several authors, and are certainly very different from those of the typical *Basileuteri*.

The phylogeny of this genus seems fairly clear from a consideration of the respective geographic ranges of its several members. The

group is strictly confined to the Tropical Zone. *P. fulvicauda* of the upper Amazon, which itself seems allied to a certain section of the genus *Basileuterus*, may be taken as the primitive form. In central and southeastern Peru (in the Amazonian drainage) it has become slightly modified into a recognizable geographic race, *poliothrix*. In the valley of the upper Marañon in northwestern Peru lives still another form, *annexa*, which diverges toward *P. semicervina* of western Ecuador and Colombia. The indications are that *Phaeothlypis*, in common with numerous other avian forms of presumably cis-Andean origin, has crossed the Andes at this point, to extend its range northward on their western side, whence it has passed into the Cauca and Magdalena Valleys. Entering Panama, it has spread northward as far as Honduras, after undergoing further modification. It is not easy to decide how to rank the various forms from a systematic and nomenclatural standpoint. For the present we are recognizing three species, even while admitting that they probably grade into each other, and that their differential characters are not very trenchant. The range of *P. semicervina semicervina* is entirely cut off from that of *P. fulvicauda* by the interposition of the Andean chain, which would tend to justify keeping the two specifically distinct, were it not that the form of the upper Marañon Valley, as already remarked, appears to be much more closely allied to the former than to the latter, which complicates the situation somewhat.

KEY TO THE SPECIES AND SUBSPECIES OF PHAEOTHTYSPIS

A.¹ Under parts mottled or clouded with brownish.

b.¹ Under parts more whitish, less buffy.

Phaeothlypis leucopygia leucopygia.

b.² Under parts more decidedly buffy—*Phaeothlypis leucopygia veraguensis*.

A.² Under parts without brownish mottling or clouding.

b.¹ Under parts almost uniform buffy.

c.¹ Under parts deeper buffy; terminal band of tail darker, more brownish, less olivaceous—*Phaeothlypis semicervina semicervina*.

c.² Under parts paler buffy; terminal band of tail lighter, more olivaceous, less brownish—*Phaeothlypis semicervina annexa*.

b.² Under parts whitish, the sides and flanks washed with buffy.

c.¹ Above more olivaceous, less brownish; upper tail-coverts and basal part of tail paler buffy—*Phaeothlypis fulvicauda poliothrix*.

c.² Above more brownish, less olivaceous; upper tail-coverts and basal part of tail deeper buffy—*Phaeothlypis fulvicauda fulvicauda*.

PHAEOTHTYSPIS LEUCOPYGIA LEUCOPYGIA (Sciator and Salvin)

Basileuterus uropygialis (not of Sciator) LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vol. 8, 1866, p. 179 (Greytown, Nicaragua); vol. 9, 1868, p. 95 (Angostura and Juiz, Costa Rica).—SALVIN, Proc. Zool. Soc. London, 1867, p. 136, part ([Tucurriqui], Costa Rica).—VON FRANTZIUS, Journ. f. Orn., vol. 17, 1869, p. 294 (Costa Rica).—SALVIN, Ibis, 1872, p. 313 (Chontales, Nicaragua; range).—BOUCARD, Proc. Zool. Soc. London, 1878, p. 52 (San Carlos, Costa Rica; habits).

Basilicuterus leucopygius SCLATER and SALVIN, Nom. Avium Neotrop., 1873, p. 10 (in list of species), p. 156 (Costa Rica; orig. descr.; type now in coll. Brit. Mus.).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 172, part (Nicaraguan and Costa Rican localities and refs.; crit.).—NUTTING, Proc. U. S. Nat. Mus., vol. 6, 1884, p. 399 (Los Sábalo, Nicaragua; habits).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 402 (Tucurriqui, Costa Rica; descr.; refs.).—ZELEDON, An. Mus. Nac. Costa Rica, vol. 1, 1887, p. 107 (Angostura and Tuis, Costa Rica).—RIDGWAY, Proc. U. S. Nat. Mus., vol. 10, "1887," 1888, p. 585 (Segovia River, Honduras).—RICHMOND, Proc. U. S. Nat. Mus., vol. 6, 1893, p. 485 (Rio Frio, Nicaragua; habits).—UNDERWOOD, Ibis, 1896, p. 434 (Volcano Miravalles, Costa Rica).

Basilicuterus semicervinus leucopygius NUTTING, Proc. U. S. Nat. Mus., vol. 5, 1882, p. 390 ("La Palma," Gulf of Nicoya, Costa Rica; habits).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 757 (descr.; range; refs.).—CARRIKER, Ann. Carnegie Mus., vol. 6, 1910, p. 793 (Costa Rican localities and refs.; range; habits).—RENDAHL, Ark. f. Zool., vol. 12, No. 8, 1919, p. 36 (Siquirres, Costa Rica).

Basilicuterus fulvicauda gaffneyi GRISCOM, Amer. Mus. Nov. No. 280, 1927, p. 14 (Guaval, Rio Calovevora, western Panama; orig. descr.; type in coll. Amer. Mus. Nat. Hist.).

Description.—Above dark brownish olive, the pileum darker and more sooty; wings externally like the back; tail deep brown, with more or less olive brown edgings on the terminal half, cream buff on the basal half, together with the upper tail-coverts and lower rump; faintly indicated superciliaries dull buffy, and auricular region more or less mottled or varied with the same color: under parts dull whitish, more or less washed with buffy on the breast and sides, and with obscure brownish mottling on the same parts; under tail-coverts cream buff; under wing-coverts dusky, with whitish mottling; "iris brown; bill black; feet brownish flesh color."

Juvenal plumage: Similar to that of the adult, but duller, especially below, the throat and breast colored like the back; no light markings about the head.

Measurements.—Male: wing, 62–67 (average, 64.5); tail, 50–54 (51); bill, 11–12.5 (12); tarsus, 22–22.5 (22.2). Female: wing, 60–69 (63); tail, 48–52 (50); bill, 11.5–12.5 (12); tarsus, 20–23.5 (22.5).

Range.—Tropical Zone, southern Honduras to Costa Rica (except southwestern part), and thence eastward along the Caribbean slope of western Panama.

Remarks.—At first this bird was confused with its South American congener, "*uropygialis*" (= *fulvicauda*), but was separated in 1873, on the ground of its darker back and lighter-colored rump. Salvin and Godman, writing in 1881, admitted it as distinct from, although closely allied to, *semicervina*, and included Panama in its range. Mr. Ridgway, indeed, rated it as a subspecies of that form, but without actual comparison of specimens. More recently Mr.

Griscom, in describing two proposed new races of this group from western Panama, has called attention to the characters separating *semicervina* (and *fulvicauda*) from *leucopygia*, and has suggested that they may be distinct species. They are certainly different-looking birds, when typical series are compared. The lighter green upper parts, clouded under surface, and more extensively dark and more sharply bicolored rectrices of *leucopygia* are all good characters as compared with *semicervina*. These characters are well pronounced in the three specimens from the Caribbean slope of western Panama, on which Mr. Griscom has based his proposed new race *gaffneyi*. While these at first impressed me as a good form, I find on further examination that they are so close to toprototypical *leucopygia* that it is not worth while to keep them distinct. Some variation in the exact type of coloration obtains in birds from all sections so far as the shading of the under parts is concerned, but it is certainly not geographical. The close approach of a race of this spotted-breasted type to the plain-breasted form at the Isthmus of Panama, with (so far) no real evidence of intergradation, induces me to keep the two specifically distinct.

Typical *leucopygia* is a common bird in the Tropical Zone of Costa Rica and Nicaragua, and has been traced as far north as the Segovia River in Honduras. From southwestern Costa Rica eastward along the Pacific slope it is replaced by the next form.

Specimens examined.—Honduras: Segovia River, 1. Nicaragua: Savala, Matagalpa, 1; Las Canas (6 miles E. of Matagalpa), 1; Rio Tuma, 1; Rio Grande, 2; Los Sábalos, 1; Lone Star Falls, near Eden, 2; Pena Blanca, 1. Costa Rica: Pozo Azul de Pirris, 2; Guapiles, 2; Guacimo, 2; Cariblanco de Sarapiquí, 2; Carrillo, 6; El Hogar, 1; Rio Frio, 2; Reventazon, 2; Angostura, 2; Tenorio, 5; La Vijagua, 9; El General, 3; Turrialba, 1; Siquirres, 1; Miravalles, 3; La Iberia, 2; Punto Jimenez, Golfo Dulce, 1; Bonilla, 1; unspecified, 1. Panama: Guaval, Rio Calovevora, 3 (including type of *Basileuterus fulvicauda gaffneyi*). Total, 62.

PHAEOTHYLPIS LEUCOPYGIA VERAGUENSIS (Sharpe)

Basileuterus uropygialis (not of Sclater) SALVIN, Proc. Zool. Soc. London, 1867, p. 136, part (Santa Fé, Veragua; refs.); 1870, p. 183 (Bugaba, Veragua).

Basileuterus leucopygius (not of Sclater and Salvin, 1873) SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 172, part (Panama localities and refs. [part]; descr.; crit.).

Basileuterus veraguensis SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 403 (Bugaba, Santa Fé, Panama, and Paraiso Station [type locality], Panama; orig. descr.; type in coll. Brit. Mus.).—CHERRIE, Anal. Inst. Fis.-Geog. Nac. Costa Rica, vol. 6, 1893, p. 12 (Rio Naranjo, Costa Rica; crit.).—CHERRIE, Expl. Zool. Costa Rica, 1891-2, vol. 1, Aves, 1893, p. 14 (Buenos Aires, Costa Rica).

Basileuterus leucopygius veraguensis BANGS, Auk, vol. 18, 1901, p. 368 (Divala, Panama).—BANGS, Proc. New England Zool. Club, vol. 3, 1902, p. 60 (Boquete, Panama).

Basileuterus semicervinus veraguensis RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 756, excl. syn. part (descr.; range; refs.).—BANGS, Auk, vol. 24, 1907, p. 306 (Boruca and Paso Real, Costa Rica; crit.).—CARRIKER, Ann. Carnegie Mus., vol. 6, 1910, p. 794 (Costa Rican localities and refs.; range).—STONE, Proc. Acad. Nat. Sci. Philadelphia, 1918, p. 274 (Rio Siri, Panama; habits).

Basileuterus fulvicauda toddi GRISCOM, Amer. Mus. Nov. No. 280, 1927, p. 14 (Boqueron, Chiriqui, western Panama; orig. descr.; type in coll. Amer. Mus. Nat. Hist.).

Subspecific characters.—Similar to *Phaeothlypis leucopygia leucopygia*, but under parts more buffy, less whitish, and brown shading not quite so dark.

Measurements.—Male: Wing, 62–66 (average, 64.5); tail, 50–54 (51); bill, 11–13 (12); tarsus, 21–23 (22.5). Female: Wing, 58–65 (62); tail, 47–51 (48.5); bill, 11.5–12.5 (11.8); tarsus, 22–23 (22.5).

Range.—Tropical Zone of Panama, from the Canal Zone westward along the Pacific slope to extreme southwestern Costa Rica.

Remarks.—The two races *leucopygia* and *veraguensis* may be told apart in series by the characters above specified, which seem to be the only ones to hold good. Both races vary somewhat in the color of the tail, the basal portion of which is always richer buffy in fresh plumage, but I can not find that they differ in the relative extent of this pale part, as said by Mr. Ridgway. Some examples from both Costa Rica and Panama, it is true, show a tendency for the buffy color to invade the dark area on the outer rectrices, approaching thus the condition we find in *semicervina*, but I am by no means satisfied that the one form passes into the other, and prefer to keep them distinct. Sharpe's *veraguensis* was based mainly on specimens from western Panama, but his chosen type came from Paraiso Station, on the line of the Panama Railway. Mr. Griscom, finding that three skins from the Isthmus in the old Lawrence collection (now in the American Museum of Natural History), collected by McLeannan and Galbreath (presumably at Lion Hill) were clearly referable to *semicervina*, naturally assumed that *veraguensis* was merely a synonym of that form, and he therefore proceeded to give a new name to the bird of western Panama. I can not agree to this disposition of the case. Four specimens from the Isthmus (Rio Indio, Gatun, and Rio Siri) which I have examined are indistinguishable, so far as I can see, from the common run of skins from western Panama and southwestern Costa Rica. Moreover, the type of *veraguensis* agrees perfectly with specimens from the latter locality which I sent for comparison to the British Museum, so Dr. Percy R. Lowe of that institution reports. There can be no question as to the three skins

in the Lawrence collection being *semicervina* (I had already so identified them), but either they came from some other part instead (eastern Panama?), or else both *semicervina* and *veraguensis* occur on the Isthmus. Additional field work is needed to determine this point, but in my judgment there is already enough evidence to show that *veraguensis* rests on a sufficiently sound basis. Dr. C. E. Hellmayr, who has gone over this case at my request, with Mr. Griscom's type and other material before him, agrees with this conclusion.

Mr. Griscom claims that between the bird of the Canal Zone and that of western Panama intergradation is "ecologically impossible" because of the interposition of arid country, but it would seem as if the gallery forests of this part might suffice to carry the range across.

Specimens examined.—Panama: El Banco (3,000 feet), Chiriqui, 1; Boqueron, Chiriqui, 1; Chiriqui, 1; Boquete, 3 (including type of *Basileuterus fulvicauda toddi* Griscom); Divala, 1; Cascajal, Coclé, 2; Rio Siri (20 miles S. of Gatun), 1; Rio Indio (near Gatun), 2; Gatun, 1. Costa Rica: Boruca, 20; Buenos Aires, 4. Total, 37.

PHAEOTHYLPIS SEMICERVINA SEMICERVINA (Sclater)

- Basileuterus semicervinus* SCLATER, Proc. Zool. Soc. London, 1860, p. 84 (Nanegal, Ecuador; orig. descr.; type in coll. Brit. Mus.), p. 291 (Esmeraldas, Ecuador).—LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vol. 7, 1861, p. 322 (Panama R. R., Panama; crit.).—BAIRD, Rev. Amer. Birds, 1865, p. 243 (crit.), p. 244 (refs.).—SCLATER, Proc. Zool. Soc. London, 1865, p. 286, pl. 10, fig. 1 (refs.; diag.; range).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1879, p. 494 (Remedios and Neche, Antioquia, Colombia).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 173, in text (Santa Rita, Ecuador; range; crit.).—VON BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. London, 1883, p. 541 (Chimbo, Ecuador).—VON BERLEPSCH, Journ. f. Orn., vol. 32, 1884, p. 284 (Bucaramanga, Colombia).—TACZANOWSKI and VON BERLEPSCH, Proc. Zool. Soc. London, 1885, p. 68 (Chimbo, Ecuador).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 404 (Nanegal, "Quito," and Santa Rita Mountains, Ecuador; "Bogotá," Colombia; descr.; refs.; crit.).—HARTERT, Nov. Zool., vol. 5, 1898, p. 480 (Cachaví, Ecuador).—SALVADORI and FESTA, Boll. Mus. Zool. ed. Anat. comp. Torino, vol. 15, No. 357, 1899, p. 9 (Foreste del Rio Peripa, Ecuador; Ecuadorian records).—GOODFELLOW, Ibis, 1901, p. 314 (Nanegal, Ecuador).
- Basileuterus uropygialis* (not of Sclater, 1861) SCLATER and SALVIN, Proc. Zool. Soc. London, 1864, p. 347 (Lion Hill, Panama; crit.).—BAIRD, Rev. Amer. Birds, 1865, p. 243 (crit.), p. 246 (Panama R. R., descr.; refs.; crit.).—TACZANOWSKI, Proc. Zool. Soc. London, 1877, p. 331 (Palma, Ecuador).—HEINE and REICHENOW, Nom. Mus. Heineani Orn., 1882, p. 14 ("Bogotá," Colombia).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 405, part ("Bogotá" and Remedios, Colombia; crit.).
- Basileuterus leucopygius* (not of Sclater and Salvin) SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 172, part (Panama R. R., crit.).
- Basileuterus semicervinus uropygialis* RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 756, note ("Bogotá," Colombia; crit.).

Basileuterus fulvicauda semicervinus HELLMAYR, Abhand. K. Bayerischen Akad. Wiss., II Kl., vol. 22, 1906, p. 652, in text (crit.).—HELLMAYR, Nov. Zool., vol. 17, 1910, p. 265, part (localities in Colombia and Ecuador); Proc. Zool. Soc. London, 1911, p. 1092 (Juntas [Rio Dagua], and Rio Garrapata, Sipi, W. Colombia; Nanegal, Ecuador; refs.).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 553 (Colombian localities and refs.; W. Ecuador; crit.).—HELLMAYR, Arch. f. Naturg., vol. 85, A, 1919, p. 7, in text (range; crit.).—GRISCOM, Amer. Mus. Nov. No. 280, 1927, p. 15 (crit.).

Basileuterus fulvicauda fulvicauda (not *Muscicapa fulvicauda* Spix) CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 553 (Chicoral and "Bogotá," Colombia, crit.).

Basileuterus fulvicaudus semicervinus CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 55, 1926, p. 603 (Ecuadorean localities and refs.; range).

Description.—Above olive, passing into deep neutral gray on the pileum; wings dusky, margined externally with brownish olive; upper tail-coverts and basal two-thirds of tail rich buffy (between antimony yellow and yellow ocher), the terminal portion dusky brownish, often with a greenish cast, this dark area much reduced on the outer pair of rectrices; transocular streak dusky grayish; superciliaries and sides of head rich buffy, the latter with more or less darker mottling; under parts strongly buffy, deepest on the crissum; under wing-coverts brownish buffy; "iris brown; bill black; feet brownish yellow." Juvenal plumage: dull brownish olive above and below (at least anteriorly); tail marked as in the adult.

Measurements.—Male: Wing, 61–66 (average, 64); tail, 47–53 (49); bill, 11.5–13 (12); tarsus, 21.5–23 (22.5). Female: Wing, 60–65 (63); tail, 46–49 (47); bill, 11.5; tarsus, 21.5–23 (22).

Range.—Tropical Zone, from eastern Panama southward to western Ecuador, and eastward to include the Magdalena and Cauca Valleys in Colombia.

Remarks.—No. 66,858, collection Carnegie Museum, Cordoba, Colombia, May 29, is entering on the postjuvenal moult. It is decidedly brown above, the pileum the same, and shows brown feathers on the sides of the breast.

Variation affects the depth and extent of the buffy wash below, but it averages decidedly more than in *P. fulvicauda*, as shown by the fine series examined. There is no geographical variation that I can make out, Panama skins being exactly like those from western Ecuador. Three skins from "Panama" in the Lawrence collection (now in the American Museum of Natural History) I refer here rather than to *P. leucopygia veraguensis*. These are doubtless the same that are cited by Lawrence in the reference above quoted. Either they came from the eastern part of that country, or else both *semicervina* and *veraguensis* occur in the Canal Zone, as mentioned already.

Some discussion has arisen over the status of specimens from the interior of Colombia. Sharpe ranged skins from "Bogotá" under both "*uropygialis*" (i. e., *fulvicauda*) and *semicervina*. Doctor Chapman, writing in 1917, was unable to settle the status of the Magdalena Valley form of this species because of insufficient material, but referred all his specimens from the Pacific coast and Antioquia to *semicervina*, while calling a skin from Chicoral *fulvicauda*. With a good series from El Tambor, in the valley of the Rio Lebrija, available for comparison with another from various localities in western Colombia, I find that taken as a whole the former average somewhat darker in color below than the latter, but this is fully accounted for by their less worn and fresher condition, they having been collected earlier in the season (December and January), while the other series are all in more worn plumage (April to June). They average larger, but not so decidedly as to justify subspecific separation.

It has been assumed that "Bogotá" skins (some of them at least) may have come from the low country east of the Eastern Andes, but until authentic specimens from this part actually come to hand, and turn out to be really *fulvicauda*, I see no reason to place "Bogotá" records under that form. At the same time it is possible that a recognizable form may inhabit the upper Magdalena Valley.

Specimens examined.—Ecuador: Chimbo, 2; San Javier, 1; Bucay, Guayas, 4; La Chonta (2,000 feet), Oro, 4; Esmeraldas, 6; Rio de Oro, Manavi, 5; Cebollal (3,000 feet), Loja, 1. Colombia: "Bogotá," 4; Jimenez (1,600 feet), 5; Puerto Valdivia, Antioquia, 1; Peque (5,000 feet), Antioquia, 1; Alto Bonito (1,500 feet), Antioquia, 2; Barbacoas, Nariño, 6; San José (200 feet), Cauca, 4; Novita (400 feet), Cauca, 1; Bagado (1,000 feet), Choco, 1; Juntas de Tamana (800 feet), Cauca, 2; Ricaurte (4,500 feet), Nariño, 2; Cauca, 1; Chicoral, Tolima, 1; El Tambor, Santander, 10; Soatata, 1; El Tambo, Choco, 1; Andagoya, Choco, 3; Malagita, Choco, 3; Cordoba, 4; Bitaco Valley, 1; unspecified, 8. Panama: Cerro Azul, 2; Cana, 1; "Panama Railway," 3. Total, 91.

PHAEOTHLYPIS SEMICERVINA ANNEXA, new subspecies

Type.—No. 186,071, Collection American Museum of Natural History, adult female; Pomara (1,100 feet), lower Rio Marañon, northern Peru, August 8, 1924; H. Watkins.

Subspecific characters.—Similar to *Phaeothlypisemicervinaemicervina*, but dark portion of tail more olivaceous, less brownish, and the light portion darker in tone; under parts with less buffy suffusion.

Measurements.—Male (two specimens): Wing, 63–65; tail, 50; bill, 11–12; tarsus, 20–21.5. Female (three specimens): Wing, 61–63

(average, 62); tail, 46-50 (48); bill, 11.5-12 (11.7); tarsus, 20.5-21.5 (21.2).

Range.—Valley of the Rio Marañon, Peru.

Remarks.—Although easily told from both *P. fulvicauda fulvicauda* and *P. f. poliothrix*, this form so closely resembles *P. semicervina semicervina* of western Ecuador as to be distinguishable only upon comparison of series. It has the same dark coloration above, and buffy sides of the head, but the under parts are much whiter, and the terminal part of the tail inclines more to medal bronze than to mummy brown, although there is some variation in both forms in this respect. It appears to be confined to the Marañon Valley in northwestern Peru, its characters and range thus suggesting how *semicervina* may have been derived from the cis-Andean form, *fulvicauda*, through the present race.

Specimens examined.—Peru: Huarandosa (3,000 feet), Valley Rio Chinchipe, 2; Pomara (1,100 feet), lower Rio Marañon, 3. Total, 5.

PHAEOTHYLPIS FULVICAUDA POLIOTHRIX (von Berlepsch and Stolzmann)

Basilenterus uropygialis (not of Scclater) TACZANOWSKI, Proc. Zool. Soc London, 1874, p. 509, excl. syn. (Monterico and Amable Maria, Peru): Orn. Perou, vol. 1, 1884, p. 478, part (Monterico and Amable Maria, Peru; habits).

Basilenterus uropygialis poliothrix VON BERLEPSCH and STOLZMANN, Proc. Zool. Soc. London, 1896, p. 331 (La Gloria and La Merced, Peru; orig. descr.; type formerly in collection Warsaw Mus.); 1902, p. 60 (Chan-chamayo, Peru).

Basilenterus fulvicauda poliothrix HELLMAYR, Abhand. K. Bayerischen Akad. Wiss., II Kl., vol. 22, 1906, p. 653, in text (crit.); Nov. Zool., vol. 17, 1910, p. 265, in text (ref. orig. descr.; crit.); Arch. f. Naturg., vol. 85, A, 1919, p. 7, in text (Chan-chamayo, Peru; crit.).

Subspecific characters.—Similar to *Phaeothlypis fulvicauda fulvicauda*, but upper parts more olivaceous, less brownish in tone; upper tail-coverts and basal part of tail paler buffy; sides of head, and flanks and crissum also paler buffy; and terminal band of tail more greenish, less brownish.

Measurements.—Male (four specimens): Wing, 64-68 (average, 66); tail, 50-53 (51.5); bill, 11-11.5 (11.2); tarsus, 21-22 (21.4). Female (one specimen): Wing, 63; tail, 50; bill, 11; tarsus, 21.

Range.—Tropical Zone, central to southeastern Peru.

Remarks.—The gray crown and nape were supposed by the describer to be the chief character of this form, but I do not see that there is any difference of moment in this respect. The type I have not seen, but a specimen from Perené, Junin, Peru, ought on geographical grounds to represent the form, and the other skins from southeastern Peru agree with it sufficiently well, and differ from

specimens from eastern Ecuador and the upper Amazon as above said. The color of the upper parts is close to olive green, and the tail is near dark citrine on its terminal portion, and apricot yellow basally.

Although Doctor Hellmayr has expressed doubt regarding the validity of this race, it impresses me as a good form, judging from the few specimens examined. This authority refers an example from Yahuarmayo, Peru, to true *fulvicauda*, but all the skins I have seen from southeastern Peru are certainly not that form.

Specimens examined.—Peru: Rio Tavara (1,600 feet), 2; La Pampa, 2; Astillero, 1; Perené (2,000 feet), Junin, 1. Total, 6.

PHAEOTHLYPIS FULVICAUDA FULVICAUDA (Spix)

Muscicapa fulvicauda SPIX, Avium Species Novae, etc., vol. 2, 1825, p. 20, pl. 28, fig. 2 (Brazil [no locality specified]: orig. descr.; type in coll. Munich Museum).

Basileuterus uropygialis SCLATER, Proc. Zool. Soc. London, 1861, p. 128 ("Brazil"; orig. descr.; type now in coll. Brit. Mus.); Cat. Amer. Birds, 1861, p. 35 ("Brazil"; ref. orig. descr.).—SCLATER, Proc. Zool. Soc. London, 1864, p. 167, in text (crit.); 1865, p. 286, excl. syn. part, pl. 10, fig. 2 ("Panama" [error]; refs.: diag.).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1867, pp. 749, 754 (Chayavetas, Peru); 1873, p. 257 (Chayavetas and Santa Cruz, Peru).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 173, in text (range; crit.).—TACZANOWSKI, Proc. Zool. Soc. London, 1882, p. 6 (Huambo, Peru); Orn. Perou, vol. 1, 1884, p. 478, part, Tables, p. 29, part (Chayavetas, Santa Cruz and Huambo, Peru; descr.; refs.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 405, part (Sarayacu, Ecuador; Santa Cruz and Chayavetas, Peru; descr.; refs.: crit.).—VON BERLEPSCH and STOLZMANN, Proc. Zool. Soc. London, 1896, p. 331, note (crit.), p. 332 (Huambo, Peru, and E. Ecuador).—SALVADORI and FESTA, Boll. Mus. Zool. ed Anat. comp. Torino, vol. 15, No. 357, 1899, p. 9 (Valle del Zamora, Ecuador; Ecuadorian refs.; crit.).

Basileuterus fulvicauda HELLMAYR, Abhand. K. Bayerischen Akad. Wiss., II KL, vol. 22, 1906, p. 652 (crit. on type; Sarayacu, Ecuador).

Basileuterus fulvicauda semicervinus (not of Sclater) HELLMAYR, Nov. Zool., vol. 17, 1910, p. 265, part (Calama, Rio Madeira; range; crit.).

(?) *Basileuterus fulvicauda fulvicauda* HELLMAYR, Arch. f. Naturg., vol. 85, A, 1919, p. 7 (Yahuarmayo, Peru; range, crit.).

Basileuterus fulvicaudus fulvicaudus CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 55, 1926, p. 603 (Zamora, Rio Suno, and below San José, Ecuador; crit.).

Description.—Pileum dull neutral gray, passing into olive on the rest of the upper parts; wings externally similar to the back, but more brownish; basal half or more of the tail (with the upper coverts) deep buff, the terminal part deep buffy olive or dull medal bronze; short superciliaries buffy; lores and postocular spot dusky; sides of the head more or less buffy; below white, washed with buffy, particularly on the breast, sides, and crissum, the latter nearly

matching the basal part of the tail; bill brownish; tarsi and feet pale (in skin).

Juvenal plumage (No. 44,339, Collection Field Museum of Natural History; Moyobamba, Peru, July 18): above, including pileum, dull dark brown (near sepia); wings and tail as in the adult, but upper tail-coverts more rusty buff; throat and breast Saccardo's umber, passing into dull buffy posteriorly.

Measurements.—Male: Wing, 61–67 (average, 64.5); tail, 46–54 (50); bill, 11–12 (11.5); tarsus, 20–22 (21.2). Female: Wing, 58–67 (61.65); tail, 47–51 (49); bill, 10.5–12 (11.2); tarsus, 19.5–21.5 (20.5.).

Range.—From eastern Ecuador and northeastern Peru eastward (south of the Amazon) to the Rio Madeira.

Remarks.—Most of the references to this species in the literature appear under Sclater's name *wropygialis*, applied in 1861 to a bird supposed to have come from Brazil. Later on Sclater examined some specimens from Panama which he thought were the same, and altered the type locality accordingly. But it appears as if the original designation were correct, if we understand by "Brazil" the upper Amazon. Most of the records, it is true, come from beyond the limits of that country, in eastern Ecuador and Peru. The late Count von Berlepsch was the first to suspect that the *Muscicapa fulvicauda* of Spix was an earlier name for the same species, and his suspicions were confirmed by Doctor Hellmayr's examination of the type in the Munich Museum. Spix's figure is far from good, not showing the buffy superciliaries at all, but is easily recognizable by reason of the characteristic color pattern of the tail. He specifies no particular locality for his type, but it must have come from some point on the Rio Solimoës, and in order to get a definite basis for the nomenclature I propose to fix São Paulo de Olivença as the type locality, on the strength of specimens from this place in the collection of the Carnegie Museum, and of the circumstance that Spix is known to have collected here. A small series from the Rio Purús are not different, and specimens from eastern Ecuador are also the same. Four skins from Moyobamba, Peru, are clearly referable here, and on this account I place all the records for this part of Peru under the present heading. Doctor Hellmayr refers a single skin from Calama, Rio Madeira, to *semicervina*, although indicating certain differences between it and specimens of that form from western Ecuador. These are all confirmed by our series, which are readily distinguishable from Colombian birds by their whiter under parts and more extensive and more greenish dark tipping of the rectrices, with the colored part less sharply defined.

The record of this form from Yahuarmayo, southeastern Peru, requires confirmation, since all the skins from that region seen

by me belong clearly to *poliothrix*. "Bogotá" records are all placed under *semicervina*, since there is nothing as yet to show that true *fulvicauda* extends to eastern Colombia.

Specimens examined.—Brazil: Hyutanahan, Rio Purús, 8; São Paulo de Olivença, 3. Ecuador: Below San José de Sumaco, 4; Lower Rio Suno, 5; Zamora, Loja, 1. Peru: Moyobamba, 4. Total, 25.

Genus *BASILEUTERUS* Cabanis

Basileuterus CABANIS, Arch. f. Naturg., vol. 13, pt. 1, 1847, p. 316 (nomen nudum).—CABANIS, in Schomburgk, Reisen in Britisch-Guiana, vol. 3, 1848, p. 666 (diag.; type, by monotypy, "*Basileuterus vermivorus* Cabanis"=*Basileuterus auricapillus olivascens* Chapman).—CABANIS and HEINE, Mus. Heineanum, vol. 1, 1850, p. 17 (two species given).—BONAPARTE, Cons. Avium, vol. 1, 1850, p. 313, part (ten species).—GRAY, List Gen. Birds, 1855, p. 53 (in list).—BURMEISTER, Syst. Ueber. Thiere Brasiliens, vol. 3, 1856, p. 112 (diag.).—BAIRD, Rept. Pacific R. R. Surv., vol. 9, 1858, p. 296 (diag.; crit.); Rev. Amer. Birds, 1865, p. 241, part (diag.; crit.; list of species, etc.).—SCLATER, Proc. Zool. Soc. London, 1865, p. 282, part (crit.; list of 15 species).—GRAY, Hand-List Birds, vol. 1, 1869, p. 244, part (subgenus under *Setophaga*; list of species).—SCLATER and SALVIN, Nom. Avium Neotrop., 1873, p. 10, part (22 species).—GIEBEL, Thes. Orn., vol. 1, 1877, p. 458, part (list of species).—SALVIN and GODMAN, Biol. Centr.-Amer., vol. 1, 1881, p. 169, part (crit.; range; Middle American forms).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 376, part (monogr.; 35 forms treated).—WATERHOUSE, Index Gen. Avium, 1889, p. 19 (ref. orig. diag.).—DUBOIS, Syn. Avium, vol. 1, 1901, p. 438, part (26 species and 13 "varieties").—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 738, part (diag.; range; crit.; Mid. Amer. forms).—ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 23, 1907, p. 372, and 24, 1908, p. 15 (type).—SHARPE, Hand-List Birds, vol. 5, 1909, p. 123, part (list of 46 forms), p. 638 (3 forms).—BRABOURNE and CHUBB, Birds S. Amer., vol. 1, 1912, p. 358, part (list of 30 S. Amer. forms).—CHUBB, Birds Brit. Guiana, vol. 2, 1921, p. 416 (diag.).

Generic characters.—Bill variable, but moderate, rounded, about as deep as wide at the nostrils (decidedly wider only in *B. mesoleucus*, *B. bolivianus*, and *B. fraseri*), with the culmen distinctly ridged, and the vertical outlines gently curved. Rictal bristles well developed, but not reaching beyond the tip of the bill. Wings rounded, with a short wing-tip, the ninth (outermost) primary usually shorter than the third. Tail shorter than the wing, but longer than the distance from the bend of the wing to the tip of the secondaries, more or less rounded. Tarsus not less than one-third as long as the wing, the feet not reaching when outstretched beyond the tip of the tail, and longer than the middle toe and claw. Coloration various, but wings always plain, and tail uniform; under parts variously yellow or white, and pileum sometimes plain, but often with two lateral stripes of black inclosing a median vertical stripe or spot of brighter color; no buffy on rump or tail basally.

Remarks.—*Basileuterus* as a group is clearly of South American origin, but now has a wide range, both latitudinally and altitudinally. As here restricted it ranges from Uruguay and Argentina northward through Central America to tropical Mexico, but avoids the great Amazonian forest region, only one species invading its eastern edge. Of the 32 species herein recognized 13 belong to the Tropical and 15 to the Subtropical Zone, while only 4 are found in the Temperate Zone. With a few exceptions the derivation of these Subtropical Zone forms is obscure; they are in the main not zonal representatives, but rather distinct or even isolated species, although a number of them have become split up into geographical races.

The three-striped pileum, which is found in so many species of this group, is a feature found also in other genera of this family (*Helmitheros*, *Seiurus*), and is probably without especial significance as indicative of affinity. Aside from the genera treated in the present paper, *Basileuterus* probably finds its nearest relative in *Myioborus*.

KEY TO THE SPECIES OF BASILEUTERUS

- A.¹ Pileum dull or dark gray, without a differently colored coronal stripe or spot.
- b.¹ Under parts whitish or buffy.
- c.¹ Superciliaries and cheeks more or less buffy.
- d.¹ Pileum with no definite dark lateral stripe.
- e.¹ Superciliaries and cheeks bright buffy (cinnamon buff).
Basileuterus mesoleucus.
- e.² Superciliaries and cheeks pale buffy (pinkish buff).
Basileuterus bolivianus.
- d.² Pileum with a definite dark lateral stripe.
Basileuterus rivularis.
- c.² Superciliaries and cheeks whitish or grayish.
- d.¹ Pileum uniform gray; superciliaries white.
Basileuterus leucophrys.
- d.² Pileum gray medially, black laterally; superciliaries gray.
Basileuterus leucoblepharides.
- b.² Under parts yellow.....*Basileuterus griseiceps.*
- A.² Pileum not gray or rufous, or if gray then with a conspicuous coronal spot or stripe of a different color.
- b.¹ Broad superciliaries and sides of the head in general slaty gray.
- c.¹ Abdomen white.....*Basileuterus castaneiceps.*
- c.² Abdomen yellow.
- d.¹ Throat grayish.
- e.¹ Coronal spot brownish orange.....*Basileuterus coronatus.*
- e.² Coronal spot bright yellow.
- f.¹ Breast grayish like the throat.
Basileuterus cinereicollis.
- f.² Breast yellow like the abdomen.
Basileuterus conspicillatus.
- d.² Throat yellow like the rest of the under parts.
Basileuterus fraseri.

- b.² Superciliaries and sides of the head in general not slaty gray.
- c.¹ Pileum plain olive greenish, unstriped, uniform with the rest of the upper parts.
- d.¹ Superciliaries and under parts bright yellow.
- e.¹ Upper parts brighter (bright warbler green).
Basileuterus flaveolus.
- e.² Upper parts duller (more olive green).
- f.¹ Smaller; wing of male averaging less than 65 mm.
Basileuterus signatus.
- f.² Larger; wing of male averaging more than 65 mm.
Basileuterus lateoviridis.
- d.² Superciliaries buffy; under parts wax yellow, with darker shading-----*Basileuterus richardsoni.*
- c.² Pileum with conspicuous black lateral stripes and a median coronal stripe of some other color.
- d.¹ Sides of the throat greenish, yellowish, or grayish.
- e.¹ Wings, tail, and upper parts in general decidedly olive greenish (but compare "e²").
- f.¹ Supraloral stripe and subauricular spot yellow, in contrast with the dull green sides of the head.
- g.¹ Above more greenish; bill black.
- h.¹ Larger; wing of male averaging 68 mm.; tail 60.5 mm.-----*Basileuterus bivittatus.*
- h.² Smaller; wing of male averaging 63.5 mm.; tail 54 mm. or less.
Basileuterus chrysogaster.
- g.² Above more brownish; bill horn brown.
Basileuterus roraimae.
- f.² Supraloral stripe and subauricular spot (if present) not yellow.
- g.¹ Coronal stripe dull yellowish or buffy.
- h.¹ Throat yellow or buffy, like the rest of the under parts.
- i.¹ Auriculars only partly black.
- j.¹ Superciliaries more olive greenish, like the back; under parts more olive yellow-----*Basileuterus tacarcunae.*
- j.² Superciliaries more buffy, like the under parts.
Basileuterus meridanus.
- i.² Auriculars wholly black.
Basileuterus tristriatus.
- h.² Throat buffy, different from the yellow of the rest of the under parts.
Basileuterus trifasciatus.
- g.² Coronal spot conspicuous, Mars yellow to orange rufous.
- h.¹ Under parts white-----*Basileuterus hypoleucus.*
- h.² Under parts bright yellow.
Basileuterus auricapillus.

- e.² Wings, tail, and upper parts in general more grayish (yellowish olive only in *Basileuterus culicivorus godmani*).
- f.¹ Superciliaries, sides of the head, etc., more grayish.
Basileuterus cabanisi.
- f.² Superciliaries, sides of the head, etc., more yellowish.
Basileuterus culicivorus.
- d.² Sides of the throat black, continuous with the auriculars.
Basileuterus basilicus.
- A.³ Pileum rufous or chestnut, with conspicuous superciliaries, but no median coronal stripe.
- b.¹ Pileum chestnut, with a narrow lateral line black.
- c.¹ Sides of head black to greenish dusky.
- d.¹ Superciliaries straw yellow----- *Basileuterus ignotus*.
- d.² Superciliaries white.
- e.¹ Above darker (olivaceous black)---- *Basileuterus bensoi*.
- e.² Above lighter (brownish olive)-- *Basileuterus melanogenys*.
- c.² Sides of the head chestnut, like the pileum----- *Basileuterus belli*.
- b.³ Pileum plain rufous, without a narrow black lateral line.
Basileuterus delatirii.

BASILEUTERUS MESOLEUCUS Sclater

Basileuterus mesoleucus SCLATER, Proc. Zool. Soc. London, 1865, p. 286, pl. 9, fig. 1 (Demerara, British Guiana; orig. descr.; type in coll. Brit. Mus.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 402 (Demerara and Kama-kusa, British Guiana; descr.; refs.).—SALVIN, Ibis, 1885, p. 203 (Kama-kusa, British Guiana); 1886, p. 506 (range).—VON BERLEPSCH and HARTERT, Nov. Zool., vol. 9, 1902, p. 11 (Suapure, Venezuela).—MÉNÉGAUX, Bull. Mus. d'Hist. Nat., 1907, p. 496 (French Guiana; crit.).—VON BERLEPSCH, Nov. Zool., vol. 15, 1908, p. 108 (Approuage and Ipousin, French Guiana; Rio Carimang, British Guiana; Pará, Brazil).—PENARD, Vogels van Guyana, vol. 2, 1910, p. 489 (Brit. Guiana; descr., etc.).—SNETHLAGE, Bol. Mus. Goeldi, vol. 8, 1914, p. 483 (Pará, Peixe-Boi, and Santo Antonio do Prata, Brazil; descr.).—CHUBB, Birds Brit. Guiana, vol. 2, 1921, p. 418 (British Guiana localities and refs.; descr.).

Basileuterus rivularis mesoleucus HELLMAYR, Abhand. K. Bayerischen Akad. Wiss., Math.-phys. Kl., vol. 26, 1912, p. 86 (Santo Antonio do Prata, Brazil).

Description.—Pileum iron gray, passing into dull dark citrine on the upper parts, the rump and upper tail-coverts a little brighter; wings and tail externally like the back; short superciliaries and subocular region ochraceous tawny, and auricular region tinged with the same color; transocular stripe iron gray; underparts white, more or less washed with buffy, especially on the breast, sides, and crissum; under wing-coverts old gold; "iris gray, feet light yellow-orange, bill white and black" (Klages).

Some few specimens show traces of deep rusty margins to the wing-coverts—probably an indication of immaturity. Young birds in juvenal dress (Tumatumari, British Guiana, July 25 and August 5) resemble the adults, but are much duller and browner above, with

the pileum like the back, the buffy sides of the head merely indicated; the throat and breast are also dull brownish.

Measurements.—Male: Wing, 59–64 (average, 62.5); tail, 52–56 (55); bill, 12–13 (12.5); tarsus, 21.5–23 (22.5). Female: Wing, 58–62 (60); tail, 49–55 (52.5); bill, 11–12 (11.5); tarsus, 20–22 (21).

Range.—From eastern Venezuela (Rio Caura) through the Guianas to northern Brazil (Rio Branco, Rio Tapajoz, and the Pará region).

Remarks.—This species appears to be very imperfectly known, few specimens, indeed, being extant outside of the series of 26 skins in the Carnegie Museum. It was described by Sclater from a single specimen collected in British Guiana, and has since been traced westward to the Orinoco Delta and the Caura River in Venezuela, and southward through French Guiana to the Pará district of Brazil, on the south bank of the Amazon. More recently Messrs. Anderson and Becker have sent specimens to the Field Museum from the Rio Branco, while Mr. Klages secured a good series in French Guiana, and a few also from the Rio Tapajoz. He writes that it is “found in pairs, generally about the borders of the forest in the heavily timbered and hilly interior, but is not very numerous.” On the label of the specimen from the Manimo River, Orinoco Delta, it is called a “water thrush.” On the score of coloration alone, the species appears to be related on the one hand to the members of the genus *Phaeothlypis*, and on the other to the more typical *Basileuteri* through *B. bolivianus* and *B. rivularis*. Several individuals, indeed, show traces of a buffy median vertical stripe developed on the forehead. The gray of the pileum varies somewhat according to season, and may average a little duller in females.

Specimens examined.—Venezuela: Isla de Morocotico, Manimo River, 1. British Guiana: Mannehaha Creek, 18 miles up Potaro Road, 3; Rockstone, Essequibo River, 1; Tumatumari, Potaro River, 2. French Guiana: Tamanoir, 11; Pied Saut, 11. Brazil: Serra Granda, Rio Branco, 1; Serra da Lua, Boa Vista, 1; Conceicao, Rio Branco, 1; Benevides, 1; Colonia do Mojuy, 2; Villa Braga, 1. Unspecified, 2. Total, 37.

BASILEUTERUS BOLIVIANUS Sharpe

Basileuterus mesoleucus (not of Sclater, 1865) SCLATER and SALVIN, Proc. Zool. Soc. London, 1879, p. 594 (Yuyo, Bolivia).

Basileuterus bolivianus SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 402 (Yuyo, Bolivia, orig. descr.; type in coll. Brit. Mus.).

Description.—Pileum deep neutral gray, passing into olive citrine on the back, and this brightening into buffy citrine or old gold on the upper tail-coverts; tail similar but duller; wings dusky, with dark citrine outer margins, very narrow on the primaries; short

superciliaries and subocular spot light buff, separated from each other by a grayish transocular stripe; chin and sides of the head tinged with buffy; under parts white, more or less washed with light buff, especially on the breast, sides, and crissum; under wing-coverts washed with citrine; "iris brown; bill black; feet light yellowish brown."

Measurements.—Male (six specimens): Wing, 65–70 (average, 67); tail, 51–57 (53); bill, 11–13 (12); tarsus, 20.5–22.5 (21). Female (seven specimens): Wing, 62–68 (65); tail, 50–54 (52); bill, 11–12 (11.5); tarsus, 21–21.5 (21).

Range.—Eastern foothills of the Andes, Bolivia.

Remarks.—This species greatly resembles *B. mesoleucus*, but the upper parts are duller olive green; the pileum is paler gray; the superciliaries and sides of the head are much paler buffy, without any rufescent shade; the under parts, too, have less buffy wash; the wing is longer in proportion; and the bill is slenderer. These differences impress one as being of specific value upon comparison, while the known range of the present form is widely separated from that of *B. mesoleucus*, affording no chance for intergradation. If anything, *B. bolivianus* is rather nearer in its characters to *B. rivularis*.

The characters assigned by Sharpe in his description do not fit the present series at all, and there is naturally some question as to the pertinence of his name. I assume that the "rufescent throat" to which he refers denotes immaturity. The "absence of rufous edgings to the wing-coverts" is of no significance, at any rate. There is of course the possibility that the birds from the Santa Cruz region of Bolivia may not be the same as those from the La Paz district, in which case the former would require a new name. Comparison with topotypical material is most desirable, but meanwhile it may be well to accept the name *bolivianus* on the basis above indicated.

Specimens examined.—Bolivia: Juntas, 1; Tres Arroyas, Rio Espirito Santo, 1; Rio Surutu, 1; Rio Yapacani, 1; Cerro del Ambero, 1; Cerro Hosane, 7; Vermejo (3,500 feet), Santa Cruz, 2. Total, 14.

BASILEUTERUS RIVULARIS (Wied)

Muscicapa rivularis WIED, Reise nach Brasilien, vol. 2, 1821, p. 103 (Rio Belmonte, Bahia, Brazil; orig. descr.; types in coll. Amer. Mus. Nat. Hist.); Beiträge Naturg. Brasilien, vol. 3, pt. 2, 1831, p. 789, excl. Vieillot ref. (Rio Belmonte and Rio Ilhéos, Bahia, Brazil; descr.; habits).

Muscicapa stragulata LICHTENSTEIN, Verz. Doubl., 1823, p. 55 (São Paulo, Brazil; orig. descr.; type in Berlin Mus.).

Geothlypis stragulata CABANIS and HEINE, Mus. Heineanum, pt. 1, 1850, p. 17 (Bahia, Brazil; ref. orig. descr.).—EULER, Journ. f. Orn., vol. 16, 1868, p. 191 (Cantagallo, Brazil; descr. nest and eggs).—CABANIS, Journ. f. Orn., vol. 22, 1874, p. 82 (Cantagallo, Brazil; crit.).

Trichas stragulata BURMEISTER, Syst. Ueber. Thiere Brasilien, vol. 3, 1856, p. 115 (Prov. São Paulo, Brazil; descr.; refs.).

Basileuterus stragulatus SCLATER, Cat. Amer. Birds, 1861, p. 35 (Brazil; refs.).—BAIRD, Rev. Amer. Birds, 1865, p. 243 (diag.), p. 244 (refs.).—SCLATER, Proc. Zool. Soc. London, 1865, p. 285 (refs.; diag.; range).—VON PELZELN, Orn. Brasiliens, pt. 2, 1868, p. 72 (Registo do Sai, Taipa, Ypanema, Paranagua, Ytararé, and Rio Paraná, Brazil).—REINHARDT, Vidensk. Med. Nat. For. Kjobenhavn, 1870, p. 444 (Minas Geraës and Neu Freiburg, Brazil; VON PELZELN's record).—VON BERLEPSCH, Journ. f. Orn., vol. 21, 1873, p. 232 (Blumenau, Santa Catharina, Brazil; refs.; range).—HEINE and REICHENOW, Nom. Mus. Heineani Orn., 1882, p. 14 (Bahia, Brazil).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 401 (São Paulo and Lagos dos Patos, Brazil; descr.; refs.).—ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 2, 1889, p. 215 (crit. on Wied's type).—KOENIGSWALD, Journ. f. Orn., vol. 44, 1896, p. 346 (Estado do São Paulo, Brazil; refs.).—VON IHERING, Rev. Mus. Paulista, vol. 3, 1899, p. 135 (Iguape, São Paulo, Brazil; Brazilian records); vol. 4, 1900, p. 152 (Cantagallo and Novo Friburgo, Brazil), p. 203 (Euler's record).—EULER, Rev. Mus. Paulista, vol. 4, 1900, p. 14 (descr. nest and eggs).—VON IHERING, Aves do Brazil, 1907, p. 334 (Iguape, Baurú, Alto da Serra, Ubatuba, Itararé, and Ourinho, Brazil; range).—(?) BERTONI, Fauna Paraguaya, 1913, p. 60 (Puerto Bertoni and Iguasú, Paraguay).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 740, in text (crit.).

Siphia obscura (!) SHARPE, Proc. Zool. Soc. London, 1881, p. 789 ("Borneo"; orig. descr.; type in coll. Brit. Mus.).

Basileuterus rivularis (EDITOR), Bull. Brit. Orn. Club., vol. 41, 1920, p. 35 (syn.).

Description.—Above dull dark citrine, passing into orange citrine on the rump and upper tail-coverts; wings externally like the back; tail similar but somewhat lighter in tone; pileum dark olive gray medially, with lateral stripes brownish black, not very well defined, indistinctly spreading out and tending to meet on the nape; narrow superciliaries pale buffy; transocular stripe brownish black; auriculars mottled buffy and dusky; under surface white, strongly shaded with buffy on the sides, crissum, and breast; under wing-coverts old gold; feet pale (in skin).

Some examples have a partially concealed buffy spot on the forehead.

Measurements.—Seven specimens (not sexed): Wing, 62–65 (average, 63.5); tail, 53–59 (56); bill, 12.5–13 (13); tarsus, 23–25 (23.5).

Range.—Eastern Brazil, from Bahia south to Rio Grande do Sul (and west to Paraguay?).

Remarks.—In its general coloration and proportions *Basileuterus rivularis* resembles *B. mesoleucus*, while in its pale and inconspicuous

superciliaries it is more like *B. bolivianus*. It differs from both in having the gray of the pileum with a broad dark lateral border, and is unquestionably specifically distinct. Although Wied described this bird in 1821, his types being still extant in the American Museum of Natural History, his name has until very recently been passed over in favor of Lichtenstein's later appellation of *stragulatus*, possibly because he (Wied) fails to mention the distinctive character of the lateral crown-stripes, or else because it was supposed his description did not appear until 1831. He is the only author to give an extended account of its habits, as observed in the southern part of the State of Bahia. Later authors have met with it as far south as Rio Grande do Sul. The Paraguay record by Bertoni, above cited, requires confirmation. Nowhere, so far as known, does its range meet that of *B. mesoleucus*, being strictly confined to the coast States of Brazil from Bahia southward. It has the habits of a water thrush, betraying thus its affinity to the members of the genus *Phaeothlypis*.

Specimens examined.—"Bahia," 4; Fazenda Cayoa, 1; unspecified, 5 (including types of species). Total, 10.

BASILEUTERUS LEUCOPHRYS von Pelzeln

Basileuterus leucophrys VON PELZELN, Orn. Brasilions, pt. 1, 1868, p. 72 (Porto do Rio Paraná and Rio Manso, Brazil), p. 137 (orig. descr.; type in coll. Vienna Mus.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885; p. 400 (descr., ex von Pelzeln).—ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 3, 1891, p. 345 (Chapada, Matto Grosso, Brazil).—VON IHERING, Proc. Zool. Soc. London, 1899, p. 510 (Estado de São Paulo, Brazil); Aves do Brazil, 1907, p. 334 (range).—BERTONI, Fauna Paraguaya, 1913, p. 60 (Brazilian localities).—HELLMAYR, Nov. Zool., vol. 28, 1921, p. 244, in text (crit.).

Description.—Pileum dark neutral gray, illy defined posteriorly, and with a faintly indicated paler median frontal stripe; superciliaries white; transocular stripe dark neutral gray like the crown; back and wing-coverts dull dark citrine; wings and tail similar but browner (near medal bronze); sides of neck deep neutral gray; cheeks and under parts white, more or less mottled or clouded with neutral gray; tibiae grayish olive, and flanks shaded with the same color; crissum cream buff; edge of wing amber yellow, under wing-coverts dull yellowish white; "bill black; feet dusky yellow" (Cherrie).

Measurements.—Male (one specimen): Wing, 71; tail, 65; bill, 12; tarsus, 24. Female (three specimens): Wing, 68–70 (average, 69); tail, 65–68 (67); bill, 12–13 (12.7); tarsus, 23.

Range.—From northwestern Matto Grosso south and east to northern São Paulo, Brazil.

Remarks.—A near relative of *B. leucoblepharides*, but larger, color of upper parts much more brownish in tone; no distinct dark lateral

crown-stripe, but a broad white superciliary stripe; the cheeks, too, are white, not gray, and the flanks are pale brownish. The under parts are about the same in both, the throat and middle of the abdomen alone being free from dark mottling.

Of this rare species only a very few specimens are known; three in the Vienna Museum (the type series) and four in the American Museum of Natural History, from Chapada and Aldeia Queimada, Matto Grosso, those from the last-named locality having been collected in 1914 by Mr. George K. Cherrie, but not previously recorded. I have been unable to discover on whose authority von Ihering gives it from Goyaz, although it may occur there, as it appears to favor the campos region in general.

Specimens examined.—Aldeia, Queimada, Matto Grosso, 2; Chapada, Matto Grosso, 2. Total, 4.

BASILEUTERUS LEUCOBLEPHARIDES (Vieillot)

"El Contramaestre" AZARA, Apuntamientos, vol. 2, 1802, p. 40 (Paraguay; descr.; habits, etc.).

"Le Contre-maitre" AZARA, Voy. Amer. Mérid., vol. 3, 1809, p. 332 (translation of original account).

Sylvia leucoblepharides VIEILLOT, Nouv. Dict. d'Hist. Nat., vol. 11, 1817, p. 206 ([Paraguay, ex Azara]; orig. descr.; habits, etc.).

Sylvia leucoblephara VIEILLOT, Enc. Méth., vol. 2, 1823, p. 459 (Paraguay, ex Azara; descr.).—D'ORBIGNY and LAFRESNAYE, Mag. Zool., 1837, Syn. Avium, p. 20 (Corrientes, Argentina).—D'ORBIGNY, Voy. Amer. Mérid., 1844, p. 216, pl. 12, fig. 2 (Corrientes, Argentina; descr.; refs.; habits).

Trichas superciliosus SWAINSON, Anim. in Menag., 1838, p. 295 ("Brazil;" orig. descr.; type ———).

Trichas leucoblephara LAFRESNAYE, Rev. Zool., 1840, p. 230 (refs.).—HARTLAUB, Index Azara, 1847, p. 10 (Azara's and Swainson's refs.).—BONAPARTE, Consp. Avium, vol. 1, 1850, p. 310 (diag.; syn.; range).—BURMEISTER, Syst. Ueber. Thiere Brasiliens, vol. 3, 1856, p. 114 (Neu Freiburg, Brazil; descr.; refs.; habits).

Geothlypis leucoblephara CABANIS and HEINE, Mus. Heineanum, vol. 1, 1850, p. 17 (Brazil; refs.).

Basileuterus leucoblepharus SCLATER, Proc. Zool. Soc. London, 1865, p. 285 (refs.; diag.; range).—VON PELZELN, Orn. Brasiliens, pt. 1, 1868, p. 72 (Ypanema and Curytiba, Brazil; habits; crit.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 400 (Pelotas, Rio Grande do Sul, Brazil; descr.; refs.).—VON BERLEPSCH and VON IHERING, Zeits. Ges. Orn., vol. 2, 1885, p. 115 (Picada Tocana, Arroio Grande, and Novo Friburgo, Rio Grande do Sul, Brazil; crit.).—VON BERLEPSCH, Journ. f. Orn., vol. 35, 1887, p. 114 (Paraguay, ex Azara and Page; crit.).—GOELDI, Aves do Brazil, 1894, p. 269 (range in Brazil), p. 271 (Organ Mountains, Brazil).—KOENIGSWALD, Journ. f. Orn., vol. 44, 1896, p. 346 (Estado de São Paulo, Brazil; refs.).—VON IHERING, Rev. Mus. Paulista, vol. 3, 1899, p. 135 (Ypiranga, São Paulo, Brazil; Brazilian records); vol. 4, 1900, p. 152 (Novo Friburgo, Brazil), p. 203 (Itatiba, Brazil; descr. nest and eggs); Aves do Brazil, 1907, p. 333 (Ypiranga, Campos do Jordão, Campinas, Itararé, and Itatiaya, Brazil; Ancones, Argentina; range).—LÜDER-

- WALDT, Zool. Jahrb., vol. 27, 1909, p. 356 (Campo Itatiaya, Brazil).—DABBENE, An. Mus. Nac. Buenos Aires, ser. 3, vol. 11, 1910, p. 369 (Argentina localities).—CHUBB, Ibis, 1910, p. 615 (Sapucay, Paraguay; refs., habits).—BERTONI, An. Soc. Cient. Argentina, vol. 75, 1913, p. 97 (Chaco and Misiones, Argentina).—DABBENE, Bol. Soc. Physis, vol. 1, 1914, p. 354 (Argentina records and refs.).—LYNCH-ARRIBALZAGA, El Hornero, vol. 2, 1920, p. 97 (Argentine Chaco).—RIBEIRO, Arch. Mus. Nac. Rio de Janeiro, vol. 24, 1923, p. 254 (Itatiaya, Brazil).—HOLT, Bull. Amer. Mus. Nat. Hist., vol. 57, 1928, p. 314 (Serra do Itatiaya, Brazil; local range; habits).
- Basileuterus leucoblepharum* BAIRD, Rev. Amer. Birds, 1865, p. 242 (diag., crit.), p. 244 (refs.; range).
- Basileuterus superciliosus* BAIRD, Rev. Amer. Birds, 1865, p. 243 (diag., crit.), p. 244 (refs.; range).—VON BERLEPSCH, Journ. f. Orn., vol. 35, 1887, p. 114, note (crit.).—SHARPE, Hand-List Birds, vol. 5, 1909, p. 127 (in list of species; range; crit.).
- Basileuterus leucoblepharus calus* OBERHOLSER, Proc. Biol. Soc. Washington, vol. 14, 1901, p. 188 (Sapucay, Paraguay; orig. descr.; type in coll. U. S. Nat. Mus.); Proc. U. S. Nat. Mus., vol. 25, 1902, p. 141 (Sapucay, Paraguay; descr.; crit.).—BERTONI, Fauna Paraguaya, 1913, p. 60 (Alto Paraná, Paraguay).
- Basileuterus leucoblepharus leucoblepharus* HARTERT and VENTURI, Nov. Zool., vol. 16, 1909, p. 166 (Mocovi, San Vicente, and Ocampo, Argentina; descr. nest and eggs).—DABBENE, An. Mus. Nac. Buenos Aires, vol. 23, 1912, p. 348 (Villa Rica, Paraguay; Paraguayan refs.; crit.).—HELLMAYR, Nov. Zool., vol. 28, 1921, p. 244 (crit. on type; range, etc.).
- Basileuterus leucoblepharus superciliosus* HELLMAYR, Nov. Zool., vol. 28, 1928, p. 244, in text (range; crit.).
- Basileuterus leucoblepharides leucoblepharides* WETMORE, Bull. U. S. Nat. Mus., No. 133, 1926, p. 369 (Resistencia, Las Palmas, Riacho Pilaga, Argentina; San Vicente, Lazcano, and Rio Negro, Uruguay; habits; crit.).

Description.—Pileum, nape, and sides of the head and neck deep neutral gray, relieved by two broad but more or less irregular lateral stripes of black on the former, meeting on the forehead; short line through the eye black; supraloral streak grayish or whitish; upper and lower eyelids white; auriculars with some black mottling; upper parts, and wings and tail externally, bright olive green (between warbler green and olive green); under surface white, more or less mottled or clouded with neutral gray, particularly on the breast and sides; under tail-coverts strontian yellow to citron yellow; edge of the wing and under wing-coverts yellowish; "bill black; feet buff; iris light brown" (Foster).

Measurements.—Male (seven specimens): Wing, 65–71 (average, 68); tail, 58–64 (62); bill, 11–12 (11.7); tarsus, 22–26 (24). Female (three specimens): Wing, 63–64 (63.5); tail, 58–62 (60.5); bill, 11–11.5 (11.2); tarsus, 22–23 (22.5).

Range.—From the Chaco of eastern Bolivia eastward to Rio de Janeiro, and south to Uruguay.

Remarks.—Azara's description, which is the basis of Vieillot's name, is easily recognizable as applying to the present species. It was figured later by D'Orbigny, and in 1838 received an independent name from Swainson, based on specimens from Brazil. Both Burmeister and von Pelzeln, of the earlier authors, record it from that country, and a considerable number of specimens seem to have found their way into collections, judging from the numerous references in the literature. Our knowledge of its habits is derived mainly from D'Orbigny, and from the recent account by Doctor Wetmore, from which it appears that it is a ground bird, with a walking gait. This suggests that it may not be so closely related to the typical *Basileuteri* as its structural characters imply, and may not be so far removed from *Phaeothlypis*.

When Doctor Oberholser described his supposed race *calus* from Paraguay he had for comparison only four old and faded specimens from an unspecified locality, but probably from the coast region of Brazil. Since Paraguay is the accepted type-locality of *leucoblepharides*, the name *calus* is a synonym in any event. The type of *calus* can be matched so closely by a series of fresh specimens from Itatiaya that I cannot at all follow Doctor Hellmayr in recognizing two races of this species, from the interior and the coast region respectively. None of the characters he specifies hold good in the series available, but are attributable to other causes than geographical variation.

Specimens examined.—Brazil: Neu Freiburg, 1; Therezopolis (3,200 feet), Organ Mountains, 2; Alto Itatiaya (6,500–7,150 feet), Brazil, 4; Macieiras (5,900 feet), Serra do Itatiaya, 4; Jundiahy, 1; Jacuhy, Rio Grande do Sul, 1; São Lauro, Rio Grande do Sul, 1; unspecified, 2. Uruguay: Castillos San Vicente, Rocha, 1; Rio Cebolati, Lazcano, Rocha, 1. Argentina: Las Palmas, Chaco, 1; Resistencia, Chaco, 1. Paraguay: Sapucay, 1; Paraná River, 1. Unspecified, 3. Total, 25.

BASILEUTERUS GRISEICEPS Sclater and Salvin

Basileuterus griseiceps SCLATER and SALVIN, Proc. Zool. Soc. London, 1868, p. 166 (Caripé, Venezuela), p. 170 (orig. descr.; type in coll. Brit. Mus.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 399 (Venezuela; descr.; refs.).—CHAPMAN, Amer. Mus. Nov. No. 191, 1925, p. 11 (Carapas, La Trinidad, and Mount Turumiquire, Venezuela).

Chlorospingus canipileus CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 12, 1899, p. 153 (Los Palmes, Venezuela; orig. descr.; type in coll. Amer. Mus. Nat. Hist.).

Hemispingus canipileus SHARPE, Hand-list Birds, vol. 5, 1899, p. 644 (ref. orig. descr.; range).

Description.—Pileum dark neutral gray with a slight olivaceous cast, the forehead darker, more blackish; sides of the head like the

pileum, the lores dusky, and the supraloral line white; some fine white mottling or streaking under the eye; upper parts, and wings and tail externally, bright citrine; under parts yellow (empire yellow to light cadmium), nearly white on the chin, and the sides shaded with sulphine yellow; under wing-coverts dull yellow; "iris brown"; bill black; feet light brown (in skin).

Measurements.—Male (two specimens): Wing, 65; tail, 60; bill, 11; tarsus, 22. Female (three specimens): Wing, 58, 60, 60; tail, 55, 55, 57; bill, 11.5, 12, 12; tarsus, 22. (Two other specimens, one unsexed, the other marked "♀," measure respectively: wing, 63-64; tail, 58; bill, 11-12; tarsus, 21-22.)

Range.—Subtropical Zone, eastern coast mountains of Venezuela.

Remarks.—This remarkable and perfectly distinct species was discovered by Goering in the forest region of Caripé, Venezuela, and for many years was known from the type specimen alone. The second specimen that came to hand was collected by Mr. F. W. Ulrich at Los Palmales, in the same general region, and was promptly described by Doctor Chapman as a *Chlorospingus*, belonging to the group now segregated as *Hemispingus*. In view of its close general resemblance to certain members of that group the error was quite excusable. More recently Mr. G. H. H. Tate has secured six specimens, closely agreeing with each other and with Doctor Chapman's type of *canipileus*. In its gray head and yellow under parts the species agrees with *B. coronatus*, while otherwise it most nearly resembles *B. leucoblepharides*, and may stand between these two species in a linear sequence. It is a Subtropical Zone form, with no known representative in the Tropical Zone below.

Specimens examined.—Venezuela: Los Palmales, 1 (type of *Chlorospingus canipileus* Chapman); Carapas (5,600 feet), 2; La Trinidad (5,500 feet), 3; Mount Turumiquire (7,900 feet), 1. Total, 7.

BASILEUTERUS CASTANEICEPS CASTANEICEPS Sclater and Salvin

Basileuterus castaneiceps SCLATER and SALVIN, Proc. Zool. Soc. London, 1877, p. 521 (Jima, Ecuador; orig. descr.; type in coll. Brit. Mus.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 389, part (Sical and Jima, Ecuador; descr.).—CHAPMAN, Amer. Mus. Nov. No. 143, 1924, p. 9, in text, part (localities in Ecuador and Peru; crit.)

Description.—Above olivaceous brown (light medal bronze), somewhat lighter posteriorly, the wings and tail externally somewhat brighter (nearer citrine); crown medially rich orange brown (between Mars yellow and Sudan brown), inclosed between two black lateral lines running from the forehead to the nape; sides of head (including superciliaries) neutral gray, with a dusky line through the eye, and with a trace of whitish above the lores; under parts

white, with a light grayish wash, and the sides and flanks shaded with olive brown; crissum cream buff; feet pale (in skin).

Individuals not fully mature have the nape and sides of the head (the superciliaries in particular) washed with greenish like the back, and the greater wing-coverts edged with rusty. The black lateral crown-stripes are not so sharply defined.

Measurements.—Male: Wing, 67–72 (average, 68.5); tail, 59–63 (60.7); bill, 11–12 (11.5); tarsus, 23–24 (23.7). Female (eight specimens): Wing, 63–66 (64.5); tail, 50–60 (57.5); bill, 10.5–12 (11); tarsus, 21–23 (22).

Range.—Andes of southern Ecuador and northwestern Peru, in the Subtropical Zone.

Remarks.—A few of the specimens examined show a trace of yellow on the median under parts, but in no case is this color so strongly developed as in the race *orientalis*. The series in general agree well with a topotype from Jima, Ecuador, in the collection of the United States National Museum. The range of the typical race is somewhat restricted, and until quite recently very few specimens were known. The species appears to be most nearly allied to *B. coronatus*, having the same head pattern and general coloration, but differs from that form in its whitish instead of yellow under parts, in which respect it approaches *B. leucoblepharides*.

Specimens examined.—Ecuador: "Guayaquil," 1; Jima, 1; Govinda, 1; Zaruma (6,000 feet), Oro, 2; El Chiral (5,350 feet), Oro, 3; Loja (7,000 feet), 4; Taraguacocha (9,750 feet), Oro, 2; Salvias (3,600 feet), Oro, 5. Peru: El Tambo (9,400 feet), Piura, 2; Palambla (3,900–6,500 feet), Piura, 6; Lomo Santo (5,000 feet), lower Marañón Valley, 2. Total, 29.

BASILEUTERUS CASTANEICEPS ORIENTALIS Chapman

Basilcutterus castaneiceps (not of Sclater and Salvin) TACZANOWSKI and VON BERLEPSCH, Proc. Zool. Soc. London, 1885, p. 74 (Machay and San Rafael, Ecuador).—GOODFELLOW, Ibis, 1901, p. 315 (Baeza, Ecuador).

Basilcutterus castaneiceps orientalis CHAPMAN, Amer. Mus. Nov. No. 143, 1924, p. 8 (Mount Sumaco [type locality] and Baeza, Ecuador; orig. descr.; type in coll. Amer. Mus. Nat. Hist.).

Subspecific characters.—Similar to *B. castaneiceps castaneiceps* of southern Ecuador, but slightly larger; upper parts brighter, less brownish olive green (between dark citrine and olive green); lateral crown stripes and transocular stripes broader; and under parts darker, more grayish, and with more yellow wash on the abdomen and flanks; crissum also more decidedly yellow.

Measurements.—Male: Wing, 69–74 (average, 72); tail, 61–66 (63.5); bill, 11–12 (11.5); tarsus, 21.5–24.5 (22.5). Female (five

specimens): Wing, 66-69 (67.5); tail, 57-59 (58); bill, 11-12 (11.5); tarsus, 22-23 (22.5).

Range.—Andes of Ecuador, on the eastern or Amazonian slope (except in the southern portion), in the Subtropical Zone.

Remarks.—A well-marked race, described by Doctor Chapman after comparison with a good series of the typical form. In its greener upper parts and yellower under parts this race approaches still more closely to *B. coronatus* than does typical *castaneiceps*. The color of the coronal spot varies from amber brown to raw sienna. It is confined to the Subtropical Zone of the Amazonian slope in Ecuador, but is replaced toward the south, however, by the typical race, which here occupies both slopes of the Andes.

Specimens examined.—Ecuador: Galgalan (10,000 feet), Rio Upano, 1; Baeza, 4; above Baeza, 3; Ayacachi, 3; Puente del Rio Quijos, 1; Lower Rio Jardinas, 1; upper Rio Sumaco, 6 (including type); San Rafael, 1; Machay, 1. Total, 21.

BASILEUTERUS CASTANEICEPS CHAPMANI, new subspecies

Basileuterus castaneiceps (not of Selater and Salvin) TACZANOWSKI, Proc. Zool. Soc. London, 1879, p. 223 (Tambillo, Peru; Orn. Perou, vol. 1, 1884, p. 474, Tables, p. 29 (Cutervo and Tambillo, Peru; descr.; refs.; habits).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 389, part (Tambillo, Peru).—STOLZMANN, Proc. Zool. Soc. London, 1885, p. 423 (plum.: range).—CHAPMAN, Amer. Mus. Nov. No. 143, 1924, p. 9, in text, part (Chaupe, Peru).

Type.—No. 181,624, Collection American Museum of National History, adult male; Chaupe (6,100 feet), north Peru, February 14, 1923; H. Watkins.

Subspecific characters.—Similar to *Basileuterus castaneiceps castaneiceps*, but upper parts, etc., darker and browner (medal bronze); coronal stripe averaging darker (near Sudan brown); and under parts with more grayish suffusion on the throat and breast.

Measurements.—Male (five specimens): Wing, 66-72 (average, 68.5); tail, 58-63 (60.5); bill, 11-12 (11.5); tarsus, 21-23 (22). Female (one specimen): Wing, 63; tail, 57; bill, 13 (?); tarsus, 21.5.

Range.—Subtropical Zone, Andes of northern Peru.

Remarks.—In its darker general coloration this southern race of *castaneiceps* lies at the opposite extreme from *orientalis*, and is as easily recognizable as that form. The peculiarities of Peruvian specimens were first remarked by Taczanowski and von Berlepsch,⁷ who, however, did not formally separate them, nor did Doctor Chapman see fit to do so when describing his *orientalis*. With six specimens before me, including two from Tambillo, collected by M. Stolzmann, I find the differences above given so constant and pronounced

⁷ Proceedings Zoological Society of London, 1885, p. 74.

that I have no alternative but to separate them under another name, given in honor of Dr. Frank M. Chapman, in recognition of his excellent revisionary work on this genus.

Specimens examined.—Peru: Chaupe (6,100 feet), 4; Tambillo, 2. Total, 6.

BASILEUTERUS CORONATUS NOTIUS, new subspecies

Basileuterus coronatus (not *Myiodiodes coronatus* von Tschudi) CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 55, 1926, p. 601, part (Locotal and Roquefalda, Bolivia).

Type.—No. 85,521, Collection Carnegie Museum, adult "male"; Yungas de Cochabamba, Bolivia, July 10, 1921; José Steinbach.

Subspecific characters.—Similar to *B. coronatus coronatus* of Peru, but rather smaller; upper parts, etc., darker, less brownish, more olive green; under parts with more pyrite yellow shading on the breast and sides, giving a generally darker effect.

Measurements.—Male (two specimens): Wing, 67–71; tail, 59–60; bill, 11.5; tarsus, 21.5–22. Female (four specimens): Wing, 60–65 (average, 63); tail, 53–56 (54); bill, 10.5–11.5 (11); tarsus, 20.5–23 (22).

Range.—Subtropical Zone, eastern slope of the Andes of Bolivia.

Remarks.—This is a readily distinguishable race, in which the upper parts are darker olive green even than in the Colombian form, and the coronal spot is also darker. It appears to be confined to the Subtropical Zone on the eastern slope of the Andes in the Yungas of Bolivia, so far as known at present. In addition to the four specimens in the Carnegie Museum and the American Museum of Natural History, I have examined five others in the von Berlepsch Collection, deposited in the Frankfurt Museum in Germany. None of these have been recorded in print before; in fact the species was not known to range farther south than Peru. The specimen selected as a type is almost certainly wrongly sexed.

Specimens examined.—Bolivia: Yungas de Cochabamba, 2; Locotal (5,800 feet), Cochabamba, 1; Roquefalda, Cochabamba, 1; Quebranda Honda, 5. Total, 9.

BASILEUTERUS CORONATUS CORONATUS (von Tschudi)

Myiodiodes coronatus VON TSCHUDI, Arch. f. Naturg., vol. 10, pt. 1, 1844, p. 283 ([Chanchamayo Valley], Peru; orig. descr.; type in coll. Mus. Neuchâtel); Fauna Peruana, Aves, 1845–46, pp. 28, 193, pl. 14, fig. 1 (Chanchamayo Valley, Peru; descr.).

Basileuterus coronata BONAPARTE, Consp. Avium, vol. 1, 1850, p. 314 (in list of species; ref. orig. descr.).

Basileuterus coronatus TACZANOWSKI, Proc. Zool. Soc. London, 1874, p. 509 (Paltaypampa and Auquimarca, Peru); Orn. Perou, vol. 1, 1884, p. 476, part (Paltaypampa, Peru).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885,

p. 390, part (Auquimarca, Peru).—VON BERLEPSCH and STOLZMANN, *Proc. Zool. Soc. London*, 1896, p. 331 (Vitoc, Garita del Sol, Peru); *Ornis*, vol. 13, 1906, p. 75 (Idma, Santa Ana, Peru), p. 107 (Huaynapata, Peru).—CHAPMAN, *Bull. U. S. Nat. Mus.*, No. 117, 1921, p. 107 (Idma, San Miguel Bridge, and Torontoy, Urubamba Valley, Peru).

Description.—Pileum with two broad lateral stripes of black, extending from the forehead to the nape, and inclosing a median coronal spot or stripe of deep orange rufous or Sanford's brown; sides of head (including broad superciliaries) and of neck deep neutral gray, with a blackish transocular stripe, fading into pallid neutral gray on the throat; upper parts, and wings and tail externally, between dark citrine and medal bronze; under parts, from the breast down, lemon chrome, the sides shaded with pyrite yellow, the crissum sometimes more buffy (near old gold); under wing-coverts dull yellowish white; bill brownish black; feet pale brownish (in skin).

Measurements.—Male: Wing, 70–77 (average, 72); tail, 57–64 (61); bill, 11–12 (11.3); tarsus, 21.5–24 (22.5). Female: Wing, 63–70 (66); tail, 53–59 (56); bill, 10.5–11.5 (11.2); tarsus, 21–22 (21.5).

Range.—Subtropical Zone, Andes of central and southern Peru, south to the Urubamba Valley.

Remarks.—Immature birds of this species may readily be told by the rusty tips to the greater wing-coverts and by the olive greenish nape and sides of the head.

In its pattern of coloration and proportions this species is a typical *Basileuterus*. The black transocular stripe is not mentioned in the original description nor shown in the plate, the colors of which are poor. The type specimen, kindly placed at my disposal by Dr. Otto Führmann of the Neuchâtel Museum, was exposed to the light for many decades, so long in fact that its original colors appear to have been considerably changed. Indeed, it actually agrees better with the Ecuador race about to be described than with Peruvian specimens, but Doctor Hellmayr, who has again examined it at my request, is confident that this is due entirely to post-mortem changes in the skin. He points out that von Tschudi did not extend his travels in Peru beyond the Department of Junin toward the north. There is nothing on the label of the type to show whence it came, other than "Perou," but in his *Fauna Peruana* von Tschudi expressly gives the type locality as "Urwäldern des Chanchanayo [sic] gebietes," i. e., Chanchamayo Valley. Freshly collected specimens from this general region agree with the description as given above. There is some variation in the color of the upper parts, but not more than in the other races of this species, which appear to be sufficiently well differentiated.

Specimens examined.—Peru: Idma (5,000 feet), Santa Ana, 6; Chinchao, 1; Uchco, 2; Inca Mine, 1; San Miguel (5,000 feet), Urubamba Cañon, 4; Vitoc, Garita del Sol, 1; Huaynapata, Marcapata, 3; Utcuyacu (4,800 feet), Junin, 8; Rumicruz (9,700 feet), Junin, 5; Chelpes (7,500 feet), Junin, 5; Santa Rita, Urubamba Cañon, 1; unspecified, 1 (the type). Total, 38.

BASILEUTERUS CORONATUS ELATUS, new subspecies

Basileuterus coronatus (not *Myiodioctes coronatus* von Tschudi) SCLATER, Proc. Zool. Soc. London, 1859, p. 137 (Pallatanga, Ecuador).—BAIRD, Rev. Amer. Birds, 1865, p. 242 (diag.), p. 244, part (Ecuador).—SCLATER, Proc. Zool. Soc. London, 1865, p. 284, part (refs.; diag.; range).—TACZANOWSKI, Proc. Zool. Soc. London, 1882, vol. 3, p. 6 (Cocochó, Rayurmana, Chachapoyas, and Tamiapampa, Peru).—HEINE and REICHENOW, Nom. Mus. Heineani Orn., 1882, p. 14, part (Pallatanga, Ecuador).—VON BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. London, 1884, p. 286 (Cayanded, Tribulpata, and Cechce, Ecuador; crit.).—TACZANOWSKI, Orn. Perou, vol. 1, 1884, p. 476, part, Tables, p. 29, part (Cocochó, Rayurmana, Chachapoyas, and Tamiapampa, Peru; descr.; refs.; range).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 390, part (Jima and Pallatanga, Ecuador; descr.; refs.).—STOLZMANN, Proc. Zool. Soc. London, 1885, p. 423 (plum.; faunal range).—SALVADORI and FESTA, Boll. Mus. Zool. ed Anat. comp. Torino, vol. 15, No. 357, 1899, p. 9 (Nanegal and Niebli, Ecuador; refs.).—GOODFELLOW, Ibis, 1901, p. 314 (Milligalli and Cauzacota, Ecuador; plum.).—MÉNÉGAUX, Mission Service Geog. Mes. Arc Méridien Equat. Amér. du Sud, vol. 9, pt. 1, 1911, p. B 73 (Nono and Quito, Ecuador; Ecuador refs.).—LÖNNBERG and RENDAHL, Ark. f. Zool., vol. 14, No. 25, 1922, p. 78 (road to Nanegal, Ecuador; habits).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 55, 1926, p. 601, part (Verdacochoa, road to Nanegal, and Pallatanga, Ecuador; Ecuador refs.; crit.).

Type.—No. 59,787, Collection Academy of Natural Sciences of Philadelphia, adult male; Pagma forest, Hacienda Jalancay, near Chunchi (6,200–7,400 feet), Ecuador, March 24, 1911; Samuel N. Rhoads.

Subspecific characters.—Similar to *Basileuterus coronatus coronatus*, but averaging a little smaller; upper parts in general less olive greenish, more brownish in tone; throat paler gray; flanks and crissum shaded with olive ocher; and black lateral crown-stripes narrower and less prominent, not meeting in front, while the orange rufous coronal part is correspondingly larger. "Bill brown, darker above; feet nearly orange" (Fraser).

Measurements.—Male: Wing, 66–71 (average, 68); tail, 57–61 (58.5); bill, 11–12 (11.5); tarsus, 21.5–23.5 (22.5). Female (seven specimens): Wing, 60–65 (63); tail, 53–59 (55.5); bill, 11–12 (11.4); tarsus, 21.5–24 (22.5).

Range.—Subtropical Zone, Andes of Ecuador and northern Peru.

Remarks.—The late Count von Berlepsch remarked the peculiarities of Ecuador examples of *Basileuterus coronatus* in 1884, and the following year Sharpe also called attention to their characters as compared with specimens from other parts. The present form differs more from the Colombian and Peruvian races, respectively, than these do from each other. From the former it differs in its more deeply colored (darker) coronal spot, the more brownish olive tone of the upper parts in general, and the more buffy, less greenish wash on the flanks and crissum. From the latter it differs in respect to the color of the upper parts and posterior lower parts, as already said, and also in its paler, more whitish throat. From both it differs in its relatively much narrower black lateral crown-stripes and correspondingly wider and more prominent coronal spot, which reaches the base of the bill in front and very nearly covers the crown. All these characters are well developed in specimens from Ecuador, while skins from northern Peru (Provinces of Piura and Amazonas) are more or less intermediate.

Specimens examined.—Ecuador: Cayandeled, 2; Huigra (4,800–5,000 feet), Chimbo, 3; Pagma forest, Hacienda Jalancay, near Chunchi (6,200–7,400 feet), 6; Gualea, 1; road to Nanegal, 1; Pallatanga, 2; Verdacocha, Pichincha, 1; Chaguarpata, 1; Tribulpata, 1; Tambillo (3 leagues south of Quito), 1. Peru: Ray-urmana, 2; Chachapoyas, 3; Coccochó, 1; Tamiapampa, 1; Levanto (9,000 feet), 1; Molinopampa, 1; La Lejia (about 9,000 feet), north of Chachapoyas, 3. Total, 31.

BASILEUTERUS CORONATUS REGULUS, new subspecies

Basileuterus coronatus (not *Myiodioctes coronatus* von Tschudi) SCLATER, Proc. Zool. Soc. London, 1855, p. 144 ("Bogotá," Colombia).—BAIRD, Rev. Amer. Birds, 1865, p. 244, part ("Bogotá," Colombia, in range).—SCLATER, Proc. Zool. Soc. London, 1865, p. 284, part (New Granada, in range).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1875, p. 234 (Merida, Venezuela); 1879, p. 494 (Santa Elena, Antioquia, Colombia; descr. nest and eggs).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 390, part ("Bogotá," Medellín, Santa Elena, and Antioquia, Colombia; descr.; refs.).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 552, excl. Peruvian refs. and records (Colombian localities and range).

Type.—No. 37,177, Collection Carnegie Museum, adult male; Paramo de Rosas, Venezuela, March 7, 1911; M. A. Carriker, jr.

Subspecific characters.—Similar to *Basileuterus coronatus coronatus*, but median crown-spot paler, Mars yellow rather than orange rufous, and upper parts purer olive green (near citrine), less brownish in tone.

Measurements.—Male: Wing, 69–76 (average, 74); tail, 61–66 (63.5); bill, 10.5–11.5 (11); tarsus, 22–24 (23). Female: Wing, 66–

73 (68.5); tail, 57-64 (60.5); bill, 10.5-12 (11); tarsus, 20.5-22.5 (21.5).

Range.—Subtropical Zone, Andes of Colombia and Andes of Venezuela.

Remarks.—Although specimens of *Basileuterus coronatus* from Colombia have been extant in collections for many years, their distinctive characters seem to have gone unnoticed, except for a brief remark by Sharpe in 1885. Doctor Chapman, who handled a good series, indeed said that they do not differ from the single Peruvian specimen he had for comparison at that time. But with much more and better material from Peru now available, it appears that the Colombian bird is an easily distinguishable race, recognizable by its more greenish coloration above and its brighter coronal spot. The color of this spot varies somewhat, from Mars yellow to cadmium yellow, but it is uniformly brighter than in the typical Peruvian bird. It is still more different from the Ecuador bird, as said under the head of that form. A good series from the Andes of Merida agree closely with birds from the Eastern and Central Andes of Colombia, but those from the Western Andes differ in having the wings and tail more brownish, less greenish, thus approaching *elatus* in this respect. An interesting example in full juvenal dress (No. 89,500, Collection Carnegie Museum, La Cuchilla, Merida, Venezuela, June 14) is almost uniformly olivaceous, except for the abdomen medially, which is dull yellow, with the crissum paler; the tawny orange crown-patch is just appearing. In adult birds the iris is marked as "brown; feet brownish yellow; bill black" (Carriker).

Specimens examined.—Venezuela: Paramo de Rosas, 10; Guamito, Trujillo, 5; La Cuchilla, Merida, 6; Tabay, Merida, 1; Heights of Tabay, 1; Merida, 4; Rio Mucujon, 1; Escorial, Merida, 1; Nevados, Merida, 1; Sierra, Merida, 1. Colombia: Heights of Caldas, 2; La Cumbre, Valle, 1; "Bogotá," 12; Subia, near La Mesa (1,900 m.), Cundinamarca, 3; El Roble (8,000 feet), above Fusugasuga, 1; El Roble (7,200 feet), Quindio Andes, 2; Aguadita (6,500 feet), above Fusugasuga, 2; Fusugasuga (6,000 feet), 2; La Candela (6,500 feet), Huila, 1; Rio Zapata, 1; Rio Lima, 1; Cauqueta, 1; El Eden (8,300 feet), E. Quindio Andes, 4; Laguneta (10,300 feet), W. Quindio Andes, 1; Salento (7,000 feet), W. Quindio Andes, 2; W. Quindio Andes (9,000 feet), above Salento, 1; Almaguer (10,300 feet), Central Andes, Cauca, 1; San Antonio (6,600 feet), Cauca, 10; La Maria (4,700 feet), Dagua Valley, 2; San Antonio (5,800 feet), Rio Cali, 8; Santa Elena (9,000 feet), Antioquia, 4; Cerro Munchique (8,325 feet), Coast Range W. of Popayan, Cauca, 9; Las Lomitas, 1. Total, 103.

BASILEUTERUS CINERICOLLIS Sclater

Basileuterus cinericollis SCLATER, Proc. Zool. Soc. London, 1864, p. 166 ("Bogotá," Colombia; orig. descr.; type in coll. Brit. Mus.).—BAIRD, Rev. Amer. Birds, 1865, p. 242 (diag.), p. 244 (ref. orig. descr.).—SCLATER, Proc. Zool. Soc. London, 1865, p. 285, pl. 9, fig. 2 (diag.; range).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 382 ("Bogotá," Colombia; descr.; refs.).—VON BERLEPSCH and LEVERKÜHN, Ornith., vol. 6, 1890, p. 7 ("Bogotá," Colombia; crit.).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 550 (Buena Vista, Colombia; crit.).—TODD and CARRIKER, Ann. Carnegie Mus., vol. 14, 1922, pp. 86, 442, in text (State of Santander, Colombia; range; crit.; habits).

Description.—Head dark neutral gray, this color extending over the nape and sides of the head; pileum with two blackish lateral stripes of black, not sharply defined, inclosing a large coronal spot of lemon chrome (some of the feathers with slight darker tips); indistinct supraloral streak paler gray; upper parts, and wings and tail externally, bright olive citrine; throat and breast grayish (pallid neutral gray medially); rest of under parts lemon yellow, duller on the crissum, the sides and flanks washed with pyrite yellow; under wing-coverts dull pyrite yellow; "iris brown; bill blackish; feet pale brownish yellow" (Carriker).

Measurements.—Male (seven specimens): Wing, 67–70 (average, 69.5); tail, 58–63 (60); bill, 10–12 (11); tarsus, 21–22 (21.5). Female (eight specimens): Wing, 62–67 (65); tail, 57–61 (60); bill, 10.5–11 (10.8); tarsus, 20.5–22 (21).

Range.—Subtropical Zone, Eastern Andes of Colombia.

Remarks.—Until more recent years this species appears to have been known only from "Bogotá" skins, when reported by Doctor Chapman from the definite locality Buena Vista, on the eastern slope of the Eastern Andes. Mr. Carriker met with it in the region of Ocaña, farther north, on both slopes of the range, and secured a good series of specimens, which have been made the basis for some critical remarks by the writer. The species clearly belongs to the same group as *B. coronatus*, but differs decidedly from that species in its less sharply defined lateral crown-stripes, yellow instead of orange rufous vertical stripe, and greater extent of gray on the breast. It bears a remarkable superficial resemblance to *Oporornis philadelphia* and *O. agilis* in general appearance.

Three individuals in the collection of the Carnegie Museum which I take to be younger birds (August 12 and 15) differ from the adults in having the head more or less washed with the color of the back, the lateral crown-stripes barely indicated, and the coronal spot duller and reduced in size. In some adults the coronal spot inclines more to light cadmium.

Specimens examined.—Colombia: El Cauca, 1; La Palmita, 4; Pueblo Nuevo, 3; Rio Negro, 7; Buena Vista (above Villavicencio), 5. Total, 20.

BASILEUTERUS CONSPICILLATUS Salvin and Godman

Basileuterus conspicillatus SALVIN and GODMAN, Ibis, 1880, p. 117 (San José, Colombia; orig. descr.; type in coll. Brit. Mus.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 389 (San José, Colombia; descr.).—SALVIN, Ibis, 1887, p. 130, in text (Sierra Nevada de Santa Marta, Colombia).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 551, in text (crit.).—TODD and CARRIKER, Ann. Carnegie Mus., vol. 14, 1922, pp. 54, 84, 86, 124, 441 (Santa Marta localities and refs.; range; crit.).

Basileuterus cinereicollis (not of Sclater) BANGS, Proc. Biol. Soc. Washington, vol. 12, 1898, p. 160 (Pueblo Viejo, Colombia), p. 180 (San Francisco and Palomina, Colombia).—ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 13, 1900, pp. 120, 175 (Las Nubes, Onaca, Valparaiso, and El Libano, Colombia; plum.: crit.).—SHARPE, Hand-List Birds, vol. 5, 1909, p. 123, note (crit.).

Description.—Head deep neutral gray, spreading over the nape, the throat paler (pallid neutral gray); pileum with two broad lateral stripes of black, meeting on the forehead, and inclosing a coronal spot which varies in color from lemon yellow to Mars yellow; short superciliaries (not reaching beyond the eye) and lower eyelid white; lores and auricular region blackish slate, the latter not in sharp contrast with the sides of the neck; upper parts, and wings and tail externally, light olive green (between olive green and warbler green); under parts, from the breast down, lemon chrome, the crissum usually paler, and sometimes inclining to aniline yellow, the sides more or less washed with pyrite yellow; "iris brown; bill blackish, paler below; feet dusky yellow" (Carriker).

Measurements.—Male: Wing, 63–69 (average, 66); tail, 56–61 (59); bill, 9.5–11 (10.5); tarsus, 20–22 (21). Female: Wing, 61–68 (63); tail, 54–60 (56.6); bill, 10–11 (10.5); tarsus, 20–22 (20.5).

Range.—Subtropical Zone, Sierra Nevada de Santa Marta, Colombia.

Remarks.—*Basileuterus conspicillatus* is the Santa Marta representative of *B. cinereicollis*. It differs from that species in its brighter yellow under parts, with the gray color confined to the throat, its brighter green upper parts, its rather more distinct head markings, and its whitish instead of greenish under wing-coverts. These differences impress one as being of specific value. The variation in the color of the coronal spot is remarkable, but is surely not due to age. In juvenal dress the gray of the head and throat is replaced by dull olive with a brownish wash, and the stripes are not in evidence.

In describing this species Salvin and Godman compared it with *B. coronatus*, which led several authors to infer that it was identical

with *B. cinereicollis* of the Eastern Andes of Colombia. The question has been fully discussed by Doctor Chapman and the writer, as shown in the above references.

Specimens examined.—Colombia: Las Nubes, 10; Valparaiso, 16; Cincinnati, 10; San Lorenzo, 5; Las Taguas, 2; Sierra Nevada de Santa Marta (6,000 feet), 1; Las Vegas, 5; Minca, 1; Pueblo Viejo, 5; San Miguel, 3; La Concepción, 10; Chirua (7,000 feet), 9; San Antonio, 1; Palomina, 3; San Francisco, 3; El Libano, 5. Total, 89.

BASILEUTERUS FRASERI FRASERI Sclater

Basileuterus chrysogaster (not *Setophaga chrysogaster* von Tschudi) SCLATER, Proc. Zool. Soc. London, 1859, p. 137, excl. syn. (Pallatanga, Ecuador); 1865, p. 284, part (refs.; diag.; range).

Basileuterus fraseri VON BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. London, 1883, p. 541, part (Chimbo, Ecuador; nomen nudum, ex Sclater, MS.).—SCLATER, Proc. Zool. Soc. London, 1883, p. 653, part, pl. 61 (Pallatanga, Ecuador; orig. descr.; type in coll. Brit. Mus.).—VON BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. London, 1884, p. 286 (Pedregal, Ecuador).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 394, part (Pallatanga, Ecuador; descr.; refs.).—TACZANOWSKI and VON BERLEPSCH, Proc. Zool. Soc. London, 1885, p. 120 (range).—HARTERT, Nov. Zool., vol. 5, 1898, p. 480 (Chimbo, Ecuador).

Basileuterus fraseri fraseri CHAPMAN, Amer. Mus. Nov. No. 18, 1921, p. 11, in text (Pallatanga, Santa Rosa, Zaruma, Portovelo, El Chiral, Salvias, and Alamor, Ecuador; range; crit.).

Description.—Pileum with two broad lateral stripes of black, coalescing on the forehead, and inclosing a large coronal spot of lemon chrome; lores blackish; supraloral spot and chin spot white; sides of head (including superciliaries) and neck, and entire upper parts, including the wings and tail externally, slate color to slate gray, the black more or less washed with olive green; under parts lemon chrome, paler, even whitish, on the crissum and tibiae, the sides washed with warbler green; under wing-coverts white; bill black; feet pale (in skin).

If the sexing is correct the female is like the male. A certain proportion of the specimens examined, however, differ in having the lateral crown-stripes restricted posteriorly, not extending over the nape; the vertical spot, too, is duller and smaller, and the greater wing-coverts show slight whitish tipping. These are probably immature. In juvenal dress (illustrated by No. 172,243, Collection American Museum of Natural History, Portovelo, Ecuador, August 1) the general coloration is much duller, the yellow crown-spot alone is indicated of the head markings, and the yellow below has traces of darker spotting.

Measurements.—Male: Wing, 62–70 (average, 67); tail, 55–63 (59); bill, 11.5–13 (12); tarsus, 21.5–23.5 (22.5). Female: Wing, 60–65 (62); tail, 52–57 (55.5); bill, 11.5–12 (12); tarsus, 21–23 (22).

Range.—Andean Region of Ecuador, from the Rio Chimbo southward, in the Tropical and Subtropical Zones, to the Province of Piura, Peru.

Remarks.—This very distinct and isolated species was at first confused with the *Setophaga chrysogaster* of von Tschudi, which is a species related to *Basileuterus bivittatus* (D'Orbigny and Lafresnaye), and so it was not formally described as new until as late as 1883. The name *fraseri*, although given by Sclater, was actually first published by von Berlepsch and Taczanowski in connection with specimens from Chimbo and Guayaquil, and if the expression "iris brun foncé" used in this connection is to be construed as a description the name would have to be attributed to these authors and the type locality fixed as Chimbo. But I am not prepared to insist upon such a literal construction under the circumstances.

Basileuterus fraseri goes far beyond *B. coronatus* in the development of the gray of the head, which spreads over the upper parts, including the wings and the tail, the green color being reduced to a mere wash on the middle of the back. This gray color has a decided bluish cast, not approached by that of any other species of *Basileuterus*. The yellow of the under parts is bright, and includes the throat. The coloration in general, and the head pattern in particular, are a close counterpart of that of *Euthlypis lachrymosa* of western Mexico, and suggest their relationship in spite of certain differences of proportion which are now regarded as of generic value, and their discontinuous distribution.

In the southern part of its range the color of the coronal spot, which is the chief character of *fraseri*, appears to be fairly constant, but toward the north this character varies greatly, even in specimens from the same locality. A series of four skins from Coco, for example, show a nearly complete transition from the typical race to *ochraceicrista*. Sclater's type from Pallatanga, however, was a yellow-crowned individual, as shown in the plate. The Chimbo example referred to by von Berlepsch and Taczanowski, now before me, has some of the crown-feathers orange-tipped, while a second (immature) example from the same place (No. 173,527, Collection American Museum of Natural History) happens to be closer to the *ochraceicrista* type.

Specimens examined.—Ecuador: La Chonta (2,000 feet), Oro, 19; Santa Rosa, Oro, 13; Guainche (3,200 feet), Loja, 4; Pullango (900 feet), Loja, 2; Naranjo (2,000 feet), Guayas, 2; Lunamá (4,600 feet), Loja, 1; Portovelo (2,000–2,700 feet), Oro, 9; Punta Santa Ana (3,650–4,500 feet), Portovelo–Loja trail, Oro, 2; Cebollal (3,100 feet), Loja, 2; Alamor (4,550 feet), 5; Coco, Rio Chimbo, 5 (intermediate); Salvias, Zaruma–Zaraguro trail (3,600 feet), Oro, 1; El Chiral (5,350 feet), Santa Rosa–Zaruma trail, Oro, 2; Junction

Chanchan and Chiguancay Rivers, 4; Pedregal, 1; Chimbo, 2 (intermediate); La Puente, 2; Las Pinas, Alamor Range, 1; Zaruma, 1; Rio Jubones, 1. Peru: Paletillas (1,550 feet), Piura, 8; Palambra (3,900-6,500 feet), Piura, 6; Milagros (2,200 feet), Piura, 1. Total, 94.

BASILEUTERUS FRASERI OCHRACEICRISTA Chapman

Basileuterus chrysogaster (not *Scetophaga chrysogaster* von Tschudi) SCLATER, Proc. Zool. Soc. London, 1860, p. 273 (Babahoyo, Ecuador); Proc. Zool. Soc. London, 1865, p. 284, part (refs.: diag.; range).

Basileuterus fraseri VON BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. London, 1883, p. 541, part (Guayaquil, Ecuador).—SCLATER, Proc. Zool. Soc. London, 1883, p. 653, part (Babahoyo, Ecuador).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 394, part (Babahoyo, Santa Rita, and Balzar, Ecuador).—TACZANOWSKI and VON BERLEPSCH, Proc. Zool. Soc. London, 1885, p. 120, part (range).—SALVADORI and FESTA, Boll. Mus. Zool. ed. Anat. comp. Torino, vol. 15, No. 357, 1899, p. 9, excl. syn. part (Vinces, Ecuador; refs.; crit.).

Basileuterus fraseri ochraceicrista CHAPMAN, Amer. Mus. Nov. No. 18, 1921, p. 11 (Chone [type locality], Guayaquil, Puna Island, Balzar, Santa Rita, Babahoyo, and Naranjito, Ecuador; orig. descr.: type in coll. Amer. Mus. Nat. Hist.).

Subspecific characters.—Similar to *Basileuterus fraseri fraseri*, but vertical spot Mars orange instead of bright yellow, at least superficially.

Measurements.—Male (five specimens): Wing, 67-70 (average, 69); tail, 55-61 (58.5); bill, 11-12.5 (12); tarsus, 21.5-23 (22). Female (four specimens): Wing, 57-65 (62); tail, 52-55 (53.5); bill, 11-12 (11.2); tarsus, 22-23 (22.5).

Range.—Arid Tropical Zone of western Ecuador, from the Province of Manavi south to Puna Island.

Remarks.—In separating this race from typical *fraseri* Doctor Chapman calls attention to the constancy of its characters in the Guayaquil region of Ecuador, intermediates coming from the edge of the forest region. In allocating the series examined I have relied very largely upon the characters shown by the individual specimens, aside from the locality. The race seems clearly entitled to recognition in spite of such discrepancies.

Specimens examined.—Guayaquil, 3; Bucay, Guayas, 4; Chonconcito, Guayas, 2; Chongon Hills, 2; Chimbo, 1; Chone, Manavi, 4 (including the type). Total, 16.

BASILEUTERUS FLAVEOLUS (Baird)

Muscicapa bivittata LAFRESNAYE and D'ORBIGNY, Syn. Avium, pt. 1, Mag. Zool., cl. ii, 1837, p. 51, part (Yungas, Chiquitos, Bolivia; descr. female). *Myiothlypis flavcolus* BAIRD, Rev. Amer. Birds, 1865, p. 252, note (Paraguay; orig. descr.; type in coll. U. S. Nat. Mus.).—VON PELZELN, Orn. Brasiliens, pt. 2, 1868, p. 72 (Rio das Pedras, Porto de Rio Parana, Goiaz, and Matto Grosso, Brazil; crit.).—GOELDI, Aves Brasil, 1894, p. 269 (local range).

Basileuterus flavcolus SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 380 (Bahia and Goyaz, Brazil; descr.; refs.).—ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 3, 1891, p. 345 (Chapada and Bahia, Brazil; plum.; meas.; descr. eggs).—VON IHERING, Rev. Mus. Paulista, vol. 3, 1893, p. 134 (Brazilian localities).—SALVADORI, Boll. Mus. Zool. ed Anat. comp. Torino, vol. 15, No. 378, 1900, p. 3 (Urucum, Matto Grosso, Brazil; refs.).—ROBINSON and RICHMOND, Proc. U. S. Nat. Mus., vol. 24, 1901, p. 177 (La Guaira, Venezuela).—VON IHERING, Aves Brazil, 1907, p. 333 (Rincão, Avanhandava, and Bahia, Brazil; range).—HELLMAYR, Nov. Zool., vol. 15, 1908, p. 19 (Rio Araguaya, Bahia, and Maranhão, Brazil; Mount Bucarito, Tocuyo, Venezuela; Chiquitos, Bolivia; range; meas.; crit.).—VON BERLEPSCH, Nov. Zool., vol. 15, 1908, p. 107, note (Puerto Cabello, Venezuela, and Bahia, Brazil).—REISER, Denks. Math.-Nat. Kl., K. Akad. Wiss. Wien, vol. 76, 1910, p. 78 (Santa Rita, Missão, and Paranaguá, Brazil).—GRANT, Ibis, 1911, p. 89 (Sapatero Cué, Paraguay).—HELLMAYR and VON SEILERN, Arch. f. Naturg., vol. 78, A, 1912, p. 47 (Las Quiguas, Venezuela; refs.; crit.).—MÉNÉGAUX, Rev. Francaise d'Orn., vol. 5, 1917, p. 85 (Caceres, Matto Grosso, Brazil).—HELLMAYR, Nov. Zool., vol. 32, 1925, p. 181 (Chiquitos, Bolivia; range; crit.).—WETMORE, Bull. U. S. Nat. Mus., No. 133, 1926, p. 370 (Puerto Pinasco, Paraguay; habits).—SNETHILAGE, Journ. f. Orn., vol. 76, 1928, p. 536 (range in N. E. Brazil).

Description.—Above, including wings and tail externally, bright warbler green; below lemon chrome, the sides washed with pyrite yellow; indistinct superciliaries paler yellow, and upper and under eyelids still paler (baryta yellow); a dusky greenish transocular streak, restricted behind the eye; "iris brown; bill black; feet orange yellow" (Carriker).

An example in juvenal dress, with the postjuvenal moult beginning (No. 150,689, Collection American Museum of Natural History, El Liman, Venezuela, August 28, 1918) is much duller, the head markings faint, and the throat and breast dull olive like the back.

Measurements.—Male: Wing, 64–69 (average, 66); tail, 55–63 (62); bill, 11–12.5 (12); tarsus, 21–24 (22.5). Female: Wing, 58–67 (62.5); tail, 54–61 (58); bill, 11–12 (11.5); tarsus, 21–22.5 (21.5).

Range.—Tropical Zone, from eastern Brazil (States of Maranhão and Bahia) west through Matto Grosso to the Andes of Bolivia, and south to Paraguay and São Paulo, reappearing in northern Venezuela.

Remarks.—Baird described this species provisionally, on the chance that it might eventually prove distinct from *B. luteoviridis*, from a single specimen collected in Paraguay by Capt. T. J. Page. Long before this, however, a female had been taken in Bolivia by D'Orbigny, but confused with *B. bivittatus*, while Natterer had collected eight specimens in Brazil, as duly recorded by von Pelzeln. Its standing as a species has not been questioned, in spite of its admitted close relationship to *B. luteoviridis*. H. H. Smith secured a

large series of specimens at Chapada, Matto Grosso, which have found their way into several different collections, and of late years a good many have been collected in northern Venezuela. These Venezuelan examples are precisely like those from Brazil and other parts in all respects. The reappearance unchanged of this Brazilian species in northern Venezuela, after passing by the Amazon Valley, gives it a discontinuous range which is hard to explain, but which is paralleled in the case of a number of other birds.

At first glance one is tempted to place this species in *Myiothlypis*, but after going into the matter with some care I think that after all it is better referred to *Basileuterus*. It differs from the type of *Myiothlypis* in its slenderer, more pointed bill, its longer outermost primary, and in its lack of a crest; and agrees with *Basileuterus* in most respects save in style of coloration, and even here I find some specimens showing traces of a median paler stripe on the forehead. The feet are a little stouter than in the majority of the species of *Basileuterus*, but are not otherwise differently proportioned.

Specimens examined.—Paraguay: Puerto Pinasco, 2; Fort Wheeler, 1; unspecified, 1 (type of species). Brazil: Bahia, 21; Santa Amaro, Bahia, 1; Juá, near Iguatú, Ceará, 1; Chapada, Matto Grosso, 34; Urucum, 1. Bolivia: Monte de Basilio, 1; Rio Quiser, 1. Venezuela: San Esteban, 4; El Trompillo, 4; Sierra de Carabobo, 24; Macuto, Caracas, 2; La Guaira, 1; El Liman (1,000 m.), valley of Puerto La Cruz, 2; Galipán, 1. Total, 102.

BASILEUTERUS SIGNATUS SIGNATUS von Berlepsch and Stolzmann

Basileuterus signatus VON BERLEPSCH AND STOLZMANN, Ornith., vol. 13, 1906, pp. 66, 74, excl. Bolivian locality (Idma, Santa Ana, Peru; orig. descr.; type in Warsaw Museum).

Basileuterus luteoviridis (not *Trichas luteoviridis* Bonaparte) CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 31, 1912, p. 160, in text, part (Inca Mine, Peru; crit.).

Basileuterus luteoviridis signatus HELLMAYR, Arch. f. Naturg., vol. 85, A, 1919, p. 5, part (Chubnasi, Peru; crit.).—CHAPMAN, Proc. Biol. Soc. Washington, vol. 32, 1919, p. 265, in text, part (San Miguel Bridge and Torontoy, Peru; range: crit.); Bull. U. S. Nat. Mus., No. 117, 1921, pp. 14, 106, 107 (San Miguel Bridge and Torontoy, Peru; range: crit.).

Description.—Above olive citrine, the wings and tail externally somewhat brighter, more yellowish green; short superciliaries and suborbital spot amber yellow; transocular stripe dusky; under parts pale strontian yellow, the sides and flanks more or less shaded with yellowish citrine; under wing-coverts dull yellowish; bill brown; feet pale brownish (in skin).

Measurements.—Male (nine specimens): Wing, 60–65 (average, 62.5); tail, 57–64 (59.5); bill, 10–11.5 (11); tarsus, 23–23.5 (23.2)

Female (eight specimens) : Wing, 57–61 (59.5) ; tail, 55–59 (57) ; bill, 10–11 (10.7) ; tarsus, 22.5–23.5 (23).

Range.—Subtropical Zone, Andes of Peru, from Junin southward to the Urubamba Valley.

Remarks.—This form was described as a distinct species, but has been reduced to a subspecies of *B. luteoviridis* by Doctors Hellmayr and Chapman. It differs from *B. luteoviridis* in its markedly smaller size, much duller coloration throughout, and paler feet. Moreover, while *B. luteoviridis* is a representative form of the Temperate Zone in the Andes, *B. signatus* belongs to the Subtropical Zone. Both forms occur in the Urubamba Valley in Peru at their appropriate and respective elevations, as Doctor Chapman remarks. Convincing evidence of their specific distinctness is now forthcoming in the shape of perfectly typical examples of both which have been taken at Rumicruz, Junin, Peru, at an elevation of 9,700 feet, by one of the collectors for the American Museum of Natural History. The type specimen of *B. signatus*, now before me, was collected by Kalinowski at Idma, above Santa Ana, in the Urubamba Valley; it agrees well with the good series from Peru now available.

Specimens examined.—Peru: Idma, above Santa Ana, 1 (type); San Miguel Bridge, Urubamba Cañon, 6; Santa Rita, Urubamba Cañon, 4; Torontoy (7,800 feet), Urubamba Cañon, 2; Inca Mine, 2; Chelpes, Junin, 1; Rumicruz (9,700 feet), Junin, 3. Total, 19.

BASILEUTERUS SIGNATUS FLAVOVIRENS, new subspecies

Basileuterus luteoviridis (sic) (not *Trichas luteoviridis* Bonaparte) ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 2, 1889, p. 79 (Yungas, Bolivia).

Basileuterus signatus VON BERLEPSCH and STOLZMANN, Ornith., vol. 13, 1906, p. 74, part (Yungas, Bolivia).

Basileuterus luteoviridis signatus HELLMAYR, Arch. f. Naturg., vol. 85, A, 1919, p. 5, part (Cocapata, Bolivia).—CHAPMAN, Proc. Biol. Soc. Washington, vol. 32, 1919, p. 265, in text, part (Santo Domingo and Oconeque, Peru; Incachaca, Bolivia).—HELLMAYR, Arch. f. Naturg., vol. 90, A, 1924, p. 157, in text (Sandillani, Cocapata, and Chaco, Bolivia; meas.; crit.).

Type.—No. 85,882, Collection Carnegie Museum, adult male; Incachaca, Bolivia, October 13, 1921; José Steinbach.

Subspecific characters.—Similar to *Basileuterus signatus signatus*, but more richly colored throughout, the upper parts, wings, and tail much brighter (between warbler green and olive green); the superciliaries and under parts lemon chrome; and the transocular stripe darker and more distinct. "Iris brown; bill black, brown below basally; feet yellow.

Measurements.—Male: Wing, 59–63 (average, 60.5) ; tail, 53–59 (56.5) ; bill, 10.5–11.5 (11) ; tarsus, 21–24 (22.7). Female (seven

specimens): Wing, 55-60 (57.5); tail, 52-56 (54.5); bill, 10.5-11 (10.8); tarsus, 22-23 (22.3).

Range.—Subtropical Zone, Andes of Bolivia and extreme southeastern Peru.

Remarks.—Attention has already been called to the peculiarities of Bolivian specimens of this species by Doctor Chapman, and now that we have a good series from both Bolivia and Peru for study it is obvious that they represent two well-marked forms respectively (except that examples from southeastern Peru belong to the Bolivian race). In the richness of its general coloration as compared with true *signatus* the new race approaches *B. luteoviridis striaticeps*, but is much smaller, and has paler feet.

A young bird in juvenal dress (No. 85,172, Collection Carnegie Museum), beginning to moult into the next plumage, is dull brownish olive, paler below.

Specimens examined.—Bolivia: Incachaca, 18; Yungas, 1. Peru: Oconeque, near Limbani, 1; Santo Domingo, 4. Total, 24.

BASILEUTERUS LUTEOVIRIDIS LUTEOVIRIDIS (Bonaparte)

Trichas luteoviridis BONAPARTE, Atti Sesta Riunione Sci. Ital. Milano, "1844," 1845, p. 405 ("Bogotá," Colombia; orig. descr.; type in coll. Antinori, fide Hellmayr).

Myiothlypis luteoviridis BONAPARTE, Consp. Avium, vol. 1, 1850, p. 311 ("Bogotá," Colombia; diag.).—SCLATER, Proc. Zool. Soc. London, 1855, p. 143 ("Bogotá," Colombia).

Chlorospingus xanthophrys SCLATER, Proc. Zool. Soc. London, 1856, pp. 30 ("Bogotá," Colombia; orig. descr.; type now in coll. Brit. Mus.), 93 (descr.; crit.).

Basilcuterus luteoviridis SCLATER and SALVIN, Proc. Zool. Soc. London, 1875, p. 234 (Merida, Venezuela), p. 235 (SYN.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 379 ("Bogotá," Colombia; descr.; refs.).—SALVADORI and FESTA, Boll. Mus. Zool. ed Anat. comp. Torino, vol. 15, No. 357, 1899, p. 8 (Pun, Ecuador; crit.).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 31, 1912, p. 160, in text, part ("Bogotá," Colombia).—HELLMAYR and VON SEILERN, Arch. f. Naturg., vol. 78, A, 1912, p. 47, in text (crit.).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 550 (Almaguer, Fômeque, and Subia, Colombia; Colombian range; crit.).

Basilcuterus luteoviridis luteoviridis CHAPMAN, Proc. Biol. Soc. Washington, vol. 32, 1919, p. 265, in text (Colombia).—HELLMAYR, Arch. f. Naturg., vol. 85, A, 1919, p. 5, in text ("Bogotá," Colombia; crit.).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 55, 1926, p. 599 (Zuna, Tamboillo, and upper Sumaco, Ecuador; faunal range).

Description.—Above between olive green and warbler green, including the wings and tail externally; below wax yellow, with the chin paler, more whitish, and the crissum duller, the sides and flanks shaded with pyrite yellow or warbler green; short superciliaries mustard yellow, bordered above by a faint dusky greenish line; lores

and postocular spot dark olive gray; auricular region like the back; under wing-coverts yellowish white; bill black; feet pale brown (in skin).

Measurements.—Male (eight specimens): Wing, 68–76 (average, 72); tail, 60–69 (64); bill, 10.5–12 (10.8); tarsus, 20–21.5 (21). Female (two specimens): Wing, 65; tail, 59–62; bill, 11; tarsus, 20.5–21.

Range.—Humid Temperate Zone of the Andes, in Venezuela, Colombia, and Ecuador.

Remarks.—In its reduced ninth primary this species approaches *Myiothlypis* (in which, indeed, it was actually placed by Bonaparte in 1850), but otherwise is best referred to *Basileuterus*, although aberrant in coloration. It is most nearly related to *B. signatus* and *B. flaveolus*, but while these two are species of the Subtropical Zone and the Tropical Zone, respectively, *B. luteoviridis* (as a species) is rather more characteristic of the Temperate Zone of the Andean system. The typical race occupies the strip of Temperate Zone stretching from Venezuela and Colombia into Ecuador, on the upper slopes of the Andes.

Specimens examined.—Venezuela: Culata (3,000 m.), 1. Colombia: Paramo de Tama, 2; Choachi, Bogotá, 2; Fômeque, Bogotá, 1; Subia (1,900 m.), Cundinamarca, 1; Almaguer (10,300 feet), 3; "Bogotá," 4. Ecuador: Zuna (7,000 feet), Rio Upano, 3; Tambillo (8,000 feet), Rio Upano, 1; upper Sumaco, 1. Total, 19.

BASILEUTERUS LUTEOVIRIDIS STRIATICEPS (Cabanis)

Myiothlypis striaticeps CABANIS, Journ. f. Orn., vol. 21, 1873, p. 316 (Maraynioc, Peru; orig. descr.; type in coll. Berlin Mus.).

Myiothlypis luteoviridis (not *Trichas luteoviridis* Bonaparte) TACZANOWSKI, Proc. Zool. Soc. London, 1874, p. 509 (Maraynioc, Ninabamba, Sillapata, and Pumamarca, Peru).

Basileuterus luteoviridis TACZANOWSKI, Orn. Perou, vol. 1, 1884, p. 477, Tables, p. 29 (Maraynioc, Sillapata, and Ninabamba, Peru; descr.; refs.; habits).

Basileuterus luteoviridis striaticeps VON BERLEPSCH and STOLZMANN, Proc. Zool. Soc. London, 1896, p. 331 (Maraynioc and Garita del Sol, Peru; crit.).—VON BERLEPSCH and STOLZMANN, Orn. vol. 13, 1906, p. 75, in text (crit.).—CHAPMAN, Proc. Biol. Soc. Washington, vol. 32, 1919, p. 265, in text (crit.).—HELLMAYR, Arch. f. Naturg., vol. 85, A, 1919, 6, in text (crit.).

Basileuterus luteoviridis superciliaris CHAPMAN, Proc. Biol. Soc. Washington, vol. 32, 1919, p. 265 (above Torontoy [type locality] and the Cedrobamba, Peru; orig. descr.; type in coll. U. S. Nat. Mus.).—CHAPMAN, Bull. U. S. Nat. Mus., No. 117, 1921, pp. 33, 41, 106 (localities; descr., etc.).

Subspecific characters.—Similar in size and general coloration to *B. luteoviridis luteoviridis*, but superciliaries much wider and more distinct, as well as brighter yellow (empire yellow); lores and postocular spot darker (as in *B. signatus*).

Measurements.—Male (seven specimens): Wing, 71–76 (average, 73.5); tail, 61–70 (66.5); bill, 11–12.5 (11.7); tarsus, 23–25 (24). Female (four specimens): Wing, 64–67 (65.5); tail, 61–63 (61); bill, 11–12.5 (12); tarsus, 23–24 (23.5).

Range.—Temperate Zone, Andes of Peru.

Remarks.—A topotype of this form in the collection of the United States National Museum (No. 159,870) shows no trace of a dusky or blackish lateral crown-stripe, as called for in the original description, and on the absence of which Doctor Chapman mainly relied to distinguish his supposed race *superciliaris*. Of four specimens from the Warsaw Museum (two being topotypes), two have a trace of such a dark line above the yellow superciliaries, while the other two do not. This character would seem to have no geographical significance. With nine specimens of typical *striaticeps* now available for comparison with four of *superciliaris*, I now find that the only difference of moment between these two is the slightly brighter color of the upper parts in the latter—bright citrine instead of dark citrine. And as the series of true *luteoviridis* examined show an equally great range in variation in this respect, I should want to see a considerably larger series before finally accepting *superciliaris*. The smaller size, even if constant, could of itself scarcely serve to hold the form, in my opinion.

Doctor Chapman remarks that the narrowing of the green area on the crown, between the broad yellow superciliaries, is a step on the way toward *Myiothlypis nigrocristata*, and so indeed it would seem. In any study of the case the fact that *Myiothlypis* and *Basileuterus luteoviridis* sometimes occur together would have to be considered.

Specimens examined.—Peru: Maraynioc, 9; Sillapata, 1; Ninabamba, 1; above Torontoy (10,700 and 14,000 feet), 3 (including type of *B. luteoviridis superciliaris* Chapman); Cedrobamba (12,000 feet), Urubamba Cañon, 1; Rumicruz (9,700 feet), Junin, 2. Total, 17.

BASILEUTERUS RICHARDSONI Chapman

Basileuterus richardsoni CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 31, 1912, p. 160 (Andes west of Popayan [type locality] and Laguneta, Colombia; orig. descr.; type in coll. Amer. Mus. Nat. Hist.); vol. 36, 1917, p. 550 (same localities; range; crit.).

Description.—Above, including the wings and tail externally, dull olive green; short superciliaries cream color; lores, eyelids, and postocular spot dark olive; sides of the head dull citrine drab; under parts wax yellow, more or less washed with olive lake, the chin paler, almost whitish, the sides and flanks shaded with yellowish citrine, the under wing-coverts grayish or greenish, the crissum duller (near olive ocher); “iris brown; bill black; feet brownish horn

or brownish yellow" (Carriker). Juvenal plumage (No. 70,242, Collection Carnegie Museum, August 27, 1918): above dark citrine, below similar but paler, amber yellow medially. The superciliaries are faintly indicated; the feet are pale, "yellowish flesh" in life.

Measurements.—Male (three specimens): Wing, 71–73 (average, 72); tail, 60–63 (62); bill, 11–13 (12); tarsus, 20–21 (20.3). Female (four specimens): Wing, 63–68 (65); tail, 56–62 (59); bill, 10–11 (10.8); tarsus, 20–21 (20.7).

Range.—Temperate Zone, Central and Western Andes of Colombia.

Remarks.—The above description is based on a pair of adult birds in the collection of the Carnegie Museum, taken on August 27 and 31, respectively. The type series in the American Museum collection are appreciably duller yellow below, but are not in such good condition. This form is quite distinct even from its nearest geographical ally, *B. luteoviridis*, their respective ranges overlapping in the Central Andes, but it is so remarkably similar to *B. signatus signatus* that it might well be regarded as conspecific were it not for its wide separation from the range of that form and its different zonal habitat. As compared with *B. signatus flavovirens*, it carries the characters of true *signatus* a step further, being still duller and paler.

Specimens examined.—Colombia: Sancudo, Caldas, 3; Coast Range west of Popayan (10,340 feet), 5 (including type). Total, 8.

BASILEUTERUS BIVITTATUS (Lafresnaye and D'Orbigny)

Muscicapa bivittata LAFRESNAYE and D'ORBIGNY, Syn. Avium, pt. 1, Mag. Zool., cl. ii, 1837, p. 51, part (Yungas, Bolivia; orig. descr. male; type in coll. Paris Mus.).

Trichas bivittatus LAFRESNAYE, Rev. Zool., 1840, p. 231 (diag.; ref. orig. descr.).

Muscicapara bivittata D'ORBIGNY, Voy. Amer. Mérid., Oiseaux, 1844, p. 324 (Carcuata [Yungas], and eastern cordillera of La Paz, Bolivia; descr.; habits).

Elaenia bivittata GRAY, Gen. Birds, vol. 1, 1847, p. 250 (in list of sp.; ref. orig. descr.).

Leptopogon bivittata BONAPARTE, Consp. Avium, vol. 1, 1850, p. 186 (ref. orig. descr.).

Basileuterus bivittatus BAIRD, Rev. Amer. Birds, 1865, p. 242 (diag.), p. 243, part (refs.), p. 245, in text, part (crit.).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1879, p. 594 (Bolivian records and refs.).—VON BERLEPSCH, Journ. f. Orn., vol. 32, 1884, p. 283, note (crit.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 391, part (Simacu and Consata, Bolivia; Bolivian refs.).—SALVADORI, Boll. Mus. Zool. ed Anat. comp. Torino, vol. 12, No. 292, 1897, p. 4 (San Lorenzo, Jujuy, Argentina).—BRUCH, Rev. Mus. La Plata, vol. 11, 1904, p. 255 (Oran, Salta, Argentina).—VON BERLEPSCH, Ornith., vol. 14, 1907, p. 442 (syn.).—DABBENE, An. Mus. Nac. Buenos Aires, vol. 11, 1910, p. 369 (Argentine localities and refs.); Bol. Soc. Physis, vol. 1, 1914, p. 354 (Argentine records and refs.).

Basileuterus diachlorus (not of Cabanis) SCLATER and SALVIN, Proc. Zool. Soc. London, 1879, p. 594 (Simacu and Cousata, Bolivia).

Basileuterus bivittatus bivittatus HARTERT and VENTURI, Nov. Zool., vol. 16, 1909, p. 167 (Ledesma [Jujuy] and Río Bermejo [Salta], Argentina.—DINELLI, El Hornero, vol. 1, 1918, p. 61 (Tafi Viejo, Tucumán, Argentina; descr. nest and eggs).—HELLMAYR, Arch. f. Naturg., vol. 85, A, 1919, p. 6, in text (crit.); Nov. Zool., vol. 32, 1925, p. 181 (crit. on type, etc.).

Description.—Pileum with two black lateral stripes extending to the nape, and inclosing an oblong coronal spot which varies in color from Mars yellow to lemon chrome; a short transocular stripe dusky; short and narrow superciliaries and spot below the eye pale yellow; sides of the head and neck, hindneck (behind the vertical spot), and upper parts in general, dull warbler green to bright olive green, including wings and tail externally; under parts lemon chrome, the sides and flanks washed with pyrite yellow; under wing-coverts dull pyrite yellow; "iris brown; bill black; feet pale brownish yellow."

Measurements.—Male: Wing, 65–71 (average, 68); tail, 57–64 (60.5); bill, 11–12 (11.5); tarsus, 21.5–22.5 (22). Female: Wing, 61–67 (63.5); tail, 54–62 (58); bill, 11–11.5 (11); tarsus, 20.5–22.5 (21.5).

Range.—From southeastern Peru through central Bolivia (Yungas of Cochabamba), and south to the Province of Salta in Argentina, in the Tropical Zone.

Remarks.—*Basileuterus bivittatus* differs from *B. coronatus* in a direction exactly opposite from that of *B. fraseri*, for it lacks any gray color whatever in the plumage, being wholly greenish above and yellow below, while retaining the coronal spot, black lateral crown-stripes, and an indication of a dark transocular stripe. It thus leads off from the *B. coronatus* group in the direction of *Myiothlypis*, just as *B. fraseri* leads off toward *Euthlypis*. It appears to be in the main a Tropical Zone form, peculiar to the eastern foothills of the Andes of southeastern Peru and Bolivia, ranging thence to northern Argentina. It was discovered by D'Orbigny in Bolivia, and described as a *Muscicapa*, its real affinities remaining unrecognized until pointed out by Baird in 1865, although he had not seen a specimen. Doctor Hellmayr now finds that the example described as the female of this species by Lafresnaye and D'Orbigny is really a specimen of *Basileuterus flaveolus*, but fortunately this will not affect the names. Virtually the only variation observable in the series of specimens examined (all but five from Bolivia) is that affecting the color of the coronal spot, which runs from bright yellow to dull orange, and the extent and intensity of the black lateral crown-stripes.

Specimens examined.—Peru: Río Inambari (2,200 feet), 3. Bolivia: Machareti, 1; Yacuiba, 5; Cerro Hosane, 9; Samaipata, 4;

Songo, Yungas, 1; Monos (4,700 feet), 2; Vernejo (3,500 feet), Santa Cruz, 6; Yungas of Cochabamba (3,600 feet), 1. Argentina: Ledesma, Jujuy, 2. Unspecified, 2. Total, 36.

BASILEUTERUS CHRYSOGASTER CHRYSOGASTER (von Tschudi)

Setophaga chrysogaster VON TSCHUDI, Arch. f. Naturg., vol. 10, 1844, p. 276 (Peru; orig. descr.; type in coll. Mus. Neuchâtel).—VON TSCHUDI, Fauna Peruana, Aves, 1844, p. 192 (Peru; descr.: range).

Basileuterus chrysogaster BAIRD, Rev. Amer. Birds, 1865, p. 242, note (diag.), p. 244, part (in list of species).—VON BERLEPSCH, Journ. f. Orn., vol. 32, 1884, p. 283, note (crit.).—VON BERLEPSCH and STOLZMANN, Ornith., vol. 13, 1906, p. 107, in text (crit.).

Basileuterus diachlorus CABANIS, Journ. f. Orn., vol. 21, 1873, p. 316 (Amable Maria, Peru; orig. descr.; type in coll. Warsaw Mus.).—TACZANOWSKI, Proc. Zool. Soc. London, 1874, p. 509 (Monterico and Amable Maria, Peru).—SCLATER, Proc. Zool. Soc. London, 1883, p. 653, in text (syn.).—VON BERLEPSCH, Journ. f. Orn., vol. 32, 1884, p. 283, note (crit.).

Basileuterus bivittatus (not *Muscicapa bivittata* Lefresnaye and D'Orbigny) TACZANOWSKI, Orn. Perou, vol. 1, 1884, p. 473, excl. syn. part, Tables, p. 29 (Monterico and Amable Maria, Peru; descr.; refs.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 391, part (Monterico, Peru; descr.; refs.).—VON BERLEPSCH and STOLZMANN, Ornith., vol. 13, 1906, p. 106 (Huaynapata, Peru; crit.).

Basileuterus bivittatus (lapsus) ALLEN, Bull. Mus. Comp. Zool., vol. 3, 1876, p. 353 (Coraico, Bolivia).

Basileuterus bivittatus chrysogaster VON BERLEPSCH and STOLZMANN, Proc. Zool. Soc. London, 1896, p. 331 (La Merced, Peru; crit.).—VON BERLEPSCH and HELLMAYR, Journ. f. Orn., vol. 53, 1905, p. 6 (crit. on type).—HELLMAYR, Arch. f. Naturg., vol. 85, A, 1919, p. 6 (Yahuarmayo, Peru; range; crit.); Nov. Zool., vol. 32, 1925, p. 181 (localities; range).

Description.—Pileum with two broad lateral stripes of dusky black, meeting in front and more or less overlaid with dull green, and inclosing a median coronal spot or streak of Mars yellow, overlaid by sulphine yellow; superciliaries and suborbital spot pale dull yellow; transocular streak dusky; upper parts in general between warbler green and olive green, the wings and tail externally similar but darker (near olive green); auricular region and sides of the neck like the back; under parts rich yellow (lemon chrome), the sides and flanks shaded with pyrite yellow; under wing-coverts dull yellow; bill and feet brownish (in skin).

Measurements.—Male (seven specimens): Wing, 61–66 (average, 63.5); tail, 52–55 (54); bill, 10–11 (10.8); tarsus, 18.5–21 (20). Female (eight specimens): Wing, 55–60 (57); tail, 48–51 (50); bill, 10.5–11 (10.8); tarsus, 17.5–20 (18.5).

Range.—Central Peru, from the Department of Junin southeastward to Lake Titicaca and the eastern boundary.

Remarks.—Forty years went by after von Tschudi had described this species before the true application of his name was pointed out

by von Berlepsch, and in the meantime it had received another name, from Cabanis. In 1905, after an examination of the type, Messrs. von Berlepsch and Hellmayr were able to confirm its claims to recognition as a race of *B. bivittatus*. The type specimen in question, now before me through the courtesy of the authorities of the Neuchâtel Museum, is in very poor condition—badly mangled and ruffled, with most of the bill gone, and the tail gone (all but one feather)—but clearly belongs to the same form as the series of fresh specimens in the collection of the American Museum of Natural History which have been studied in this connection. In addition I have handled most of the material on which Messrs. von Berlepsch and Hellmayr's remarks were based. With specimens of both *bivittatus* and *chrysogaster* coming from the same part of eastern Peru it is at once obvious that their respective ranges overlap at this point, and I can no longer follow these authorities in keeping them conspecific, but would rate them as distinct although closely allied species. Typical *B. chrysogaster* differs from *B. bivittatus* in its smaller size, duller olive green wings and tail, darker, more olive greenish sides of the head, and purer, richer yellow under parts. All of the specimens of *chrysogaster* examined have the coronal spot Mars yellow, while in the majority of those of *bivittatus* it is purer yellow.

The only locality mentioned by von Tschudi in connection with his description of this species is San Pedro, near Lurin. Doctor Hellmayr believes that this is a mistake, and has accordingly proposed to substitute Chanchamayo, in the Department of Junin, as the accepted type locality. The species is a forest-lover, and appears to belong to the Tropical Zone.

Specimens examined.—Peru: Huaynapata, Marcapata, 1; Amable Maria, 1; Monterico, 2; La Merced, Chanchamayo, 3; Callanga, Cuzco, 1; Lake Titicaca (probably=Coroico, Bolivia), 1; La Pampa, 2; Astillero, 1; Tulumayo (4,000 feet), Junin, 6; unspecified, 1 (the type). Total, 19.

BASILEUTERUS CHRYSOGASTER CHLOROPHRYS von Berlepsch

Basileuterus bivittatus chlorophrys VON BERLEPSCH, Ornith., vol. 14, 1907, p. 347 ("Quito," Ecuador, orig. descr.; type now in coll. Frankfurt Mus.).—MÉNÉGAUX, Mission Service Geog. Mes. Arc. Méridien Equat. Am. du Sud, vol. 9, 1911, p. B 73, excl. syn. (Ayuriquin, Ecuador; crit.).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 552 (Buenavista, Nariño, Colombia).—HELLMAYR, Arch. f. Naturg., vol. 85, A, 1919, p. 7, in text (Paramba, Cachyacu, and Lita, Ecuador; range; crit.); Nov. Zool., vol. 32, 1925, p. 181 (ref. orig. descr.; range).

Subspecific characters.—Similar to *Basileuterus chrysogaster chrysogaster*, but upper parts darker, more brownish green (near dark citrine); superciliaries duller, more greenish yellow; and under parts also duller yellow.

Measurements.—Male (three specimens): Wing, 60–63 (average, 62); tail, 44–50 (48); bill, 10–11 (10.5); tarsus, 18.5–20 (19). Female (two specimens): Wing, 55–57; tail, 46–47; bill, 9.5; tarsus, 18.5–19.

Range.—Humid Tropical Zone of southwestern Colombia and northwestern Ecuador.

Remarks.—Judging from the few specimens examined, this race appears to be a good one, its characters being a further extension of those of *B. c. chrysogaster* (as compared with *B. bivittatus*). It was described from two specimens of "Quito" make, but later records go to show that it does not range so high up, and I therefore propose to substitute Lita (altitude 3,000 feet), northwestern Ecuador, as the accepted type locality.

Specimens examined.—Ecuador: "Quito," 1 (coll. von Berlepsch); Lita, 2; Chimbo, 1. Colombia: Buenavista, Nariño (1,200 feet), 2. Total, 6.

BASILEUTERUS RORAIMAE Sharpe

Basileuterus roraimae SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 392 (Mount Roraima and Merume Mts., Brit. Guiana; orig. descr.; type [not designated] in coll. Brit. Mus.).—SALVIN, Ibis, 1885, p. 203 (same localities); 1886, p. 500 (Mount Twek-quay, Brit. Guiana), p. 506 (range).—VON BERLEPSCH and STOLZMANN, Ornith., vol. 13, 1906, p. 106, in text (plum.).—PENARD, Vogels van Guyana, vol. 2, 1910, p. 489 (Mount Roraima, Brit. Guiana; descr.).—(?) BEEBE, Zoologica, vol. 2, 1919, p. 232 (Bartica District, Brit. Guiana).—CHUBB, Birds Brit. Guiana, vol. 2, 1921, p. 416, pl. 6, fig. 1 (Mount Roraima, Brit. Guiana; descr.; refs.).

Basileuterus bivittatus roraimae HELLMAYR, Nov. Zool., vol. 32, 1925, p. 181 (ref. orig. descr.; range).

Description.—Above, including wings and tail externally, dark citrine, a little clearer and purer on the nape and the sides of the head; crown with a coronal spot of Mars yellow, inclosed between two lateral stripes of velvety black, which are produced backward and expanded over the nape, inclosing here a smaller spot of citrine; superciliaries citrine, their lower edge, from the nostrils to over the eye, narrowly pale yellow; a dusky black stripe through the eye; edge of lower eyelid pale yellow; under parts in general wax yellow, the sides shaded with pyrite yellow; bill horn brown; feet pale (in skin).

Most of the specimens examined show citrine tipping to the feathers of the vertex, producing a veiled effect.

Measurements.—Male (four specimens): Wing, 68–71 (average, 70); tail, 60–62 (61); bill, 11–12.5 (12); tarsus, 20.5–22.5 (21.5). Female (four specimens): Wing, 62–66 (64); tail, 55–56 (55.8); bill, 10–11.5 (10.5); tarsus, 20–22 (21).

Range.—Highlands of British Guiana.

Remarks.—A handsome species, related to *B. bivittatus*, but with a paler bill, the coronal spot somewhat differently colored (always decidedly Mars yellow), and the upper parts with a brownish shade by comparison. It was one of Whiteley's discoveries on Mount Roraima, and most of the specimens extant were collected by him. The late Frederick V. McConnell also took specimens on Roraima, and more recently Mr. Beebe has reported it from the Bartica District, but I have not seen the specimens on which his record is based.

Specimens examined.—British Guiana: Mount Roraima (3,500 and 5,000 feet), 8.

BASILEUTERUS TACARCUNAE Chapman

Basileuterus tacarcunae CHAPMAN, Amer. Mus. Nov. No. 143, 1924, p. 6 (Mount Tacarcuna, Panama; orig. descr.; type in coll. Amer. Mus. Nat. Hist.), p. 7 (diag.; range).—GRISCOM, Amer. Mus. Nov. No. 280, 1927, p. 13, in text (crit.).

Description.—Pileum with two broad lateral stripes of black, reaching the nape, and inclosing a median stripe of ecru olive, becoming more yellowish (olive ocher) on the vertex; superciliaries and sides of the head in general ecru olive, except for a postorbital stripe of black; upper parts, and wings and tail externally, olive green; under parts barium yellow, paler and duller anteriorly, more or less shaded on the breast, sides, and flanks with yellowish citrine; tibiae and under wing-coverts similar; bill brown above, paler below; feet pale brown (in skin).

Measurements.—Male: Wing, 57–66 (average, 62.5); tail, 50–56 (53); bill, 10–11 (10.3); tarsus, 19–21 (20). Female (four specimens): Wing, 58–59 (58.5); tail, 50–51 (50.5); bill, 9–10.5 (9.8); tarsus, 19–20.5 (19.5).

Range.—Subtropical Zone, mountains of extreme eastern Panama.

Remarks.—The type series is uniform, and evidently represents a form which is specifically distinct from the *B. tristriatus* group of conspecies, although closely allied thereto. In its head pattern this species closely resembles *B. meridanus*, but the coronal stripe has more color; the upper parts are more decided olive green, and the lower parts more yellowish, less buffy—more as in *B. tristriatus auricularis*, from which it differs again in the color of the head markings. The discovery of a form with such a combination of characters in a region where we would naturally expect to find a connectant between *B. tristriatus daedalus* and *B. tristriatus melanotis* is surprising, to say the least, and suggests that "its characters express the results of complete and prolonged isolation," as Doctor Chapman remarks.

Specimens examined.—Panama: Tacarcuna (4,000–4,200 feet), 3; east slope Mount Tacarcuna (4,600 feet), 11 (including type). Total, 14.

BASILEUTERUS MERIDANUS Sharpe

Basileuterus bivittatus (not *Muscivaca bivittata* Lafresnaye and D'Orbigny)
SCLATER and SALVIN, Proc. Zool. Soc. London, 1870, p. 780 (Merida,
Venezuela).

Basileuterus meridanus SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 387
(Merida, Venezuela: orig. descr.; type in coll. Brit. Mus.).

Basileuterus tristriatus meridanus HELLMAYR, Proc. Zool. Soc. London,
1911, p. 1092, in text (Merida, Cumbre de Valencia, "Caripé," and
Bucarito, Venezuela; crit.).—HELLMAYR and VON SEILERN, Arch. f.
Naturg., vol. 78, A, 1912, p. 47 (Cumbre de Valencia, San Esteban, Merida,
and "Caripé," Venezuela; crit.).—HELLMAYR, Anz. Orn. Ges. Bayern,
No. 6, 1922, p. 44, in text (range; crit.).—CHAPMAN, Amer. Mus. Nov.
No. 143, 1924, p. 4 (range), p. 7 (diag.; El Liman, Venezuela).—
HELLMAYR, Arch. f. Naturg., vol. 90, A, 1924, p. 158, in text (Cumbre de
Valencia, Merida, and Bucarito, Venezuela; range; crit.).

Basileuterus tristriatus bessereri HELLMAYR, Anz. Orn. Ges. Bayern, No. 6,
1924, p. 44 (Silla de Caracas [type locality] and Galipán, Venezuela;
orig. descr.; type in coll. Zool. Mus. Munich).—CHAPMAN, Amer. Mus.
Nov. No. 143, 1924, p. 4 (range), p. 7 (diag.; Cotiza, Galipán, and Silla
de Caracas, Venezuela), p. 8 (meas.).—HELLMAYR, Arch. f. Naturg.,
vol. 90, A, 1924, p. 158 (Galipán and Silla de Caracas, Venezuela; range;
crit.).

Description.—Pileum with two broad lateral stripes of black, reach-
ing the nape, and inclosing a median stripe of dull citrine, becoming
slightly more yellowish (ecru olive) on the vertex; narrow supercili-
aries dull citrine, more buffy anteriorly; postocular streak and small
spot before the eyes black; auricular and suborbital regions dull cit-
rine to buffy citrine; upper parts, and wings and tail externally, dark
citrine; under parts pale yellow (primrose yellow), more or less
washed or shaded with buffy on the breast, and with dull citrine on
the flanks; under wing-coverts dull yellowish; "iris brown; bill black
above, pale horn-color below; feet dusky yellow" (Carriker).

Measurements.—Male: Wing, 58–63 (average, 60.5); tail, 51–56
(54.5); bill, 9.5–10.5 (10); tarsus, 19.5–21 (20.5). Female: Wing,
54–61 (57); tail, 51–56 (52.5); bill, 9.5–10.5 (10); tarsus, 19–21 (20).

Range.—Subtropical Zone, Andes of Merida and Coast Range,
Venezuela.

Remarks.—I am inclined to keep this form specifically distinct from
B. tristriatus, although its close relationship thereto may be ad-
mitted. Its reduced auricular spot (even smaller than in *B. tristriatus*
melanotis), inconspicuous superciliaries, narrowed black lateral
crown-stripes, and lack of a decided vertical spot give it a different
look from *B. tristriatus* in any of its several forms. It shows no trace
of punctate markings below, as do the connecting races of *B. tristri-*
atus, neither does it intergrade therewith through individual vari-
ation.

Doctor Hellmayr has described the bird from the region of Caracas as a new form, *bessereri*, on the ground of paler coloration as compared with typical *meridanus* from Merida and Cumbre de Valencia. The series studied in this connection do not seem to bear out the distinction. There is a slight average difference between birds from the coast range and those from the Merida region, but it is so slight and so inconstant, and perhaps in part seasonal, that I think it is not worth while recognizing by name.

Specimens examined.—Venezuela: La Cumbre de Valencia, 10; Guarico, 3; Anzoategui, 1; Silla de Caracas, 2; Guamito, 9; Heights of Tabay, 1; Puerto Cabello (?), 2; Merida, 2; Galipán, 1; Cotiza, Caracas, 6; El Liman, Valley of Puerto La Cruz, 1; Culata, 1. Total, 39.

BASILEUTERUS TRISTRIATUS PUNCTIPECTUS Chapman

Basileuterus bivittatus (not *Muscicapa bivittata* Lafresnaye and D'Orbigny) SCLATER and SALVIN, Proc. Zool. Soc. London, 1879, p. 594, part (Simacu, Yungas, Bolivia).

Basileuterus auricularis SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 386, part (Simacu, Bolivia).

Basileuterus tristriatus (not *Myiodioctes tristriatus* von Tschudi) ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 2, 1889, p. 79 (Mapiri, Bolivia).

Basileuterus tristriatus tristriatus CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 551, part (Inca Mine, Peru; crit.).

Basileuterus tristriatus punctipectus CHAPMAN, Amer. Mus. Nov. No. 143, 1924, p. 5 (Yungas, Cochabamba, Bolivia; orig. descr.; type in coll. Amer. Mus. Nat. Hist.), p. 7 (Locotal, Incachaca, Roquefajda, Yungas, and Mapiri, Bolivia; Santo Domingo, Peru), p. 8 (meas.).

Subspecific characters.—Similar to *Basileuterus tristriatus tristriatus*, but obviously darker above (nearer olive citrine); the light stripes on the head paler, olive buff; the under surface paler, straw yellow, and conspicuously although obscurely spotted with dusky olive.

Measurements.—Male: Wing, 59–67 (average, 62); tail, 52–56 (54.5); bill, 9.5–10.5 (10); tarsus, 19.5–20.5 (20). Female (seven specimens): Wing, 56–61 (59); tail, 47–53 (50); bill, 9.5–10.5 (10); tarsus, 19–20 (19.5).

Range.—Subtropical Zone, Andes of Bolivia and southeastern Peru.

Remarks.—A series of *Basileuterus* sent in to the Carnegie Museum from Bolivia a few years ago were recognized as a probably new form of the *B. tristriatus* group, but without typical material for comparison they could not be properly characterized at the time. Moreover, in view of Doctor Chapman's remarks on specimens from Inca Mine, Peru, as compared with those from the Colombian Andes, it seemed wise to go slowly. In the meantime, however, Doctor

Chapman had succeeded in securing specimens of typical *tristriatus*, and was led to describe the Bolivian bird under the above appropriate name. It is certainly very different from true *tristriatus*, as he pointed out, more nearly resembling the form of the Eastern Andes, *B. t. auricularis*, than which it is much duller and paler below, with more spotting, and slightly duller green above. The color of the under parts is much closer, indeed, to that of *B. t. daedalus*, but is more yellowish and not so decidedly buffy, with decided spotting; the upper surface is more olivaceous, less brownish. It is paler below than *B. t. melanotis*, with more spotting; the median crown-stripe is tinged with yellow, not orange brown.

This form seems to be a distinct development of the *B. tristriatus* group, marking its southernmost extension in the Andes. Doctor Chapman remarks on the characters separating it from *tristriatus* proper, with which it shows no sign of direct intergradation, although close to it geographically. He keeps it as a race of the latter mainly because of its closer resemblance to the Colombian forms, whose racial relationship to *tristriatus* is sufficiently obvious, but intergradation with these would appear to be a geographical impossibility, and it is a question whether *punctipectus* had not better stand as a species by itself. All its characters, however—even the spotted breast—are merely modifications of those of *tristriatus* and not new developments. Two specimens from Inca Mine, Peru, and two from Santo Domingo, Peru (in the collection of the American Museum of Natural History), I refer to *punctipectus* provisionally, but they are not typical, lacking as they do in large measure the characteristic spotting below. They may possibly represent an intergrading race. Seven specimens in the von Berlepsch collection from Bolivia (Chaco, Quebrada Honda, and San Jacinto) are different again, not only lacking the spotting for the most part but also being more brightly colored below. More material is requisite to determine the status of the birds of these regions.

Our specimens are marked "iris brown; bill brownish black above, bone white below; feet light brown."

Specimens examined.—Peru: Inca Mine, 2; Santo Domingo, 2. Bolivia: Chaco, Yungas, 2; Quebrada Honda, 3; San Jacinto, 1; Samaipata, 1; Incachaca, 6; Yungas de Cochabamba, 6; Locotal (5,800 feet), Cochabamba, 4 (including type); Roquefalta, 3, Mapiri, 1; unspecified, 2. Total, 33.

BASILEUTERUS TRISTRIATUS TRISTRIATUS (von Tschudi)

Myiodiocytes tristriatus VON TSCHUDI, Arch. f. Naturg., vol. 10, 1844, p. 283 (Peru; orig. descr.; type in coll. Mus. Neuchâtel); Fauna Peruana, Aves, 1845-6, p. 193 (Peru; descr.).

Basileuterus tristriata BONAPARTE, Conspectus Avium, vol. 1, 1850, p. 314 (in list of species.)

Basileuteurus tristriatus TACZANOWSKI, Orn. Perou, vol. 1, 1884, p. 472, Tables, p. 29, excl. syn. part (Auquimarca and Ropaybamba, Peru; descr.; crit.).—VON BERLEPSCH and STOLZMANN, Proc. Zool. Soc. London, 1902, p. 58 (Auquimarca and Ropaybamba, Peru).—VON BERLEPSCH and HELLMAYR, Journ. f. Orn., vol. 53, 1905, p. 7 (crit. on type).—VON BERLEPSCH and STOLZMANN, Ornis, vol. 13, 1906, p. 107 (Rio Cadena and Huaynapata, Peru).—CHAPMAN, Bull. U. S. Nat. Mus., No. 117, 1921, p. 107 (Idma, Peru; range).

Basileuterus tristriatus tristriatus HELLMAYR, Proc. Zool. Soc. London, 1911, part (crit. on type).—CHAPMAN, Amer. Mus. Nov. No. 143, 1924, pp. 4, 5, 6, 7 (Idma, Utcuyacu, Chelpe, and Chanpe, Peru; Sabanilla, Ecuador; range; crit.), p. 8 (meas.).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 55, 1926, p. 599 (Sabanilla, Ecuador; range).

Description.—Pileum and nape with two broad lateral stripes of black, inclosing a narrower median stripe of deep olive buff, which is strongly tinged with pinard yellow on the vertex; conspicuous superciliaries, suborbital spot, and postauricular stripe deep olive buff; lores and auricular region black; upper parts, including the wings and tail externally, dark citrine; under parts lemon yellow, the sides and flanks shaded with pyrite yellow, the breast faintly and obscurely mottled with the same color, and the chin and maxillary region pale olive buff, sometimes with a faintly indicated maxillary stripe of dusky; under wing-coverts dull greenish white; bill and feet brownish (in skin).

Measurements.—Male (seven specimens): Wing, 61–68 (average, 65.5); tail, 50–60 (56); bill, 10–11 (10.7); tarsus, 20–22 (21). Female (six specimens): Wing, 60–65 (62); tail, 52–55 (53); bill, 10.5–11 (10.5); tarsus, 19–21.5 (20.5).

Range.—Subtropical Zone, Andes of Peru, south to the Urubamba Valley, and north to the Zamora Valley, southern Ecuador.

Remarks.—The only locality mentioned by von Tschudi in connection with this species is the plantation San Pedro, near Lurin, in the coast region of Lima, but this must have been a mistake, as Doctor Hellmayr points out, since the bird is clearly one of the Subtropical Zone. The word "citrongelb" used in the description seems to indicate the present race, which is the most brightly colored of all. Doctor Hellmayr, who has examined von Tschudi's type, says that it agrees with "Bogotá" skins, and with a male from Machay, Ecuador. The latter is referable to *B. tristriatus baezae*, while some "Bogotá" specimens approach this race. The type specimen in question, courteously placed at my disposal by the authorities of the Neuchâtel Museum, has faded somewhat, but is still yellower below than birds from eastern Ecuador. Two specimens in the Warsaw Museum from Ropaybamba and Auquimarca, respectively, and which were mounted at one time, have faded so as to be scarcely distinguishable from *baezae*. Three skins from Chinchao, Peru, are

obviously duller below than the rest of the series and are, in fact, close to *baezae*, but have whiter upper throats. They may represent a slightly differentiated local race.

Specimens examined.—Peru: Idma (5,000 feet), 4; Chaupe (6,100 feet), 3; Utcuyacu (4,800 feet). Junin, 4; Chelpes (7,300 feet), Junin, 5; Chinchao (5,700 feet), 3; Ropaybamba, 1; Auquimarca, 1; Santa Rosa (3,900 feet), Lower Marañon Valley, 1; Lomo Santo (5,000 feet), Lower Marañon Valley, 1; San Felipe (5,900 feet), Rio Huancabamba, 1; unspecified, 1 (the type). Ecuador: Sabanilla (5,700 feet), Rio Zamora. Loja, 2. Total, 27.

BASILEUTERUS TRISTRIATUS BAEZAE Chapman

Basileuterus tristriatus (not *Myiodyctes tristriatus* von Tschudi) TACZANOWSKI and VON BERLEPSCH, Proc. Zool. Soc. London, 1885, pp. 68, 74 (Machay and Mapoto, Ecuador).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 385, excl. syn. (same localities; descr.).

Basileuterus tristriatus baezae CHAPMAN, Amer. Mus. Nov. No. 143, 1924, p. 5 (Baeza [type locality] and Macas, Ecuador; orig. descr.; type in coll. Amer. Mus. Nat. Hist.), p. 7 (Baeza, lower Sumaco, and Macas region, Ecuador), p. 8 (meas.); Bull. Amer. Mus. Nat. Hist., vol. 55, 1926, p. 600 (same localities; reprint orig. descr.; refs.).

Subspecific characters.—Similar to *Basileuterus tristriatus tristriatus*, but yellow tinge of median crown-stripe averaging darker, and yellow of under parts duller (between pinard yellow and picric yellow), and with more dark shading or mottling, giving a generally darker and duller effect in series when compared.

Measurements.—Male (eight specimens): Wing, 62–67 (average, 65); tail, 52–58 (55); bill, 10–11.5 (10.5); tarsus, 20–23 (21.5). Female (eight specimens): Wing, 61–67 (62.5); tail, 50–54 (52); bill, 10–11 (10.5); tarsus, 20–20.5 (20.3).

Range.—Subtropical Zone, Andes of eastern Ecuador.

Remarks.—This race is intermediate in its characters between true *tristriatus* and *auricularis*, but since it has a distinct range of its own it is well entitled to separate consideration. The specimens taken at Machay and Mapoto by M. Stolzmann over 40 years ago belong here, but the form was characterized from a series of freshly collected skins received by the American Museum from the Sumaco region of eastern Ecuador.

Specimens examined.—Ecuador: Baeza, 7; lower Sumaco, 8; San José de Sumaco, 1; Macas region, 1. Total, 17.

BASILEUTERUS TRISTRIATUS AURICULARIS Sharpe

Basileuterus bivittatus (not *Muscicapa bivittata* Lafresnaye and D'Orbigny) SALVIN, Cat. Coll. Strickland, 1882, p. 94, excl. syn. ("Bogotá," Colombia).

Basileuterus tristriatus (not *Myiodiocetes tristriatus* von Tschudi) VON BERLEPSCH, Journ. f. Orn., vol. 32, 1884, p. 283 (Bucaramanga and "Bogotá," Colombia; crit.).

Basileuterus auricularis SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 386, part ("Bogotá," Colombia; orig. descr.; type [not designated] in coll. Brit. Mus.).

Basileuterus tristriatus tristriatus HELLMAYR, Proc. Zool. Soc. London, 1911, p. 1091, part ("Bogotá," Colombia; crit.).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 551, part (La Candela, La Palma, San Agustín, and Fusugasuga, Colombia; crit.).

Basileuterus tristriatus auricularis CHAPMAN, Amer. Mus. Nov. No. 143, 1924, p. 4 (Colombia; crit.), p. 7, part (diag.; range; Andes of Colombia), p. 8 (meas.).

Subspecific characters.—Similar to *Basileuterus tristriatus baezae*, but still paler and duller below (between baryta yellow and Martius yellow), with the darker flammulation on the breast more pronounced; yellow of median crown-stripe paler and less in evidence.

Measurements.—Male: Wing, 62–68 (average, 67); tail, 55–60 (58); bill, 10–11 (10.5); tarsus, 19–21 (20). Female (four specimens): Wing, 60–64 (62); tail, 52–57 (55); bill, 10–11 (10.5); tarsus, 19–20.5 (20).

Range.—Subtropical Zone, Eastern Andes and eastern slope of Central Andes, Colombia.

Remarks.—When Sharpe described this form he must have compared it with specimens from eastern Ecuador which he believed represented *B. tristriatus*, but which we now know really belong to a different race, *B. t. baezae*. Under his new form he placed specimens from three different localities, "Bogotá," Colombia, Pallatanga, Ecuador, and Simacu, Bolivia, failing to discriminate among them, whereas the present study has shown that specimens from the localities in question represent as many different races. Unfortunately he did not designate a type, but Doctor Chapman has by implication already restricted the type locality to "Bogotá," Colombia, which designation is acceptable. With more ample material at his command than any previous author, he has shown that *auricularis* is a perfectly valid and easily recognizable race, although Doctor Hellmayr, writing in 1911, did not see how it could be maintained. With Doctor Chapman's conclusions my own agree, after handling the same material he had before him and considerable in addition, and I would even go further than he did and separate the birds from the Western Andes under another name, as shown beyond.

Specimens examined.—Colombia: Las Ventanas, 5; Cachi, 1; Rio Negro, 1; Boca del Monte, 2; "Bogotá," 6; near San Agustín (5,000 feet), Huila, 1; La Palma (5,000 feet), Huila, 1; La Candela (6,500 feet), Huila, 3; Aguadita, above Fusugasuga (6,500 feet), 1. Total, 21.

BASILEUTERUS TRISTRIATUS DAEDALUS Bangs

Basileuterus bivittatus (not *Muscicapa bivittata* Lafresnaye and D'Orbigny) SCLATER, Proc. Zool. Soc. London, 1859, p. 137, excl. syn. (Pallatanga, Ecuador); 1860, p. 85 (Cachi-Llacta and Nanegal, Ecuador); 1865, p. 285, excl. syn. part (diag.; Ecuador, in range).—HEINE and REICHENOW, Nom. Mus. Heineani Orn., 1882, p. 13 (Cachi-Llacta, Ecuador).

Basileuterus tristriatus (not *Myiodioctes tristriatus* von Tschudi) von BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. London, 1884, p. 286 (Cayandedé, Pedregal, and El Placer, Ecuador; crit.).—MÉNÉGAUX, Mission Service Geog. Mes. Arc Méridien Equat. Amer. du Sud, vol. 9, pt. 1, 1911, p. B 72 (Mindó and Quito, Ecuador; Ecuadorean records [part]).—LÖNNBERG and RENDAHL, Ark. f. Zool., vol. 14, No. 25, 1922, p. 78 (Mindó and road to Nanegal, Ecuador).

Basileuterus auricularis SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 386, part (Pallatanga, Ecuador).—SALVADORI and FESTA, Boll. Mus. Zool. ed Anat. comp. Torino, vol. 15, No. 357, 1899, p. 9 (Gualea, Ecuador; Ecuadorean references).—GOODFELLOW, Ibis, 1901, p. 315 (Gualea and Canzacota, Ecuador).

Basileuterus melanotis daedalus BANGS, Proc. Biol. Soc. Washington, vol. 21, 1908, p. 160 (San Antonio, Rio Cali, western Colombia; orig. descr.; type in coll. Mus. Comp. Zool.).

Basileuterus tristriatus tristriatus HELLMAYR, Proc. Zool. Soc. London, 1911, p. 1091, part (Pueblo Rico, Colombia; crit.), p. 1212 (range).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 551, part (La Frijolera, Las Lomitas, San Antonio, Gallera, Cerro Munchique, Miraflores, and Salento, Colombia, crit.).

Basileuterus tristriatus auricularis CHAPMAN, Amer. Mus. Nov. No. 143, 1924, p. 4, part (Colombia; crit.), p. 7, part (diag.; range; W. Andes of Colombia; Gualea, Ecuador).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 55, 1926, p. 600 (Chanchán and Chiguancay Rivers and Gualea, Ecuador; Ecuadorean records; range).

Subspecific characters.—Similar to *Basileuterus tristriatus auricularis*, but under parts decidedly duller and paler, more buffy, less yellowish; the wings and tail more brightly colored.

Measurements.—Male: Wing, 61–67 (average, 64.5); tail, 51–57 (54.5); bill, 10–11.5 (10.5); tarsus, 20–21.5 (21). Female: Wing, 57–63 (60.5); tail, 48–54 (51); bill, 9.5–10.5 (10); tarsus, 20–21 (20.5).

Range.—Subtropical Zone, Western Andes of Colombia and western slope of the Andes of Ecuador.

Remarks.—Early records for this form were placed under *Basileuterus bivittatus* by mistake. Most later records were placed under *B. tristriatus* and *B. auricularis*. In 1908 Mr. Bangs gave the name *daedalus* to the bird of western Colombia, comparing it with *B. melanotis* of Costa Rica and calling it a subspecies of that form. Doctor Hellmayr, however, writing in 1911, still could find no difference between birds from western Colombia on the one hand and those from "Bogotá," Ecuador, and Peru on the other, and unhesitatingly placed them all with *B. tristriatus*. It remained for Doctor Chap-

man to show that the Colombian bird, to which Sharpe had applied the name *auricularis*, is easily distinguished from the much more brightly colored true *tristriatus*, but even he did not discriminate between the birds from the Eastern Andes on the one hand and those from the Central (western slope) and Western Andes on the other. With considerably more and much better material than he handled I find that the latter differ as above said, being conspicuously duller and paler below—straw yellow, the crissum decidedly buffy, the flanks much duller, ecru olive. The edgings of the wings and tail are also nearer orange citrine, instead of dark citrine.

Four specimens from western Ecuador in the collection of the Warsaw Museum bear on their labels an unpublished manuscript name in M. Stolzmann's hand, showing that he was long ago aware of their distinctness.

No. 134,101, Collection American Museum of Natural History, La Frijolera, Colombia, now before me, is indistinguishable from typical *tristriatus*, and Doctor Chapman suggests that it may be a mutant. It is odd to find an individual with the characters of another and very different form turning up within the range of an ally.

No. 67,312, Collection Carnegie Museum, June 21, is in juvenal dress, which is much duller and more uniform throughout than in the adult, with the pileum colored like the back. Two others taken June 19 are a little further along, and have acquired the crown-stripes.

Specimens examined.—Colombia: Heights of Caldas, 1; Bitaco Valley, 9; La Cumbre, 6; La Frijolera, 1; Las Lomitas, 2; San Antonio, 9 (including type); Gallera, 2; Cerro Munchique, 1; Miraflores, 5; Salento, 2; El Roble, 3; Cocal, 1; La Maria, Dagua Valley, 2; near Pavas, 1. Ecuador: Junction Chanchan and Chiguancay Rivers, 1; Gualea, 1; Pedregal, 2; El Placer, 1; Cayandedel, 2. Total, 52.

BASILEUTERUS TRISTRIATUS CHITRENSIS Griseom

Basileuterus tristriatus chitrensis GRISCOM, Amer. Mus. Nov. No. 280, 1927, p. 13 (Chitrá, 4,000 feet, W. Panama; type in coll. Amer. Mus. Nat. Hist.).

Subspecific characters.—Similar to *Basileuterus tristriatus melanotis*, but under surface deeper, more greenish yellow, especially on the throat and breast.

Measurements.—Male (three specimens): Wing, 60, 63, 68; tail, 53, 54, 60; bill, 11, 11, 11.5; tarsus, 20, 20, 22. Female (three specimens): Wing, 58, 58, 60; tail, 50, 51, 54; bill, 10.5, 11, 11; tarsus, 20, 20.5, 20.5.

Range.—Subtropical Zone of Veragua, western Panama.

Remarks.—The generally deeper tone of the under parts serves to distinguish this race from its nearest ally, *B. t. melanotis* of Costa Rica and Chiriqui. It occupies the easternmost extension of the mountain ridge of western Panama, just before this breaks down at the Isthmus, and in its characters suggests an approach to *B. tacarcunae* of eastern Panama, as remarked by the describer.

Specimens examined.—Panama: Chitrá (4,000 feet), Veraguas, 6.

BASILEUTERUS TRISTRIATUS MELANOTIS Lawrence

Basileuterus melanotis LAWRENCE, ANN. Lye. Nat. Hist. N. Y., vol. 9, 1868, p. 95 (Cervantes [type locality] and Birris, Costa Rica; orig. descr.; type in coll. U. S. Nat. Mus.).—SALVIN, Ibis, 1869, p. 313 (crit.); 1870, p. 108 (Veragua; crit.).—VON BERLEPSCH, JOURNAL f. Orn., vol. 32, 1884, p. 283, note (crit.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 386 (Costa Rica and Cordillera del Chucu, Veragua; descr.; refs.).—BANGS, Proc. New England Zool. Club, vol. 3, 1902, p. 60 (Boquete and Volcan de Chiriqui, Panama).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 752 (descr.; range; refs.).—CARRIKER, Ann. Carnegie Mus., vol. 6, 1910, p. 795 (Costa Rican localities and refs.; habits).

Basileuterus bivittatus (not of Lafresnaye and D'Orbigny) SALVIN, Ibis, 1870, p. 108, part (crit.); Proc. Zool. Soc. London, 1870, p. 183 (Cordillera del Chucu, Veragua).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 170, part, excl. extralimital localities and refs. (Cervantes and Birris, Costa Rica; Cordillera del Chucu, Panama; descr.; crit.).

Basileuterus bivittatus melanotis ZELEDON, AN. Mus. Nac. Costa Rica, vol. 1, 1887, p. 107 (Costa Rica).

Basileuterus tristriatus melanotis HELLMAYR, Proc. Zool. Soc. London, 1911, pp. 1092, 1212 (range).—CHAPMAN, Amer. Mus. Nov. No. 143, 1924, p. 4 (range), p. 7 (diag.; Aquinares and Cartago, Costa Rica; Chiriqui, Panama).

Subspecific characters.—Similar to *Basileuterus tristriatus daedalus*, but upper parts darker, more olive green; under parts averaging more greenish yellow, less buffy; black on the sides of the head more restricted, the lower part of the auriculars and most of the lores being buffy.

Measurements.—Male: Wing, 57–67 (average, 62.5); tail, 50–57 (54); bill, 9–10.5 (10); tarsus, 20–21.5 (20.8). Female (eight specimens): Wing, 58–64 (60); tail, 51–58 (53.5); bill, 9.5–10.5 (10); tarsus, 19–21 (20.4).

Range.—Subtropical Zone, highlands of Costa Rica and western Panama.

Remarks.—This form is certainly closely related to the South American *Basileuterus tristriatus* group, so closely indeed that in spite of the fact that it can not intergrade geographically, either directly or indirectly, with any of the forms of that group (since, being

a bird of the Subtropical Zone, its range is cut off at Panama by the low country), I am inclined to follow Doctors Hellmayr and Chapman in according it only subspecific rank, for the present at least. It was described by Lawrence from a Costa Rican specimen collected by Carmiol, and later discovered in Veragua by Arcé, the receipt of whose specimens led Salvin to identify it with the *Basileuterus bivittatus* of Lafresnaye and D'Orbigny, with which it of course has nothing to do. Mr. Carriker says that in Costa Rica it is rather a rare bird, "the least common of the genus," which will account for its not being common in collections.

Specimens examined.—Costa Rica: Aquinares, 2; La Hondura, 4; Juan Viñas, 1; La Estrella de Cartago, 1; Birris, 1; Cervantes, 1 (type); Santa Maria de Dota, 1; Coliblanco, 2; Azahar de Cartago, 2; Escazú, 1. Panama: Boquete, 8; Volcano Chiriqui, 5. Total. 29.

BASILEUTERUS TRIFASCIATUS TRIFASCIATUS Taczanowski

Basileuterus trifasciatus TACZANOWSKI, Proc. Zool. Soc. London, 1880, p. 191 (Callacate, Peru; orig. descr.; type formerly in coll. Warsaw Mus.); Orn. Perou, vol. 1, 1884, p. 473, Tables, p. 29 (Callacate and Paucal, Peru; descr.; habits).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 388, part (refs.; crit. on type).

Basileuterus trifasciatus trifasciatus CHAPMAN, Amer. Mus. Nov. No. 143, 1924, p. 8, in text (Palumbra, Peru; crit.).

Description.—Pileum with two black lateral stripes inclosing a median stripe of grayish olive, more or less tinged with olive yellow; superciliaries and sides of the head smoke gray, with a dusky transocular stripe; upper parts Roman green, lighter and purer (serpentine green) on the rump, the wings and tail similar, but more grayish anteriorly; under parts empire yellow, duller on the breast, and fading into buffy whitish on the upper throat and chin, the sides with some slight greenish shading; under wing-coverts yellowish white; "bill brown, the lower mandible paler; feet flesh-color; iris almost black" (Stolzmann).

Measurements.—Male (six specimens): Wing, 56-60 (average, 57); tail, 50-53 (51.5); bill, 10-11 (10.5); tarsus, 20-21 (20.8). (No females measured.)

Range.—Subtropical Zone, Andes of northern Peru.

Remarks.—This species has until lately been known only from the single pair of birds collected by M. Stolzmann at Callacate, in northern Peru, and from alcoholic examples in the Raimondi collection. Unfortunately enough, the types were among those which were lost at the time of the attempted transfer of all such material in the Warsaw Museum to Russia during the World War, as I am advised by M. Stolzmann himself. Doctor Chapman thinks that his examples

from Palambla, Piura, are probably typical, and the above description has been drawn up from these. The form shows affinities on the one hand to the *meridanus-tristriatus* group, and on the other to the *auricapillus* group, and in a linear sequence should probably be placed between these two.

Specimens examined.—Peru: Palambla (3,900–6,500 feet), Piura, 6.

BASILEUTERUS TRIFASCIATUS NITIDIOR Chapman

Basileuterus trifasciatus (not of Taczanowski) SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 388, part (Jima, Ecuador; descr.).

Basileuterus trifasciatus nitidior CHAPMAN, Amer. Mus. Nov. No. 143, 1924, p. 8 (El Chiral [type locality], La Puente, Zaruma, Punta Santa Ana, Lumaná, Las Piñas, San Bartolo, Loja, Alamor, Guachanama, Celica, Guainche, and Cebollal, Ecuador; orig. descr.; type in coll. Amer. Mus. Nat. Hist.).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 55, 1926, p. 600 (Ecuador localities; diag.; range).

Subspecific characters.—Similar to *Basileuterus trifasciatus trifasciatus*, but yellow of under parts richer and purer, throat more yellowish, and upper parts, etc., brighter green, with less grayish suffusion.

Measurements.—Male: Wing, 53–60 (average, 57); tail, 48–52 (50.5); bill, 9.5–10.5 (10); tarsus, 18.5–20 (19.5). Female: Wing, 52–54 (53.7); tail, 46–50 (47.5); bill, 9–10 (9.7); tarsus, 18–19.5 (19).

Range.—Subtropical Zone, Andes of southwestern Ecuador.

Remarks.—"This form belongs in the group of birds of Marañon origin in western Ecuador." It appears to be sufficiently well marked by the characters above outlined, although I am unable to verify all the differences called for in the original description. Comparison with a larger series of true *trifasciatus* is, of course, desirable.

Specimens examined.—Ecuador: Celica (6,900 feet), Loja, 3; San Bartolo (7,500 feet), Alamor Range, Loja, 5; El Chiral (5,350 feet), Santa Rosa-Zaruma trail, Oro, 9 (including type); La Puente (2,500 feet), Oro, 1; Lunamá (4,600 feet), Loja, 3; Guainche (3,200 feet), S. E. of Alamor, Loja, 1; Punta Santa Ana (3,650–4,500 feet), Portovelo-Loja trail, Oro, 6; Guachanama (9,050 feet), Loja, 2; Cebollal (3,100 feet), Loja, 2; Zaruma (6,000 feet), Oro, 7; Loja, 1; Alamor (4,550 feet), Loja, 14; Las Piñas, 1; Jima, 1. Total. 56.

BASILEUTERUS HYPOLEUCUS Bonaparte

Basileuterus hypoleucus BONAPARTE, Consp. Avium, vol. 1, 1850, p. 313 (Brazil; orig. descr.; type in coll. Berlin Mus.).—BURMEISTER, Syst. Ueber. Thiere Brasiliens, vol. 3, 1856, p. 113, note (Brazil; ref. orig. descr.).—BAIRD, Rev. Amer. Birds, 1865, p. 242, note (diag.), p. 243 (refs.).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1868, p. 170, in 2610—29—5

text (Brazil).—VON PELZELN, Orn. Brasiliens, pt. 2, 1868, p. 72 (Ypanema and Goyaz, Brazil; refs.).—REINHARDT, Vidensk. Med. Nat. For. Kjobenhavn, 1870, p. 445 (Lagoa Santa, Minas Geraës, Brazil).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 388 (Lagoa Santa and Ypanema, Brazil; descr.; refs.).—ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 3, 1891, p. 344 (Chapada, Matto Grosso, Brazil; plum.; meas.).—VON IHERING, Proc. Zool. Soc. London, 1899, p. 516 (faunal range).—SALVADORI, Boll. Mus. Zool. ed Anat. comp. Torino, vol. 15, No. 378, 1900, p. 3 (Urucum, Matto Grosso, Brazil; refs.).—VON IHERING and VON IHERING, Aves do Brazil, 1907, p. 333 (San José do Rio Pardo, Itatiba, Franca, Avanhandava, and Itapura, Brazil; range).—HELLMAYR, Nov. Zool., vol. 15, 1908, p. 19 (Rio Thesouras, Goyaz; Victoria, São Paulo; Rio Jordão, Minas Geraës; crit.).—WETMORE, Bull. U. S. Nat. Mus., No. 133, 1926, p. 368 (Puerto Pinasco, Paraguay; crit.).

Description.—Pileum with two broad lateral stripes of black, meeting on the forehead and reaching to the nape, and inclosing a median stripe or spot of dull orange rufous, overlaid by pallid neutral gray; superciliary stripe pallid neutral gray; an indistinct dusky stripe through the eye, the sides of the head below this dull grayish; upper parts, including the wings and tail externally, buffy olive, brighter, more yellowish olive, on the rump and upper tail-coverts; under parts white with a faint grayish cast; tibiae and under wing-coverts primrose yellow, and crissum washed with the same color; "iris dark brown; bill dusky above, pale below; feet pale yellowish."

Measurements.—Male: Wing, 58–65 (average, 62); tail, 54–61 (57.5); bill, 10–11 (10.5); tarsus, 19–21.5 (20). Female: Wing, 54–61 (57.5); tail, 49–56 (52); bill, 9.5–10 (9.7); tarsus, 18.5–20 (19.2).

Range.—Brazil, from southern Matto Grosso and Goyaz to São Paulo and Paraguay.

Remarks.—Natterer was the real discoverer of this species, having taken specimens as early as 1819. Lund took it at Lagoa Santa, in the State of Minas Geraës, in 1837, but it escaped description until 1850, when Bonaparte gave a brief but sufficient diagnosis, using a manuscript name applied by Cabanis to a specimen in the Berlin Museum. It remained a rare species in collections until Herbert H. Smith took a large series of specimens at Chapada, Matto Grosso, which were studied by Allen at the American Museum of Natural History, whence they have since found their way to other institutions. The yellow wash on the breast and belly shown by some examples, as Allen remarks, is probably indicative of high plumage, and furthermore suggests the relationship of this species to the yellow-bellied *auricapillus* group.

Specimens examined.—Brazil: Chapada, Matto Grosso, 57; Belvedere de Urucum, Matto Grosso, 8; Victoria, São Paulo, 3. Paraguay: Puerto Pinasco, 1. Total, 68.

BASILEUTERUS AURICAPILLUS (Swainson)

- "Contramaestre coronado" AZARA, *Apuntamientos*, vol. 2, 1802, p. 414 (Paraguay; descr.; habits).
- Sylvia vermivora* (not *Motacilla vermivora* Gmelin) VIEILLOT, *Nouv. Dict. d'Hist. Nat.*, vol. 11, 1817, p. 278, part (Paraguay, ex Azara).
- Muscicapa vermivora* LAFRESNAYE and D'ORBIGNY, *Syn. Avium*, pt. 1, *Mag. Zool.*, cl. ii, 1837, p. 51, part (Corrientes, Argentina).
- Muscicapara vermivora* D'ORBIGNY, *Voy. Am. Mérid.*, Ois., 1844, p. 324, part (Corrientes, Argentina; descr.; habits).
- Setophaga auricapilla* SWAINSON, *Anim. in Menag.*, 1838, p. 293 ("Mexico" [error] and Brazil; orig. descr.; type in coll. —?).
- Helinaia vermivora* HARTLAUB, *Index Azara*, 1847, p. 10 (Azara's refs.).
- Basileuterus vermivorus* CABANIS and HEINE, *Mus. Heineanum*, vol. 1, 1850, p. 17, excl. syn. part (Brazil; refs.).—BURMEISTER, *Syst. Ueber. Thieré Brasiliens*, vol. 3, 1856, p. 113, excl. syn. part (Neu Freiburg, Brazil; descr.; refs.).—BAIRD, *Rev. Amer. Birds*, 1865, p. 242 (diag.), p. 243, part (refs.; range).—SCLATER, *Proc. Zool. Soc. London*, 1865, p. 283, part (refs.; diag.; range).—EULER, *Journ. f. Orn.*, 1868, p. 190 (Cantagallo, Brazil; descr. nest and eggs).—VON PELZELN, *Orn. Brasiliens*, pt. 2, 1868, p. 71 (Rio de Janeiro, Mattodentro, Ypanema, Ytararé, and São Vicente, Brazil).—REINHARDT, *Vidensk. Med. Nat. For. Kjobenhavn*, 1870, p. 445 (Uberaba, Brazil).—HAMILTON, *Ibis*, 1871, p. 302 (São Paulo, Brazil; habits).—VON BERLEPSCH, *Journ. f. Orn.*, vol. 21, 1873, p. 231 (Blumenau, Santa Catharina, Brazil; refs.; range [part]).—CABANIS, *Journ. f. Orn.*, vol. 22, 1874, p. 82 (Cantagallo, Brazil).—VON BERLEPSCH, *Journ. f. Orn.*, vol. 27, 1879, p. 208, in text (Santa Catharina, Brazil; Buenos Aires, Argentina; crit.).—WHITE, *Proc. Zool. Soc. London*, 1882, p. 594 (San Javier, Misiones, Argentina).—GOELDI, *Aves do Brasil*, 1894, pp. 269, 271 (Serra dos Orgãos, Brazil; descr.; habits).—VAN OORT, *Mus. d'Hist. Nat. Pays-Bas*, vol. 10, 1907, p. 244 (Porto Real, Brazil).
- Basileuterus auricapillus* VON BERLEPSCH, *Ibis*, 1881, p. 240 (crit.).—FORBES, *Ibis*, 1881, p. 329 (Quipapá, Pernambuco, Brazil).—SHARPE, *Cat. Birds Brit. Mus.*, vol. 10, 1885, p. 393, part (Pernambuco and Mattodentro, Brazil; descr.; refs.; crit.).—SCLATER and HUDSON, *Argentine Orn.*, vol. 1, 1888, p. 21 (Paraguay, ex Azara; Misiones, Argentina, ex White; descr.; refs.).—KERR, *Ibis*, 1892, p. 123 (Rio Pilcomayo, Argentina).—VON IHERING, *Rev. Mus. Paulista*, vol. 3, 1898, p. 134 (São Paulo and Iguaçu, Brazil; Brazilian records).—SALVADORI, *Boll. Mus. Zool. ed Anat. comp. Torino*, vol. 15, No. 378, 1900, p. 17 (Tebicuari, Paraguay).—OBERHOLSER, *Proc. U. S. Nat. Mus.*, vol. 25, 1902, p. 141 (Sapucay, Paraguay; crit.).—LILLO, *An. Mus. Nac. Buenos Aires*, ser. 3, vol. 1, 1902, p. 173 (Tafi, Tucumán, Argentina); *Rev. Letras y Cien. Sociales Tucumán*, 1905, p. 7 of reprint (Tafi, Tucumán, Argentina).—HELLMAYR, *Nov. Zool.*, vol. 13, 1906, p. 7, in text (range; crit.).—VON IHERING and VON IHERING, *Aves do Brazil*, 1907, p. 333 (Ypiranga, Campos de Jordão, Alto da Serra, Ytararé, Itapura, Piquete, Iguaçu, and Ourinho, Brazil; range).—LÜDERWALDT, *Zool. Jahrb.*, vol. 27, 1909, p. 356 (Campo Itatiaya, Brazil).—DABBENE, *An. Mus. Nac. Buenos Aires*, vol. 11, 1910, p. 369 (Argentine localities and refs.).—REISER, *Denks. Math.-Nat. Kl. K. Akad. Wiss. Wien*, vol. 76, 1910, p. 78 (Santo Antonio de Gilboez, Barra do Cocal, and Oberhalb Pintados, Rio Parnahyba, Piahy, Brazil).—CHUBB,

Ibis, 1910, p. 615 (Sapucay, Paraguay; refs.; crit.).—GRANT, Ibis, 1911, p. 88 (Riacho Ancho, Argentina).—BERTONI, Fauna Paraguaya, 1913, p. 60 (Alto Paraná, Paraguay).—ARRIBALZAGA, El Hornero, vol. 2, 1920, p. 97 (Resistencia, Chaco, Argentina).—GIACOMMELLI, El Hornero, vol. 3, 1923, p. 67 (Prov. La Rioja, Argentina).—PEREYRA, El Hornero, vol. 3, 1923, p. 170 (San Isidro, Buenos Aires, Argentina).—SNETHLAGE, Journ. f. Orn., vol. 76, 1928, p. 536 (range in N. E. Brazil).

Basileuterus auricapillus auricapillus HARTERT and VENTURI, Nov. Zool., vol. 16, 1909, p. 166 (Barracas al Sud, Ocampo, and Quebrada de los Piédros, Argentina).—DABBENE, An. Mus. Nac. Buenos Aires, vol. 23, 1912, p. 348 (Paso Yunay, Paraguay; Paraguayan refs.).—MARELLI, Mem. Min. Obras Publicas, 1924, p. 656 (Prov. Buenos Aires, Argentina; range).—HELLMAYR, Nov. Zool., vol. 32, 1925, p. 180 (Corrientes, Argentina, etc.; crit. on type).—WETMORE, Bull. U. S. Nat. Mus., No. 133, 1926, p. 368 (Las Palmas, Argentina; Lazcano, Uruguay; crit.; habits).—HOLT, Bull. Am. Mus. Nat. Hist., vol. 57, 1928, 314 (Serra do Itatiaya, Brazil; local range).

Description.—Pileum with two broad lateral stripes of black, meeting in front, and reaching to the nape, and inclosing a median stripe or spot which varies from Mars yellow to orange rufous on the vertex (more or less overlaid by grayish feather-tipping), and is olive buff on the nape; superciliaries, suborbital spot, and chin buffy olive; broad transocular streak dusky blackish; subauricular region and sides of the neck dull grayish; upper parts, and wings and tail externally, dark citrine; under parts lemon chrome, paler on the crissum, with more or less shading of sulphine yellow on the sides and flanks; under wing-coverts yellowish white; bill brownish; feet light brown (in skin). (Young stages not seen.)

Measurements.—Male: Wing, 55–61 (58); tail, 52–55 (53.5); bill, 9–11 (10); tarsus, 17.5–19.5 (18.5). Female: Wing, 53–58 (55.5); tail, 50–54 (51.5); bill, 9.5–10.5 (10); tarsus, 17.5–19.5 (18.2).

Range.—Eastern Brazil (Ceará) south to the Province of Buenos Aires, Argentina, and west to Tucumán.

Remarks.—Azara was the first author to mention this species, which has figured extensively in the literature of South American ornithology ever since. Unfortunately, however, Vieillot described Azara's bird under the same heading as the North American *Helmitheros vermivorus*, and the specific name of the latter was accepted without question for the present form until von Berlepsch pointed out the error in 1881, substituting Swainson's name *auricapillus*. Swainson gave "Mexico and Brazil" as the habitat of his new species; the former was, of course, wrong, and if it is thought desirable to suggest a still more explicit type locality, I would propose Rio de Janeiro, Brazil.

The above description is based mainly on the series from Therezopolis, which I take to be typical. Skins from Argentina and Paraguay are duller green above, and are with difficulty separable from

olivascens. In fact, I keep them with *auricapillus* mainly because they resemble that form in the prominence of the head-stripes, which are less distinct in *viridescens*, and because the series from Itatiaya are also of this duller type. Formal separation would further complicate matters, I fear, when it comes to defining the ranges of the several forms. Old skins appear to be duller yellow below than freshly collected ones.

Specimens examined.—Brazil: Baturité, Ceará, 2; Jacaresinha, 1; Castro, Paraná, 1; Fazenda Cayoa, 1; Rio de Janeiro, 2; Therezopolis, Organ Mountains, 14; Macieiras (5,900 feet), Serra do Itatiaya, 5; Monte Serrat (2,900 feet), Serra do Itatiaya, 2; Ponte Maromba (3,500–3,800 feet), Serra do Itatiaya, 3; Ytararé, São Paulo, 1; São Lourenço, Rio Grande do Sul, 2; Camaquam, Rio Grande do Sul, 2. Argentina: Above San Pablo (4,000 feet), Tucumán, 5; Tafi trail (2,000 feet), Tucumán, 3; Sarmiento (1,700 feet), Tucumán, 1; Las Palmas, Chaco, 2; Pto. Aguirre, 1; Barracas al Sur, Buenos Aires, 1. Uruguay: Lazcano, 1. Paraguay: Sapucay, 2; Puerto Bertoni, 1; unspecified, 1. Unspecified, 2. Total, 56.

BASILEUTERUS AURICAPILLUS VIRIDESCENS Todd

Muscicapa vermicivora (not *Motacilla vermicivora* Gmelin) LAFRESNAYE and D'ORBIGNY, Syn. Avium, pt. 1, Mag. Zool., cl. ii, 1837, p. 51, part (Chiquitos, Bolivia).

Muscipara vermicivora D'ORBIGNY, Voy. Amér. Mérid., Ois., 1844, p. 324, part ("Monte grande [grande forêt] que sépare Santa-Cruz de la Sierra de Chiquitos," Bolivia; descr.; habits).

Basileuterus vermicivorus SCLATER and SALVIN, Proc. Zool. Soc. London, 1879, p. 594 (D'Orbigny's ref.).

Basileuterus auricapillus viridescens TODD, Proc. Biol. Soc. Washington, vol. 26, 1913, p. 170 (Buenavista, Bolivia; orig. descr.: type in coll. Carnegie Mus.).—HELLMAYR, Nov. Zool., vol. 32, 1925, p. 180 (Santa Cruz de la Sierra and Chiquitos, Bolivia; crit.).

Subspecific characters.—Similar to *Basileuterus auricapillus auricapillus*, but slightly paler and duller green above, with the head-stripes narrower and much less distinct, less purely black, and consequently less prominent.

Measurements.—Male (four specimens): Wing, 60–63 (average, 60.5); tail, 50–55 (52); bill, 9.5–10.5 (10); tarsus, 18.5. Female (four specimens): Wing, 55–60 (58); tail, 48–52 (51); bill, 9.5–10 (9.7); tarsus, 18–18.5 (18.4).

Range.—State of Santa Cruz, Bolivia, east of the Andes.

Remarks.—In describing this race it was compared with two specimens from Paraguay in the collection of the United States National Museum. With a satisfactory series of true *auricapillus* now available from southern Brazil (Therezopolis, Itatiaya, etc.), as well as additional specimens of the present race (it was originally character-

ized from a single pair of birds), it is obvious that the color differences sought to be established are not of much value. The Bolivian series are, if anything, a little duller above than the Brazilian, but not so dull as those from northern Argentina and Paraguay. From both they differ in the character of the head-stripes, as above described, and the form may be retained on this basis. Doctor Hellmayr recognizes it with reservations.

Specimens examined.—Bolivia: Buenavista, 5 (including type); Rio Surutu, 1; Cerro Hosane, 1; Santa Cruz de la Sierra, 1; Palmarito, 2. Total, 10.

BASILEUTERUS AURICAPILLUS OLIVASCENS Chapman

Basileuterus vermivorus (not *Motacilla vermivora* Gmelin) CABANIS, in Schomburgk, Reisen in Brit.-Guiana, vol. 3, 1848, p. 667, excl. syn. (Mount Roraima, 3,000–4,000 feet, British Guiana).—SOLATER, Proc. Zool. Soc. London, 1855, p. 144 ("Bogotá," Colombia).—SCLATER, Cat. Amer. Birds, 1861, p. 34, excl. syn. part ("Bogotá," Colombia; Trinidad); Proc. Zool. Soc. London, 1865, p. 283, part (diag.; refs.).—FINSCH, Proc. Zool. Soc. London, 1870, p. 565 (Trinidad).

Trichas bivittatus (not *Muscicapa bivittata* LAFRESNAYE and D'ORBIGNY) Léotaud, Ois. Trinidad, 1866, p. 184 (Trinidad; descr.; habits).

Basileuterus aurocapillus (not *Setophaga auricapilla* Swainson) von BERLEPSCH, Journ. f. Orn., vol. 32, 1884, p. 284, in text ("Bogotá," Colombia; Trinidad; crit.).

Basileuterus auricapillus SALVIN, Ibis, 1885, p. 203 (Mount Roraima, Brit. Guiana; refs. [part]).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 393, part (Mount Roraima, Brit. Guiana; Trinidad; "Bogotá," Colombia; crit.).

Basileuterus vermivorus olivascens CHAPMAN, Auk, vol. 10, 1893, p. 343 (Princetown, Trinidad; orig. descr.; type in coll. Amer. Mus. Nat. Hist.).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 6, 1894, p. 7 (range), p. 13 (ref. orig. descr.), p. 17 (song) p. 24 (Princetown, Trinidad; descr.; crit.).—PHELPS, Auk, vol. 14, 1897, p. 302 (range), pp. 363, 368 (San Antonio, Venezuela).

Basileuterus auricapillus olivascens HELLMAYR, Nov. Zool., vol. 13, 1906, p. 7 (Caparo and Laventville, Trinidad; Cumaná, Venezuela; crit.).—CHERRIE, Mus. Brooklyn Inst. Sci. Bull., vol. 1, 1906, p. 187 (Heights of Aripo, Trinidad); 1908, p. 356 (Carenage and Heights of Aripo, Trinidad; descr. nest and eggs).—STONE, Proc. Acad. Nat. Sci. Philadelphia, 1913, p. 208 (Cariquito, Venezuela).—CHERRIE, Mus. Brooklyn Inst. Sci. Bull., vol. 2, 1916, p. 153 (Trinidad; Guanoco, Orinoco River, Venezuela, ex Beebe).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 552 (Buena Vista and Villavicencio, Colombia; range; crit.).—HELLMAYR, Arch. f. Naturg., vol. 90, A, 1924, p. 157, in text (range; crit.).

Basileuterus olivascens CHUBB, Birds Brit. Guiana, vol. 2, 1921, p. 417 (Mt. Roraima, Brit. Guiana; refs.; descr.).

Basileuterus auricapillus olivaceus (lapsus) BEEBE, Zoologica, vol. 1, 1909, p. 101 (Guanoco, Venezuela; habits).

Basileuterus aurocapilla PENARD, Vogels van Guyana, 1910, p. 490 (Guiana; descr.; range; descr. eggs, ex Nehr Korn).

Subspecific characters.—Similar to *Basileuterus auricapillus auricapillus*, but upper parts duller and darker green, near olive citrine.

Measurements.—Male: Wing, 57–65 (average, 61); tail, 52–56 (54); bill, 9.5–10.5 (10); tarsus, 18.5–20 (19.3). Female: Wing, 55–60 (57.5); tail, 50–53 (51.5); bill, 10–10.5 (10.2); tarsus, 18–19.5 (18.5).

Range.—Colombia and Venezuela, east of the Andes, to British Guiana, and north to Cumaná and Trinidad.

Remarks.—In 1885 Sharpe called attention to the peculiarities of northern examples of this species, and some years later Doctor Chapman ventured to give a name to the bird of Trinidad. He compared it with “mainland” specimens, but whether he meant the mainland of Venezuela he does not say. Our series from the Orinoco Valley are indistinguishable from those of Trinidad, and Doctor Hellmayr recognizes the form on the same general grounds as are claimed for it by the describer. Skins from Mount Roraima are slightly more brownish above and duller yellow below than the rest; if this is not due to the age of the specimens they may constitute a slightly differentiated local race. Our series from eastern Colombia are also a little darker, duller, more grayish, less brownish olivaceous above than the typical Trinidad skins; the bill, too, is darker in the dried skins. Doctor Chapman remarks similar differences in the case of the specimens he handled from farther south at the foot of the Andes. The differences may be due to the fresher condition of the present lot of specimens (shot March 27 to April 29), but at any rate they are too slight to require nomenclatural recognition.

The race is, however, not nearly so well differentiated as one would expect in view of its complete isolation from the typical form by the interposition of the Amazon Valley. Some specimens of the southern race are scarcely distinguishable, in fact, but when compared in series the two are easily discriminated. The peculiar discontinuous distribution of *Basileuterus auricapillus* parallels that shown by a number of other birds.

Specimens examined.—Trinidad: Carenage, 5; Heights of Aripo, 7; Caparo, 1; Princetown, 2 (including type); unspecified, 1. British Guiana: Mount Roraima, 5; Annai, 1. Venezuela: Cristobal Colon, Paria Peninsula, 9; San Antonio, Bermudez, 6; Cariaquito, 1; Caura Valley, 1; Upata, 1; El Callao, 2; El Peru Mine, 2; San German de Upata, 1; Altagracia, 1; Cocallar (2,600 feet), 1; unspecified, 5. Colombia; Rio Negro, 7; Palmar, 1; La Colorada, 3; “Bogotá,” 5; Buena Vista, above Villavicencio, 3. Total, 71.

BASILEUTERUS CABANISI CABANISI von Berlepsch

Basileuterus cabanisi VON BERLEPSCH, Orn. Centralblatt, 1879, p. 63 (San Esteban and Puerto Cabello, Venezuela; orig. descr.; type now in coll. Frankfort Mus.); Journ. f. Orn., vol. 32, 1884, pp. 276, 283, part (Bucaramanga, Colombia, and Puerto Cabello, Venezuela; crit.).—CHAPMAN, Bull.

Amer. Mus. Nat. Hist., vol. 36, 1917, p. 551, part (Peque and Miraflores, Colombia; Merida, Venezuela; crit.).—HELLMAYR, Arch. f. Naturg., vol. 90, A, 1924, p. 157, part (Loma Redonda and Andes of Merida, Venezuela; Primavera and Bucaramanga, Colombia; range; crit.).

Description.—Pileum with two lateral stripes of black, reaching to the nape, and inclosing a median stripe of olive buff, which is more or less tinged with Mars yellow on the vertex, appearing on the bases of the feathers; superciliaries, chin, and subocular region olive buff; transocular stripe dusky black; sides of the neck, and upper parts in general, including the wings and tail externally, neutral gray, the back often with an olivaceous wash; wing-coverts sometimes with faint whitish tips; under parts bright yellow (lemon chrome), the sides with more or less wash of sulphine yellow, the crissum paler and more whitish; bend of wing yellowish; under wing-coverts white; "iris brown; feet pale brownish flesh-color; bill black, dark horn below."

Juvenal plumage (No. 89,865, Collection Carnegie Museum, July 6): Above dull mouse gray, almost uniform; throat and breast similar but duller and paler, with a yellowish tinge, passing into pale buffy yellow posteriorly.

Measurements.—Male: Wing, 56–61 (average, 58.5); tail, 51–57 (53.5); bill, 10.5; tarsus, 18.5–20 (19). Female: Wing, 53–57 (54); tail, 49–52 (50.5); bill, 9.5–10.5 (10.3); tarsus, 17.5–19 (18.3).

Range.—Subtropical Zone, Andes of Colombia and Venezuela.

Remarks.—In general, *Basileuterus cabanisi* would seem to be a bird of the Subtropical Zone, but it drops down to as low as 1000 feet in some places. It is certainly a close ally (and probably a derivative) of *B. auricapillus olivascens*, which occupies the Tropical Zone in the Orinoco Valley and the northeastern part of Venezuela, reaching also to Trinidad. Their respective ranges approximate each other at certain points, but are not known to overlap. I do not consider them conspecific, however. Count von Berlepsch's type series came from San Esteban and Puerto Cabello (probably actually higher up), Venezuela, but he was mistaken in placing previous Venezuelan and Trinidad records for *B. "vermivorus"* under the same head. The species was presently reported from Bucaramanga, Colombia, and more recently has been traced to the Central and Western Andes of the same country by Doctor Chapman and Mr. Carriker. Our specimens from these parts are quite indistinguishable from those coming from Venezuela, all having the crown showing a more or less decided spot of Mars yellow. Three specimens in the von Berlepsch collection, however, lack any of this color on the crown, and are thus scarcely to be told from the race of the Santa Marta Mountains, *B. c. indignus*.

Specimens examined.—Venezuela: Aroa, 1; Lagunita de Aroa, 1; Anzoategui, 1; El Trompillo, 2; Sierra de Carabobo, 11; Loma Redonda, 3; Guamito, 3; Tabay, 5; Merida, 5; La Azulita, 2; San Esteban, 2; Valle, Merida, 2; Escorial (3,000 m.), 4; Culata (3,000 m.), 2; El Liman (1,000 feet), Valley of Puerto La Cruz, 1; Macuto, Caracas, 1; Caracas, 7; Lake Valencia, 2; Colon, Tachira, 1; unspecified, 1. Colombia: El Cauca, 8; La Palmita, 6; Yumbo, 1; Bucaramanga, 1; Miraflores (6,800 feet), 1; Peque (5,000 feet), Antioquia, 1. Total, 75.

BASILEUTERUS CABANISI INDIGNUS Todd

Basileuterus cabanisi (not of von Berlepsch) SALVIN and GODMAN, Ibis, 1880, p. 117 (Minca, Colombia).—VON BERLEPSCH, Journ. f. Orn., vol. 32, 1884, p. 283, part (Salvin and Godman's record).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 384 (Minca, Colombia; descr.; refs. [part]).—BANGS, Proc. Biol. Soc. Washington, vol. 12, 1898, p. 144 ("Santa Marta," Colombia).—ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 13, 1900, p. 176 (Minca, Las Nubes, and Onaca, Colombia).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 551, part (Onaca, Colombia).—HELLMAYR, Arch. f. Naturg., vol. 90, A, 1924, p. 157, part (Don Amo and Onaca, Colombia; crit.).

Basileuterus cabanisi indignus TODD, Proc. Biol. Soc. Washington, vol. 29, 1916, p. 95 (La Tigrera, Colombia; orig. descr.; type in coll. Carnegie Mus.).—TODD and CARRIKER, Ann. Carnegie Mus., vol. 14, 1922, pp. 54, 65, 78, 440 (Santa Marta localities and refs.; range; habits; crit.).

Subspecific characters.—Similar to *Basileuterus cabanisi cabanisi*, but coronal spot usually plain lemon yellow, with little or no Mars yellow.

Measurements.—Male (nine specimens): Wing, 56–61 (average, 58); tail, 49–54 (52); bill, 9.5–10.5 (10); tarsus, 17.5–20 (18.3). Female (five specimens): Wing, 53–55 (54); tail, 48–51 (50); bill, 9.5–10.5 (10); tarsus, 17.5–18.5 (18).

Range.—Upper Tropical Zone, Santa Marta region of Colombia.

Remarks.—This race rests upon a single character, namely, the different color of the coronal spot. Out of 25 specimens examined in the present connection, only 2 have more than a trace of Mars yellow on the middle of the crown (No. 42,102, collection Carnegie Museum, and No. 70,500, collection American Museum of Natural History), while this color is well developed in all but a few of the large series examined from Venezuela and the Colombian Andes. These exceptions are nearly all females, and need not impugn the validity of the race, as the individual variation is not excessive, and is no more than would be expected, judging by analogy. Although the propriety of separating the Santa Marta birds has been questioned in some quarters, on again going over the matter with a larger series I can only reiterate my opinion that such action was justifiable.

Specimens examined.—Colombia: "Bonda" (?), 1; Las Nubes, 2; Onaca, 8; La Tigrera, 2 (including type); Las Vegas, 8; Minca, 3; Santa Marta Mountains (4,000 feet), 1. Total, 25.

BASILEUTERUS CULICIVORUS CULICIVORUS (Lichtenstein)

Sylvia culicivora LICHTENSTEIN, Preis.-Verz. Mex. Vögel, 1830, p. 2 ("Mexico"; orig. descr.; type in coll. —).—CABANIS, Journ. f. Orn., vol. 11, 1863, p. 57 (reprint orig. descr.).

Basileuterus culicivora BONAPARTE, Consp. Avium, vol. 1, 1850, p. 313 (Jalapa, Mexico; diag.).

Basileuterus culicivorus CABANIS and HEINE, Mus. Heineanum, vol. 1, 1850, p. 17 (Jalapa, Mexico; descr.).—BAIRD, Rev. Amer. Birds, 1865, pp. 242, 245, part (Mexico; Choctum, Vera Paz, Guatemala; descr.; refs.; crit.).—SUMICHRAST, Mem. Boston Soc. Nat. Hist., vol. 1, 1869, p. 546 (Temperate Region, Vera Cruz).—BAIRD, BREWER, and RIDGWAY, Hist. N. Amer. Birds, vol. 1, 1874, p. 312, part (diag.).—BOUCARD, Ann. Soc. Linn. Lyon, n. s., vol. 25, 1878, p. 40 (Guatemala).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 171, part (Mexican and Guatemalan localities and refs.; descr.; range; crit.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 383, part (Mexican and Guatemalan localities and refs.; descr.; crit.).—VON BERLEPSCH, Auk, vol. 5, 1888, p. 450, in text (Guatemala; meas.).—UNDERWOOD, Ibis, 1896, p. 434 (Volcano Miravalles, Costa Rica).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 10, 1898, p. 25 (Jalapa, Vera Cruz).—NELSON, Auk, vol. 15, 1898, p. 159 (San Sebastian, Jalisco, and Pluma, Oaxaca).—DEARBORN, Field Mus. Orn. Ser., vol. 1, 1907, p. 131 (Patulul, Guatemala).

Basileuterus brasieri (not *Muscicapa brasieri* Giraud) SCLATER, Proc. Zool. Soc. London, 1855, p. 66 (crit.); 1856, p. 292 (Cordova, Mexico); 1859, p. 374 (Teotalcingo, Oaxaca).—SALVIN and SCLATER, Ibis, 1860, p. 274 (Volcan de Fuego, Guatemala; habits).—SCLATER, Proc. Zool. Soc. London, 1865, p. 283, excl. syn. part (refs.; diag.; range).

Basileuterus culicivorus culicivorus RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 753, part (descr.; range; meas.; excl. Costa Rican localities and refs.).—CARRIKER, Ann. Carnegie Mus., vol. 6, 1910, p. 794, part (localities in northwestern Costa Rica only).—PETERS, Auk, vol. 30, 1913, p. 378 (Camp Mengel, Quintana Roo, Mexico).—BANGS and PETERS, Bull. Mus. Comp. Zool., vol. 67, 1927, p. 484 (Presidio and Motzorongo, Vera Cruz).

Basileuterus culicivorus flavescens RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 755 (San Sebastian, Jalisco, Mexico; orig. descr.; type in coll. U. S. Nat. Mus.).

Description.—Pileum with two broad lateral stripes of black, produced to the nape, and inclosing a broad median stripe of empire yellow, passing into ecru olive posteriorly, this yellow color sometimes more or less tinged with raw sienna, or even wholly of this color; rest of the upper parts, and the wings and tail externally, dark olive gray; sides of the head yellowish olive with more or less of a grayish cast, the loreal and postorbital spots blackish, the upper and under eyelids dull yellow, and the supraloral region the same; entire under parts bright yellow (lemon chrome), the breast, sides, and

flanks shaded with sulphine yellow; "iris brown; bill brownish black, paler below; feet flesh color." (Young stages not seen.)

Measurements.—Male: Wing, 59–63 (average, 61); tail, 52–57 (53.5); bill, 9.5–11 (10.2); tarsus, 18–19.5 (19). Female: Wing, 54–58 (56); tail, 48–52 (49.5); tail, 9–10.5 (9.7); tarsus, 17.5–19.5 (18.8).

Range.—Southern Mexico, from Vera Cruz (also in Jalisco) and Pueblo south and east to Chiapas and Campeche, and to Guatemala; reappearing in northern Nicaragua and northwestern Costa Rica.

Remarks.—I select as type locality for this form Jalapa, Vera Cruz, ex Cabanis, 1850, who was the next after Lichtenstein to record it. Slater at first overlooked Lichtenstein's brief diagnosis, and identified the form with the *Muscicapa brasierii* of Giraud, with which it is now considered conspecific, as given by Mr. Ridgway in his great work. I can not, however, follow this noted authority in separating the birds from Jalisco under another name, *flavescens*. I find that the type and topotype of this supposed new race are so closely matched by skins from Jalapa and other points in eastern Mexico that I could not think of separating them, certainly not on the basis of only two specimens. On the other hand, there appears to be some geographical variation in evidence between specimens from the northern and southern parts of the range, respectively. Thus, only 10 out of 53 skins from Mexico, Guatemala, and British Honduras show any decided admixture of "orange rufous" (i. e., raw sienna) on the crown, the majority of the individuals being plain yellow on this part. By way of contrast, only 14 out of 63 specimens from Nicaragua and northwestern Costa Rica fail to show decidedly this reddish color. (All the specimens of this race from Costa Rica come from the northwestern part of the country; those from other parts I refer to *godmani*.) Nevertheless, to set up the southern birds as an intermediate race on the basis of this imperfectly differentiated character would be highly undesirable.

Specimens examined.—Mexico: Jalapa, Vera Cruz, 14; Pasa Nueva, Vera Cruz, 1; Buena Vista, Vera Cruz, 1; Motzorongo, Vera Cruz, 2; Presidio, Vera Cruz, 1; San Andreas Tuxtla, Vera Cruz, 1; Mirador, Vera Cruz, 3; Cordova, Vera Cruz, 1; Metlatoyuca, Puebla, 4; mountains near Santo Domingo, Oaxaca, 2; Choapam, Oaxaca, 1; Pluma, Oaxaca, 2; San Sebastian, Jalisco, 2 (including type of *B. c. flavescens*); Teapa, Tabasco, 5; Apazote, Campeche, 1; Camp Mengel, Quintana Roo, 1; Amatan, Chiapas, 2; Ocuilapa, Chiapas, 2; unspecified, 2. British Honduras: Manatee Lagoon, 2; El Cayo, 1. Guatemala: Vera Paz, 1; Patulul, 2; Finca Sepacuite, 12; Secanquim, 5; Finca El Espino, 1; unspecified, 13. Nicaragua: Rio Coco

(Wanks River), 1; San Rafael del Norte, 1. Costa Rica: Tenorio, 26; Miravalles, 17; La Vijagua, 3; El General, 4; Cerro Santa Maria, 15. Total, 152.

BASILEUTERUS CULICIVORUS BRASHERII (Giraud)

Musicapa brasierii (error typ.) GIRAUD, Sixteen Species of Texas Birds, 1841, pl. [6], fig. 2 and text ("Texas"; orig. descr.; type in coll. U. S. Nat. Mus.).—SCLATER, Proc. Zool. Soc. London, 1855, p. 66 (crit.).

Basileuterus braiseri BAIRD, Rept. Pacific R. R. Surv., vol. 9, 1858, p. 306 (in list of species; refs.).

Basileuterus brasherii BERIER, Bull. Nuttall Orn. Club, vol. 5, 1880, p. 239 (crit. on name).

Basileuterus culicivorus (not *Sylvia culicivora* Lichtenstein) RIDGWAY, Proc. U. S. Nat. Mus., vol. 3, 1880, p. 174 (in list of N. Amer. species), p. 216 (syn.), pp. 229, 232 (range).—RIDGWAY, Bull. U. S. Nat. Mus., No. 21, 1881, pp. 19, 62, 75, 78 (same matter).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Check-List of N. Amer. Birds, 1886, p. 318, part ("Texas," in range).—RIDGWAY, Man. N. Amer. Birds, 1887, p. 531, part ("Texas," in range).—ALLEN, Auk, vol. 10, 1893, p. 141 (faunal range).—RICHMOND, Proc. U. S. Nat. Mus., vol. 18, 1896, p. 632 (Alta Mira, Tamaulipas).

Basileuterus culicivorus brasherii RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 755 (descr.; range; refs.).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, Auk, vol. 21, 1904, p. 417 (in list of N. Amer. species); vol. 25, 1908, p. 354 (no valid Texas record).—STONE, Auk, vol. 36, 1919, p. 469 (Giraud's ref.).

Basileuterus culicivorus brasherii COOKE, Auk, vol. 22, 1905, p. 299, part (range).—PHILLIPS, Auk, vol. 28, 1911, p. 87 (Santa Leonor, Caballeros, Guiaves, Rio Martinez, and Rio Cruz, Tamaulipas, Mexico).

Subspecific characters.—Similar to *Basileuterus culicivorus culicivorus*, but upper parts paler, deep grayish olive, and light stripes of pileum averaging more greenish.

Measurements.—Male: Wing, 58–60 (average, 61.5); tail, 52–58 (55); bill, 9.5–10.5 (10); tarsus, 18–20 (19). Female: Wing, 55–63 (58); tail, 49–55 (53); bill, 9.5–10.5 (10); tarsus, 18.5–20.5 (19.5).

Range.—Northeastern Mexico, in States of San Luis Potosi, Nuevo Leon, southern Tamaulipas, and northern Vera Cruz.

Remarks.—This bird, named in honor of Philip Brasher, is one of Giraud's unconfirmed "Texas" records. It was early identified with *B. culicivorus* proper, and remained unrecognized until revived in a subspecific sense by Mr. Ridgway in 1902. Giraud's type specimen, still preserved in the collection of the United States National Museum, is worn and faded, but probably belongs to the race here characterized. It seems desirable to select a new type locality, and I would suggest Alta Mira, in the State of Tamaulipas, Mexico, as such. There is a specimen from Rivera, Vera Cruz (75 miles south of Tampico), in the collection of the American Museum of Natural History, showing that it ranges into northern Vera Cruz, and there are others from San Luis Potosi and Nuevo Leon.

An example in juvenal dress (No. 85,675, Collection American Museum of Natural History) is dull olive brownish above, the head more brownish; below buffy brownish.

Specimens examined.—Mexico: Alta Mira, Tamaulipas, 16; Tampico, Tamaulipas, 2; Rio Cruz, Tamaulipas, 23; Santa Leonor, Tamaulipas, 19; Rio Martinez, Tamaulipas, 1; Caballeros, Tamaulipas, 2; Guiaves, Tamaulipas, 4; Ciudad Victoria, Tamaulipas, 18; Sierra Madre, Victoria, Tamaulipas, 2; Boquilla, Nuevo Leon, 9; Cerro de la Silla, Nuevo Leon, 3; Jilitta, San Luis Potosi, 1; Rivera, Vera Cruz, 1; unspecified, 1. "Texas." 1 (type). Total, 103.

BASILEUTERUS CULICIVORUS GODMANI von Berlepsch

Basileuterus culicivorus (not *Sylvia culicivora* Lichtenstein) BAIRD, Rev. Amer. Birds, 1865, p. 245, part (Barranca, Costa Rica; crit.).—LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vol. 9, 1868, p. 95 (Barranca, Guiatil, Grecia, and Dota, Costa Rica).—SALVIN, Proc. Zool. Soc. London, 1870, p. 183 (Calovevora, Veragua).—BOUCARD, Proc. Zool. Soc. London, 1878, p. 52 (San José, Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 171, part (Costa Rica and Panama localities and refs.; crit.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 383, part (localities in Costa Rica and Veragua).—ZELEDON, An. Mus. Nac. Costa Rica, vol. 1, 1887, p. 107 (Sabanilla de Alajuela, Naranjo de Cartago, and Dota, Costa Rica).

Basileuterus godmani VON BERLEPSCH, Auk, vol. 5, 1888, p. 450 (Veragua; orig. descr.; type now in coll. Frankfort Mus.).

Basileuterus godmani (lapsus) CHERRIE, An. Inst. Fis.-Geog. Nac. Costa Rica, vol. 6, 1893, p. 10 (San Marcos, Sabanilla, and Naranjo de Cartago, Costa Rica; descr.; crit.).

Basileuterus culicivorus godmani BANGS, Proc. New England Zool. Club, vol. 3, 1902, p. 60 (Boquete and Volcan de Chiriqui, Panama).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 756 (descr.; range; refs.).—FERRY, Field Mus. Orn. Ser., vol. 1, 1910, p. 277 (Guayabo, Costa Rica).

Basileuterus culicivorus culicivorus CARRIKER, Ann. Carnegie Mus., vol. 6, 1910, p. 794, part (Costa Rican localities and refs. [excl. N. W. Costa Rica]; habits; range; crit.).

Subspecific characters.—Similar to *Basileuterus culicivorus culicivorus*, but upper parts, sides of the head, etc., less grayish, more greenish (near yellowish olive), scarcely different from the color of the median stripe posteriorly.

Measurements.—Male: Wing, 59–66 (average, 62); tail, 50–57 (53); bill, 9.5–10.5 (10); tarsus, 19–20 (19.5). Female: Wing, 55–62 (58.5); tail, 46–54 (50.5); bill, 9.5–10.5 (10); tarsus, 18.5–20 (19).

Range.—Costa Rica (except northwestern part) to western Panama, chiefly in the Subtropical Zone.

Remarks.—Baird was the first author to notice that Costa Rican examples of this species were not quite the same as those from Mexico and Guatemala, and suggested that season might have something to do with the difference. Salvin and Godman also discussed

the case, but without reaching any definite conclusion. The late Count von Berlepsch formally separated the southern form in 1888, on the basis of the larger size and different coloration shown by two specimens from Veragua, and the name he gave has been accepted in a subspecific sense by Mr. Bangs and Mr. Ridgway for examples from that region. Both Mr. Ridgway and Mr. Carriker remark the intermediate character of Costa Rican specimens, but conclude to refer them all to *culicivorus* proper. After again going over the case with considerable additional material, however, I am satisfied that placing the birds from northwestern Costa Rica with true *culicivorus*, and those of all the rest of the country with *godmani*, really expresses the facts better than the other arrangement. Certainly, three birds from Guayabo, collected by Mr. Ridgway himself, are absolutely identical with Panama specimens, and others also are very close. I think it better to keep all the more greenish-backed birds with *godmani*, the more so as the series from northwestern Costa Rica, taken as a whole, are obviously grayer above than the others. The only other alternative would be to separate the Costa Rican bird under a new name, which is not advisable. The larger size of *godmani*, upon which von Berlepsch laid so much stress, proves to be too slight to be of any diagnostic value, and the color of the coronal spot also varies, although it is apparently more often tinged with orange rufous than in Mexican specimens of *culicivorus*.

Specimens examined.—Costa Rica: Aquinares, 3; Guiatil, 1; Juan Viñas, 4; La Estrella de Cartago, 3; Ujuras de Terraba, 4; Peralta, 1; Naranjo, 1; Barranca, 2; La Cedral Aserri, 1; San Marcos, 2; Dota, 1; Santa Maria de Dota, 11; La Gunaria, Santa Maria de Dota, 1; Navarro, 1; Grecia, 2; El Copey, 1; Bonilla, 4; Guayabo, 6; unspecified, 3. Panama: Volcan de Chiriqui, 3; Boquete, 16; unspecified, 1. Total, 72.

BASILEUTERUS BASILICUS (Todd)

Hemispingus basilicus TODD, Proc. Biol. Soc. Washington, vol. 26, 1913, p. 170 (San Lorenzo [de Santa Marta], Colombia; orig. descr.; type in coll. Carnegie Mus.).—TODD and CARRIKER, Ann. Carnegie Mus., vol. 14, 1922, p. 446, pl. 6 (San Lorenzo, Macotama, and Paramo de Mamarongo, Sierra Nevada de Santa Marta, Colombia; descr.; meas.; crit.; habits).

Description.—Adult male: back, wings externally, and tail dark warbler green; whole head and neck black, with broad and conspicuous superciliary and vertical stripes of pale grayish white, the vertical stripe strongly tinged anteriorly with citron yellow; an isolated broad white stripe or patch behind the ear-coverts, and some white mottling below the eye; throat (narrowly) dull white,

more or less speckled with dusky; rest of under parts lemon chrome, the sides and flanks darker, shaded with pyrite yellow; "bill black; feet brownish yellow or yellowish flesh-color; iris brown."

Adult female similar but rather duller. Immature male also similar, but the black areas of the head and neck duller, more brownish, and the superciliary and vertical stripes, and postauricular and subocular spots tinged with buffy, and less sharply defined.

Juvenal plumage: Similar in general to that of the adult, but everywhere darker and duller, the upper parts, etc., dark citrine; head and neck brown, with the light markings warm buff; chin and upper throat dull white; lower throat, breast, and sides shaded with citrine; abdomen amber yellow, and under tail-coverts sulphine yellow.

Measurements.—Male (five specimens): Wing, 67–70 (68.5); tail, 65–69 (66.5); bill, 11.5–13 (12.5); tarsus, 22–24 (22.7). Female (two specimens): Wing, 63–66; tail, 61–63; bill, 12–12.5; tarsus, 23–24.

Range.—Temperate Zone, Sierra Nevada de Santa Marta, Colombia.

Remarks.—The present description is reproduced from that in the paper by Mr. Carriker and the writer above cited. The plate is faulty in a measure, the yellow being too dull. A more careful study of this species shows that we were clearly in error in referring it to *Hemispingus*, and that it is instead a typical *Basileuterus*, with the prominent rictal bristles and color-pattern characteristic of that group. Although perfectly distinct from any other known species, its relationships possibly lie with *B. tristriatus*, which it resembles moreover in its faunal range, both being birds of the Temperate Zone in their respective mountain systems.

Specimens examined.—Colombia: San Lorenzo, 4; Macotama, 1; Paramo de Mamarongo, 4. Total, 9.

BASILEUTERUS IGNOTUS Nelson

Basileuterus melanogenys ignotus NELSON, Smithsonian Misc. Coll., vol. 60, No. 3, 1912, p. 21 (Mount Pirri, 5,200 feet, eastern Panama; orig. descr.; type in coll. U. S. Nat. Mus.).—GOLDMAN, Smithsonian Misc. Coll., vol. 69, No. 5, 1920, p. 40 (faunal range).—GRISCOM, Amer. Mus. Nov., No. 280, 1927, p. 13, in text (crit.).

Description.—Above dull green (near olive citrine), the wings and tail externally more brownish (near buffy citrine); pileum chestnut, with a narrow frontal and lateral black border; broad superciliaries straw yellow; sides of the head greenish dusky, the auriculars more greenish, with faint whitish mottling; throat dull yellowish white, flecked with dusky; under parts pale yellow (straw yellow), the breast and sides shaded with buffy olive, becoming dark olive buff on the flanks; feet and bill pale horn brown (in skin).

Measurements.—Female type: Wing, 57; tail, 55; bill, 11; tarsus, 20.5.

Range.—Subtropical Zone, eastern Panama (Mount Pirri).

Remarks.—Described originally as a subspecies of *B. melanogenys*, this form appears upon comparison to be worthy of full specific rank. Its color-pattern is the same, but the yellow superciliaries, broadening out in front so as to take up most of the forehead, the more greenish sides of the head, with the dark area more restricted and far less conspicuous, and the yellowish under parts, are characters which definitely mark it off from *melanogenys*. Its range is just as definitely cut off from that of *melanogenys* by the low country of Panama, since both are species of the Subtropical Zone. It is known at present from the type alone.

Specimens examined.—Panama: Mount Pirri (near head of Rio Limon, at 5,200 feet), 1 (the type).

BASILEUTERUS BENSONI Griscom

Basileuterus bensoni GRISCOM, Amer. Mus. Nov. No. 280, 1927, p. 12 (Chitrá, 4,700 feet, Veragua, Panama; type in coll. Amer. Mus. Nat. Hist.).

Description.—Pileum chestnut, with a narrow lateral border of black, meeting on the forehead, and tending to spread over the nape; wide superciliaries pure white; sides of the head black; upper parts olivaceous black (No. 1 of Ridgway's "Color Standards"); wings externally and tail more olivaceous (deep olive); chin and maxillary region black, flecked with white; under parts soiled white, the breast and sides heavily shaded with neutral gray, and the flanks washed with deep grayish olive; under wing-coverts grayish; bill horn brown above, pale below; feet horn brown (in skin).

Measurements.—Male (two specimens): Wing, 60–63; tail, 57–58; bill, 11; tarsus, 20.5. Female (two specimens): Wing, 57–60; tail, 51–56; bill, 10–10.5; tarsus, 20.5.

Range.—Subtropical Zone of Veragua, western Panama.

Remarks.—This recent interesting discovery by Mr. Rex R. Benson adds a third member to the group exemplified by *B. melanogenys*, which species was long supposed to be an isolated form, without near allies. *B. bensoni* is in no sense, however, intermediate in its characters between *B. melanogenys* and *B. ignotus*, but represents rather a further development of the former. Its characters are clearly of specific value, although the pattern of coloration is the same as that of *melanogenys*.

Specimens examined.—Panama; Chitrá, Veragua, 4 (including type).

BASILEUTERUS MELANOGENYS EXIMIUS Nelson

Basileuterus melanogenys (not of Baird) SALVIN, Proc. Zool. Soc. London, 1870, p. 183 (Volcan de Chiriqui, Panama).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 174, part (Volcan de Chiriqui, Panama).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 398, part (Chiri-

qui, Panama; descr.; refs.).—BANGS, Proc. New England Zool. Club, vol. 3, 1902, p. 60 (Boquete and Volcan de Chiriqui, Panama).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 751, part (Panama localities and refs.).

Basileuterus melanogenys eximius NELSON, Smithsonian Misc. Coll., vol. 60, No. 3, 1912, 22 (Boquete [5,000 feet], Panama; orig. descr.; type in coll. Mus. Comp. Zool.).—GOLDMAN, Smithsonian Misc. Coll., vol. 69, No. 5, 1920, p. 42 (faunal range).—GRISCOM, Amer. Mus. Nov. No. 280, 1927, p. 13, in text (crit.).

Subspecific characters.—Similar to *Basileuterus melanogenys melanogenys*, but upper parts averaging duller, less decidedly olivaceous, and under parts less buffy, more whitish.

Measurements.—Male (seven specimens): Wing, 59–65 (average, 63); tail, 57–64 (60); bill, 9.5–10.5 (10); tarsus, 22–23 (22.5). Female (six specimens): Wing, 58–64 (61); tail, 55–61 (58); bill, 10–10.5 (10); tarsus, 22–23 (22.7).

Range.—Highlands of western Panama.

Remarks.—*Basileuterus melanogenys eximius* is not a strongly marked race, but is discernible in comparison of series. The describer had only the type and one other specimen, both of which are more grayish above than Costa Rican skins, but a larger series fail to emphasize this feature, and many examples are scarcely or not distinguishable in this respect. Specimens were taken in Chiriqui by Arcé not long after von Frantzius secured his in Costa Rica, but the Chiriqui bird was not recognized as racially distinct until Doctor Nelson examined some of those collected by Mr. W. W. Brown in 1901.

Specimens examined.—Panama: Volcan de Chiriqui, 7; Boquete, 8 (including type). Total, 15.

BASILEUTERUS MELANOGENYS MELANOGENYS Baird

Basileuterus melanogenys BAIRD, Rev. Amer. Birds, 1865, p. 247 (diag.), p. 248 [San José?], Costa Rica; orig. descr.; type in coll. U. S. Nat. Mus.).—LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vol. 9, 1868, p. 95 (San José, Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 174, part, pl. 10, fig. 3 (San José and Volcano Irazú, Costa Rica; descr.; Costa Rican references).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 398, part (Irazú district, Costa Rica).—ZELEDON, An. Mus. Nac. Costa Rica, vol. 1, 1887, p. 107 (La Palma de San José, Costa Rica).—CHERRIE, Proc. U. S. Nat. Mus., vol. 14, 1891, p. 528 (descr. young).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 751, part (descr.; Costa Rican localities and refs.).—FERRY, Field Mus. Orn. Ser., vol. 1, 1910, p. 277 (Coliblanco and Volcano Turrialba, Costa Rica).—CARRIKER, Ann. Carnegie Mus., vol. 6, 1910, p. 796 (Costa Rican localities and refs.; crit.; habits).

Description.—Pileum chestnut, inclosed by two lateral narrow lines of black, meeting on the forehead, and widening on the nape; con-

spicuous superciliaries white; lores and sides of the head black; upper parts brownish olive, the wings and tail externally similar but lighter in color, more buffy olive; throat pale buffy whitish, more or less mottled with blackish towards the chin; rest of under parts pale buffy, most decided posteriorly, the breast and sides more or less shaded with deep grayish olive, passing into ecru olive on the flanks; under wing-coverts buffy white; "iris hazel; feet dusky flesh-color; bill brownish black above, flesh-color below."

Juvenal plumage: Above rich brown (between Prout's brown and mummy brown); faint superciliaries paler, more buffy; wings and tail externally dull olivaceous, the middle and greater wing-coverts tipped with rusty buff; below buckthorn brown, the belly buffy medially, the throat more grayish.

Measurements.—Male: Wing, 61–67 (average, 65); tail, 58–64 (61.5); bill, 10–11 (10.5); tarsus, 22–23.5 (23). Female: Wing, 58–64; (60); tail, 55–62 (58.5); bill, 9.5–11 (10.3); tarsus, 21–23 (22).

Range.—Highlands of Costa Rica.

Remarks.—This species belongs to an isolated group, which is possibly distantly related to *B. belli*, and has a somewhat analogous altitudinal range, which according to Mr. Carriker extends "from about 6,000 feet nearly if not quite up to timber-line on the high volcanoes." It is an inhabitant of the low trees and underbrush of the heavy forest of these parts, and is somewhat wrenlike in its habits.

Baird's appropriate name for the species has fortunately escaped synonyms. Mr. Carriker thinks that his type specimen could not possibly have come from San José, but from some higher elevation.

Specimens examined.—Costa Rica: La Estrella de Cartago, 5; Quebradilla de Azahar, 3; Azahar de Cartago, 8; "San José," 2 (including type); El Roble, Volcano Irazú, 1; Volcano Irazú, 26; Las Vueltas, 2; Volcano Turrialba, 7; Coliblanco, 2; Lagunaria, Santa Maria de Dota, 2; El Copey, 2; La Palma, 1; Alto, Poas, 1; Ujurás de Terraba, 8; unspecified, 3. Total, 73.

BASILEUTERUS BELLI BELLI (Giraud)

Muscicapa belli GIRAUD, Sixteen Species Texas Birds, 1841, pl. 4, fig. 2 and text ("Texas"; orig. descr.; type in coll. U. S. Nat. Mus.).

Basileuterus chrysophrys BONAPARTE, Consp. Avium, vol. 1, 1850, p. 314 Real Ariba, Mexico; orig. descr.; type in coll. Berlin Mus.).—SCLATER, Proc. Zool. Soc. London, 1857, p. 202 (Jalapa, Vera Cruz; descr.).

Basileuterus belli SCLATER, Proc. Zool. Soc. London, 1855, p. 65 (syn.; crit.).—BAIRD, Rept. Pacific R. R. Survey, vol. 9, 1858, p. 305 (refs.).—SCLATER, Proc. Zool. Soc. London, 1859, p. 374 (Llano Verde and Totontepec, Oaxaca; refs.).—BAIRD, Rev. Amer. Birds, 1865, p. 248 (diag.), p. 250, part (Orizaba, Vera Cruz; descr.; refs.).—SUMICHRAST, Mem. Boston Soc. Nat. Hist., vol. 1, 1869, p. 546 (Temperate Region, Vera Cruz).—BAIRD, BREWER, and RIDGWAY, Hist. N. Amer. Birds, vol. 1,

1874, p. 313, part (Mexico; diag.).—SALVIN and GODMAN, *Biol. Centr.-Amer.*, Aves, vol. 1, 1881, p. 174, part (Mexican localities and refs.; descr.; range, etc.).—SHARPE, *Cat. Birds Brit. Mus.*, vol. 10, 1885, p. 395, part (Mexican localities and refs.; descr.).—NELSON, *Auk*, vol. 15, 1898, p. 159 (Chilpancingo, Guerrero; San Sebastian, Jalisco); vol. 17, 1900, p. 268, in text (Mt. Zempoaltepec, Oaxaca; meas.).—COOKE, *Auk*, vol. 22, 1905, p. 299 (range).—AMERICAN ORNITHOLOGISTS' UNION COMMITTEE, *Auk*, vol. 25, 1908, p. 354 (no valid Texas record).—SMITH, *Condor*, vol. 11, 1909, p. 61 (Cuernavaca, Morelos; habits).

Basileuterus bellii bellii SCLATER, *Cat. Amer. Birds*, 1861, p. 35 (Orizaba, Vera Cruz; refs.); *Proc. Zool. Soc. London*, 1865, p. 283, excl. syn. part (refs.; diag.; range).

Basileuterus belli belli RIDGWAY, *Bull. U. S. Nat. Mus.*, No. 50, vol. 2, 1902, p. 743 (descr.; range, refs.).—PHILLIPS, *Auk*, vol. 28, 1911, p. 86 (Montelunga, Rampahuila, Carricitos, and Galindo, Tamaulipas).—STONE, *Auk*, vol. 36, 1919, p. 469 (Giraud's ref.).

Basileuterus belli clarus RIDGWAY, *Bull. U. S. Nat. Mus.*, No. 50, vol. 2, 1902, p. 745 (Mountains near Chilpancingo, Guerrero; orig. descr.; type in coll. U. S. Nat. Mus.).

Description.—Above, including wings and tail externally. dull green (between olive green and warbler green); center of the crown chestnut, with lateral marginal stripes of black, meeting each other on the forehead; broad superciliary stripe lemon chrome; sides of the head below the superciliaries chestnut, sometimes inclining to blackish on the lores; malar region and under parts lemon yellow, with more or less shading of pyrite yellow on the sides and flanks, the chin whitish; under wing-coverts dull yellowish white; bill brownish black; feet pale (in skin).

The sexes are alike. The black stripes on the pileum are irregular in outline, and are not well marked in some specimens.

Juvenal plumage: "above, including pileum, superciliary region, and lores. plain sepia or bister brown; the remiges and rectrices olive-green. as in adults; middle and greater wing-coverts tipped with light fulvous or cinnamon-buff, producing two rather distinct bands across wing; sides of head (except lores) plain olive, gradually fading into paler olive on throat and chest, this passing into tawny olive or raw umber on sides and flanks; abdomen, anal region, and under tail-coverts pale yellow (straw yellow)" (Ridgway).

Measurements.—Male: Wing, 56–64 (average, 60); tail, 52–59 (56); bill, 9.5–10.5 (10); tarsus, 20–22 (21). Female (six specimens): Wing, 57–62 (58.5); tail, 53–61 (58); bill, 10–11 (10.5); tarsus, 20.5–23.5 (21).

Range.—Highlands of southern Mexico, from Jalisco and Tamaulipas south to Oaxaca.

Remarks.—"This species, again, was described in 1840 [1841] by Giraud as from Texas, but has not since been found nearly so far north; so that this locality requires further confirmation. The first

specimens ever obtained were doubtless those in the Berlin Museum, sent from Real Ariba and Lagunas by Deppe before the year 1830, to which Lichtenstein attached, unfortunately in manuscript only, the appropriate name of *Sylvia chrysophrys*. This name remained unpublished until Bonaparte used it in his 'Conspectus,' in 1850, too late for adoption, as Mr. Selater long ago pointed out.⁸

Few of the numerous references in the literature, as in part listed above, have really added anything to our knowledge of this species. Giraud's type specimen is now much faded; the color of the upper parts, however, is darker than in fresh specimens. There is no ground for believing that it could have come from "Texas," as Giraud claimed. I therefore suggest that the type locality be fixed as Mount Orizaba, Vera Cruz, whence came the specimens collected by Botteri. Later collectors have traced it northward to Tamaulipas, southward to Oaxaca, and on the Pacific side even to Jalisco. Mr. Ridgway, in his great work on the "Birds of North and Middle America," undertook to separate these Pacific birds under the name *clarus*, but I fail to discover any real differences between specimens from Vera Cruz on the one hand and Guerrero on the other, after handling the same material as he did.

The Bell Warbler appears to belong to the zone called by Sumichrast in Vera Cruz the "Temperate Region," and to be an inhabitant of low brush and thickets, where it has much the habits of the Maryland yellowthroat. Nothing appears to be on record concerning its nest and eggs.

Specimens examined.—"Texas": 1 (type of species). Mexico: Jalapa, Vera Cruz, 2; Mount Orizaba, Vera Cruz, 4; Jico, Vera Cruz, 1; Carricitos, Tamaulipas, 2; Galindo, Tamaulipas, 1; Montalunga, Tamaulipas, 2; Mount Zempoaltepec, Oaxaca, 4; Reyes, Oaxaca, 1; Mount Tancitaro, Michoacan, 1; Huitzilac, Morelos, 1; Mountains near Chilpancingo, Guerrero, 3 (including type of *B. b. clarus*); Omilteme, Guerrero, 2; San Sebastian, Jalisco, 1; Ajusco, Mexico, 1; unspecified, 2. Total, 29.

BASILEUTERUS BELLI SCITULUS Nelson

Basileuterus belli (not *Muscicapa belli* Giraud) SALVIN and SCLATER, Ibis, 1860, p. 31, excl. syn. (Coban, Guatemala).—BAIRD, Rev. Amer. Birds, 1865, p. 250, part (Coban, Guatemala).—BAIRD, BREWER, and RIDGWAY, Hist. N. Amer. Birds, vol. 1, 1874, p. 313, part (Guatemala, in range).—BOUCARD, Ann. Soc. Linn. Lyon, n. s., vol. 25, 1878, p. 40 (Guatemala).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 174, part (Guatemalan localities and refs.; habits, etc.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 395, part (Guatemalan localities and refs.).

⁸ Salvin and Godman, Biología Central-Americana, Aves, vol. 1, 1881, p. 174.

Basileuterus belli scitulus NELSON, Auk, vol. 17, 1900, p. 268 (Todos Santos, Guatemala; orig. descr.; type in coll. U. S. Nat. Mus.).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 744 (descr.; range; refs.).

Subspecific characters.—Similar to *Basileuterus belli belli*, but upper parts darker, olive green, and under parts less decidedly and extensively yellow, with more greenish shading.

Measurements.—Male (five specimens): Wing, 63–65 (average, 64.5); tail, 59–62 (60); bill, 10–10.5 (10.4); tarsus, 21–22 (21.5). Female (one specimen): Wing, 61; tail, 59; bill, 11; tarsus, 21.

Range.—Highlands of Guatemala.

Remarks.—A slightly differentiated form, barely separable by the characters above assigned, none of the others ascribed appearing to hold. The under parts, in fact, are *less* yellow, if anything, not more. Its range is confined to Guatemala and the adjoining parts of Mexico, in the State of Chiapas.

Specimens examined.—Mexico: San Cristobal, Chiapas, 2. Guatemala: Todos Santos, 2 (including type); Calderas, Volcan de Fuego, 3; Uspantan-Quiche, 1; unspecified, 1. Total, 9.

BASILEUTERUS DELATRII MESOCHRYsus Sclater

Basileuterus brunneiceps (not *Setophaga brunneiceps* Lafresnaye and D'Orbigny) BONAPARTE. *Consp. Avium*, vol. 1, 1850, p. 314 ("Bogotá," Colombia; diag.).

Basileuterus delatirii (not of Bonaparte) SCLATER, *Proc. Zool. Soc. London*, 1855, p. 144 ("Bogotá," Colombia; diag.; crit.).—CHERRIE, *Expl. Zool. Costa Rica*, vol. 1, Aves, 1893, p. 14 (Buenos Aires and Boruca, Costa Rica; local range).

Basileuterus mesochrysus SCLATER, *Proc. Zool. Soc. London*, 1860, p. 251, in text ("Bogotá," Colombia; orig. descr.; type in coll. Brit. Mus.).—BAIRD, *Rev. Amer. Birds*, 1865, p. 250, part ("Bogotá," Colombia; refs.).—SCLATER, *Proc. Zool. Soc. London*, 1865, p. 284 (refs.; diag.; range).—SALVIN, *Proc. Zool. Soc. London*, 1867, p. 136 (Santa Fé, Veragua; refs.; crit.); 1870, p. 183 (Chitrá and Calobre, Veragua).—WYATT, *Ibis*, 1871, p. 323 (Herradura and Cocuta Valley, Colombia).—SALVIN and GODMAN, *Ibis*, 1879, p. 198 (Manaure, Colombia; crit.); 1880, p. 117 (Chirua, Colombia).—SALVIN and GODMAN, *Biol. Centr.-Amer.*, Aves, vol. 1, 1881, p. 176, part (Panama and Colombia refs. and localities; descr.; range; crit.).—VON BERLEPSCH, *Journ. f. Orn.*, vol. 32, 1884, p. 282 (Bucaramanga and "Bogotá," Colombia; Wyatt's record; crit.).—SHARPE, *Cat. Birds Brit. Mus.*, vol. 10, 1885, p. 396, part (Panama and Colombia localities and refs.; descr.; crit.).—BANGS, *Proc. Biol. Soc. Washington*, vol. 12, 1898, p. 144 ("Santa Marta," Colombia), p. 180 (Palomina, Colombia).—ALLEN, *Bull. Amer. Mus. Nat. Hist.*, vol. 13, 1900, p. 176 (Bonda, Minca, and Cacagualito, Colombia).

Basileuterus delatirii (emendation ?) LAWRENCE, *Ann. Lyc. Nat. Hist. N. Y.*, vol. 7, 1861, p. 322 (Panama R. R.).

Basileuterus delatirii mesochrysus CHERRIE, *Proc. U. S. Nat. Mus.*, vol. 14, 1891, p. 342 (crit.; range).—TODD and CARRIKER, *Ann. Carnegie Mus.*, vol. 14, 1922, pp. 65, 439 (Santa Marta localities and refs.; plum.; range; crit.).

Basileuterus rufifrons mesochrysus RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 750 (descr.; range; refs.).—THAYER and BANGS, Bull. Mus. Comp. Zool., vol. 46, 1906, p. 221 (Savanna of Panama).—BANGS, Proc. Biol. Soc. Washington, vol. 22, 1909, p. 36 (Buenos Aires, El General, and Boruca, Costa Rica; range; crit.).—CARRIKER, Ann. Carnegie Mus., vol. 6, 1910, p. 797 (Costa Rican localities and refs.); range; habits).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 36, 1917, p. 553 (near Honda, Chicoral, and below Andalucia, Colombia; Colombian refs.).—STONE, Proc. Acad. Nat. Sci. Philadelphia, 1918, p. 274 (Gatun and Pedro Miguel, Panama).—GOLDMAN, Smithsonian Misc. Coll., vol. 69, No. 5, 1920, p. 30 (Panama; faunal range).—HALLINAN, Auk, vol. 41, 1924, p. 324 (Valley Rio Algarrobo, Sosa Hill, and Farfan, Panama; food).
Basileuterus rufifrons delatirii BANGS, Auk, vol. 24, 1907, p. 306 (Boruca and Paso Real, Costa Rica).

Subspecific characters.—Similar to *Basileuterus delatirii delatirii*, but back lighter (more yellowish) olive green; gray nuchal band more conspicuous; under parts purer yellow, with less greenish shading on the sides and flanks; white maxillary and mental spots larger, usually continuous with the suborbital spot; and tail shorter.

Measurements.—Male: Wing, 54–61 (average, 57.5); tail, 50–54 (52); bill, 10–11 (10.5); tarsus, 19–21 (20). Female: Wing, 53–59 (55.5); tail, 45–53 (50.5); bill, 9.5–11 (10.5); tarsus, 19–21 (19.8).

Range.—Southwestern Costa Rica through Panama to the Magdalena Valley and Santa Marta region of Colombia, in the Tropical Zone.

Remarks.—Sclater at first confused this form with *delatirii* of Bonaparte, but soon recognized its characters and described it in an informal way in 1860. As first suggested by Mr. Cherrie, it is clearly conspecific with *delatirii*, and like that form is a Tropical Zone bird, not going above 4,000 feet elevation. Oddly enough, there are no records for western Colombia, or even for the lower Atrato Valley, but it is apparently a common species in the Santa Marta region as well as in the Magdalena Valley, which latter must have been the actual source of the type specimen, and not "Bogotá."

Specimens examined.—Costa Rica: Boruca, 15; Buenos Aires, 6; El General, 18; Paso Real, Boruca, 1. Panama: Boqueron, Chiriqui, 1; Panama, 5; Balboa, 2; Farfan, 1; Gatun, 1; Colon, 1; Chitrá, Veragua, 1; "Porto Bello Trail, Continental Divide," 1; unspecified, 5. Colombia: Cacagualito, 5; Bonda, 3; Minca, 16; Agua Dulce, 1; Mamatoco, 3; Cincinnati, 1; La Tigrera, 10; Pueblo Viejo, 2; San Antonio, 1; La Concepción, 12; Palomina, 7; San Francisco, 1; Santa Marta Mountains, 5; Aguachica, 1; El Cauca, 7; El Tambor, 1; Mariquita, 1; Andalucia (3,000 feet), 9; Chicoral, Coello River (1,800 feet), Tolima, 3; within 20 miles of Honda, Tolima, 1; Cunday, 1; "Bogotá," 13. Total, 159.

BASILEUTERUS DELATRII DELATRII Bonaparte

- Basileuterus delatirii* BONAPARTE, Compt. Rend., vol. 38, 1854, p. 383 (Nicaragua; orig. descr.; type in coll. Paris Mus. [?]).—SCLATER and SALVIN, Ibis, 1860, p. 274 (Dueñas, Guatemala).—SOLATER, Proc. Zool. Soc. London, 1865, p. 284, part (refs.; Guatemala, in range).—SALVIN, Proc. Zool. Soc. London, 1867, p. 136, in text (Guatemala; crit.).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 176, part (Guatemalan localities and refs. [part]; descr.; crit.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 396, excl. syn. part (Calderas, La Trinidad, and Volcan de Agua, Guatemala; descr.; refs.).—CHERRIE, Proc. U. S. Nat. Mus., vol. 14, 1891, p. 340 (range: crit.), p. 527 (San José, Costa Rica; descr. young).—CHERRIE, Auk, vol. 9, 1892, p. 22 (San José, Costa Rica; descr. nest and eggs).—SALVIN and GODMAN, Ibis, 1892, p. 326 (Matagalpa and Chinandega, Nicaragua; Guatemalan localities [part]; crit.).
- Basileuterus delatirei* CABANIS, Journ. f. Orn., vol. 8, 1860, p. 325 (Costa Rica; crit.).—LANZT, Trans. Kansas Acad. Sci., "1896-97," 1899, p. 223 (near Granada, Nicaragua).
- Basileuterus mesochrysus* (not of Sclater) BAIRD, Rev. Amer. Birds, 1865, p. 248 (diag.), p. 250, part (San José, Costa Rica; descr.; refs.; crit.).—LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., vol. 9, 1868, p. 95 (San José, Grecia, and Guatitil, Costa Rica).—VON FRANTZIUS, Journ. f. Orn., vol. 17, 1869, p. 294 (San José, Costa Rica).—BOUCARD, Proc. Zool. Soc. London, 1878, p. 52 (San José and Cartago, Costa Rica).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 176, part (San José, Guatitil, Grecia, and Irazú, Costa Rica; refs.; crit.).—RIDGWAY, Proc. U. S. Nat. Mus., vol. 5, 1883, p. 499 (San José, Costa Rica).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 396, part (Grecia and Irazú, Costa Rica).—ZELEDON, An. Mus. Nac. Costa Rica, vol. 1, 1887, p. 107 (San José, Alajuela, Naranjo de Cartago, Grecia, and Monte Redondo, Costa Rica).—UNDERWOOD, Ibis, 1896, p. 434 (Miravalles, Costa Rica).
- Basileuterus rufifrons delatirii* RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 749 (descr.; range; refs.).—DEARBORN, Field Mus. Orn. Ser., vol. 1, 1907, p. 131 (Patulul and Lake Amatitlan, Guatemala; crit.).—BANGS, Proc. Biol. Soc. Washington, vol. 22, 1909, p. 36, in text (Tenorio and Cerro Sta. María, Costa Rica; range).—CARRIKER, Ann. Carnegie Mus., vol. 6, 1910, p. 798 (Costa Rican localities and refs.; range).—FERRY, Field Mus. Orn. Ser., vol. 1, 1910, p. 277 (Guayabo, Costa Rica; crit.).

Description.—Pileum and auriculars clear bay, separated from each other by a broad white superciliary stripe; rest of upper parts olive green, sometimes grayish-tinged on the nape; wings and tail dusky, with narrow outer margins of olive green; lores, circumocular and postocular regions dusky black, except for a white spot below the eye; chin and sometimes a short maxillary spot whitish; under parts lemon yellow, with more or less shading of warbler green on the sides and flanks; under wing-coverts light yellow; inner margins of remiges whitish below; "iris brown; feet dusky flesh-color; bill black" (Carriker).

Young in juvenal dress are dull brownish olive above and on the breast, the abdomen buffy yellowish; wing-coverts tipped with buffy;

the pale spot on the chin indicated, but the superciliaries faintly marked or obsolete.

Measurements.—Male: Wing, 53–59 (average, 56); tail, 51–58 (54.5); bill, 9.5–10.5 (10.3); tarsus, 18.5–20.5 (20). Female: Wing, 51–56 (54); tail, 49–56 (52.5); bill, 9.5–10.5 (10.2); tarsus, 19–20.5 (20).

Range.—Southern Guatemala to Costa Rica (except southwestern part).

Remarks.—Bonaparte's type probably came from western Nicaragua, although the authors of the "Biologia Centrali-Americana" express some doubts on this point. In Costa Rica it is found in the eastern and northern parts of the country, everywhere in fact (within its zonal limits) except in the extreme southwestern part, in the Teraba Valley. Salvin and Godman extended its known range to Guatemala, but at first confused it with "*B.*" *rufifrons* and "*B.*" *salvini*, so that Mr. Ridgway was led to place all their records from that country under the latter form. That this was a mistake is evident from an examination of the specimens in the collection of the British Museum on which these records were based. The localities represented are Calderas, La Trinidad (both on the Volcan de Fuego), and Volcan de Agua, the specimens being perfectly typical of *delatirii*. More recently Doctor Dearborn has recorded this species from Patulul and Lake Amatitlan, in the same general region. Since "*B.*" *rufifrons rufifrons* is known from Lake Atitlan and Dueñas it is clear that *delatirii* and *rufifrons* can not possibly be geographical races of one species, since their respective ranges meet while their characters continue constant, the two remaining perfectly distinct. *B. delatirii* may always be known from "*B.*" *rufifrons* by its relatively shorter tail (shorter than the wing instead of longer), its completely and more uniformly yellow under parts, and by its wholly rufous auriculars, without any white band or streak below. The chestnut of the pileum is rather darker, too, and shows no tendency to division in the middle by a paler streak, as is so often the case in "*B.*" *rufifrons*. For all the close external resemblance between these two forms, I am inclined to separate them generically.

Specimens examined.—Guatemala: Lake Amatitlan, 2; Patulul, Solola, 7; Volcan de Agua, above San Diego, 1; Calderas, Volcan de Fuego, 1; La Trinidad, Volcan de Fuego, 1. Nicaragua: Rio Coco (Wanks River), 1; Muy Muy, 1; Volcan Viejo, Chinandega, 2; Volcan de Chinandega, 3; Las Canas (6 miles E. of Matagalpa), 2,500 feet, 1; Matagalpa, 3; Leon, 1. Costa Rica: San José, 39; Cartago, 3; Guayabo, 10; Santa Maria de Dota, 1; Cerro Santa Maria, 1; Tenorio, 8; Miravalles, 3; Bebedero, 1; San Juan, 1; Monte

Redondo, 1; Monte Aguacate, 1; San Sebastian, 1; Juan Viñas, 5; Esparta, 1; Aquinares, 5; Agua Caliente, 1; unspecified, 1. Total, 108.

Genus *IDIOTES* Baird

Idiotes BAIRD, Rev. Amer. Birds, 1865, p. 247 (diag.; type, by original designation, *Scetophaga rufifrons* Swainson).

Generic characters.—Similar to *Basileuterus* Cabanis, but bill relatively shorter, and tail relatively longer, exceeding the wing in length, and composed of narrowed rectrices.

Remarks.—Baird included several other Middle American species in this group besides the type, but if restricted to the latter it becomes possible to recognize it to some advantage, while its elimination from *Basileuterus* enables a tighter definition for that group. It is, however, closely related to *Basileuterus delatirii*, so closely indeed that Mr. Ridgway made its type conspecific with the latter. As shown beyond, however, there appears to be no real connection between the two. The single species comprising this group is peculiar to Mexico and Guatemala, where it has become split up into a number of geographical races.

IDIOTES RUFIFRONS SALVINI (Cherrie)

Basileuterus delatirii (not of Bonaparte) SCLATER, Cat. Amer. Birds, 1861, p. 35, excl. syn. (Mexico).—BAIRD, Rev. Amer. Birds, 1865, p. 249, excl. syn. part (Coban, Guatemala; descr.; crit.).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 176, part (Coban and Cahabon, Guatemala).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 396, part (Coban, Guatemala).

Basileuterus rufifrons (not *Scetophaga rufifrons* Swainson) SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 397, part (Coban and Cahabon, Guatemala).

Basileuterus salvini CHERRIE, Proc. U. S. Nat. Mus., vol. 14, 1891, p. 342 (Coban, Vera Paz, Guatemala; orig. descr.; type in coll. U. S. Nat. Mus.).—SALVIN and GODMAN, Ibis, 1892, p. 326, in text (range; crit.).

Basileuterus flavigaster NELSON, Auk, vol. 14, 1897, p. 67 (Yajalon, Chiapas, Mexico; orig. descr.; type in coll. U. S. Nat. Mus.).

Basileuterus rufifrons salvini RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 749 (descr.; range; refs.).—DEARBORN, Field Mus. Orn. Ser., vol. 1, 1907, p. 131, in text (crit.).

Basileuterus rufifrons flavigaster RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 748 (descr.; range; refs. [part]).

Subspecific characters.—Similar to *Idiotes rufifrons rufifrons*, but with the yellow of the breast more extended posteriorly, often covering the entire under parts, with a buffy wash on the flanks and crissum.

Measurements.—Male (nine specimens): Wing, 51–57 (average, 54); tail, 53–57 (55); bill, 9–11 (10); tarsus, 20–22 (21). Female

(six specimens): Wing, 48-54 (51); tail, 52-57 (54); bill, 9.5-10.5 (10); tarsus, 20-21 (20.5).

Range.—Southeastern Mexico, from southern Vera Cruz southward through Tabasco and Chiapas to Vera Paz, Guatemala.

Remarks.—Slater's 1861 record of *Basileuterus* "*delatirii*" from Mexico must have been based on an example of this well-marked race, since *delatirii* does not range into that country. Baird in 1865, with a single example from Coban, Vera Paz, Guatemala, before him, again misidentified it with *B. delatirii*. Salvin and Godman, writing in 1881, placed their entire series from Guatemala under the same form, but were confused over certain discrepancies in coloration, which they were inclined to ascribe to differences in age. In 1885, however, we find Sharpe dividing the Guatemalan series between *B. delatirii* and "*B.*" *rufifrons*, one specimen from Coban falling with the former and two others from the same place with the latter. In 1892 Mr. Cherrie called attention to the peculiarities of the single Guatemalan specimen examined by him (also from Coban, and the same one that Baird had handled), which he thereupon proceeded to describe as a new species, "*B.*" *salvini*. The same year Salvin and Godman again returned to the question, and indorsed Mr. Cherrie's views as to the validity of *salvini*, the range of which they extended to Tabasco, Mexico. Again in 1897 Mr. Nelson undertook to separate the bird of this latter region under the name *flavigaster*, his type coming from Yajalon, Chiapas. He compared his new form directly with "*B.*" *rufifrons*, without referring to *salvini*. Mr. Ridgway, with the types of *salvini* and *flavigaster* before him in 1902, called attention to their close resemblance, while admitting both alleged forms to recognition as races of "*B.*" *rufifrons*. He was puzzled by the occurrence in Guatemala of birds representing both types, and thought that *salvini* might represent the resident race, and the other a migrant race.

With all the material before me that Mr. Ridgway had (which by itself was admittedly inconclusive), and much more, my findings are that there are only two forms of the *rufifrons* type in Guatemala, *salvini* and another which for the present I refer to true *rufifrons*. Through the courtesy of the authorities of the British Museum (Natural History) I have been permitted to examine two additional specimens in their collection from Coban, the type locality of *salvini*. (One of these is listed under *B. delatirii* in the "Catalogue of Birds," as already noted.) These specimens fail to bear out the supposed distinctive characters of *salvini* as compared with *flavigaster*. They agree sufficiently well with Mexican specimens of the latter, and with a series of nine specimens in the collection of Dr. Jonathan Dwight from Finca Sepecuite and Secanquim, situated in the region between

Coban and Lake Yzabal. Hence *flavigaster* is a synonym of the earlier *salvini*, which ranges northward from Vera Cruz in Guatemala to the Mexican State of Vera Cruz, where it probably intergrades with *I. rufifrons jouyi*. Of four birds from San Andres Tuxtla, Vera Cruz, only one is typical, the other three being more or less intermediate towards *jouyi*. A few miles west of Coban, at a place called Finca la Primavera, true *rufifrons* occurs, and again at Lake Atitlan, in the southwestern part of the country, so that the ranges of the two forms approximate each other here, without any signs of intergradation taking place.

The coloration of *I. rufifrons salvini*, resembling as it does that of *Basileuterus delatirii*, seems to have induced Mr. Ridgway to unite the two groups represented, respectively, by *rufifrons* and *delatirii* under one specific heading, making them conspecific. According to my views they are not even congeneric. The relatively long tail of *salvini*, with narrowed rectrices, its short, more rounded bill, and the white line under the auriculars, separate it definitely from *B. delatirii* and align it with *I. rufifrons*. There is absolutely no indication of intergradation between *rufifrons* and *delatirii* where their respective ranges approximate.

Specimens examined.—Guatemala: Coban, Vera Paz, 3 (including type); Cahabon, 1 (not typical); Finca Sepequite, 5; Secanquim, 4; unspecified, 5. Mexico: Teapa, Tabasco, 1; Yajalon, Chiapas, 1 (type of "*B.*" *flavigaster* Nelson); San Andres Tuxtla, Vera Cruz, 4; unspecified, 2. Total, 26.

IDIOTES RUFIFRONS RUFIFRONS (Swainson)

Setophaga rufifrons SWAINSON, Anim. in Menag., 1833, p. 294 ("Mexico"; orig. descr.; type in coll. Berlin Mus. [?]).

Basileuterus rufifrons BONAPARTE, Consp. Avium, vol. 1, 1850, p. 314 (Mexico; diag.).—SCLATER, Proc. Zool. Soc. London, 1856, p. 291 ([Cordova?], Vera Cruz); 1858, p. 299 (La Parada, Oaxaca).—BAIRD, Rev. Amer. Birds, 1865, p. 248, part (Jalapa and Mirador, Vera Cruz; descr.; refs.; crit.).—SCLATER, Proc. Zool. Soc. London, 1865, p. 284 (refs.; diag.; range).—SALVIN, Proc. Zool. Soc. London, 1867, p. 136, in text (range).—SUMICHRAST, Mem. Boston Soc. Nat. Hist., vol. 1, 1869, p. 546 (Temperate Region, Vera Cruz).—LAWRENCE, Bull. U. S. Nat. Mus., No. 4, 1876, p. 16 (Guichicovi, Chiapas).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 175, part (S. Mexico and Guatemala [part] localities and refs.; descr.; crit.).—SHARPE, Cat. Birds Brit. Mus., vol. 10, 1885, p. 397, excl. syn. part (Jalapa, Vera Cruz, and Cinco Señores, Oaxaca; Dueñas, Guatemala; descr.; refs.).—RIDGWAY, Proc. U. S. Nat. Mus., vol. 15, 1892, p. 119, in text (Mirador and Jalapa, Vera Cruz; Guichicovi, Oaxaca; crit.).—CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 10, 1898, p. 25 (Jalapa, Vera Cruz).—TODD and CARRIKER, Ann. Carnegie Mus., vol. 14, 1922, p. 440, in text (crit.).—BERLIOZ, Rev. Franc. d'Orn., vol. 8, 1923, p. 159 (Orizaba, Vera Cruz).

Basileuterus rufifrons rufifrons RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 745 (descr.; range; refs.).

Basileuterus rufifrons dugesi (not of Ridgway) DEARBORN, Field Mus. Orn. Ser., vol. 1, 1907, p. 131 (Panajachel, Lake Atitlan, Guatemala; crit.).

Description.—Pileum chestnut, usually with indications of a paler median stripe, the hindneck and sides of the neck deep olive gray, passing into citrine on the back; superciliary stripe white; loreal and postorbital regions black, connected by a narrow line above the eye; auricular region chestnut; chin and malar region dull white; throat and breast lemon chrome, passing into dull white on the abdomen, more or less shaded with buffy or yellowish, and the sides and flanks shaded with buffy brown; under wing-coverts pale yellow, the edge of the wing brighter; "iris brown; bill black; feet flesh-color."

Juvenal plumage (No. 143,228, Collection U. S. National Museum, Ocuilapa, Chiapas, Mexico, August 27, 1895): Above like the adult, but much duller citrine, the pileum still duller and browner than the back; the superciliary and transocular stripes indicated; under parts dull buffy, anteriorly tinged with yellow.

Measurements.—Male (eight specimens): Wing, 52-56 (average, 53); tail, 54-60 (57); bill, 9-10.5 (9.7); tarsus, 20-21.5 (20.5). Female (six specimens): Wing, 46-53 (49); tail, 51-57 (54); bill, 9-10.5 (9.7); tarsus, 19-21 (20).

Range.—Southern Mexico, from Puebla and central Vera Cruz to Oaxaca and Chiapas, and thence to southern Guatemala.

Remarks.—Swainson's description, brief as it is, clearly applies to this race and to no other. He does not say where his type specimen is to be found, nor does he give any more definite habitat than "Mexico." Specimens collected by Deppe, and deposited in the Berlin Museum, had in the meantime received a manuscript name, "*aurigula*," from Lichtenstein. Salvin and Godman state that Deppe's skins were taken at Real Ariba, in the State of Vera Cruz (?), and largely on this account I propose to designate this as the type locality. It occupies the highlands of southern Mexico, from Vera Cruz to the adjoining State of Puebla, and south to Oaxaca and Chiapas. In the coast region east of Vera Cruz it is replaced by the yellow-bellied race, *I. r. salvini*. Guatemala specimens (listed beyond) are referred here provisionally, but probably represent an undescribed race. Below they are the same as *I. rufifrons jouyi*, but are much greener above. I cannot agree with Doctor Dearborn that they represent winter resident individuals, or in calling them *dugesi*. The worn condition of the specimens, and the date of collection (April 10) forbids such a supposition, in my opinion.

Specimens examined.—Mexico: Jalapa, Vera Cruz, 7; Jico, Vera Cruz, 2; Mirador, Vera Cruz, 4; Pasa Nueva, Vera Cruz, 2 (interme-

diates); Orizaba, Vera Cruz, 2; Huachinango, Puebla, 2; near Tontotepec, Oaxaca, 1; Tuxtepec, Oaxaca, 1; Valley of Jiquipilos, Chiapas, 1; Ocuilapa, Chiapas, 3; Guachicovi, Chiapas, 1; unspecified, 1. Guatemala: Panajachel, Lake Atitlan, 5; Finca la Primavera, 10; Dueñas, 1; Vera Paz, 1. Total, 43.

IDIOTES RUFIFRONS JOUYI (Ridgway)

Basileuterus rufifrons jouyi RIDGWAY, Proc. U. S. Nat. Mus., vol. 15, 1892, p. 119 (Hacienda Angostura, San Luis Potosi; orig. descr.; type in coll. U. S. Nat. Mus.).—JOUY, Proc. U. S. Nat. Mus., vol. 16, "1893," 1894, p. 777, part (same locality; habits).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 746 (descr.; range; refs.).—PHILLIPS, Auk, vol. 28, 1911, p. 86 (Galindo, Guiaves, Montelunga, Yerba Burna, Rampahuila, Santa Leonor, and Rio Cruz, Tamaulipas).

Subspecific characters.—Similar to *Idiotes rufifrons caudatus*, but general coloration darker; above darker; yellow of the under parts deeper; posterior under parts less purely white, the shading on the sides and flanks more grayish brown, less buffy. Similar also to *Idiotes rufifrons rufifrons*, but upper parts duller, more grayish, less greenish in tone.

Measurements.—Male: Wing, 51–57 (average, 53); tail, 56–62 (59); bill, 9–10 (9.3); tarsus, 19.5–21 (20). Female: Wing, 50–56 (53); tail, 55–62 (58); bill, 9–9.5 (9.3); tarsus, 19.5–21 (20.3).

Range.—Eastern Mexico, from central Tamaulipas to San Luis Potosi, and south to Hidalgo, northern Puebla, and northern Vera Cruz.

Remarks.—An example in juvenal dress (No. 61,649, Collection Museum of Comparative Zoölogy, Realito, Tamaulipas, June 14, 1909) is dull olive brownish above and dusky buff below, the white superciliaries and dusky postocular spot well marked; the wing-coverts are tipped with buffy.

This is the northeastern race of *Idiotes rufifrons*, ranging from the State of Tamaulipas southward to Vera Cruz, where it meets the typical form. It is easily told from the latter by its more grayish coloration, but is not so far removed from *I. rufifrons caudatus*.

Specimens examined.—Mexico: Rio Cruz, Tamaulipas, 6; Montelunga, Tamaulipas, 4; Santa Leonor, Tamaulipas, 2; Yerba Burna, Tamaulipas, 3; Guiaves, Tamaulipas, 2; Ciudad Victoria, Tamaulipas, 14; Portrero, Tamaulipas, 1; Galindo, Tamaulipas, 12; Realito, Tamaulipas, 3; Rampahuila, Tamaulipas, 4; Tampico, Tamaulipas, 1; Monterey, Nuevo Leon, 6; Cerro de la Silla, Nuevo Leon, 1; Boquilla, Nuevo Leon, 7; San Pedro Minico, Nuevo Leon, 6; Hacienda Angostura, San Luis Potosi, 3 (including type); El Chico, Hidalgo, 1; Tochimilco, Puebla, 1; Maltrata, Vera Cruz, 1; unspecified, 2. Total, 80.

IDIOTES RUFIFRONS DUGESI (Ridgway)

Basileuterus rufifrons (not *Setophaga rufifrons* Swainson) HEINE and REICHENOW, Nom. Mus. Heineani Orn., 1882, p. 14 (Oaxaca, Mexico).

Basileuterus rufifrons dugesi RIDGWAY, Proc. U. S. Nat. Mus., vol. 15, 1892, p. 119, part (Guanajuato, Mexico; orig. descr.; type in coll. U. S. Nat. Mus.); Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 747, excl. Sinaloa localities and refs. (descr.; range; refs.).—SMITH, Condor, vol. 11, 1909, p. 61 (Cuernavaca, Morelos; habits).

Basileuterus rufifrons jouyi (not of Ridgway) JOUY, Proc. U. S. Nat. Mus., vol. 16, "1893," 1894, p. 777, part (Barranca Ibarra, Jalisco).

Subspecific characters.—Similar to *Idiotes rufifrons rufifrons*, but general color of upper parts, wings, etc., duller (dark buffy olive).

Measurements.—Male: Wing, 51–55 (average, 52.5); tail, 52–61 (57.4); bill, 9–10.5 (9.5); tarsus, 19.5–21.5 (20.5). Female: Wing, 50–58 (52); tail, 52–59 (56); bill, 9–10 (9.5); tarsus, 19–21 (20).

Range.—Central Mexico, west to Jalisco, and south to Oaxaca.

Remarks.—This is an unsatisfactory form. It is in fact merely the name applied to a series of intergrades between true *rufifrons* of the Vera Cruz region and the pale, grayish, washed-out race of northwestern Mexico. Birds from Oaxaca approach *rufifrons* in their more greenish color above, while those from Jalisco verge more towards *caudatus*, as also does the type, from Guanajuato. Taken as a series, the specimens listed below are barely separable as a namable race, after allowing for differences due to wear. In fact, if the type-specimens of *dugesi*, *caudatus*, and *jouyi* were the only specimens available, I fail to see how these races could be told one from another, but in series they can be roughly separated.

Specimens examined.—Mexico: Tepic, Tepic, 1; Barranca Ibarra, Jalisco, 2; San Sebastian, Jalisco, 3; Talpa, Jalisco, 2; Tuxpan, Jalisco, 7; La Pisagua (near Volcano Tolima), Jalisco, 3; Volcano Tolima, Jalisco, 1; Bolanos, Jalisco, 1; Zapotlan, Jalisco, 1; Guadalajara, Jalisco, 1; Volcan de Fuego, Jalisco, 1; Sal se Puerdes (5,000 feet), Jalisco, 1; Guanajuato, Guanajuato, 1 (type of subspecies); Patzcuaro, Michoacan, 3; Los Reyes, Michoacan, 1; Rio Balsas, Guerrero, 2; El Naranjo, Guerrero, 1; Cuernavaca, Morelos, 1; Oaxaca, Oaxaca, 2; Juquila, Oaxaca, 1; Cuicatlan, Oaxaca, 1. Total, 37.

IDIOTES RUFIFRONS CAUDATUS (Nelson)

Basileuterus rufifrons (not *Setophaga rufifrons* Swainson) BAIRD, Rev. Amer. Birds, 1865, p. 248, part (Sierra Madre, near Mazatlan, Sinaloa).—LAWRENCE, Mem. Boston Soc. Nat. Hist., vol. 2, 1874, p. 270 (Sierra Madre, Sinaloa).—SALVIN and GODMAN, Biol. Centr.-Amer., Aves, vol. 1, 1881, p. 175, part (Sierra Madre, Sinaloa, ex Baird and Lawrence).—ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 5, 1893, p. 41 (Napolera, Chiuhuahua).

Basileuterus rufifrons caudatus NELSON, Proc. Biol. Soc. Washington, vol. 13, 1899, p. 29 (near Alamos, Sonora, Mexico; orig. descr.; type in coll. U. S. Nat. Mus.).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 748 (descr.; range; refs.).

Basileuterus rufifrons dugesi RIDGWAY, Proc. U. S. Nat. Mus., vol. 15, 1892, p. 119, part (Sierra Madre near Mazatlan, Sinaloa); Bull. U. S. Nat. Mus., No. 50, vol. 2, 1902, p. 747, part (Sinaloa localities and refs.).

Subspecific characters.—Similar to *Idiotes rufifrons dugesi*, but upper parts still duller (near citrine drab), and under parts averaging slightly paler.

Measurements.—Male: Wing, 50–55 (average, 52.5); tail, 55–61 (58.5); bill, 8.5–9.5 (9); tarsus, 19.5–21.5 (20.5). Female: Wing, 48–52 (50.5); tail, 53–60 (56.5); bill, 8.5–9.5 (9); tarsus, 20–21 (20.5).

Range.—Northwestern Mexico, in States of Sonora, Chihuahua, and Sinaloa.

Remarks.—This race is easily told from *I. rufifrons rufifrons*, but is so close to *I. rufifrons dugesi* as to be distinguishable only in series of specimens comparable for season. It is the palest form of the species, reflecting the aridity of its habitat. A juvenal example (No. 21,766, collection William Brewster, Bravo, Chihuahua, July 23, 1888) is very much paler above than the corresponding stage of *I. rufifrons jouyi*.

Specimens from Sinaloa are in my opinion better referred here than to *I. rufifrons dugesi*. The greater length of the tail, supposed by Messrs. Nelson and Ridgway to be diagnostic of this race, is inconsiderable; in fact, comparative measurements of all the forms of the *rufifrons* group of conspecifics vary little among themselves.

Specimens examined.—Mexico: Mina Abundancia, Chihuahua, 11; Hacienda de San Rafael, Chihuahua, 10; Carmen, Chihuahua, 4; Jesus Maria, Chihuahua, 4; Bravo, Chihuahua, 8; near Batopilas, Chihuahua, 1; Colonia Garcia (15 miles west of Chihuahua), Chihuahua, 1; near Oposura, Sonora, 4; Alamos, Sonora, 5 (including type); Nopalera, Sonora, 1; Plomosas, Sinaloa, 3; Sierra Madre, near Mazatlan, Sinaloa, 1. Total, 53.