

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTONNOTES ON PIPILO FUSCUS OF MEXICO AND
DESCRIPTION OF A NEW FORM.¹

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The changes in characters of forms of *Pipilo fuscus*, as we go south through Mexico, proceed differently from those of most plastic species, in which, generally, the largest races are found on the Central Plateau in the region of Guanajuato. In *P. fuscus* the largest birds are those from the geographical extremes, the northwest and the southeast, while the smallest are those from the southern central portion of the range (*P. f. fuscus* of the states of Michoacan and Mexico). A fine series, recently taken by Mario del Toro Avilés on the arid "Planicie" of eastern Oaxaca, proves that the range of *P. f. fuscus* extends much farther southeast than was believed hitherto. In addition to their large size, *mesoleucus* and *intermedius* of Sonora and Sinaloa, respectively, inhabiting areas chiefly west of the Sierra Madres, differ from all other races in having extremely long tails, much longer than wings, whereas in the rest, to the east, these parts are about equal in length. The palest forms are also found at the geographical extremes, Oaxaca and Chihuahua or Tiburon Island, the former being probably the palest of all, rather than *perpallidus* or *jamesi*. In only one character, the rusty pileum, does a bright color diminish steadily from north-western to southeastern Mexico, for in Oaxaca the crown is gray uniform with the back. This last, palest and large race is described below.

About 100 recently taken specimens, representing all the races from Mexico, except *jamesi*, recognized up to the present time, are found in the Moore Collection, but only 63 are listed in this paper, because these were brought with me to Mexico, where the latter part of this paper has been

¹ A contribution from the California Institute of Technology, Pasadena, California.

written. The rest of the series was moved to a safer location after the beginning of the war. My inspection of the old skins in the British Museum and the museums of the eastern United States shows that post mortem color change is so great in this species that little reliance can be placed on these older skins, most of which were secured from 50 to 70 years ago. It was fortunate that so large a series of recently taken individuals could be assembled at one time for the important first comparisons, which proved that some recent authors had been misled into questionable conclusions. Not only are fresh specimens imperatively requisite, but great care must be taken to compare only birds of the same season and state of wear. This paper was begun four years ago, but all the material listed was compared at one time.

My grateful acknowledgments are made to Mr. Kinnear and the British Museum, Mr. Peters and the Museum of Comparative Zoology, to Doctors Wetmore, Friedmann and the United States National Museum for their continuing courtesies in permitting me to inspect valuable types or series.

***Pipilo fuscus toroi*,² subsp. nov.**

OAXACA BROWN TOWHEE.

Type.—Male adult in winter plumage, number 30,927, collection of Robert T. Moore; Mitla, Oaxaca, Mexico; January 8, 1942; collected by Mario del Toro Avilés.

Subspecific characters.—Not closer to one race than another, it differs in winter plumage from *Pipilo fuscus fuscus* of the southeastern portion of the Central Plateau in having upper parts much paler, purer gray without tinge of brown; pileum *uniform* in coloration with back, only a few specimens showing a trace of brown; underparts paler and much less buffy on chin, throat, sides of breast and flanks; center of breast and abdomen purer white; size larger, tail proportionately and actually longer. Differs in the same way from *P. f. potosinus* of the middle portions of the Central Plateau, and in addition *toroi* lacks the dark gray mottling across the upper breast. Although purer light gray, apparently, than any of the northwestern races of Mexico (*mesoleucus*, *intermedius* and *perpallidus*) *toroi* differs markedly from them all in lacking the rusty pileum of all three and the very long tail of the first two. The nuptial plumage of *toroi* is not known.

Range.—All specimens were taken at Mitla, but *toroi* probably ranges throughout the eastern portions of the arid, elevated plateau of Oaxaca, known locally as the "Planicie."

² I take pleasure in naming this race for Señor Mario del Toro Avilés, who seems to have collected the only specimens extant and has made expeditions into the more remote portions of Mexico without regard for difficulties or dangers.

Average Measurements in Millimeters of *Pipilo fuscus* and Races.

Males	Wing	Tail	Ex. Culmen
4 Ads. <i>toroi</i> (Oaxaca).....	94.7 (93.8-95.6)	98.3 (94.3-101.7)	14.9 (14.7-14.9)
7 Ads. <i>f. fuscus</i> (Michoacan-Mexico)....	89.8 (85.9-93.7)	89.0 (84.9- 91.2)	14.7 (14.0-16.2)
8 Ads. <i>potosinus</i> (Queretaro-Guanaj.) ...	94.0 (92.6-96.0)	95.7 (92.3-99.4)	14.3 (13.0-15.4)
4 Ads. <i>potosinus</i> (Atoyac, Jalisco).....	94.3 (90.6-97.3)	93.1 (90.7- 98.0)	13.9 (13.4-14.6)
4 Ads. <i>potosinus</i> x <i>perpallidus</i> (Dur.).....	97.2 (96.5-98.4)	98.3 (97.8- 98.8)	14.7 (14.4-15.3)
3 Ads. <i>intermedius</i> (N. Sinaloa).....	91.5 (90.8-91.8)	103.1 (102.6-103.6)	14.9 (14.7-15.2)
4 Ads. <i>mesoleucus</i> (Arizona).....	95.5 (91.7-99.0)	105.9 (100.0-108.2)	15.3 (15.1-15.6)

Specimens examined.—*toroi*—Oaxaca: Mitla 4♂ 1♀ (Jan. 8-11); *fuscus*—Mexico: Temascaltepec 1♂ (topotypical June 14 breeding); San Botholo 1♀ (Oct. 8), Texcoco 1♂ (Sept. 27) Contreras 1♀ (Dec. 26); District Federal: Desierto de Leones 1♀ (Dec. 11), Tlalpan 1♂ (Aug. 31), Ixtapalapa 2♀ (Apr. 26, Oct. 27); Morelos: Ocotepec 1♀ (June 19 breeding); Michoacan: Rancho La Cofradia near Uruapan 3♂ 2♀ (June 10-25 breeding), Zacapu 1♂ 1♀ (Aug. 26 breeding-Sept. 12); *Potosinus*—Queretaro: El Caracol near San Juan del Rio 2♂ 2♀ 1 im♂ (Nov. 30-Dec. 7); Guanajuato near Irapuato: 3♂ 2♀ (Sept. 9-26 breeding, Jan. 9), Rancho Enmedio 17 miles N. E. of Guanajuato 3♂ 1♀ (Jan. 28-Apr. 30 breeding); Puerto de Guadalupe 1♂ 1♀ (May 10-20, breeding); Michoacan: San Augustin near Lago de Cuitzeo 1♂ 4♀ (Feb. 13-23); Jalisco: near Atoyac 4♂ 3♀ (Feb. 21-Mar. 15); *potosinus* x *perpallidus* (?)—Durango: Ojito 4♂ 2♀ (Aug. 19-25 breeding); *intermedius*—Sonora: Guirocoba 2♂ (Aug. 5-6); Sinaloa: El Fuerte 1♀ (May 11), Yecorato 1♂ (May 3). *mesoleucus*—Arizona: Fresnal 3♂ (Apr. 30 breeding-June 21), Sells 1♂ (Apr. 29 breeding).

The measurements, given above, are those of adults only in the Moore Collection of the 63 mentioned in this article. All the individuals, listed under "Specimens examined," are in the Moore Collection. No specimens from the older collections are listed, nor are their measurements given. The unlisted individuals of the Moore collection were taken in Sinaloa and other Mexican states, in addition to a few from Arizona.

Toroi is one of the most distinct of the races of *fuscus*, being the only one with pileum uniform with back. It may well be the palest, but I have not seen fresh specimens of *perpallidus* from Chihuahua, the series in the Museum of Comparative Zoology being badly faded and "foxed." Described on the basis of this assemblage by van Rossem, this race is probably valid because of its difference from *mesoleucus* in wing-tail formula alone, although the describer does not state how it differs from his other race of *texanus* from Kerr County, Texas. For although the worn breeding birds in the Moore Collection from Durango, taken immediately south of the range of *perpallidus*, resemble similarly worn individuals of *mesoleucus* from Arizona, they differ in having the tail and wing about the same length. These Durango birds may be pure *perpallidus*, for they

have rusty crowns like *mesoleucus* and are much closer to it than to the dark-crowned *potosinus* to the south.

The new race, *P. f. tenebrosus*, recently described by van Rossem (Bull. Brit. Orn. Cl. 58, p. 132, July, 1938) from two localities in Jalisco near Lago de Chapala, may be also valid. However, it should be pointed out that these nearly adjacent localities lie *between* the range of *potosinus* (type locality "Guanajuato") and Atoyac, a few miles southwest of Chapala, an area from which I have a series of four males and three females, which minutely resemble an immense series of *potosinus*, for the most part in the same plumage, taken from Guanajuato to Queretaro. Still more perplexing is van Rossem's statement he has seen four specimens from Bolaños north of Lago de Chapala, which agree "minutely with" *fuscus fuscus* "in colour and measurements." In view of the great age of most of these skins it seems that a final decision must await the collecting of an adequate fresh series from Lago de Chapala and Bolaños. Not excluding the unlikely possibility that *tenebrosus* may be a race restricted to the shores of Chapala, it seems probable that the range of *potosinus* extends from Queretaro through Guanajuato and the extreme northern fringe of Michoacan to Atoyac. At any rate it is reasonably certain that *P. fuscus fuscus* has been given a far too extensive a range to the west, since my birds from Atoyac show a definite change towards a larger, grayer race (not "smaller, darker," the characters assigned to *tenebrosus*), as compared with the small size and buff-cinnamon underparts of true *fuscus*.

It should be added that my series of 35 individuals from the entire range of *potosinus* all possess the characters given by the describer Ridgway (Bull. 50, U. S. Nat. Mus. I, p. 431) when comparing it with typical *fuscus*, except the "smaller" triangular spots about the gular area, and they have an important character, not mentioned by Ridgway, a conspicuous mottling of dark gray on the sides and partly across the breast, as well as darker gray flanks. This character is exhibited by the Atoyac birds.