

Two New subspecies of birds from the canga vegetation, Serra dos Carajás, Pará, Brasil, and one from Venezuela

David C. Oren
Museu Paraense Emílio Goeldi

ABSTRACT — The bird species *Poecilurus scutatus* (Furnariidae), *Basileuterus flaveolus* (Parulidae), and *Zonotrichia capensis* (Emberizidae) inhabit the low, open vegetation known as "canga" which grows on exposed iron ore deposits in the Serra dos Carajás, Pará. The new races *P. s. teretiala* and *Z. c. novaesi* are described based on specimens from Carajás. *B. f. pallidirostris* is described from Venezuela, distinguishing the disjunct northern population of the species from those of Brazil, Bolivia, and Paraguay.

Avian specimens collected by Museu Paraense Emílio Goeldi research teams at the Serra dos Carajás, Pará, Brazil (6° 05'S, 50° 05'W) raise a number of taxonomic questions regarding racial affinities of the forms that inhabit the region. The remarkable discovery of a new race of White Bellbird, *Procnias alba wallacei* Oren and Novaes, has already been discussed elsewhere (Roth *et al.*, 1984; Oren & Novaes, 1985). Here I treat the taxonomic status of three additional species of birds from Carajás, namely *Poecilurus scutatus*, *Zonotrichia capensis*, and *Basileuterus flaveolus*, and describe new races of the first two species. Also, I separate *Basileuterus flaveolus* of the Carajás region and southward from Colombian-Venezuelan individuals by naming a new race from the latter region. These three species inhabit the low, open to semi-open "canga" vegetation of the Serra dos Carajás, which grows directly on exposed iron ore deposits (Secco & Mesquita, 1983). Colors mentioned below denoted in capitals with reference numbers in parentheses refer to the standards in Smithe's Color Guide (1975/81).

The Carajás form of the Ochre-cheeked Spinetail, *Poecilurus scutatus*, differs from others of the species in the length and shape of the wing. I propose that it be known as

Poecilurus scutatus teretiala, subsp. nov.

Type — Adult ♀ in slightly worn plumage, non-breeding condition. N2, Serra Norte, Serra dos Carajás, Pará, Brazil, at approximately 700m altitude, 6 October 1984. Collected by D.C. Oren, J.M. Rosa, and F. Braga. In the Museu Paraense Emílio Goeldi collection, Reg. No 36383.

Paratypes — Two adult ♂'s. MPEG 36382: N5, Serra Norte, Serra dos Carajás, Pará, Brazil, 24 September 1984. Collected by D.C. Oren, J.M. Rosa, and F. Braga. Testes 7 x 4 mm. MPEG 36688: N1, Serra Norte, Serra dos Carajás, Pará, Brazil, 15 January 1985. Collected by M.S. Brígida, F. Braga, and R. Pereira. Testes 5 x 3 mm.

Description — Tail Verona Brown (223B); head, facial mask, and back Brownish Olive (29), washed with Amber (36) on middle and lower back; throat, lores, and eyestripe white, this last washed with light Cinnamon (123A) posteriorly; cheeks, undertail coverts, and underwing coverts light Cinnamon (123A); lower throat black; underparts white, upper breast, sides, and flanks washed with Cinnamon (123A); upper wing coverts, tertials and primary margins Amber (36); primaries Olive (30); iris reddish brown; tarsus brownish gray; maxilla black; mandible steel gray.

Measurements — ♀ (Type): total 133 mm, wing 53.3 mm, tail 63.5mm, tarsus 18.0 mm, unfeathered culmen 11.9 mm, bill from nostril to tip 8.5 mm, weight 14 g. 2 ♂'s: total 136—137 mm, wing 53.0—53.8 mm, tail 62.5 mm (other in molt), tarsus 17.6—18.6 mm, unfeathered culmen 11.4—12.5 mm, bill from nostril to tip 8.7—9.0mm.

Diagnosis — The Carajás form of this species has much shorter and more rounded wings than *P. s. scutatus*. Vaurie (1980) gives a range of 55—64 mm and average of 58.67 mm as the wing measure of the nominate race, demonstrating no overlap in this character with the new form. The white in the belly of the new race is more extensive than any other specimen examined. Easily separated from *P. s. whitei* of southern South America by the latter form's cinnamon, not white, throat.

Distribution — Known only from the type locality.

Material examined — In MPEG: *P. s. teretiala*, 3; *P. s. scutatus* (Ceará and Goiás), 9, In USNM: *P. s. scutatus* (Ceará), 1.

Remarks — Vaurie (1980) claims that the plumage variation is clinal in the 37 specimens of the species he examined. Seven birds in the Museu Goeldi from Ceará are much whiter below and show much

more rich brown above than two specimens from Goiás. On geographical grounds, one would expect the Carajás birds to be closer to the Goiás specimens in plumage characters; however, they compare best with the Ceará material and, therefore, are at odds with the allegedly clinal nature of variation. In Hellmayr's (1929:350) discussion of *P. s. scutatus* he states:

I find much individual variation in the intensity of coloration on the sides of the head, chest, and flanks. . . I do not see my way clear to recognize more than one form in eastern Brazil.

In the characters mentioned, the Museu Goeldi material also shows much individual variation. However, the extent of white on the belly shows geographic consistency, and appears to be a valid character for separating populations within the range of *P. s. scutatus*. The true nature of plumage variation in the nominate form still is an open question to be resolved through examination of more extensive material.

In Carajás the Ochre-cheeked Spinetail inhabits the most closed parts of the canga vegetation and the transition zone between this habitat and surrounding forest. It behaves in a wren-like manner, skulking in thick and tangled vegetation. In September and October 1984 males were occasionally singing but the specimens collected were in non-reproductive condition. The amount of amber on the back appears to change during the year through wear. The male from January had recently completed body molt and is a full rich amber from the upper middle back to the tail coverts. The September and October birds, however, demonstrate but a wash of amber on a background of olive.

Etymology — The subspecific denomination refers to the character which separates the Carajás population from the nominate form: *teres* = rounded, *ala* = wing.

The distribution of the Flavescent Warbler, *Basileuterus flaveolus*, is disjunct, with one population in eastern Colombia and Venezuela and others occupying eastern and southern Brazil to Paraguay and Bolivia (de Schauensee, 1970). The only previous register of this species for the state of Pará is Novaes's (1960) from Conceição do Araguaia.

Individuals from the Serra dos Carajás differ in no substantive way from the type from Paraguay, examined in the U. S. National Museum. Hellmayr (1935:483) treats the disjunct populations of the Flavescent Warbler as follows :

The reappearance of this species in northern Venezuela is very singular. Birds from that part of its range differ nowise from Brazilian and Bolivian specimens, so far as I can see...

From the characters visible in museum skins, Hellmayr's contention of no perceptible difference between individuals of the disjunct populations still holds true. In life there is one distinguishing character, however. According to de Schauensee (1970) and de Schauensee & Phelps (1978), the bill of *B. flaveolus* in life is pale; the authors indicate this character as an aid to separating the species from congeners in the field. The pale bill can only refer to the northern population, however, as the type and all other individuals examined from the southern distribution have black maxillae and black mandibles which are brown basally. This is clearly evident in the photograph of the species published by Dunning (1982) depicting an individual from Goiás. Thus, bill color in life may be used to distinguish members of the disjunct populations. The northern population remains without a subspecific designation, which I hereby propose as

***Basileuterus flaveolus pallidirostris* subsp. nov.**

Type — Adult ♂ in slightly worn plumage, breeding condition. Puerto La Cruz, Dist. Federal, Venezuela, at 1000 ft. altitude, 27 December 1928. Collected by E.G. Holt and M.L. Holt. In the U.S. National Museum collection, Reg. N^o 325039.

Description — Like *B. f. flaveolus*, but with pale bill. Upperparts, wings, and tail Olive-green (46), underparts, lores, cheeks, and superciliary Spectrum Yellow (55), narrow facial mask Olive-green (48).

Measurements of type — Wing 67.5 mm, tail 61.7 mm, tarsus 22.7 mm, unfeathered culmen 11.5 mm, bill from nostril to tip 8.4 mm.

Distribution — From Norte de Santander, Colombia east to Miranda and northern Guárico, Venezuela.

Material examined — In USNM: *B. f. flaveolus* (Brazil and Paraguay, including type of the species) 12; *B. f. pallidirostris* (Colombia) 13, (Venezuela) 4. In MPEG: *B. f. flaveolus* (Ceará) 8, (Pará) 6, (Goiás) 4, (Bahia) 2, (Mato Grosso) 2.

Etymology — The descriptive subspecies designation derives from *pallidus* — pale, *rostrum* — bill.

The Rufous-collared Sparrow, *Zonotrichia capensis*, is one of the most common and conspicuous birds of the Serra dos Carajás. Specimens collected there are separable from forms heretofore described and may be known as

***Zonotrichia capensis novaesi*, subsp. nov.**

Type — Adult ♂ in fresh plumage, non-breeding condition. N1, Serra Norte, Serra dos Carajás, Pará, Brazil, at approximately 700 m altitude, 22 August 1983. Collected by D.C. Oren, M. S. Brígida. In the Museu Paraense Emílio Goeldi collection, Reg. Nº 35101.

Description — Median coronal stripe Glaucous (79); lateral coronal stripes, eyeline, lores, and median border of auriculars black; superciliary stripe and auriculars Glaucous (80), lighter posteriorly; throat white with a pair of black marks on either side of lower throat; nuchal collar Robin Rufous (340); breast and sides light Glaucous (79); flanks washed with Smoke Gray (45); center of belly white; undertail coverts Smoke Gray (45), shading to Grayish Olive (43) distally, feathers narrowly edged white; upperparts Olive-brown (28) streaked with brownish black on upper and middle back; rump Brownish Olive (29); wings and tail dark Vandyke Brown (221); primaries, secondaries, and rectrices edged Drab (27); tertials broadly edged Mikado Brown (121C); shoulders Glaucous (79); two white wingbars; bend of wing white; tarsus flesh; maxilla grayish brown; mandible gray; iris brown.

Measurements of type — Total 139 mm, wing 64.9 mm, tail 59.4 mm, tarsus 19.7 mm, unfeathered culmen 12.2 mm, bill from nostril to tip 8.8 mm, weight 18.5 g.

Measurements — ♂'s: wing 61.2–65.8 mm, mean 63.28 mm, s.d. 1.65, n = 10; tail 55.4–60.5 mm, mean 57.99 mm, s.d. 1.99, n = 8; tarsus 19.3–21.3 mm, mean 20.43 mm, s.d. 0.58, n = 10; unfeathered culmen 11.3–12.5 mm, mean 11.82 mm, s.d. 0.42, n = 10; bill from nostril to tip 8.4–9.0 mm, mean 8.61 mm, s.d. 0.19, n = 10. ♀'s: wing 58.5–61.4 mm, mean 60.15 mm; s.d. 1.23, n = 6; tail 53.2–56.4 mm, mean 54.15 mm, s.d. 1.21, n = 6; tarsus 19.6–21.5 mm, mean 20.43, s.d. 0.74, n = 6; unfeathered culmen 10.5–12.3 mm, mean 11.53 mm, s.d. 0.64, n = 6; bill from nostril to tip 7.9–9.0 mm, mean 8.57 mm, s.d. 0.37, n = 6.

Diagnosis — Most easily distinguished by the dark undertail coverts, which have but a narrow white border. The Brownish Olive (29) rump is also unique; in *Z. c. capensis*, *Z. c. matutina*, and *Z. c. subtorquata* the rump is Olive-brown (28), while it is Vandyke Brown in *Z. c. roraimae* and between Olive (30) and Olive-gray (42) in *Z. c. tocantinsi*. In overall plumage the two races with geographic distributions nearest the new form, *Z. c. tocantinsi* and *Z. c. matutina*, are grayer and browner, respectively, than *Z. c. novaesi*.

Distribution — Known from the Serra dos Carajás, Pará, Brazil, and the Serra do Cachimbo (7° 35'S, 57° 45W), Pará, Brazil.

Material examined — In MPEG: *Z. c. novaesi*, 20; *Z. c. capensis*, 1; *Z. c. tocantinsi*, 2; *Z. c. roraimae*, 2; *Z. c. subtorquata*, 7; *Z. c. matutina*, 9. In USNM: *Z. c. capensis*, 1; *Z. c. subtorquata*, 12.

Remarks — Pinto & Camargo's (1957) report on a collection of birds from the Serra do Cachimbo includes a single ♀ *Z. capensis* classified as *Z. c. matutina*. Later Novaes (1965) examined a series of ten individuals from the region, concluding that the Cachimbo form is separable from *matutina*; he tentatively assigns the series to *Z. c. tocantinsi*, but had no recent specimens of that form in hand for direct comparison, basing his assertion on geographic grounds from Chapman's (1940) classic work on the species (Novaes, pers. comm.). The Museu Goeldi now has two males of *tocantinsi* from the municipality of Tucuruí some 80 km from the type locality of the race, which are clearly very different from the Cachimbo birds. The Cachimbo specimens compare well with those from Carajás.

At Carajás *Z. c. novaesi* is extremely common in the canga vegetation and around human habitations. The birds often formed flocks in August, September, and October, while they were relatively inconspicuous and apparently breeding in January and February. Many individuals become soiled from the iron oxide dust of the canga and sport plumage with ruddy cast, especially on the belly. Attempts to clean the soiled feathers for comparative work are fruitless, for the iron oxide seems to penetrate and stain the feather structure. For this reason comparisons above have been made with individuals in fresh plumage which has not been altered by chronic exposure to the canga soil.

Etymology — It is a pleasure to name this subspecies for my colleague Fernando C. Novaes, who first recognized the distinctiveness of birds of this species from the Serra do Cachimbo.

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RESUMO

As espécies de pássaros *Poecilurus scutatus* (Furnariidae), *Brasileuterus faveolus* (Parulidae) e *Zonotrichia capensis* (Emberizidae) habitam a vegetação de aspecto baixo e aberto conhecida como "canga" que cresce diretamente em cima do minério de ferro exposto da Serra dos Carajás, Pará. As raças *P. s. teretiala* e *Z. c. novaesi* são descritas baseadas em espécimes provenientes de Carajás. *B. f. pallirostris* da Venezuela e Colômbia é descrita, distinguindo a população disjunta do norte da América do Sul daquelas do Brasil, Bolívia e Paraguai.