

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

ON A SECOND COLLECTION OF BIRDS MADE IN
CHIRIQUI, BY W. W. BROWN, JR.

BY OUTRAM BANGS.

THE present paper takes up Mr. Brown's bird-collecting in Chiriqui at the point where I left it in a paper lately published upon the work he did at David and Divala.¹ The period covered is from January to August, 1901, and the collection is a very large one, including a large proportion of the birds known to occur in this highly interesting region. Some species that were taken by Arcé and recorded, or described as new, by Mr. Salvin in several papers that he published on Arcé's collections, Mr. Brown did not meet with, while on the other hand Mr. Brown secured several birds that were not represented in Arcé's material. Bird-collecting in tropical America is a fine art; and in order to make a nearly complete collection of the birds of any region a collector must remain at each station through the various seasons of the year. For although, strictly speaking, the birds are non-migratory, at certain seasons certain species can be got with ease in any number, while at other seasons not one individual of them can be found. The ripening of certain fruits, the blossoming of flowers, and the presence or absence of ants and other insects, all have the greatest effect upon the movements of the birds; and it is

¹ On a collection of birds made by W. W. Brown, Jr., at David and Divala, Chiriqui. *The Auk*, Vol. XVIII, pp. 355-370, Oct., 1901.

hard for one who has collected only in the North to realize how local many of the species are in their distribution, and to understand all the difficulties that beset the path of the collector in the tropics.

During this trip Mr. Brown collected chiefly on the Volcan de Chiriqui itself, at various altitudes, covering the different life zones to the very top. The largest part of the collection was made at Boquete — a small village on the southern slope of the volcano, in the mountain forest zone, about 3000 to 5000 feet altitude. He also collected for a short time in June on the northern or Caribbean exposure of the volcano, and he took some species there that he did not find on the southern slope. Small collections were made also at Bogaba, altitude 600 feet, in the foothills, and at Sona and Pedregal, on the Pacific coast, and a few specimens were collected at David during a day or two that Mr. Brown had to stop there again.

At every station Mr. Brown took the altitude with an aneroid barometer, and this is marked on each label. Thus the range of any species can be very well established, and the life zones of the mountain are clearly indicated from the birds alone. In the following list I give the altitudes at which the various species were found.

A large proportion of the mountain species are not different from the birds of the high Costa Rican mountains, although there are some striking exceptions; and the Volcan de Chiriqui is probably too near to have a mountain fauna wholly its own. Those birds that do differ usually have larger bills than their Costa Rican representatives.

Mr. Brown wrote a careful itinerary of his trip, and from it I take the following extracts — all that space will allow me — which may be of interest to the student of the biota of Central America.

“Leaving the town of David on horseback one rides over a level savanna for about an hour before coming to the southern slope of the Cordillera de Chiriqui. The characteristic species of this savanna are the scissor-tailed flycatcher and the meadow-lark. The scissor-tail is usually seen sitting on the ground, which is its normal habit on the plain. I often saw at one time as many

as ten perched on the grass-covered plain about me. The meadowlark is very common and tame, and its song is very distinct from that of *Sturnella magna*. Turkey buzzards and king vultures are always to be seen soaring overhead.

“Upon reaching the foothills, which are covered by a scrubby growth of trees, the trail gradually descends into a valley where the vegetation is much more luxuriant and where one meets again the characteristic birds of the lowland forest, — toucans, jacamars, blue tanagers, red-rumped tanagers, and the like, — as well as the big black and the red-bellied squirrels. After a gradual ascent one emerges onto another llano, or plain, like the first but higher. Here I saw the pigmy titlark. This attractive little fellow was a bird of the trail, running along in front of my horse twenty or thirty yards, then taking wing and alighting again, to repeat the performance as I came up.

“After an hour over this llano the trail descends again to cross a shallow stream, which is wooded, and then begins gradually rising through a sparsely wooded region to the pueblo de Dolega, with its great plantations of cocoa, coffee, sugarcane and bananas, at an elevation of about 700 feet. Many species of birds were to be seen about the plantations — parrots, hummingbirds, grass-quits, red-rumped and blue tanagers being the most conspicuous. Beyond Dolega the trail crosses two rivers with wooded banks where kingfishers, doves and blue herons were seen. Beyond the second river another great llano, gradually ascending, opens out, with here and there a patch of scrubby timber and in other places covered with blackened rocks — said to be lava from the volcano. It affords good pasturage for cattle, but the ride of five hours across it is hot and monotonous.

“On the further side of the llano, at an altitude of 3500 feet, the trail leaves the plain and passes through valleys and over hills, in a cool luxuriant forest with swiftly running streams and brooks rippling among fern-covered rocks. One begins to see an immense number of birds, all of different species from those of the lowlands — water ousels dart about on the rocks in the foaming, rushing streams, small thrushes [*Catharus*] and solitaires are singing everywhere in the jungle and the branches overhead are

full of tanagers and warblers. This zone extends up to about 5000 feet. Between 5000 and 8000 feet another change in the bird life is noticed, but not so marked a one.

“At 10,000 feet the character of the forest changes decidedly, the trees become low and stunted, their trunks and branches are thickly covered with cold, saturated moss. On some of the branches globular formations of moss give an odd appearance to the tree. The undergrowth is chiefly of berry-bearing shrubs and two species of cane, with ferns and flowering herbs. One shrub produces a berry about the size of a cherry, which has a rich flavor, and of which doves and the big *Merula* [*M. nigrescens*] are very fond. At 11,000 feet the forest ends, and at the timber line the characteristic species are the Junco [*Junco vulcani*], a big-footed finch [*Pezapetes capitalis*], the long-tailed ptilogenys and a curious little wren with peculiar notes, that lives in the cane brakes [*Troglodytes browni*]. The country is open, broken, barren and very rocky, but there is a growth of low huckleberry-like shrubs that average ten inches in height and are literally black with berries. There are also low flowering plants, and some tiny ferns, different from any seen below.

“Standing up high above this desolate region is the great rocky peak of Mt. Chiriqui, which I believe I am the only man to have climbed. The summit is a towering rock, its extreme point so sharp and narrow that I had to straddle it. Under one foot was a sheer fall of some nine hundred feet, under the other a sharp slope of six or seven hundred. I found no signs of any previous ascent, but left two records of my own visit. From the top I looked down on the waters of the Caribbean Sea and of the Pacific Ocean, seeing distinctly the indentations of both coasts. To the west I could see the Costa Rican Mountains, and to the east stretched an ocean of small peaks. My aneroid registered 11,500 ft.”

In identifying the species in the collection I have been much assisted by Dr. Robert Ridgway, Mr. E. W. Nelson and Mr. H. C. Oberholser, to all of whom I express my sincerest thanks, as well as to the authorities of the National Museum, the Biological Survey and the Boston Society of Natural History, for allowing

me to make comparisons with the series of birds in their charge. The latter institution contains the priceless Lafresnaye types.

Two gentlemen who were very kind to Mr. Brown while in Chiriqui, are Captain Hughes of the SS. Chiriqui, an enthusiastic ornithologist, who spends most of his time collecting, when on shore, and who got many rare birds that he gave to Mr. Brown, and Mr. H. Watson of Bogaba, who has had much experience in collecting birds and mammals in Chiriqui, and who helped Mr. Brown in many ways and gave him permission to collect on his extensive coffee, banana and cocoa plantations.

In the following descriptions all measurements are in millimeters, the wing is measured on the chord of its natural curve and not flattened down on the rule, and colors, when definite names are used, are according to Ridgway's Nomenclature of Colors.

Florida cærulea cærulescens (Lath.).

One adult male, Remedios, July 10.

Butorides virescens (Linn.).

One adult male, Sona, July 12.

Tigrisoma cabanisi (Heine).

One adult female, Sona River, July 21.

Polyborus cheriway (Jacq.).

One adult female, Bogaba, July 7.

Ibycter americanus (Bodd.).

One adult male, Bogaba, July 9.

Milvago chimachima (Vieill.).

Two specimens, male and female, young, Sona, July.

Buteo costaricensis Ridg.

One adult female, Boquete, 4000 feet, April 10.

Buteo platypterus (Vieill.).

Three specimens, two adult and one young, all males, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, Feb. 27, March 10 and April 19.

Buteo brachyurus Vieill.

One male in the black phase, Sona, July 25.

Rupornis ruficauda (Scl. and Salv.).

Three males, Boquete, 4000 feet, April, and Bogaba, July.

Urobitinga anthracina (Nitzsch).

One young female, Sona, July 21.

Leucopternis ghiesbreghtii (Du Bus).

One male, Bogaba, July 17.

Herpetotheres cachinnans (Linn.).

One adult male, Bogaba, July 14.

Regerhinus uncinatus (Temm.).

One young male, Boquete, 4000 feet, April 18.

Harpagus fasciatus Lawr.

One young male, Bogaba, July 13.

Ictinia plumbea (Gmel.).

One adult male, Bogaba, July 3.

Falco albigularis Daud.

Two specimens, male and female, adults, Boquete, 3500 feet and 4000 feet, March.

Cerchneis sparveria (Linn.).

Two males, Boquete, 4000 feet, Jan. 27 and March 19.

Crypturus soui modestus (Cab.).

Two adult males, Boquete, 4500 and 4800 feet, March.

Crax panamensis Ogilvie-Grant.

One adult female, Boquete, 5000 feet, April 20.

Penelope cristata (Linn.).

Five specimens, both sexes, Boquete and Caribbean slope of Volcan de Chiriqui, 4000 to 7000 feet, April and June.

Chamæpetes unicolor Salv.

Two adult males, Boquete, 5600 and 5800 feet, March.

Odontophorus castigatus Bangs.

Three males, Bogaba, July.

Odontophorus guttatus (Gould).

Eight specimens, adults of both sexes and young, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February, March and April.

Odontophorus veraguensis Gould.

Two adult females, Boquete, 4000 and 5800 feet, April 10 and March 22, and one adult female, Boquete, 4500 feet, March 1, that is a perfect intergrade (or hybrid?) between *O. guttatus* and *O. veraguensis*. This region is the meeting ground of these two very different species; all the specimens of *O. guttatus* are perfectly typical, as are the two examples of *O. veraguensis*; and as the two occur strictly together I am inclined to regard the one intermediate example as a hybrid rather than an intergrade.

Odontophorus leucolæmus Salv.

Six specimens, adults of both sexes, Boquete and Caribbean slope of Volcan de Chiriqui, 4500 to 5000 feet, March, April and June.

Symphemia semipalmata (Gmel.).

One male in half gray and half barred plumage, Sona, Aug. 10.

Helodromas solitarius (Wils.).

One adult male, Sona, Aug. 10.

Actitis macularia (Linn.).

One adult male, Boquete, 4000 feet, April 13.

Gallinago delicata (Ord.).

One female, Boquete, 4000 feet, Jan. 30.

Columba speciosa Gmel.

Two adult males, Boquete, 5000 feet, and Bogaba, April and July.

Columba albilinea crissalis Salvadori.

Four adult males, Boquete and Volcan de Chiriqui, 4000 to 10,800 feet, March, April, May and June. These are practically topotypes; three of them are much paler below than true *C. albilinea*, but one is hardly distinguishable from the South American bird.

Columba subvinacea Lawr.

Five adult males, Boquete, 4000 feet, February, March and April.

Claravis mondetoura (Bp.).

Five adults, both sexes, Boquete and Volcan de Chiriqui, 3000 to 7000 feet, January, March, April and May.

Leptoptila verreauxi Bp.

Two adult males, Bogaba, July.

Geotrygon montana (Linn.).

One adult female, Boquete 4000 feet, April 21.

***Geotrygon costaricensis* Lawr.**

Four adults, both sexes, Boquete and Volcan de Chiriqui, 7000 to 10,000 feet, February, April and May.

***Geotrygon chiriquensis* Scl.**

Seven adults, both sexes, Boquete and Volcan de Chiriqui, 4500 to 10,000 feet, February, March, April and June.

***Piaya cayana thermophila* (Scl.).**

Three adults, both sexes, Boquete, 4000 feet, January and February.

***Diplopterus nævius* (Linn.).**

Three males, Boquete, 4000 to 5600 feet, January, March and April.

***Dromococcyx phasianellus* (Spix).**

One adult male, Boquete, 7000 feet, April 15.

***Ara macao* (Linn.).**

One adult male, Bogaba, July 11.

***Conurus ocellaris* Scl. and Salv.**

One adult male, Bogaba, July 4.

***Pyrrhura hoffmanni* (Cab.).**

Twenty-seven specimens, adults of both sexes and one young, Boquete and Volcan de Chiriqui, 4000 to 10,000 feet, January, February, March, April and June.

Count Salvadori thought the birds from Chiriqui differed in having red shafts and tips to the feathers of the nape. On comparing this large series with Costa Rica specimens, I could find no constant difference, some Costa Rica examples having such red markings and some Chiriqui birds being without them.

Bolborhynchus lineolatus (Cassin).

Two males, Caribbean slope of Volcan de Chiriqui, 2000 feet, June 12. These two were shot from a small flock that was feeding in some low bushes, — the only time Mr. Brown met with this rare little parrot.

Brotogerys jugularis (Müller).

One adult female, Bogaba, July 4.

Amazona virenticeps (Salvadori).

Three males, Bogaba, July.

Pionus menstruus rubrigularis (Cab.).

One adult male, Bogaba, July 6.

Pionopsittacus hæmatotis ScL. and Salv.

Two specimens, male and female, young, Sona, August.

Momotus lessoni Less.

Four adults, both sexes, Boquete, 2500 to 4500 feet, January, February and March.

Pulsatrix perspicillata (Lath.).

One male, Bogaba, July 7.

Syrnium¹ virgatum Cass.

Two specimens, adult male and young male, Boquete, 4000 feet, and Bogaba, February and July.

Syrnium nigrolineatum ScL.

One adult male, Volcan de Chiriqui, February.

Nyctidromus albicollis (Gmel.).

One adult female, Boquete, Jan. 25.

Antrostomus carolinensis (Gmel.).

One adult male, Boquete, 4500 feet, March 10.

Doryfera veraguensis Salv.

Two adult females, Boquete, 7000 and 7500 feet, March 17 and April 15.

Phaëthornis guy coruscus² subsp. nov.

Fifteen specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February, March and April.

Type, from Boquete, southern slope of Volcan de Chiriqui, 4500 feet altitude, ♂ adult, no. 8414, coll. of E. A. and O. Bangs, collected March 14, 1901, by W. W. Brown, Jr.

Characters. — Similar to *P. guy emiliae* (Bourc. and Muls.) of Bogota, but bill slightly shorter; plumage, above and below, more glittering; color of back and sides, in both sexes, decidedly more bluish, less greenish; upper tail coverts always metallic blue.

¹ I have before used the generic term *Ciccaba* for these owls, but Mr. Ridgway tells me the only character is the naked toes, and as this is shown in some of the subspecies of *S. nebulosum* and not in others, the genus *Ciccaba* must go.

² *Coruscus* — glittering.

Color. — Adult male: forehead dusky green, with little lustre; hind neck and back shining, dark, metallic green blue; upper tail coverts dark blue, with dark subapical band and slight buffy tips; basal portion of rectrices blue, rest black, with grayish white tips to two central feathers; sides like back, but not so brilliant; centre of belly dark gray; under tail coverts dark gray fringed with whitish; a well-defined chestnut gular stripe; auriculars blackish.

Adult female similar to the male above; below, dark gray, with only slight metallic green blue on sides; gular stripe more extended and paler in color; also slight superciliary and malar stripes, of pale chestnut, enclosing the black auriculars; all the rectrices tipped with grayish white, the light tips of the two central feathers much longer than in the male.

Young male, similar to female, but the light tips of central rectrices shorter (as in the adult male).

MEASUREMENTS (in millimeters).

No.	Sex and age	Wing	Tail	Culmen ¹
8414	♂ ad.	62.0	57.0	42.5
8415	ad.	62.0	56.0	—
8416	♂ ad.	61.0	52.0	42.5
8417	♂ ad.	62.5	58.0	41.5
8418	♂ ad.	62.0	54.0	41.0
8422	♀ ad.	61.0	68.5	40.5
8423	♀ ad.	60.5	70.0	41.5
8424	♀ ad.	60.0	69.0	40.0

Remarks. — Costa Rica and Chiriqui specimens of this wide-ranging *Phaethornis* have always been referred to Bourcier and Mulsant's subspecies *emiliae*, described from Bogota. On carefully comparing a large number of skins I find that the northern examples constitute a race more different from either true *P. guy* of Trinidad and Venezuela or *P. guy emiliae* of Bogata than are these two from each other. *P. guy coruscus* differs from the southern races in its much more glittering back and sides and in the more bluish color of these parts, besides having a shorter bill.

¹ In Columbian examples of *P. guy emiliae* the wing averages about the same as in the present series; the culmen is, however, longer, measuring about 44 mm. in the male and 43 in the female.

Campylopterus hemileucurus mellitus subsp. nov.

Thirty-two specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February, March and April.

Type, from Boquete, southern slope of Volcan de Chiriqui, 4800 feet altitude, ♂ adult, no. 8425, coll. of E. A. and O. Bangs, collected April 10, 1901, by W. W. Brown, Jr.

Characters.— Similar to true *C. hemileucurus* of Mexico, but larger; bill longer; tail more deeply tipped with white; adult male with breast and belly uniform violet (in true *hemileucurus* the belly gradually becomes much bluer than the breast); upper parts with more green, less violet, (in true *C. hemileucurus* the green is restricted to the upper tail coverts, wing coverts, and a few of the scapulars — in the new bird the rump is mostly, sometimes wholly, green as well); adult female with back and rump wholly green (in true *C. hemileucurus* the adult female has a strong coppery tinge to the upper parts, not seen in the new bird) and throat more violet, less blue.

MEASUREMENTS² (in millimeters).

No.	Sex and age	Wing	Tail	Culmen
8425	♂ ad.	80.0	58.0	28.5
8427	♂ ad.	78.5	56.0	28.5
8429	♂ ad.	78.0	57.5	29.0
8432	♂ ad.	79.5	59.0	28.5
8434	♂ ad.	79.5	58.0	29.0
8438	♀ ad.	72.+ ³	55.0	30.5
8439	♀ ad.	70.+ ³	54.0	31.5
8440	♀ ad.	73.0	55.0	31.5
8441	♀ ad.	74.0	57.0	32.0

Remarks.— Through the kindness of Mr. E. W. Nelson of the U. S. Biological Survey I was able, while lately in Washington, to compare our skins with the fine series of true *C. hemileucurus* that he and Mr. Goldman collected in southern Mexico. The southern bird proved to be a very well-marked race, at once distinguished by its larger size, longer bill and the color differences pointed out above.

¹ *Mellitus* — lovely.

² Adult males of true *C. hemileucurus* from southern Mexico measure (about): wing, 78.; tail, 55.5; culmen, 26.5 mm.

³ Tips of primaries somewhat worn off.

Saucerottea niveoventer (Gould).

One adult male, Boquete, 4000 feet, Jan. 15.

Amizillis tzacatl (de la Llave).

One adult male, Volcan de Chiriqui, 5000 feet, May 21.

Hylocharis eliciae (Bourc. and Muls.).

One adult male, Boquete, 3000 feet, March 22.

Chlorostilbon assimilis Lawr.

Two adult males, Boquete, 4000 and 4800 feet, February and March.

Panterpe insignis Cab. and Heine.

Seven adults, both sexes, Boquete and Volcan de Chiriqui, one from Caribbean slope, 6000 to 7600 feet, February, April and June.

Eupherusa egregia Scl. and Salv.

Eleven specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7700 feet, January, February, March and April.

Elvira nigriventris (Lawr.).

Three adult males, Caribbean slope of Volcan de Chiriqui, 6000 to 7000 feet, June.

Elvira chionura (Gould).

Three specimens, two males and one female, Boquete and Volcan de Chiriqui, 4000 to 7700 feet, January and February.

Petasophora cyanotus cabanidis (Heine).

Five adults, both sexes, Boquete, 4000 to 5800 feet, January and March.

This strongly characterized race—perhaps distinct species—differs from true *P. cyanotus* of South America, in having a much longer bill, in being much darker green both above and below, and in the adult male having a decided purplish tinge on middle of belly. Attention was first called to this bird by Cabanis, and it was subsequently named *P. Cabanidis* by Heine (1863), and again *P. cabanisi* by Lawrence (1870).

Eugenes spectabilis Lawr.

One adult female, Volcan de Chiriqui, 8000 feet, May 29.

Oreopyra leucaspis Gould.

Seventeen specimens, adults of both sexes and one young male, Boquete and Volcan de Chiriqui, 4000 to 7700 feet, January, February, March and April.

Oreopyra calolæma Salv.

One adult male, Boquete, 4000 feet, Jan. 19. As I do not know how to tell the females of these two species apart, I have referred all females to *O. leucaspis* which is much the commoner bird.

Heliodoxa jacula henryi Lawr.

Four adult females, Boquete, Volcan de Chiriqui, and Caribbean slope of Volcan de Chiriqui, 4000 to 7500 feet. February, March, and June.

Heliothrix barroti (Bourc. and Muls.).

Five adults, both sexes, Boquete and Volcan de Chiriqui, 4500 to 7000 feet, January, February, March and April.

Floricola superba pallidiceps (Gould).

One male, Boquete, 3000 feet, March 24.

Calliphlox bryantæ (Lawr.).

Three adult males, Boquete and Volcan de Chiriqui, 4000 to 5800 feet, January and February.

Selasphorus torridus Salv.

Two adult females, Volcan de Chiriqui, 10,300 feet, May.

Selasphorus scintilla (Gould).

Five specimens, four males and one female, Boquete, 4000 feet, January and February.

Pharomacrus mocinno costaricensis (Cab.).

Forty specimens, adults of both sexes and young males in various stages of plumage from that resembling the adult female to that of the adult male, Boquete and Caribbean slope of Volcan de Chiriqui, 4000 to 7000 feet, January to June.

Trogon puella Gould.

Six specimens, adults of both sexes, Boquete, 4000 to 7000 feet, January, February, March and April.

Trogon aurantiiventris Gould.

Thirteen specimens, adults of both sexes and two young males, Boquete, 3000 to 6000 feet, January, March and April.

It has been doubted¹ if this is more than a color phase of *T. puella*. In the present large series there is not a sign of any intermediate coloring, adult males, adult females, and young males all being perfectly characteristic of one or the other species. The two birds occur right together, although on the Volcan de Chiriqui *T. aurantiiventris* is much the commoner.

Mr. Brown had splendid opportunities of observing the birds in life and is convinced that they are distinct species; he told me that whenever he saw a pair together, always it was two red-bellied or two yellow-bellied birds and never a red-bellied with a yellow-bellied.

The difference in color is just the same that distinguishes *T. chionura* from *T. bairdi*, but these two have different geographic ranges, while *T. puella* and *T. aurantiiventris* are found in the same region.

Galbula melanogenia Scl.

Three adult males, Bogaba, July.

Capito salvini Scl.

Twenty specimens, both sexes, Boquete, Volcan de Chiriqui and Caribbean slope, 4000 to 5000 feet, January to June.

Tetragonops frantzii Scl.

Nine specimens, adults of both sexes and one young female, Boquete and Caribbean slope of Volcan de Chiriqui, 4000 to 7000 feet, March, April and June.

All females lack the black occipital crest. The one young example is like the adults in color, but has a much weaker bill.

Pteroglossus frantzii Cab.

One adult female, Boquete, 3000 feet, January.

¹ Salvin and Godman, Biol. Centr. Amer., Aves, Vol. II, p. 493.

***Aulacorhamphus cæruleigularis* Gould.**

Five adults, both sexes, Boquete, 4000 feet, January.

***Chloronerpes yucatanensis uropygialis* (Cab.).**

Eight adults, both sexes, Boquete, 4000 to 5600 feet, January, February, March and April.

***Melanerpes formicivorus striatipectus* Ridg.**

Seventeen specimens, both sexes, Boquete, 4000 to 4500 feet, January, February and April.

This is a fairly well-marked subspecies, having a shorter, stouter bill and more striped and spotted breast than the Mexican form.

***Melanerpes wagleri* Salv. and Godm.**

Three adults, both sexes, Boquete, 4000 feet, January and February.

***Dendrocopus villosus extimus*¹ subsp. nov.**

Eleven specimens, adults of both sexes, Boquete and Volcan de Chiriqui, 4000 to 9000 feet, January to May.

Type, from Boquete, southern slope of Volcan de Chiriqui, 6000 feet altitude, ♂ adult, no. 8507, coll. of E. A. and O. Bangs, collected April 18, 1901, by W. W. Brown, Jr.

Characters. — Similar to *D. sanctorum* (Nelson) of the high mountains of Chiapas and Guatemala, but much smaller, and with the dorsal stripe white anteriorly, smoky brown only just as it reaches the rump (in *D. sanctorum* the dorsal stripe is mostly or entirely smoky brown); under parts and outer rectrices a little paler.

Color. — Upper parts black; primaries, secondaries and inner webs of tertials, somewhat spotted with white; malar and supra-auricular stripes white; dorsal stripe white anteriorly, smoky cinnamon just as it reaches the

¹ *Extimus* — outermost, most remote.

rump; broad occipital band scarlet (wanting in the female); under parts and outer rectrices smoky cinnamon brown; sides of breast heavily streaked with black; nasal tufts cinnamon.

MEASUREMENTS (in millimeters).

No.	Sex and age	Wing	Tail	Tarsus	Culmen
8507	♂ ad.	100.0	61.	19.0	27.0
8508	♂ ad.	100.5	58.	18.5	25.0
8509	♂ ad.	101.0	61.	18.5	26.5
8510	♂ ad.	99.5	54.	18.5	25.5
8511	♀ ad.	101.0	61.	18.0	22.5
8512	♀ ad.	99.5	59.	17.5	22.5
8513	♀ ad.	99.0	58.	17.5	23.0
8514	♀ ad.	102.0	62.	18.5	24.0

Remarks.—This new hairy woodpecker occurs commonly in the higher mountains of Costa Rica and the Volcan de Chiriqui, and is the southern extreme of the species. Whether or not it, *D. sanctorum* and *D. jardinei* should be considered distinct species or geographic races of one wide-ranging bird, is much a matter of opinion; the latter course seems to me the more reasonable. All are very different, and very easily recognized, and it is surprising that they were for so long “lumped” together.

Veniliornis caboti (Malh.).

One adult male, Caribbean slope of Volcan de Chiriqui, 7000 feet, June 16.

Platyrhynchus albogularis Scl.

Nine specimens, both sexes, Boquete, Volcan de Chiriqui and Caribbean slope, 3000 to 7500 feet, January to June.

Platyrhynchus superciliaris Lawr.

One male, Caribbean slope of Volcan de Chiriqui, 2000 feet, June 11.

Rhynchocyclus brevirostris (Cab.).

Sixteen specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February, March and April.

Todirostrum cinereum (Linn.).

Three adults, both sexes, Boquete 3000 to 3800 feet, March and April.

Lophotriccus minor Cherrie.

Four specimens, both sexes, Boquete, 4500 to 4800 feet, March and April. These have been compared with the type, with which they agree.

Pogonotriccus zeledoni Lawr.

Three adult females, Boquete, 4000 to 4500 feet, January and March.

I believe that before Mr. Brown was fortunate enough to get these specimens, the type (in the National Museum at Washington) was the only example known. Our skins match it exactly.

Serphophaga cinerea grisea Lawr.

Two specimens, male and female adult, Boquete, 5000 and 6000 feet, January.

Mionectes olivaceus Lawr.

Seven specimens, both sexes, Boquete, 4000 to 5800 feet, March and April.

Myiopagis placens accola¹ subsp. nov.

Four males, Boquete, 4000 feet, January and February.

¹ *Accola* — a neighbor.

Type, from Boquete, southern slope of Volcan de Chiriqui, 4000 feet altitude, ♂ adult, no. 8539, coll. of E. A. and O. Bangs, collected Feb. 1, 1901, by W. W. Brown, Jr.

Characters.—Similar to true *M. placens* (Scl.) of southern Mexico and Guatemala; but greater coverts edged with much lighter green (in true *M. placens* the greater coverts are not edged with lighter); throat less gray, more yellowish; sides of face paler; sides of pileum less grayish; back decidedly less ashy.

Color.—Sides of pileum grayish olive; a large semi-concealed vertical crest bright yellow; an indistinct superciliary stripe grayish; sides of face dull yellowish gray, speckled with dusky; throat pale yellowish gray; breast much shaded and indistinctly streaked with olive; belly, sides, and under tail coverts, sulphur yellow; back olive green, rather more dusky on hind neck, paler and brighter on lower back, rump and upper tail coverts; wings hair brown, the lesser coverts mostly olive green, secondaries, tertials and greater coverts conspicuously edged with pale yellowish green; tail dusky olive, edged with olive green; bend of wing and lining of wing sulphur yellow.

MEASUREMENTS (in millimeters).

No.	Sex and age	Wing	Tail	Tarsus	Culmen
8539	♂ ad.	70.	68.	18.5	13.0
8540	♂ ad.	67.	64.	18.0	11.5
8541	♂ yg.	64.	59.	16.5	10.5
8542	♂ yg.	60.	56.	16.5	11.0

Remarks.—Costa Rica, Chiriqui and Panama specimens seem all referable to this new subspecies, which is quite different from true *M. placens* of Mexico and Guatemala. The easiest character to tell it by is the pale edging of the greater wing coverts, which is not shown at all in the Mexican bird.

Tyranniscus parvus Lawr.

Two adults, male and female, Boquete, 4000 feet, January.

Elaenia pagana subpagana (Scl. and Salv.).

One adult female, Boquete, 4000 feet, Jan. 22.

Elaenia frantzii (Lawr.).

Four specimens, Boquete and Volcan de Chiriqui, 4500 to 11,000 feet, February, March and June.

Myiozetetes granadensis Lawr.

One adult female, Bogaba, July 3.

Myiodynastes audax nobilis (Scl.).

Four specimens, both sexes, Boquete, 3500 to 4800 feet, January, March and April.

Megarhynchus pitangua mexicana (Lafr.).

Two males, Boquete, 4000 feet, January and February.

Onychorhynchus mexicanus (Scl.).

Three adults, both sexes, Bogaba, July.

Mitrephanes aurantiiventris (Lawr.).

Eight specimens, both sexes, Boquete, 4000 to 4800 feet, January to April.

Mitrephanes atriceps (Salv.).

Six specimens, both sexes, Volcan de Chiriqui, 10,300 to 11,000 feet, May.

Sayornis amnicola¹ sp. nov.

Three adults, one male and two females, Boquete, 4000 to 4800 feet, January, March and April.

¹ *Amnicola* — that dwells by a river.

Type, from Boquete, southern slope of Volcan de Chiriqui, 4000 feet altitude, ♂ adult, no. 8543, coll. of E. A. and O. Bangs, collected Jan. 21, 1901, by W. W. Brown, Jr.

Characters. — Most like the South American *S. cineracea*, except lacking the conspicuous white edgings of the wings of that species. Differing from *S. aquatica* of Guatemala and southern Mexico in larger size, blacker color throughout, less white on belly, and in having *black* under tail coverts — they are cinereous in *S. aquatica*.

Color. — Black, including under tail coverts, middle of back slightly grayer; small patch in middle of belly white; wing feathers slightly edged with grayish; outer web of outer rectrix white; under wing coverts mixed white and black.

MEASUREMENTS¹ (in millimeters).

No.	Sex and age	Wing	Tail	Tarsus	Culmen
8543	♂ ad.	89.	78.	18.0	15.5
8544	♀ ad.	83.	74.	16.5	15.5
8545	♀ ad.	85.	76.	16.5	15.5

Remarks. — A series of skins from Costa Rica, in the National Museum, are similar in every way to the three taken by Mr. Brown on the Volcan de Chiriqui. *Sayornis amnicola* is very different from its northern representative, *S. aquatica*, as also from *S. cineracea* of South America; and while all the black phœbes may eventually prove to be subspecies of one wide-ranging bird, I prefer to regard it as a distinct species.

Empidonax traillii (Aud.).

One adult male, in worn plumage, Pedregal, Aug. 21. There is no doubt that this bird is the North American *E. traillii*, Mr. Ridgway having carefully examined it. The date at which it was taken in Chiriqui is remarkable, and suggests that possibly it may have been left behind in the spring migration and have spent the summer here.

¹ Sclater, Cat. Birds British Museum, Vol. XIV, gives the wing measurements of both *S. aquatica* and *S. cineracea* as 3.4 inches. I find that females are smaller than males, and that *aquatica* is a smaller bird than *cineracea*, the new species agreeing in this respect with the latter (*cineracea*).

Empidonax traillii alnorum Brewst.

One male, Boquete, 4000 feet, April 10.

Empidonax flaviventris (Baird).

Two specimens, male and female, Boquete, 4000 feet, Jan. 19 and Jan. 24.

Empidonax flavescens Lawr.

Thirteen specimens, both sexes, Boquete, 4000 to 6500 feet, January to April.

Nuttallornis borealis (Swains.).

One male, Boquete, 4000 feet, April 20.

Horizopus lugubris Lawr.

Eighteen specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, January to April.

Horizopus richardsoni sordidulus (Scl.).

One female, Boquete, 4000 feet, March 27.

Myiarchus panamensis Lawr.

One female, taken in a valley below Boquete, 2500 feet, Jan. 20.

Myiarchus nigricapillus Ridg.

Two specimens, male and female, Boquete, 4000 and 6000 feet, January.

Tyrannus melancholicus satrapa (Licht.).

Two males, one in valley below Boquete, 2000 feet, Jan. 19, the other Bogaba, July 4.

Pipra leucorrhoa Scl.

Five specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 5000 feet, March, April and May.

Chiroxiphia lanceolata (Wagl.).

Eleven specimens, both sexes, Boquete, 3000 to 4000 feet, March and April.

Tityra semifasciata personata (Jard. and Selb.).

Thirteen specimens, both sexes, Boquete, 3000 to 5000 feet, January, February and March.

Pachyrhamphus cinereiventris Scl.

Two adult males, Boquete, 4000 feet, April 5, and Bogaba, July 1.

Lipangus holerythrus Scl. and Salv.

Two females, Boquete and Caribbean slope of Volcan de Chiriqui, 5000 and 6000 feet, April and June.

Attila sclateri Lawr.

Four specimens, both sexes, Boquete, 4000 to 4500 feet, January, March and April.

All the Chiriqui birds in our collection differ slightly from Panama (Loma del Leon) ones in having the back rather redder, less green.

Cotinga ridgwayi Zeledon.

Two adult males, Bogaba, July.

Mr. Brown tells me that, in the regions in which he collected, this is a very rare, local species, very seldom taken by the feather hunters.

Carpodectes antoniae Ridg.

Two adult males, Pedregal, August.

The beautiful, white cotinga is another species of which it is exceedingly difficult to get specimens. These two were shot in the scrub just back of the beach, and were the only examples Mr. Brown saw.

Cephalopterus glabricollis Gould.

Three adults, one male, two females, Boquete, 4000 to 6000 feet, March and April.

Chasmorhynchus tricarunculatus J. and E. Verr.

Seven adult males, Boquete, 4000 to 6000 feet, January to April.

Thamnistes anabatinus Scl. and Salv.

Two males, Caribbean slope of Volcan de Chiriqui, 2000 and 3000 feet, June.

Dysithamnus semicinereus Scl.

Two specimens, male and female, Boquete, 4000 and 5000 feet, February and April.

Myrmotherula menetriesii (d'Orb.).

Nine specimens, both sexes, Boquete and Volcan de Chiriqui, 3000 to 7800 feet, February, March and April.

Rhamphocænus semitorquatus Lawr.

Two males, Caribbean slope of Volcan de Chiriqui, 1000 and 2000 feet, June.

Gymnopathys bicolor olivascens Ridg.

Six specimens, both sexes, Boquete, 4500 to 6000 feet, March and April.

Myrmelastes immaculatus (Lafr.).

One adult female, Caribbean slope of Volcan de Chiriqui, 2000 feet, June 12.

Grallaria princeps Scl. and Salv.

Five specimens, both sexes, Boquete and Volcan de Chiriqui, 7000 to 11,000 feet, April to June.

Grallaricula vegeta¹ sp. nov.

Type (and only specimen), from Caribbean slope of Volcan de Chiriqui, 4000 feet altitude, ♀ adult, no. 8552, coll. of E. A. and O. Bangs, collected June 12, 1901, W. W. Brown, Jr.

Characters.—Similar to *G. flavirostris* Scl. of Rio Napo, Ecuador, but much darker and grayer above and less marked below with blackish; similar also, to *G. costaricensis* Lawr. of Costa Rica, but darker above and less uniformly rufous below, and more marked with black.

Color.—Frontal region, lores and sides of head, ochraceous; crown and occiput grayish olive; back bistre; outer margins of wing feathers and tail, Prout's brown; throat and breast pale ochraceous—the feathers of breast margined with blackish; belly and under tail coverts white, somewhat spotted with blackish toward sides; sides tinged with ochraceous. Upper mandible horn color; lower, pale yellowish.

Measurements.—Type, ♀ adult: wing, 66.; tail, 20.; tarsus, 19.5 (approximately—both legs being broken by shot); culmen, 14.5 mm.

¹ *Vegetus*—active, sprightly.

Remarks. — After examining the series of *Grallariculas* in the National Museum, which includes the type of *G. costaricensis* and other specimens of that species and of *G. flavirostris* of Ecuador and Colombia, I found no trouble in at once telling these two species apart. Neither could the one specimen upon which I found *G. vegeta* be referred to either of them. It differs from both in its much darker, more grayish, back and head. Though most authors lump under one name all of these birds from Ecuador to Costa Rica, there appear to be at least three well-marked forms in this area.

Siptornis rufigenis (Lawr.).

Fifteen specimens, adults of both sexes and young in various stages of plumage, Boquete, Volcan de Chiriqui and Caribbean slope of Volcan de Chiriqui, 4000 to 7500 feet, January, February, March, April and June.

This fine series clearly shows that the bird from Costa Rica described as *Synallaxis rufigenis* by Lawrence was a young example and that the supposed characters of the species are simply those of immaturity.¹ The adult birds, however, are not the same as *S. erythrops* Scl. of Pallatanga, Ecuador, as they have been supposed to be, and Lawrence's name holds for a valid form.

Adult birds from Costa Rica and Chiriqui differ from *S. erythrops* of Ecuador in being much darker below and above, with wings deeper chestnut, and the chestnut of cap more extended over malar and auricular regions.

Specimens wholly in young plumage vary somewhat. In no. 8553 the cap is dark grayish olive, the postocular stripe is pale yellowish olive and the under parts have but little trace of any ochraceous tinge. In no. 8554 the cap is olive, the postocular stripe and malar and auricular regions are orange rufous, and the

¹ *Synallaxis rufigenis* Lawr., Ann. L. N. Y., Vol. IX, p. 105, 1868. Type locality: Costa Rica. Sclater, Cat. Birds British Museum, Vol. XV, p. 60, describes the same plumage, mentioning a specimen in the Salvin-Godman collection.

Salvin and Godman, Biol. Centr. Amer., Aves, Vol. II, p. 152, Tab. 45, fig. 2, describe and use their specimen from Costa Rica, saying that it is immature and that they greatly doubt the validity of the species.

under parts are strongly washed with ochraceous. This bird is probably older than no. 8553, as several of the chestnut feathers, characteristic of the adult, are appearing on the crown. No. 8555 has nearly attained the adult dress, but still retains the postocular stripe (which becomes quite obsolete in the adult) and has the under parts still washed with ochraceous. No. 8556 is similar to it.

The olive cap, the pale postocular stripe and the ochraceous tinge of the under parts are all merely marks of immaturity, and gradually disappear as the bird attains the plumage of the fully adult.

***Pseudocolaptes lawrencii* Ridg.**

Four specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 10,300 feet, April and May.

***Automolus rufobrunneus* (Lawr.).**

Seven specimens, both sexes, Boquete and Volcan de Chiriqui and Caribbean slope of Volcan de Chiriqui, 4500 to 7700 feet, February, March, April and June.

***Philydor panerythrus rufescens* (Lawr.).**

Two specimens, male and female, Boquete, 6500 feet, March, and Caribbean slope of Volcan de Chiriqui, 7000 feet, June.

***Xenicopsis variegaticeps* Scl.**

Eight specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 4800 feet, February to April.

***Xenicopsis subalaris lineatus* (Lawr.).**

Four adults, both sexes, Boquete and Volcan de Chiriqui and Caribbean slope of Volcan de Chiriqui, 4500 to 7800 feet, February, April and June.

Xenops genibarbis Ill.

One adult male, Caribbean slope of Volcan de Chiriqui, 6200 feet, June 12.

Xenops rutilus Licht.

Two males, Boquete, 4500 and 5000 feet, March and April.

Sclerurus canigularis Ridg.

Two adults, male and female, Boquete, 5800 and 5600 feet, March 19.

Sclerurus mexicanus pullus¹ subsp. nov.

Two adults, male and female, Boquete, 4500 and 5000 feet, April.

Type, from Boquete, southern slope of Volcan de Chiriqui, 5000 feet altitude, ♂ adult, no. 8566, coll. of E. A. and O. Bangs, collected April 20, 1901, by W. W. Brown, Jr.

Characters.—Similar to true *S. mexicanus* Scl. of southern Mexico, but much darker throughout; top of head dusky, almost black, instead of brown; back several shades darker brown; rump very dark, almost walnut brown—bright chestnut in true *S. mexicanus*; throat chestnut, instead of hazel; belly and under tail coverts much darker; chin and lores dusky—plain hazel in true *C. mexicanus*.

MEASUREMENTS (in millimeters).

No.	Sex	Wing	Tail	Tarsus	Culmen
8566	♂	80	56	22.0	25
8567	♀	78	50	20.5	20

Remarks.—The two examples from Chiriqui stand apart from the whole series of *S. mexicanus* with which I have compared them, their very dark coloration not being matched even in speci-

¹ Pullus—dark-colored.

mens from Loma del Leon, Panama. The latter are rather troublesome, and perhaps really belong with some of the South American races of the *S. mexicanus* group. They are paler than the Chiriqui skins, and in this respect come nearer to true *mexicanus*. The hazel color of the throat is, however, much more extended onto the breast and upper belly.

Margarornis rubiginosa Lawr.

Ten specimens, both sexes, Boquete and Volcan de Chiriqui, 5000 to 11,000 feet, February to June.

Premnoplex brunnescens Scl.

Eleven specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7700 feet, January to April.

Glyphorhynchus cuneatus (Licht.).

One female, Caribbean slope of Volcan de Chiriqui, 7000 feet, June 16.

Dendrocincla ruficeps Scl. and Salv.

Six specimens, both sexes, Boquete, 4000 to 4500 feet, February and March.

Sittasomus levis¹ sp. nov.

Eight specimens, both sexes, Boquete, 4000 to 5000 feet, January to April.

Type, from Boquete, southern slope of Volcan de Chiriqui, 4000 feet altitude, ♂ adult, no. 8568, coll. of E. A. and O. Bangs, collected Jan. 21, 1901, by W. W. Brown, Jr.

¹ *Levis*—quick, nimble.

Characters.— Similar to *S. sylvioides* Lafr. of southern Mexico, but larger; rump, wings, tail, under and upper tail coverts, paler rufous; back paler and not so uniformly brown, more mixed with grayish olive. From *S. amazonus* Lafr. of the upper Amazon, the new form differs in its very much smaller—shorter and weaker—bill and smaller size, though the two are much alike in color.

Color.— Head and under parts grayish olive, slightly washed with reddish brown on middle of belly and sides; back raw umber, with a strong grayish olive cast; rump, upper tail coverts and under tail coverts, pale ferruginous; tail rufous chestnut; tertials ferruginous (a little darker and slightly more rufous than rump); secondaries similar, but with large central black markings and buff-yellow bases of inner webs; lesser and middle coverts, alula, primary coverts and outer edges of primaries, dull olive, slightly more reddish olive on outer edges of primaries; rest of primaries dusky, with central buff-yellow markings on inner webs, showing as a band on under side of closed wing; under wing coverts dull buff-yellow.

MEASUREMENTS (in millimeters).

No.	Sex and age	Wing	Tail	Tarsus	Exposed culmen
8568	♂ ad.	84.0	79.0	18.0	14.0
8569	♂ ad.	84.0	77.5	18.0	13.5
8570	♂ ad.	83.5	81.0	18.5	13.5
8571	♂ ad.	83.5	82.0	18.0	13.5
8572	♀ ad.	74.5	69.5	17.5	12.5
8573	♀ ad.	74.0	68.0	17.0	13.0

Remarks.— When Mr. Ridgway wrote his synopsis of the genus *Sittasomus*¹ he was in doubt where to place Veragua specimens, putting them under *S. sylvioides* with a question mark. On comparing the good series in the present collection with specimens of *S. sylvioides* of southern Mexico and with the types of *S. amazonus*, the Chiriqui bird proves to be different from either, though closely related to both. From the former it differs in larger size and paler color of back, rump, wings, etc., and from the latter in smaller size and *much* weaker bill.

¹ Proc. U. S. Nat. Mus., Vol. XIV, pp. 507-510, 1891.

Dendroornis punctigula Ridg.

Fifteen specimens, both sexes, Boquete, 4000 to 5000 feet, January to April.

Picolaptes affinis (Lafr.).

Thirteen specimens, both sexes, Boquete, 4000 to 6000 feet, February to April.

Picolaptes compressus (Cab.).

One adult male, Boquete, 4500 feet, April.

Xiphorhynchus grandis Cherrie.

One adult male, Caribbean slope of Volcan de Chiriqui, 700 feet, June 16.

Dendrocolaptes puncticollis ScL. and Salv.

One adult female, Boquete, 7000 feet, April.

Scytalopus argentifrons Ridg.

Seven specimens, young and adults of both sexes, Boquete and Volcan de Chiriqui, 5000 to 7500 feet, February to May.

Galeoscoptes carolinensis (Linn.).

One male, Boquete, 4800 feet, March 5.

Myadestes melanops (Salv.).

Fifteen specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February to April.

***Merula nigrescens* (Cab.).**

Twenty-four specimens, both sexes, Volcan de Chiriqui, 10,000 to 11,100 feet, May and June. Mr. Brown did not see this species below 10,000 feet.

***Merula obsoleta* (Lawr.).**

One male, Caribbean slope of Volcan de Chiriqui, 4500 feet, June 13.

***Merula plebejus* (Cab.).**

Four adults, both sexes, Boquete, 4000 to 7000 feet, February and April. All four have larger bills than Costa Rica specimens, but otherwise are similar.

***Merula leucauchen dagnæ* (Berlepsch).**

Nine specimens, both sexes, Boquete, 4000 to 5000 feet, January to April. The type locality of this form is western Colombia. All Chiriqui birds appear to belong to it, differing from true *M. leucauchen* in smaller size, and darker brown upper parts.

***Merula grayii casius* (Bp.).**

Seven specimens, both sexes, Boquete, 4000 to 4500 feet, January and March.

***Hylocichla ustulata swainsonii* (Cab.).**

Five specimens, both sexes, Boquete, 4000 to 4800 feet, March 24 to April 4.

Catharus fuscater (Lafr.).

Twenty-one specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February to April.

Catharus frantzii Cab.

Three adults, both sexes, Boquete and Volcan de Chiriqui, 5000 to 7000 feet, April and May.

Catharus griseiceps Salv.

Ten specimens, both sexes, Boquete, 4000 to 4800 feet, January to April.

Catharus gracilirostris accentor¹ subsp. nov.

Eight adults, both sexes, Boquete and Volcan de Chiriqui, 5000 to 11,000 feet, March, April and May.

Type, from Volcan de Chiriqui, 10,300 feet altitude, ♀ adult, no. 8576, coll. of E. A. and O. Bangs, collected May 27, 1901, by W. W. Brown, Jr.

Characters.— Similar to true *C. gracilirostris* of Costa Rica, but wing much shorter; bill very much stouter and longer; upper parts less rufescent, more olivaceous. The color of the back and wings in the new form is raw umber (usually a little darker and more olivaceous than is this color in Ridgway's "Nomenclature of colors," but sometimes almost exactly matching it).

MEASUREMENTS (in millimeters).

No.	Sex and age	Wing	Tail	Tarsus	Exposed culmen
8576	♀ ad.	70.5	59.	29.5	15.0
8577	♀ ad.	70.0	59.	30.0	14.5
8580	♀ ad.	69.0	56.	30.0	14.0
8581	♀ ad.	71.0	60.	30.0	13.5
8578	♂ ad.	71.0	56.	31.0	14.0
8579	♂ ad.	73.0	61.	30.5	15.0
8582	♂ ad.	70.0	59.	31.0	15.0

¹ *Accentor* — one who sings with another.

Remarks.—The Costa Rican form of this little thrush—true *C. gracilirostris* Salv.—is remarkable for its very small, slender bill, and has been supposed to be an aberrant member of the genus; but the new bird from the higher slopes of the Volcan de Chiriqui has a bill that is proportionally rather larger than that of many typical species, *C. griseiceps* for example, though in other respects it is so much like true *C. gracilirostris* that I have thought best to treat it as a subspecies.

Like other members of the genus this bird is a fine songster. Its performance, however, cannot be compared to that of *C. fuscater*; the vocal achievements of the latter, Mr. Brown tells me, are unsurpassed by any bird he has ever heard.

***Zeledonia coronata* Ridg.**

Two adult males, Boquete, 7000 and 5800 feet, March and April.

The exact position of this curious bird is still in doubt, but it seems to me well, for the present at least, to put it somewhere near the thrushes.

Mr. Brown was able to tell me nothing of its habits or song, the two individuals were shot while “hopping about in the underbrush.”

These two specimens have been compared with the type, and I could not see that they differed from it in any way.

***Cinclus ardesiacus* Salv.**

Eleven specimens, adults of both sexes and two young in the pale gray plumage, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February to April.

***Thryophilus modestus elutus*¹ subsp. nov.**

Eight specimens, adults of both sexes and one nestling, Boquete, 3800 to 4800 feet, March and April, and Pedregal, August (one male in nestling plumage).

¹ *Elutus*—washed out.

Type, from Loma del Leon (Lion Hill Station, Panama R. R.), Panama, ♀ adult, no. 7354, coll. of E. A. and O. Bangs, collected March 26, 1900, by W. W. Brown, Jr.

Characters.—Similar to true *T. modestus* of Costa Rica, but rather smaller, and paler in color throughout, with more grayish on sides and back of neck; from *T. zeledoni* the new bird is very different—*T. zeledoni* being much larger, and uniformly grayish brown above, and having very dull-colored flanks and under tail coverts.

Color.—Pileum dull grayish brown, becoming smoke gray on sides of neck and tinged with this color on cervix; a conspicuous white superciliary stripe, and below it a dusky stripe passing through eye; cheeks dull white, slightly pointed with dusky gray; back grayish raw umber; rump and upper tail coverts pale russet; tail dull russet crossed by blackish bands; wing—outer edges of feathers dull grayish raw umber crossed by inconspicuous darker bands, outer edges of outer primaries isabella color; throat, breast, middle of belly and lining of wing, dull grayish white; flanks and under tail coverts cinnamon.¹

MEASUREMENTS (in millimeters).

No.	Sex and age	Locality	Wing	Tail	Tarsus	Exposed culmen
7355	♂ ad.	Loma del Leon, Panama	58.5	49.0	25.0	16.5
7354	♀ ad.	" " " "	55.0	46.5	23.5	15.0
8610	♂ ad.	Boquete, Chiriqui.	57.0	49.0	24.0	17.0
8611	♂ ad.	" "	59.0	50.0	24.0	18.0
8612	♂ ad.	" "	62.0	52.0	26.0	17.0
8613	♂ ad.	" "	60.0	49.0	25.0	17.0
8614	♂ ad.	" "	61.0	51.0	24.5	17.5
8615	♂ ad.	" "	60.0	50.5	25.0	—
8616	♀ ad.	" "	58.0	—	23.5	16.0

Remarks.—I have selected for the type one of the specimens from Loma del Leon, collected over a year ago by Mr. Brown, because Panama specimens are more extreme of the new race than Chiriqui ones. All the birds taken in the latter district seem best referred to the new form, but most of them show an approach toward true *T. modestus* of Costa Rica, both in size and in color.

The Panama form of *T. modestus* was referred to, and its characters pointed out, both by Baird² and by Salvin and Godman,³ but so far as I can find it has not been named till now.

¹ Description taken from the type, adult female, and a topotype, adult male, no. 7355.

² Review of American Birds, Part I, p. 131.

³ Biologia Centrali-Americana, Aves, Vol. I, pp. 83, 84.

Thryothorus fasciatoventris melanogaster Sharpe.

One adult male, Bogaba, July 3.

Thryothorus hyperythrus Salv. and Godm.

Six specimens, adults of both sexes, Boquete, 4000 to 4500 feet, January, March and April.

Cistothorus polyglottus elegans (Scl. and Salv.).

One adult male, Boquete, 5000 feet, April 25.

Troglodytes inquietus Baird.

Two males, Boquete, 4000 feet, February.

Troglodytes ochraceus¹ Ridg.

Four adults, both sexes, Boquete, 4000 to 4500 feet, March and April.

Troglodytes browni² sp. nov.

Eleven specimens, adults of both sexes and young, Volcan de Chiriqui, 10,000 to 11,000 feet, May and June.

Type, from Volcan de Chiriqui, 10,000 feet altitude, ♂ adult, no. 8631, coll. of E. A. and O. Bangs, collected May 21, 1901, by W. W. Brown, Jr.

Characters.—An exceedingly aberrant *Troglodytes*, if really referable to that genus. Feet very large, tarsus long; tail very short, all the feathers narrow; coloration peculiar—outer edges of primaries *white*, slightly notched with brown; a broad, white, superciliary stripe; sides of neck mottled with white.

Color.—Upper parts burnt umber, dullest on head and shaded with chestnut on rump and upper tail coverts; a broad white superciliary stripe reaching from

¹ Mr. Ridgway at one time was inclined to place this species in *Hemiura*.

² Named for Mr. W. W. Brown, Jr.

nostril to neck; lores and region below the eye and lower part of cheeks white with slight dusky specklings; a stripe behind eye (between the white cheeks and the superciliary stripe) brown; sides of neck mottled with whitish — the white markings narrowly bordered with dusky; throat, breast and middle of belly white with slight dusky specklings; flanks and under tail coverts brown (a shade about between raw umber and burnt umber); scapulars brown with longitudinal white shaft spots bordered by dusky; some of the greater coverts, marked in the same way; wings dusky brown, outer edges of primaries white notched with dusky; outer edges of rest of feathers pale burnt umber notched with dusky; bend of wing and lining of wing grayish white; tail dull raw umber, banded and freckled with dusky; legs and feet dark brown; upper mandible blackish; lower mandible blackish at tip, yellowish toward base. Young, in nestling plumage, differ from adults in being paler brown above; in having the superciliary stripe and the markings of sides of neck more yellowish and not so pronounced; and in having the throat, breast and middle of belly thickly freckled with dusky — each feather having a dusky tip.

MEASUREMENTS (in millimeters).

No.	Sex and age	Wing	Tail	Tarsus	Exposed culmen
8631	♂ ad.	47.5	28.0	22.5	13.0
8632	♂ ad.	48.0	29.0	23.0	14.0
8633	♂ ad.	48.0	28.5	22.5	13.0
8634	♂ ad.	48.5	31.0	22.5	13.0
8635	♀ ad.	45.0	27.0	21.5	12.5
8636	♂ ad.	47.5	32.0	23.0	13.5

Remarks.—Mr. Brown found this peculiar little wren wholly confined to the cane brakes on top of the Volcan de Chiriqui, where it was very hard to shoot, though in considerable numbers. It lived much after the manner of a marsh wren, and its song and notes were wholly unlike those of any wren Mr. Brown is familiar with.

In placing the species in the genus *Troglodytes*, which I do with much hesitation, I may be wrong. Probably, some day, the bird must have a peculiar genus made for it. *Troglodytes*, as at present understood, is pretty composite, and it is better to let some one divide it into groups in a thorough manner, than to propose a new genus for this bird now.

In coloration *T. browni* suggests some species of *Thryothorus*

or even *Henicorhina*. Its bill, however, seems to be that of a typical *Troglodytes*, wholly lacking the notch toward the end of the edge of the upper mandible.

It is at all events a very distinct, peculiar species, needing comparison with no other known wren, its large feet and long tarsus, its short, slender tail, and the conspicuous white edgings of the primaries, distinguishing it at once from any other *Troglodytes* or from *Hemiura*.

***Henicorhina prosthaleuca* ScL.**

One adult male, Caribbean slope of Volcan de Chiriqui, 5700 feet, June 10.

***Henicorhina collina*¹ sp. nov.**

Fifteen specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, January to April.

Type, from Boquete, southern slope of Volcan de Chiriqui, 6000 feet altitude. ♂ adult, no. 8640, coll. of E. A. and O. Bangs, collected April 16, 1901, by W. W. Brown, Jr.

Characters.—A large species, with very dark gray breast, and with the throat heavily striped with black — rather more noticeably so in the male than in the female.

Color.—Middle line of crown dark grayish bistre; sides of crown black; a white line from above eye to nape; below this a black band; cheeks and sides of neck black thickly spotted with white; back, rump and upper tail coverts uniform chestnut-hazel; wings dusky, the outer edges of the feathers and the whole of tertials and wing coverts bright chestnut-hazel barred with dusky — the darker bars on wing coverts very indistinct; alula dusky, slightly spotted with isabella color; bend of wing grayish white; lining of wing gray mottled with dusky; tail chestnut, barred with blackish; throat white, heavily striped with black; breast and sides dark gray (almost slate gray in some specimens), slightly paler on middle of belly, where the feathers are distinctly banded with dark gray and pale gray; lower sides, flanks and under tail coverts, raw umber shaded somewhat with chestnut; feet and bill blackish. Adult females differ from adult males in being slightly paler gray on the breast and in having the throat less conspicuously striped with black.

¹ *Collinus*—found or living on a hill.

MEASUREMENTS (in millimeters).

No	Sex and age	Wing	Tail	Tarsus	Exposed culmen
8640	♂ ad.	56.0	30.0	25.0	15.5
8641	♂ ad.	56.5	29.0	24.5	15.5
8642	♂ ad.	57.0	30.5	24.5	15.5
8646	♂ ad.	57.5	32.0	24.0	16.0
8647	♀ ad.	52.5	26.0	22.5	14.5
8648	♀ ad.	54.0	27.0	24.0	15.0
8649	♀ ad.	55.0	30.0	24.0	14.5
8650	♀ ad.	52.5	26.5	23.5	15.0

Remarks. — *Henicorhina collina* is very different from any gray-breasted wood wren yet named, its deep gray breast, banded belly and striped throat at once distinguishing it.

Costa Rica specimens are similar, but all the characters given above are less strongly marked in the specimens I have seen, and this form also is perhaps a distinct one. *H. collina* hardly needs comparison with *H. leucophrys* of South America.

Microcerculus acentetus¹ sp. nov.

Three adult males, Boquete, 4000 to 5000 feet, March and April.

Type, from Boquete, southern slope of Volcan de Chiriqui, 5000 feet altitude, ♂ adult, no. 8651, coll. of E. A. and O. Bangs, collected April 18, 1901, by W. W. Brown, Jr.

Characters. — Apparently a very different species from any heretofore described. All the colors very dark; no cross-banding whatever on under parts or back, the crown alone with slight dusky tips to the feathers, producing a scaly appearance.

Color. — Upper parts deep, rich burnt umber, without a trace of cross-barring; top of head duller, about mummy brown, the feathers very slightly tipped with dusky, producing a scaly appearance; upper tail coverts blackish, edged with dark burnt umber; sides of head, breast and middle of belly dull drab gray slightly washed with burnt umber; throat dull grayish white; lower sides, flanks and under tail coverts dark burnt umber, wholly unbarred; wing and tail blackish brown; wing coverts and tertials margined with same color as back.

¹ *Acentetus* — without spots or points.

MEASUREMENTS (in millimeters).

No.	Sex and age	Wing	Tail	Tarsus	Exposed culmen
8651	♂ ad.	59.0	23.5	22.0	17.
8652	ad.	57.5	25.0	20.5	17.
8653	♂ ad.	58.0	24.0	22.0	17.

Remarks.—*Microcerculus* divides into local species, each with a comparatively limited range, in the most astounding manner. So many forms had already been described from near-by localities that it was with some hesitation that I made up my mind to name another, and only after the most careful comparisons, when I found it impossible to refer the bird of the Volcan de Chiriqui to any of them.

The neighboring species are:—

M. luscini Salv. of Santa Fé de Veragua and Santiago de Veragua, south to Panama.

M. daulias Ridg., Atlantic side of Costa Rica.

M. orpheus Ridg., Pacific side of Costa Rica.

M. philomela (Salv.), Guatemala.

From all of these *M. acentetus* differs much, except from *M. orpheus*, which is its nearest ally. From this species the new form can be told by its wholly unbarred back, rump and upper tail coverts, its much less varied under parts, and shorter bill.

Cyanolyca argentigula (Lawr.).

Eleven specimens, adults of both sexes, Volcan de Chiriqui, 9000 feet, June.

This jay and the following species appear to be extremely local in their distribution. A small colony of *C. argentigula* was found at the spot where these were taken, but the species was seen nowhere else on the Volcan de Chiriqui. On the Caribbean slope Mr. Brown took the three specimens of *C. cucullata*, but saw no more of that species.

Cyanolyca cucullata Ridg.

Three adult males, Caribbean slope of Volcan de Chiriqui, 7000 feet, June.

Ptilogonys caudatus Cab.

Twenty-seven specimens, adults of both sexes and young, Volcan de Chiriqui, 10,000 to 11,000 feet, May and June.

Mr. Brown found this species only at high altitudes on the Volcan de Chiriqui. The birds were in small flocks, composed of adults and full-grown young still in nestling plumage. Several times he saw one of these flocks leave the high peak of the mountain and fly across the valleys in the direction of the lofty Costa Rican mountains, which could be seen in the distance.

Phainoptila melanoxantha Salv.

Fifteen specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 10,000 feet, January, March, April and May.

Vireo flavoviridis (Cassin).

Four specimens, both sexes, Boquete, 4800 feet, and Bogaba, February, March and July.

Vireo philadelphicus (Cassin).

Two males, Boquete, 3000 and 4000 feet, Jan. 16 and March 26.

Vireo josephæ Scl.

Seven specimens, both sexes, Boquete and Caribbean slope of Volcan de Chiriqui, 4000 to 7000 feet, January, February, March, April and June.

Vireo flavifrons Vieill.

One female, Boquete, 4000 feet, Jan. 22.

Vireo carmioli Baird.

One adult male, Boquete, 4500 feet, March 17.

Hylophilus decurtatus (Bp.).

Three adults, both sexes, Boquete, 4000 and 5000 feet, January and April.

Hylophilus ochraceiceps Scl.

One male, Caribbean slope of Volcan de Chiriqui, 4000 feet, June 11. This specimen has a very large bill, much larger than in examples of true *H. ochraceiceps* of Mexico; and should others prove the same, the southern form must be named.

Cyclorhis flavipectus subflavescens Cab.

Seven specimens, both sexes, Boquete, 4000 to 4800 feet, January, March and April.

Progne chalybea (Gmel.).

Four adults, both sexes, Boquete, 4500 to 4800 feet, and Bogaba, March, April and July.

This northern form of *P. chalybea*, which Prof. Baird named *Progne leucogaster*, is probably worth recognizing by name. I have, however, seen no specimens from Guiana, and judge only by early descriptions and figures.

Atticora cyanoleuca montana Baird.

One young male, Volcan de Chiriqui, 10,800 feet, May 27.

This little swallow was seen often flying about the top of the volcano, but was very hard to get shots at, and still harder to retrieve when shot, Mr. Brown losing several that fell over the cliffs.

Rhodinocichla rosea (Less.).

Three specimens, both sexes, Boquete, 3000 to 3500 feet, and Bogaba, January, April and July.

Mr. Ridgway¹ has shown that the "rose-breasted Wren" cannot be associated with the Mimidæ or Troglodytidæ, and I follow him in placing it near to the Mniotiltidæ.

Basileuterus leucopygius veraguensis Sharpe.

Two specimens, one an adult female, the other unsexed, Boquete, 4000 feet, Feb. 4 and April 12.

Basileuterus melanogenys Baird.

Eleven specimens, both sexes, Boquete and Volcan de Chiriqui, 4500 to 10,200 feet, February to May.

Basileuterus melanotis Lawr.

Eleven specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February to April.

Basileuterus culicivorus godmani Berlepsch.

Twelve specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7700 feet, January to April.

¹ The Birds of North and Middle America, Part I, page 18, foot-note. 1901.

Setophaga aurantiaca Baird.

Five specimens, both sexes, Boquete, 4000 to 4500 feet, January and February.

Setophaga torquata Baird.

Ten specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February to May.

Setophaga ruticilla (Linn.).

One female, Boquete, 4000 feet, January 24.

Myiodioides canadensis (Linn.).

Two males, Boquete, 4000 and 4500 feet, April 7.

Myiodioides pusillus pileolatus (Pall.).

Two adult males, Boquete, 4000 feet, Jan. 16 and Jan. 24.

Geothlypis philadelphia (Wils.).

Two specimens, male and female, Boquete, 4500 and 4000 feet, March 17 and April 7.

Geothlypis tolmiei (Townsend).

One adult male, Boquete, 4000 feet, Jan. 20.

Geothlypis caninucha icterotis Ridg.

Six adults, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February and April.

Mr. Brown did not get *G. chiriquensis* Salvin, and though constantly on the lookout for it, never saw it. It must be a very local species, perhaps found on a large savanna on the northern slope of the volcano, that Mr. Brown did not visit. He heard that one of Arcé's men collected some birds on this savanna years ago, and he meant to visit the place, but time did not permit.

Oporornis formosa (Wils.).

Two males, Boquete and Volcan de Chiriqui, 7700 and 4500 feet, Feb. 22 and March 3.

Seiurus noveboracensis (Gmel.).

One male, Boquete, 4000 feet, March 27.

Seiurus aurocapillus (Linn.).

Two specimens, male and female, Boquete and Volcan de Chiriqui, 4000 and 7700 feet, Feb. 20 and April 15.

Dendroica æstiva (Gmel.).

One male, in the autumnal plumage of a young bird, Pedregal, Aug. 21. This seems an early date for the summer yellow bird to reach Panama, but probably the autumnal migrants arrive in Central and South America much earlier than we are accustomed to think they do.

Dendroica blackburniæ (Gmel.).

One adult male. Boquete. 4000 feet, March 27.

Helminthophila peregrina (Wils.).

One adult male, Boquete, 4000 feet, Jan. 18.

Helminthophila chrysoptera (Linn.).

Five specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7700 feet, Feb. 8 to April 16.

Mniotilta varia (Linn.).

One female, Boquete, 4000 feet, Jan. 24.

Compsothlypis pitiayumi speciosa Ridg.

Five adult males, Boquete, 3000 to 4500 feet, January, March and April. These include the type (no. 177,411, coll. U. S. Nat. Mus.) of this fine new subspecies just described by Mr. Ridgway (Auk, Vol. XIX, p. 69, Jan., 1902).

Oreothlypis gutturalis (Cab.).

Seven adults, both sexes, Boquete and Volcan de Chiriqui, 7000 to 10,300 feet, February, May and June.

Dacnis venusta Lawr.

Twenty specimens, adults of both sexes, and young males in various stages of plumage, Boquete, 4000 to 5000 feet, March, April and May.

Cyanerpes cyaneus carneipes (Scl.).

Six specimens, both sexes, Boquete, 3000 to 5000 feet, January and April.

Diglossa plumbea Cab.

Three specimens, both sexes, Boquete, 4500 to 7000 feet, March and April.

Cacicus vitellinus Lawr.

One adult male, moulting, Sona, July 10.

Amblycercus holosericeus (Licht.).

Five specimens, both sexes, Volcan de Chiriqui, 9500 to 10,300 feet, May and June.

Leistes guianensis (Linn.).

One male, David, July 25.

Sturnella magna inexpectata Ridg.

Fourteen specimens, both sexes, Boquete, 4000 to 6000 feet, January to March.

Icterus galbula (Linn.).

Two males, Boquete, 3100 and 4000 feet, Jan. 19 and April 15.

Chlorophonia callophrys (Cab.).

Eighteen specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February to May.

Euphonia crassirostris Scl.

Four specimens, two adult males, a young male and an adult female, Boquete, 3000 to 4000 feet, January, March and April.

Euphonia hirundinacea Bp.

Two adult males, Boquete, 3800 and 4000 feet, April 11 and April 15.

Euphonia annæ Cassin.

Four adult males, Boquete and Caribbean slope of Volcan de Chiriqui, 4500 to 7000 feet, March and June.

Euphonia elegantissima (Bp.).

Six specimens, both sexes, Boquete, 4000 to 4500 feet, January, February, March and May.

Calospiza gyroloides (Lafr.).

Twenty-two specimens, both sexes, Boquete, 3500 to 4800 feet, January, March and April.

Calospiza icterocephala (Bp.).

Twenty-one specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, January to April.

Calospiza dowi (Salv.).

Nine specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February, March, April and June.

Calospiza florida arcaei Ridg.

One male, Caribbean slope of Volcan de Chiriqui, 2000 feet, June 4.

Tanagra cana diaconus (Less.).

Four specimens, both sexes, Boquete, 3000 to 4000 feet, and Bogaba, January, February, April and July.

Ramphocelus passerinii Bp.

Fifteen males, Bogaba, July.

Piranga rubra (Linn.).

Seven specimens, both sexes, Boquete, 3000 to 5000 feet, January to April.

Piranga erythromelas (Vieill.).

Two specimens, Boquete, 4800 feet, March 25 and March 26, a female and a male. The latter is in very peculiar plumage: the wings and tail are black and the rest of the body is a brilliant orange.

Piranga leucoptera latifasciata Ridg.

Fourteen specimens, both sexes, Boquete, 4000 to 5000 feet, January to April.

Piranga bidentata sanguinolenta (Less.).

Nine specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7000 feet, January to April.

Phoenicotherapis vinacea Lawr.

Fifteen specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7500 feet, February to April.

Eucometes spodocephala stictothorax Berlepsch.

Four adult males, Boquete, 4000 and 4800 feet, and Bogaba, April and July.

Chlorospingus hypophæus Scl. and Salv.

Five specimens, both sexes, Caribbean slope of Volcan de Chiriqui, June.

Chlorospingus pileatus Salv.

Twenty-two specimens, adults of both sexes and young, Boquete and Volcan de Chiriqui, 5000 to 11,000 feet, March, April, May and June.

The young have the lower mandible yellow.

Chlorospingus novicius¹ sp. nov.

Twenty-three specimens, both sexes, Boquete, Volcan de Chiriqui and Caribbean slope of Volcan de Chiriqui, 4000 to 7500 feet, February, March, April and June.

Type, from Volcan de Chiriqui, 7500 feet altitude, ♀ adult, no. 8740, coll. of E. A. and O. Bangs, collected Feb. 5, 1901, by W. W. Brown, Jr.

Characters.—A very different bird from *C. albitempora* (Lafr.) of Bolivia, with which it usually has been confused. At once distinguished by its very much stouter, differently shaped, bill. It is also a larger bird than *C. albitempora*; has a more spotted throat; darker green back; sides of throat darker; and the pale color of throat does not extend onto malar region (as it does in *C. albitempora*). A perhaps rather nearer ally of the new species is *C. punctulatus* Scl. and Salv. of Cordillera del Chucu, Panama. That bird, however, has a black head and more spotted throat, and more white over the eye.

Color.—Head, including suborbital region, dusky greenish brown; rather grayer on sides of neck; a white patch behind eye, extending above the eye to about the middle line; and usually a few white feathers below eye; rest of upper parts, including edges of wings and tail, olive green; throat soiled white,—inclining to fawn color or wood brown on malar region,—speckled with dusky; jugulum greenish ochre, shading into olive yellow on breast; sides and under tail coverts, olive yellow, rather greener—less yellowish—than breast; middle of belly white; bend of wing yellow; lining of wing yellowish white; inner margins of wing feathers,—primaries, secondaries and tertiaries,—whitish; under side of tail dusky olive.

Novicius—new.

MEASUREMENTS (in millimeters).

No.	Sex and age	Wing	Tail	Tarsus	Exposed culmen
8742	♂ ad.	68.0	58.0	22.0	13.0
8741	♂ ad.	68.5	59.0	21.5	13.0
8749	♂ ad.	65.0	56.0	22.0	13.5
8750	♂ ad.	66.0	57.0	21.5	13.0
8752	♂ ad.	64.5	55.5	22.0	13.5
8740	♀ ad.	64.5	55.5	21.5	13.0
8754	♀ ad.	65.0	57.0	22.0	13.0
8756	♀ ad.	65.0	59.0	21.5	13.0

Remarks.—Specimens from Costa Rica and Chiriqui have always been confused with *C. albitempora* (Lafr.) of Bolivia, but the two birds are very different, and can at once be told apart by the bills—*C. novicius* having a large stout bill, and *C. albitempora* a small slender one,—besides which there are marked differences in color. There are no skins of *C. albitempora* in the National Museum, but the American Museum of Natural History lent Mr. Ridgway a fine specimen, collected by Rusby in Bolivia, which he and I compared with the northern bird, with the above result.

Saltator magnoides intermedius Lawr.

Three females, Boquete, 4000 feet, January and March.

Saltator atriceps lacertosus Bangs.

One adult female, Boquete, 4000 feet, Jan. 29.

Pheucticus tibialis Baird.

Three specimens, adult males, Boquete, and Caribbean slope of Volcan de Chiriqui, 5000 and 5600 feet, March 20, April 22 and June 12.

Zamelodia ludoviciana (Linn.).

Two males, Boquete, 4000 feet, Jan. 21 and Feb. 26.

Canospiza cyanea (Linn.).

Two males, Boquete, 4000 feet, Jan. 18 and Feb. 13, both in mixed blue and brown plumage.

Tiaris¹ **pusilla** (Swains.).

Three males, Boquete, 4000 feet, January and April.

Pezapetes capitalis Cab.

Twelve specimens, adults of both sexes, and two young in nestling plumage, Volcan de Chiriqui, 10,000 to 11,000 feet, May and June.

Pselliophorus tibialis (Lawr.).

Eight specimens, both sexes, Boquete and Volcan de Chiriqui, 5600 to 7700 feet, February, March and May.

Buarremon brunneinucha (Lafr.).

Twenty-one specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7700 feet, January to April.

Atlapetes gutturalis (Lafr.).

Twenty-one specimens, both sexes, Boquete, 4000 to 5000 feet, January to March.

Lysurus crassirostris (Cassin).

Fourteen specimens, both sexes, Boquete and Volcan de Chiriqui, 4000 to 7800 feet, February to April.

¹*Tiaris* must be used instead of *Euetheia*. Cf. Richmond, Auk, Vol. XIX, p. 87, Jan., 1902.

Arremonops conirostris richmondi Ridg.

Five specimens, both sexes, Boquete, 4000 feet, and Bogaba, January, February and July.

These, as well as the specimens collected by Mr. Brown at Divala, Chiriqui, and most of those taken at Loma del Leon, Panama, prove referable to this well-marked subspecies. Examples in the National Museum from Panama City belong to true *A. conirostris*.

Brachyospiza capensis peruviana (Less.).

Eight specimens, adults of both sexes and nestlings, Boquete and Volcan de Chiriqui, 4000 to 10,000 feet, January, February, March and May.

Junco vulcani (Boucard).

Sixteen specimens, adults of both sexes and young in nestling plumage, Volcan de Chiriqui, 10,000 to 11,200 feet, May and June.

Spiza americana (Gmel.).

One adult male, Boquete, 4000 feet, Jan. 24.