

TAXONOMY AND DISTRIBUTION OF THE MEXICAN SPARROW *XENOSPIZA BAILEYI*

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The small, montane sparrow described by Outram Bangs (Proc. New Engl. Zool. Club, 12, 1931:85-88) as *Xenospiza baileyi* is known in the literature apparently from only ten specimens. Nine of these were taken by W. B. Richardson in the Sierra Bolaños, northern Jalisco, Mexico, and include the type of *Xenospiza baileyi*, about whose collector Bangs (*loc. cit.*) was in doubt. From this series I have examined one from the United States National Museum (see table 1) collected on March 5, 1889, and one from the British Museum collected on March 9, 1889. Bang's type, in the Museum of Comparative Zoology, was collected on March 8, 1889. Six additional specimens from the Sierra Bolaños are in the British Museum (Hellmayr, Cat. Birds Amer., pt. 11, 1934: 408). The tenth specimen was taken by Alfred M. Bailey (see Bailey and Conover, Auk, 52, 1935:423) on March 22, 1931, thirty miles southwest of Durango at 8000 feet altitude and is now in the Colorado Museum of Natural History.

To these specimens may be added an eleventh collected approximately 375 miles east-southeast of the Jalisco locality (see fig. 41), at La Cima, 3000 meters altitude, in the Distrito Federal, Mexico, on April 23, 1945, by Helmuth O. Wagner. This specimen appears to represent a new race which is more black, more strikingly spotted, less buffy, and probably larger than that of the Sierra Madre Occidental, and which may be known as

Xenospiza baileyi sierrae new subspecies

Type.—Male, apparently adult (testes "4 mm"), no. 93519 Mus. Vert. Zool.; La Cima, 3000 meters, Mexico, D. F., April 23, 1945, collected by H. O. Wagner, orig. no. 1140.

Subspecific characters.—Similar to *Xenospiza baileyi baileyi*, but breast spots darker (more black) and broader; breast with a prominent medial cluster of spots as in *Melospiza melodia* (absent in three specimens of *X. b. baileyi*); malar streak much darker (more black) and more prominent; streaks on sides of belly darker (more black); sides of head less buffy, more gray; crown darker (more black, less brown), the central black area of individual feathers being broader, the lateral russet-brown or gray-brown margin narrower; bill dull black dorsally (not dull brown).

Geographic distribution.—Known only from the type locality, in high mountains near Mexico City in the Distrito Federal. According to Hooper (Jour. Mamm., 28, 1947:41), the type locality, La Cima, is "a village near the crest of the divide, 2900 meters elevation, 35 kilometers south-southwest of Mexico City on the Cuernavaca highway."

The distinctive characters attributed to *X. b. sierrae* are based on a comparison of but one specimen of that proposed race with three of *X. b. baileyi*. Each of these three specimens differs from the one of *X. b. sierrae* in comparable degree. Other less marked differences, possibly of racial significance, are, in *X. b. sierrae*, longer wing, tail, and bill (see table 1), less buff (Cream-buff, not Cinnamon-buff, in Ridgway, Color Standards and Color Nomenclature, 1912) on sides of belly, and more black (less brown) and possibly also larger terminal spots on back feathers.

A survey of generic characters among the sparrows which have been linked at any time with *Xenospiza baileyi* (see Bangs, *op. cit.*) has been made using specimens in the Museum of Vertebrate Zoology. This survey, although admittedly brief, causes me to doubt that this sparrow should be segregated in a monotypic genus. Similarities in color between *Xenospiza baileyi* and "*Coturniculus henslowi*" [= *Passerherbulus henslowi*], "*Passerherbulus lecontei*" [= *P. caudacuta*], "*Ammodramus australis*" [= *A. savanna-*

rum], and "*Passerculus savanna*" [= *P. sandwichensis*] are superficial and pertain to some characters only. The absence, in *Xenospiza*, of narrow, acuminate rectrices and of rounded form of tail with marked shortening of lateralmost rectrices seem to rule *Passerherbulus* from further consideration. Bangs (*op. cit.*) maintains that in slenderness of bill, *Xenospiza* resembles *Passerherbulus lecontei*; I find the two similar in width of bill, but the bill of *Xenospiza* is longer and deeper and in form as well as size is most similar to that of *Melospiza lincolnii* (fig. 42). The genus *Ammodramus* is ruled out by the absence, in *Xenospiza*, of narrow, moderately acuminate rectrices, short tail, long

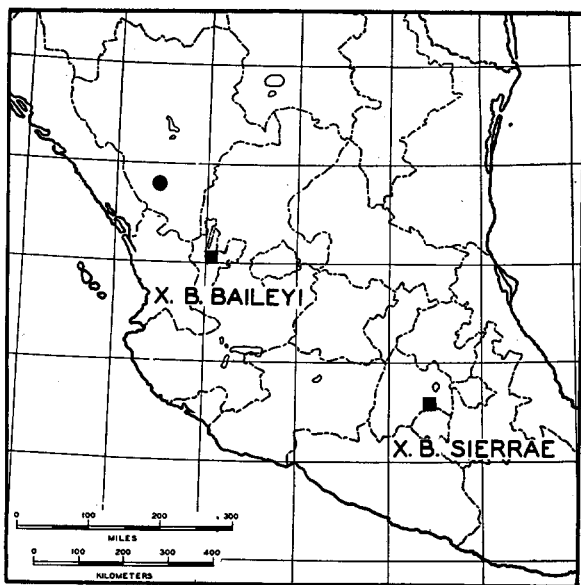


Fig. 41. Distribution of *Xenospiza baileyi*; squares indicate type localities, circle indicates third of three known localities of occurrence.

outer primary, and a bill that is heavy in relation to the skull. Long hind toe and claw, long wings, long outermost primary, and emarginate tail rule out *Passerculus*. It must be emphasized that tentative exclusion of these several genera from possible near relatives of *Xenospiza* is based solely on degree of difference suggested by a series of characters of external morphology taken in combination.

Xenospiza resembles the smaller members of *Melospiza* in the possession of a double-rounded, relatively long tail with broad, round-tipped rectrices, in the possession of short, rounded wings, and in a series of color-pattern characteristics. Past students have compared *Xenospiza baileyi* with *M. lincolnii* and *M. georgiana*. Color of under parts, particularly of *X. b. sierrae*, suggest *Melospiza melodia*, except for a weak, pale buff band across the streaked upper breast, particularly in *X. b. baileyi*, which suggests *M. lincolnii*. In the latter comparison, however, breast streaks are not so narrow nor the buff so dark as in *M. lincolnii*. Dorsally, *Xenospiza baileyi* is similar in general pattern to *Melospiza* except that the dark spots on the back are more broad terminally. Also, the back feathers are of a rich reddish brown (close to Russet in Ridgway, *op. cit.*) that is not evident among the other smaller melospizas. This color character, in quality and to a lesser degree in distribution, is very similar to that of the dorsum of *Passerherbulus*

henslowi; this fact may be the chief, and probably the only reason why *Xenospiza* was ever linked with that species.

In characters of size, proportions, and form of wing and tail, *Xenospiza* is most similar to *M. lincolni*. The tail is slightly more rounded than in that species, but less so than in *M. melodia* and *M. georgiana*. The primaries are shorter relative to the secondaries than in the migratory melospizas; the form of the wing alone is similar to that of resident races of *M. melodia*. In table 1, average measurements from Ridgway (Bull. U. S. Nat. Mus., no. 50, 1901:379, 383) serve to show how *Xenospiza* compares with the smaller melospizas.

Table 1
Measurements of *Xenospiza baileyi* in Millimeters

	Wing	Tail	Wing/tail	Bill length from nostril	Culmen from skull base	Bill depth at nostril	Tarsus
<i>X. b. baileyi</i>							
♂ B.M. 99.2.1.262 ¹	60.5	55.9	1.08	7.7	12.0	6.0	19.2
♂ C.M. 16205	60.8	54.7	1.11	7.4	11.6	5.4	19.7
♂ M.C.Z. 45986 ²	62	53	....	....	12	....	19
♀ U.S.N.M. 356548 ¹	61.7	55.6	1.11	7.1	11.7	5.8	19.6
<i>X. b. sierrae</i>							
♂ M.V.Z. 93519 (type)	65.2	57.6	1.13	8.2	13.7	6.0	19.7
<i>Melospiza lincolni</i> ³	62.9	57.7	1.09	....	....	....	20.8
<i>Melospiza georgiana</i> ³	62.5	59.2	1.06	....	....	....	21.6

¹ Topotypes.

² Measurements of type of *Xenospiza baileyi*, as given by Bangs (*op. cit.*).

³ Average measurements as given by Ridgway (*op. cit.*).

With reference to Bang's (*op. cit.*) discussion of *Xenospiza baileyi*, I cannot confirm his statement that the bill of *Xenospiza* is more slender and smaller than that of *M. lincolni*; nor can I see any significance in the statement that the dorsal plumage of *Xenospiza* is longer and looser than that of *M. lincolni*. If by more "parti-colored," Bangs means that the dorsal plumage of *Xenospiza* is more variegated than that of *M. lincolni*, then he is correct; but the character is hardly of generic importance. Bangs is

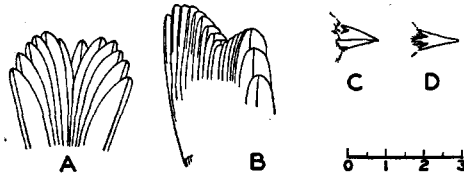


Fig. 42. *Xenospiza baileyi*. A. Tail, moderately spread, ventral view; B, wing, dorsal view; C, bill, lateral view; D, bill, dorsal view. Scale in centimeters. Outline drawings based on type of *X. b. sierrae* (see table 1).

correct in pointing out that the secondaries of *Xenospiza* are noticeably broader (see fig. 42) than those of *M. lincolni* and other small melospizas; but again, it is doubtful that this character can validate a monotypic genus.

The total impression of *Xenospiza baileyi*, then, is one of a species which is closer to *Melospiza* than to any other genus. I believe Bangs might not have linked *Xenospiza* with *Passerherbulus lecontei* had he seen the specimen from La Cima, as it suggests *Melospiza* more strongly than do those from the Sierra Madre Occidental. Yet, as em-

phasized earlier, each, or even several, of the characters of external morphology discussed above are inadequate basis for postulation of generic affinities. This point emerges clearly from comparisons among species of *Melospiza* and *Passerella* as described by Ridgway (*op. cit.*) and Swarth (Univ. Calif. Publ. Zool., 21, 1920:75-224). Their measurements and outline drawings of wing and tail demonstrate an intraspecific variation in form and size of each and in wing/tail ratio which should deter us from extensive interspecific comparisons on the basis of these characters. In *Passerella*, for example (see Swarth, *op. cit.*:182), the wing/tail ratio ranges from 0.95 to 1.23. Support by Ridgway's and Swarth's data for this argument is valid even though the concepts of several of the races listed have changed since their works were published.

Since this brief study has dealt with characters of the genus *Melospiza* and since *Xenospiza baileyi* may possibly be a member of that genus, it does not seem out of place to reaffirm that the merging of *Melospiza* with *Passerella* (Linsdale, Univ. Calif. Publ. Zool., 30, 1928:365) is supported by a strong body of evidence. *Passerella* may display some distinctive characters (for example, see A. H. Miller, Univ. Calif. Publ., Bull. Dept. Geol. Sci., 21, 1932:182), but the species *Passerella iliaca* may be regarded as an extreme among the forms included in these two genera, and the proposed merging should not be prejudiced by the fact that the name *Passerella* is linked in our minds with this extreme. The genera of American sparrows are in great need of the revisionary study accorded *Melospiza* and *Passerella* by various workers (see Linsdale, *op. cit.*:262, 367). I see no good reason, however, why *Melospiza* should not be merged with *Passerella* just because other sparrow genera are excessively split, since the necessary studies, if conducted thoroughly, will yield results at best only slowly.

Little is known of the behavior and habitat distribution of *Xenospiza baileyi*. It occurs in grass areas among pines in mountainous areas at altitudes of 8000 to 9000 feet. Bangs (*op. cit.*), quoting Alfred M. Bailey, states that the Durangan area where *Xenospiza* was collected "is a rugged mountain region, broken by precipitous canyons, and with wide expanses of park. There is much pine, with thorny shrubs and some gnarled oaks intermixed . . ." About a dozen individuals were seen on March 22, 1931, in "a small marsh, some fifty feet long by perhaps twenty feet across, grown to tall grass, dead at this season . . ." Under date of April 15, 1947, Mr. Bailey writes that "The birds were on top of the vegetation, possibly two or three feet high, and were singing, and they reminded me very much of seaside sparrows in action." In a report on their Durangan expedition, Bailey and Conover (Auk, 52, 1935:423) compared *Xenospiza* with "dark Savannah Sparrows"; but in the same letter, Mr. Bailey states that "the few that I saw were not skulking like the Savannahs, but they reminded me of them because of their size, and their habit of singing from the tips of the vegetation." Dr. Helmuth O. Wagner writes, under dates of April 25 and June 15, 1947, that he saw a pair and two single individuals of *Xenospiza baileyi* at La Cima on April 23 of the same year; one of the latter was in song. His letter indicates that the species is shy and occurs scatteredly on grass plains covered with "bushel" grass 60-80 centimeters high. He describes them as dry, secondary plains with some pines, in areas formerly covered by pine forests. The habitat of *Xenospiza baileyi* is thus not necessarily marsh as suggested by Bailey's notes. Wagner's comments corroborate Bailey's statements concerning the habit of singing from tall grass blades. Wagner describes the song as consisting of seven or eight short syllables which are followed by two melodic notes; this description, brief as it is, would seem to indicate that the song does not resemble that of *Passerculus*, *Passerherbulus*, or *Ammodramus*. However inconclusive and scanty these data may be, they should assist observers and collectors in searches for this species. It is really odd that if *Xenospiza*

baileyi occurs even uncommonly in the high mountains near Mexico City, its presence there has not been reported heretofore.

In summary, characters of external morphology appear to relate *Xenospiza baileyi* to *Melospiza*, or *Passerella*, *sensu* Linsdale. From the little known about habitat relations, there is no suggestion that *Xenospiza baileyi* closely resembles any of the melospizas. A brief description of the song of *Xenospiza* suggests that it differs from *Passerculus*, *Passerherbulus*, and *Ammodramus*, previously linked with *Xenospiza* but not necessarily from *Melospiza*. Further discussion of generic relations of *Xenospiza* solely in Ridgwayian terms of external morphology is futile; additional specimens, particularly skeletons, and data on habitat, song, and behavior are badly needed.

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