

GEOGRAPHIC VARIATION IN
CHLOROSPINGUS OPHTHALMICUS IN COLOMBIA
AND VENEZUELA (AVES: THRAUPIDAE)

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Abstract.—Geographic variation in the montane species *Chlorospingus ophthalmicus* was studied in specimens from the Andes of Colombia and Venezuela. There are two distinct subspecies groups in this area that were formerly treated as separate species. The white postocular spot is lacking in the *flavopectus* group, which has five representatives in Colombia, including two described as new (*C. o. trudis* n. subsp. and *C. o. exitelus* n. subsp.). Additional taxa are found in Ecuador and Peru. In the *ophthalmicus* group there are five named subspecies in Colombia and Venezuela, as well as two populations of intergrades or undetermined status. In this group, the subspecies *C. o. jacqueti* has three curiously disjunct populations separated by distinct intervening forms. Specimens of the *flavopectus* group are reported from a locality only 40 km from the nearest known population of the *ophthalmicus* group, which suggests the possibility of determining whether two distinct species are actually involved. Further field work and collecting are needed to resolve some of the intriguing problems in the evolutionary history of *C. ophthalmicus* in Colombia and Venezuela.

The Common Bush-Tanager, *Chlorospingus ophthalmicus*, exhibits complex variation through its extensive range from Mexico through Argentina. A large series of specimens from Colombia in the National Museum of Natural History, Smithsonian Institution (USNM), most of which had not previously been identified to subspecies, prompted the following revision. To effect this, I assembled material from other institutions, including representation from Venezuelan populations. Although I have included my observations on the Venezuelan specimens, these are tentative and more material will have to be consulted before the systematics and distribution of some of the forms of *C. ophthalmicus* are properly understood in that country. The spelling of Colombian place names, and their location by department, conforms with that of Paynter and Traylor (1981) and is not necessarily that found on specimen labels or in my previous publications. The distribution of the various populations of *C. ophthalmicus* in Colombia and Venezuela is shown in Fig. 1.

Chlorospingus ophthalmicus jacqueti Hellmayr, 1921

Type-locality.—Galipán, Cerro del Avila, near Caracas, Venezuela.

Characters.—White postocular spot and dark throat speckles present. Throat only slightly tinged with buffy. Crown color relatively light, rather grayish brown. Yellow breast-band only moderately suffused with orangish.

Range.—Inexplicably disjunct. Found in northern Venezuela from Miranda west to Carabobo, then in Trujillo (and extreme eastern Mérida according to



Fig. 1. Distribution of *Chlorospingus ophthalmicus* in Colombia and Venezuela based on material examined in this study. Some specimens (AMNH and MCZ) were examined after the map had been prepared and a few localities are therefore not shown here. Department boundaries in Colombia do not reflect several of the more recent shifts and splits. Hatching indicates areas above 1000 feet elevation.

Storer [1970]), and finally on the western slope of the eastern Andes of Colombia in southern Cesar, Norte de Santander, and northern Santander.

Specimens examined.—VENEZUELA. MIRANDA: Pico de Naiguatá (1, USNM; 1, CM). DISTRITO FEDERAL: El Limon (4, CM). ARAGUA: Cordillera de la Costa, Rancho Grande (7, USNM; 1, LSU); Colonia Tovar (5, CM; 1, USNM). CARABOBO: La Cumbre de Valencia (8, CM). TRUJILLO: Guamito (10, CM; 2, MCZ).

COLOMBIA. CESAR: La Palmita (22, CM). NORTE DE SANTANDER: Ramírez (2, CM); Las Ventanas (7, CM). SANTANDER: Corcova [not in Paynter and Traylor] (2, LACM); Cachirí (2, FM); Hacienda Las Vegas (1, USNM).

Remarks.—Although the distribution of this subspecies makes no sense, I am forced to concur with Zimmer (1946, 1947) that the birds from the west slope of the northern part of the eastern Andes of Colombia are inseparable from Venezuelan *jacqueti*. These birds are separated from those of Trujillo by the very different subspecies *eminens* and *venezuelanus*, and those of Trujillo are in turn separated from those of northern Venezuela by an unnamed dark-capped form

from Lara and the very distinctive race *falconensis* of Falcón and Yaracuy. K. C. Parkes (in litt. 12 July 1982) notes that there are slight differences in coloration of the dorsum and undertail coverts between the three disjunct populations of *jacqueti*. Nevertheless, these populations are clearly much more similar to one another than to any of the intervening forms.

Chlorospingus ophthalmicus subsp. indet.

Characters.—Near *jacqueti* but crown noticeably darker, less grayish, though not as dark as in *venezuelanus*; buffiness of throat and orangish of breast band not as marked as in *venezuelanus* or *falconensis*.

Range.—Venezuela, in Lara and northern Trujillo.

Specimens examined.—VENEZUELA. LARA: Anzoátegui (3, CM); Guárico (4, CM). TRUJILLO: Páramo de Rosas (2, CM).

Remarks.—The darker crown in specimens from Lara and Páramo de Rosas has already been noted by Hellmayr (1936:403, footnote). It is consistent and prevents these birds from being assigned to *jacqueti*. They could perhaps be considered as intergrades with *venezuelanus*, as Hellmayr was inclined to do, but the intervening population of apparently typical *jacqueti* from Guamito, Trujillo, complicates such an interpretation. Specimens of *C. ophthalmicus* from a number of additional localities from Mérida through Yuracuy would be desirable.

Chlorospingus ophthalmicus falconensis Phelps and Gilliard, 1941

Type-locality.—San Luis Mountains, above San Luis, Falcón, Venezuela.

Characters.—Crown much darker than in *jacqueti*, but browner and not as dark blackish as in *venezuelanus*. Throat buffier and breast band more orangish than in either *jacqueti* or *venezuelanus*.

Range.—Venezuela, in the states of Falcón and Yaracuy.

Specimens examined.—VENEZUELA. FALCON: San Luis (1, USNM). YARACUY: Lagunita de Aroa (1, CM).

Chlorospingus ophthalmicus venezuelanus Berlepsch, 1893

Type-locality.—Mérida, Venezuela.

Characters.—Crown much darker than in any of the other subspecies having a white postocular spot, with the exception of *eminens*. Differs from *eminens* (and *jacqueti*) in the buffier throat and more orangish breast band.

Range.—Southwestern Venezuela in the Andes of Mérida, Táchira, and portions of Lara (according to Storer [1970], no specimens from Lara or Táchira seen).

Specimens examined.—VENEZUELA. MERIDA: Culata (2, USNM); Escorial (1, ANSP); Heights Tabay (4, CM).

Chlorospingus ophthalmicus ponsi Phelps and Phelps, 1952

Type-locality.—Cerro Tamuypejocha, Sierra Perijá, Zulia, Venezuela.

Characters.—Like *jacqueti* but throat decidedly buffier, with more pronounced speckling, breast band more orangish. Crown much lighter than in *venezuelanus* or *falconensis*. Not as richly colored ventrally as *falconensis*.

Range.—The Sierra de Perijá in Zulia, Venezuela, and Cesar and La Guajira, Colombia.

Specimens examined.—COLOMBIA. CESAR: Hiroca (10, USNM). LA GUAJIRA: La Africa (3, USNM); Tierra Nueva (8, USNM); Monte Elias (2, USNM).

Remarks.—Hitherto this subspecies was known only from the vicinity of the type-locality, the above specimens being the first recorded for Colombia. They match the original description of *ponsi* perfectly except that I do not find the crown to be any darker than in *jacqueti*. There is considerable individual variation in the darkness of the crown in both subspecies, however.

Chlorospingus ophthalmicus eminens Zimmer, 1946

Type-locality.—Gramalote, Norte de Santander, Colombia.

Characters.—Very similar to *venezuelanus* in the dark crown, differing only in the less buffy, nearly white throat and less orangish breast band.

Range.—Colombia, on the eastern slope of the eastern Andes in southern Norte de Santander and Boyacá.

Specimens examined.—COLOMBIA. NORTE DE SANTANDER: Gramalote (1, ANSP); Palo Gordo (3, USNM). BOYACA: Hacienda La Primavera (4, FM).

Remarks.—Apparently intergrades with the westernmost of the three disjunct populations of *jacqueti* (see following account).

Chlorospingus ophthalmicus jacqueti > *eminens*

Characters.—Nearest *jacqueti* but crown darker, more blackish brown, less gray. Crown not as dark as in *eminens*, throat buffier and breast band more orangish.

Range.—Colombia in Norte de Santander, geographically intermediate between *eminens* to the east and *jacqueti* to the west.

Specimens examined.—COLOMBIA: NORTE DE SANTANDER: Buenos Aires (8, USNM); Alto del Pozo (1, USNM); 8 mi. S of Convención, (3, USNM); Ocaña, beyond Pueblo Nuevo (1, USNM).

Remarks.—The above series is quite distinct from either *jacqueti* or *eminens* and shows little variation, so that it would be possible to designate it as a new subspecies. I believe that at present, however, these birds should be regarded as intergrades. They are very similar to the unnamed dark-capped birds from Lara, Venezuela, and differ only in their somewhat buffier throats.

Chlorospingus ophthalmicus flavopectus (Lafresnaye, 1840)

Type-locality.—Santa Fé de Bogotá, Colombia.

Characters.—Differs from all of the preceding subspecies in lacking the white postocular spot; crown gray without any brownish cast; throat white, nearly without speckles; size larger.

Range.—Colombia, on the western slope of the eastern Andes from Santander through Cundinamarca.

Specimens examined.—COLOMBIA. SANTANDER: Above Virolín (4, USNM). BOYACA: Páramo de Agüero (1, USNM); Arcabuca, 3 km SW (1, MVZ); Lago de Tuquina [not in Paynter and Traylor] (1, FM). CUNDINAMARCA: La Aguadita (2, ANSP); Subia (2, AMNH); Aguabonita (2, AMNH); El

Roble (2, AMNH); "Santa Fé de Bogotá" (1, USNM); "Bogotá" (1, MCZ [holotype]; 4, USNM).

Remarks.—Hellmayr (1936) and earlier authors considered *flavopectus*, along with certain forms from Ecuador and Peru, to be specifically distinct from *ophthalmicus*. It was not until Zimmer's (1947) revision that the two species were combined. The forms of the *flavopectus* group (which in Colombia includes *flavopectus*, *trudis*, *macarenae*, *nigriceps*, and *exitelus*) seem so distinct from those in the *ophthalmicus* group that I have reservations about Zimmer's action and I wonder if the earlier treatment may not have been correct after all. There is a possibility that further collecting and field work in Santander could resolve this (see following account).

Chlorospingus ophthalmicus trudis, new subspecies

Holotype.—CM 59494, male, La Pica, Santander, Colombia. Collected 12 February 1917 by M. A. Carriker, Jr., original number 21063.

Characters.—Most similar to *flavopectus* but dorsum lighter, more yellowish-green, less olivaceous; crown lighter, more brownish gray; auriculars brownish rather than black; inner webs of rectrices not blackish but brownish-gray or greenish. Averages smaller, with a visibly smaller bill (wing chord 64.8–72.1 mm, average 68.6, $n = 8$; vs. 67.4–76.4, average 72.3, $n = 9$, in *flavopectus* [72.2 mm in holotype]).

Range.—Known so far only from the type-locality. Meyer de Schauensee (1948: 320) describes La Pica as a campsite at 2800 m on "the stretch of mountain trail crossing the ridge known as Cruz de Piedra, between San Andrés and Málaga, north of Molagavita."

Specimens examined.—Holotype and 8 topotypes with essentially the same data (6, CM; 2, ANSP; 1, MCZ).

Etymology.—Latin *trudis*, a pointed pole or pike, one of several meanings for the Spanish word *pica*, in reference to the type-locality.

Remarks.—This form is removed about 85 km to the north of the nearest specimens of *flavopectus* that I examined (near Virolín). Differentiation may have been affected by the barrier afforded by the valley of the Río Chicamoca. Of more significance is the fact that less than 40 km separate *trudis* from populations of *jacqueti* to the north (at Hacienda Las Vegas) and there is no such barrier evident between them. It would be of great interest to determine how these two completely different forms interact if and where they come in contact.

Chlorospingus ophthalmicus macarenae Zimmer, 1947

Type-locality.—Mt. Macarena, Metá, Colombia.

Characters.—Like *flavopectus* but smaller, throat slightly buffier, yellow breast band more restricted and more intensely colored, greenish flanks more extensive and yellower, belly white not grayish.

Range.—Colombia, confined to the Macarena Mountains east of the eastern Andes in Metá.

Specimens examined.—COLOMBIA. META: La Macarena (12, FM).

Remarks.—This is a well marked isolate obviously allied with the *flavopectus* group.

Chlorospingus ophthalmicus nigriceps Chapman, 1912

Type-locality.—Miraflores, 6800 ft., Central Andes, east of Palmira, Cauca, Colombia.

Characters.—Similar to *flavopectus* in lacking the white postocular spot but crown very dark, blackish; throat and sometimes part of pectoral band heavily speckled with blackish; green of dorsum darker, suffused with blackish.

Range.—Colombia, western slope of the southern end of the eastern Andes and both slopes of the southern end of the central Andes.

Specimens examined.—COLOMBIA. QUINDIO: Laguneta (7, ANSP). HUILA: Moscopán (2, CM; 1, FM); Tijeras, Moscopán (5, USNM; 3, FM; 2, MVZ); La Plata (1, ANSP); Buenavista (6, ANSP); La Candela (16, ANSP; 1, AMNH); Andalucía (1, USNM). TOLIMA: Toche (5, ANSP; 1, MCZ); Río Toche (1, USNM; 1, MCZ); El Edén (1, AMNH). VALLE DEL CAUCA: E. of Palmira (1, AMNH, holotype).

Remarks.—Previously published records from the northern part of the central Andes in Antioquia pertain to the following new subspecies.

Chlorospingus ophthalmicus exitelus, new subspecies

Holotype.—USNM 403747, female, ovary enlarged. Ventanas, Valdívía, Antioquia, Colombia, 7000–7400 feet. Collected 11 June 1948 by M. A. Carriker, Jr., original number 13878.

Characters.—Nearest *nigriceps* but crown decidedly lighter, grayish instead of black; speckling on throat reduced and lighter in color; green of dorsum lighter, more yellowish. Crown darker than in *flavopectus*, in which there is almost no speckling on the throat.

Range.—Colombia, both slopes of the northern end of the central Andes in Antioquia.

Specimens examined.—COLOMBIA. ANTIOQUIA: Ventanas, Valdívía (3, USNM, including holotype); Hacienda Zulaiba (2, USNM); Envigado (1, USNM); Sabanalarga [not the Sabanalarga in Atlántico in Paynter and Traylor] (1, AMNH, Niceforo, collector); “Medellín” (1, AMNH); “Antioquia” [Salmon, collector] (1, MCZ); Santa Elena (6, AMNH, intergrades with *nigriceps*).

Etymology.—Greek *exitelos*, a lessening or fading, in reference to the diminution in intensity of the features that are characteristic of *nigriceps*.

Remarks.—This subspecies is easily separated from *nigriceps* to the south. The birds from Sabanalarga and Medellín mentioned by Meyer de Schauensee (1951: 1062) under *nigriceps* are definitely referable to this subspecies, as probably are those from Retiro (not seen). There apparently is but one record of *C. ophthalmicus* in the western Andes. Meyer de Schauensee (1951:1062) lists *C. o. nigriceps* from Concordia, an old Salmon collecting site. This is presumably based on the record of “*C. flavipectus*” from Concordia mentioned in Sclater and Salvin (1879). As this is near the narrowest part of the Cauca Valley, with the foothills of the Central Andes being in places only a few hundred meters from the steep eastern slopes of the western Andes (W. L. Brown, in litt. 21 July 1982), dispersal of *C. ophthalmicus* from one range to the other at this point is not unlikely. The birds from the western Andes would almost certainly pertain to *C. o. exitelus*.

A series of six specimens from Santa Elena, Antioquia, is quite variable, some

of the individuals having dark crowns, while others have lighter crowns. This series appear to be composed of intergrades between *exitelus* and *nigriceps*. None has the crown as dark as in *nigriceps*, however, but the throat is more heavily speckled than in *exitelus*.

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