

NOTES ON THE SONG SPARROWS OF THE
MEXICAN PLATEAU

BY ALLAN R. PHILLIPS AND ROBERT W. DICKERMAN

THE historic explorations of México by E. W. Nelson and E. A. Goldman brought to light many new subspecies of birds. Among these were two races of the Song Sparrow (*Melospiza melodia*). A third race had been described previously by Ridgway. It is strange that, in the more than half-century that has elapsed since, a species so justly famed for its plasticity has been so neglected by ornithologists. Since the description of Nelson's races, no critical studies have been made of the Mexican populations.

These populations are effectively isolated from one another by their strict selection of moist, marshy, or stream-side habitats; these are usually separated by arid uplands or mountain barriers. The birds are most frequently encountered in or about cattails, bullrushes, or sedgy meadows. The populations at Yuriria (Guanajuato) and Pátzcuaro (Michoacán) are found at the lake edges where there are abundant growths of cattails and other emergent vegetation. Yet to date no Song Sparrows have been reported from Lake Chapala (Michoacán and Jalisco), with its extensive borders of seemingly suitable habitat, nor from other suitable-looking habitats in Jalisco and Nayarit. At the Criadero de Fauna Cinegetica at San Cayetano, 8 kilometers south-southwest of Villa Victoria (State of México), the birds were found along the grassy borders of a small stream with scattered bushes and a large umbellifer (kindly determined by Prof. Maximino Martínez as *Arracasia atropurpurea*), as well as *Mimulus*, in the open pine forests. At El Río (State of México), they were common along the Lerma River, where it is bordered by marshy meadows. Several at this locality were taken in a farm yard bordered with hedges of large *Agave*, a few hundred yards from the river, where they mingled with the English Sparrows and *Oriturus superciliosus*. Song Sparrows were found in cattails and rushes in drainage ditches bordering pastures and fields of corn and alfalfa near Tenango del Valle in the Lerma Valley (State of México), at Xochimilco (Distrito Federal), and at Tulancingo (Hidalgo). Five miles west of Ciudad Tlaxcala their habitat was similar, where fields were being ditched and drained from the edge of a marsh. Throughout several of the suburbs of Mexico City where the vegetation is essentially riparian, especially in Chapultepec Park, Song Sparrows are abundant. In Durango they occur along streams bordered by willow brush and, in places, by bunch-grasses.

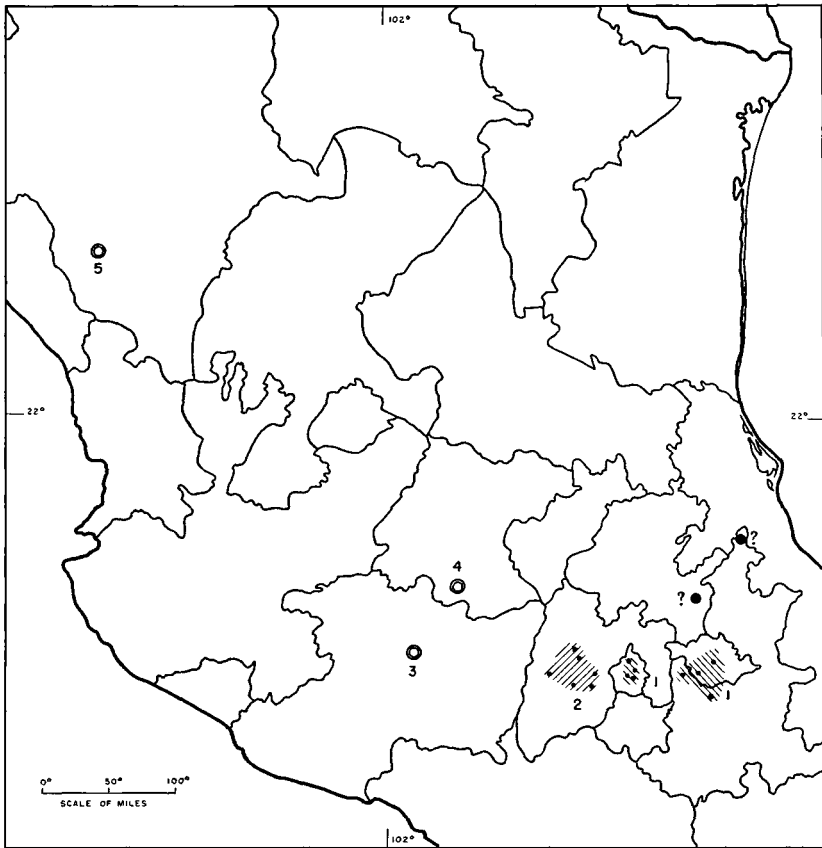


FIGURE 1. Distribution of the Song Sparrows of the Mexican Plateau. 1. *Melospiza melodia mexicana*, 2. *M. m. villai*, 3. *M. m. adusta*, 4. *M. m. yuriria*, and 5. *M. m. goldmani*. Question marks represent populations tentatively to *M. m. mexicana*.

Curiosity regarding the alleged occurrence of *Melospiza melodia merrilli* in Sonora, subsequent field observations, and examination of certain specimens in the collection of the Instituto de Biología, Universidad Nacional Autónoma de México, led Phillips to believe that the plateau populations were in need of revision. Soon afterward, Dickerman, while doing field work for the University of Kansas, was able to collect winter-plumaged series from certain southern parts of the plateau, and J. Dan Webster and Phillips took the first fresh fall-plumaged topotypes of *M. m. goldmani*. Dickerman revisited all populations under consideration in 1956 and collected fall-plumaged specimens of all except *goldmani*. Comparison of

October, 1956, specimens with those of October, 1910 from the same locality indicates foxing to be of such magnitude as to make comparisons with older skins worthless. Seasonal color changes are also prodigious. The rate of foxing in the series available was not determined; but to eliminate all errors, only specimens taken in the fall seasons of 1955 and 1956 were used in making final color comparisons and descriptions in early 1957. The 1956 series are part of a more extensive study now in progress; consequently, only the specimens from the 1956 collections used as types are annotated here. With these recently taken series, in addition to the critical series of specimens from México available to us by loan, we are able to present a brief summary of the plateau races of the Song Sparrow.

For permission to work on material from the University of Kansas Museum of Natural History we are indebted to Drs. E. Raymond Hall and Harrison B. Tordoff; for permission to examine specimens in their care, we express our appreciation to Professors Bernardo Villa R. and Rafael Martín del Campo. We are further grateful for the courtesy of the authorities of the American Museum of Natural History, the California Academy of Sciences, the Agricultural and Mechanical College of Texas, the United States National Museum, and the University of Minnesota Museum of Natural History. We are indebted to Dr. George M. Sutton for the loan of specimens, and to Ing. Cenobio Blanco for assistance in locating the habitat of *M. m. goldmani*. We thank Mrs. Helen Chapman for drawing the map.

The specimens listed in the "specimens examined" sections are only those compared in the later stages of this study. Additional specimens of some races were examined earlier. For measurements see Table I.

At present, we recognize formally five plateau races, as follows:

(1) *Melospiza melodia mexicana* Ridgway.

(?) *Melospiza pectoralis* von Müller, Reisen in den Vereinigten Staaten, Canada, und Mexico, 3: 583, 1865, "Auf dem Hochland von Mexico" (type lost).

Melospiza melodia var. *mexicana* Ridgway, in Baird, Brewer, and Ridgway, History of N. Am. Birds, 2: 18 (footnote), 1874 ("Puebla"; type in U. S. National Museum).

Diagnosis.—Darker than any other previously named Mexican subspecies. Agrees with other races of the southern plateau in broad black streaking above and below (including the upper tail coverts), in dark color of the tibia (deeper than one *M. m. "mailliardi"* at hand, but redder than *morphna*), and in relatively short tail. The only other dark race, the following, is larger and still darker. Less intensely reddish *adusta* and other more western birds in fall.

Distribution.—Valley of México, and Puebla and Tlaxcala in the valleys east of Mts. Popocatepetl and Ixtaccihuatl; also perhaps Tulancingo, Hidalgo. Reported from Huexotitla, Puebla.

TABLE 1
MEASUREMENTS IN MILLIMETERS OF THE RESIDENT MEXICAN HIGHLAND RACES OF *Melospiza melodia*. AGE CLASSES COMBINED
BECAUSE OF LACK OF SUFFICIENT NUMBERS OF FULLY ADULT SPECIMENS FOR SEPARATE TREATMENT. TABLE DOES NOT
INCLUDE MEASUREMENTS OF TYPE SPECIMENS, GIVEN SEPARATELY IN TEXT IN SOME CASES

Population	Number	Wing (chord)	Tail	Tarsus
<i>mexicana</i> , Tlaxcala				
♂	4	66.5(+?)-69.3 (68.3)	64.3	-66.5 (65.5)
♀	4	64.2	-67.2 (65.5)	61.6
				22 -24.2 (23)
Valley of México				
♂	9	61.2	-69.7 (66.4)	57.6(+?)
♀	4	61.7	-64.5 (62.6)	-65.5 (61.7)
				21.8-24.3 (23.1)
Tulancingo, Hgo. ¹				
♂	4	66.5	-69 (67.6)	58.6
♀	1	66.5		-62.8 (60.3)
				21.5-23.2 (22.2)
<i>villai</i>				
♂	13 ²	68.7(+?)	-76 (72.4)	59.5
♀	4	64.5	-70.6 (67.3)	63.8
				22.2-23.7 (23.1)
<i>adusta</i>				
♂	8	62.5(+?)	-69.6 (66.7)	66.5(+)
♀	1	63.8		-73.5 (70.2)
				24.1-25.6 (24.7)
<i>yuriria</i>				
♂	3	64.6	-68.3 (66.9)	62.5(+?)
♀?	1	65.5		-65.2 (63.7)
				23.9-25 (24.3)
<i>goldmani</i>				
♂	5	69.7	-73.6 (71.7)	59
♀	1	67.6		-67.1 (62.5)
				22.8-24.5 (23.5)
				22.2
				60.8
				-65.3 (63.3)
				23 -23.1
				61.1
				22.1
				68.5±
				-73.3 (72)
				68

¹ All Tulancingo specimens are badly worn.

² One bird measuring wing 66.4, tail 65.6 is omitted because of doubt as to its sex; it is marked simply "o".

Specimens examined.—DISTRITO FEDERAL: Xochimilco, 5; Tlálpam, 6; Ixtacalco, 2; also recorded from Ixtapalapa. PUEBLA: Río Otlati (= Otlata), 2 juvs. TLAXCALA: 5 miles west of Cd. Tlaxcala, 6; 8 kilometers southwest of Cd. Tlaxcala, 2; Apixaco, 2. HILDALGO: Tulancingo, 5 ads., 1 juv. (subspecies assumed).

Remarks.—Hellmayr (Field Mus. Nat. Hist., Zool. Series 13, part 11: 608, footnote, 1938) adopted the name *pectoralis*, stating that "Müller's description agrees so minutely with specimens from Puebla that I do not see any reason why his name should not be adopted." To this statement we cannot possibly subscribe. Dr. Frances L. Burnett has kindly furnished us a copy of von Müller's itinerary and his description of "*Melospiza pectoralis*." The outstanding characteristic of all the southern Mexican races is their broad black streaking, yet the word "black" appears only once in von Müller's description; the bill is said to be clear brown, paler below, but all black at the time of pairing! In the series at hand a breeding male (20 June) from Xochimilco had the maxilla black, except along the tomia, but the mandible was grayish and the region about the gonydeal angle, like the bases of the maxillary tomia, pale (rather lavender) drab. This agrees *in part* with von Müller's statement; but a juvenile of the next race (3 July) had the maxilla dark grayish drab, with paler mandible and almost flesh-color gonydeal angle region; it thus seems doubtful that the maxilla would be clear brown in fall. Young *goldmani* taken on 30 September have the maxilla dusky at this writing, four and one-half months later. (These were not described in the field.) Von Müller's specimens were lost in transit, and the description was given from memory. Even assuming that his memory of the plumage was poor, we can hardly reconcile this statement with his itinerary, since he was only in the Puebla and Mexico City areas from mid-September, 1856, to the following January (23, 1857). The measurements given do roughly approximate this species, except for a total length of 125 millimeters; but this is impossibly short for this species, or for any bird whose tail length, like the wing, is given as 70 millimeters. On the whole, the description is too inaccurate to be associated with any particular sparrow; and the locality is given simply as "Auf dem Hochland von Mexico." We cannot but feel that it was an error to change Ridgway's treatment of this dubious name, and that the first name definitely applicable to the Puebla race is *mexicana*.

The population of the Valley of Mexico appears to differ in some ways from that of Puebla and Tlaxcala, but the present material does not allow nomenclatural recognition. No comparisons could be made on the worn birds from Tulancingo.

(2) *Melospiza melodia villai*, subsp. nov.

Type.—University of Minnesota Museum of Natural History, No. 12500, male adult (?); 6 miles north-northeast of Amoloya del Río (= 9 kilometers south-southeast of Lerma), State of México, 24 October, 1956; collected by Robert W. Dickerman, original number 7560. Weight 26.3 gms.; little fat. Skull ossified; testes 1.5 mm. Measurements: total length 173 mm., extent 235, wing 72, tail 69.5, tarsus 24.4.

Diagnosis.—Largest and darkest of the southern races. Anterior upperparts sootier brown and back showing less contrast than in *mexicana*, the light edges of the feathers being deeper, toward olive gray rather than buffy; flanks slightly darker, more tinged with grayish, less buffy. Tarsus more than 23.8 mm., and wing frequently exceeding 70 (♂) or 67 (♀) mm. Tail of male usually longer than 67 mm.

Distribution.—State of México, in the Lerma Valley north at least to Ixtlahuaca, and south at least to Tenango del Valle. Also scattered along open-forested streams west at least to San Cayetano.

Specimens examined.—MEXICO: Ixtlahuaca, 1; El Río (14 miles northwest of Toluca), 5; Lerma, 3; 6 miles north-northeast of Amoloya del Río, 1; San Cayetano, 8; north slope of Volcán de Toluca, 1. Also recorded: Tenango del Valle.

Remarks.—Despite its central position geographically, *villai* is one of the most strongly characterized of the Mexican races.

It is particularly appropriate that the contributions of Prof. Bernardo Villa R. to the advancement of zoology in México be commemorated in the name of this race. It was the sooty appearance of three specimens that he had collected at San Cayetano that gave rise, in part, to our study.

(3) *Melospiza melodia adusta* Nelson.

Melospiza adusta Nelson, Auk, 16: 28, 1899 (Pátzcuaro, Michoacán; type in United States National Museum).

Diagnosis.—The reddest on the upperparts and wing-coverts of all the black-streaked Mexican races. Ground color of flanks and crissum richer, more ochraceous buff than in *villai* or *mexicana*. Also it has more reddish brown on the stripes and sides of the head and in the auricular region. Breast streaks tend to have more reddish edgings.

Distribution.—Known only from Lake Pátzcuaro, Michoacán.

Specimens examined.—MICHOCÁN: Pátzcuaro, 1; Erongarícuaro, 1; southeast arm of Lake Pátzcuaro, 7.

Remarks.—The specimens originally examined by us have unusually pale mandibles; but these may have faded, since the specimens were taken in 1947-1949. Specimens taken in the fall of 1956 do not differ in bill color from other populations. There is apparently no size difference between *adusta* and *mexicana*; Nelson in his original description may have compared *adusta* with some specimens of *villai*.

(4) *Melospiza melodia yuriria*, subsp. nov.

Type.—University of Minnesota Museum of Natural History, No. 12490, male adult (?); Yuriria, Guanajuato, 21 November, 1956, collected by Robert W. Dickerman, original number 7723. Weight 18.4 gms.; little fat. Skull ossified; testes 1.5 mm. Measurements: length 166 mm., extent 223, wing 69, tail 66.6, tarsus 23.2.

Diagnosis.—Most similar to *adusta*, but browner. Wing coverts and tail coverts less deeply reddish, thus intermediate toward *mexicana*. Back showing greater contrast, the edges of the feathers distinctly more grayish, rather than buffy as in *adusta*. Smaller and distinctly lighter and redder than *villai*. Redder throughout than *mexicana*, in fresh plumage, with richer (more ochraceous) flanks.

Distribution.—Known only from Lago de Yuriria, Guanajuato.

Specimens examined.—GUANAJUATO: Yuriria to 1 mile east, 5.



(5) *Melospiza melodia goldmani* Nelson

(?) *Melospiza fasciata mexicana* (not *Melospiza melodia* var. *mexicana* Ridgway) Allen, Bull. Am. Mus. Nat. Hist., 5: 39, 1893, "Bavispee River," *i. e.* (cf. p. 31) probably "Camp 21 on the Bavispee River, 15 miles from Chuhuichupa" (= Chuhuichupa, Chihuahua).

Melospiza goldmani Nelson, Auk, 16: 29, 1899 (El Salto, Durango; type in United States National Museum).

(?) *Melospiza cinerea merrilli* (not *Melospiza fasciata merrilli* Brewster) Ridgway, U. S. Nat. Mus. Bull. 50, part 1: 361-362, 1901, "Bavispe River, N. E. Sonora."

(?) *Melospiza melodia merrilli* van Rossem, Occas. Papers La. State Univ. Mus. Zool., 21: 288, 1945, "'Camp 40' on the upper Bavispe River."

Diagnosis.—Differing strikingly from any of the preceding races, the black stripes reduced everywhere to fine lines, and the black of the flanks and crissum replaced by chocolate brown. Thighs also chocolate. Larger than any southern race except *villai*, and with relatively longer tail. Much like *caurina* dorsally, but ventral streaking much less extensive. Less richly colored than *morphna*: sootier above, and the ground color of flanks grayer, less buffy. (So much darker above than the next races to the north, *fallax* and *montana*, as to need no close comparison.) It is also very similar dorsally (not ventrally) to *insignis* taken 35 years earlier (*vide* J. Dan Webster, *in litt.*).

Distribution.—Sierra Madre Occidental, very locally; the only presently known localities are El Salto, Durango, and central-western Chihuahua (or perhaps central-eastern Sonora).

Specimens examined.—DURANGO: El Salto to 5 miles west, 6.

Remarks.—A little-known race, apparently represented, up to 30 September, 1955, by only the type series of 2 worn males and a juvenile.

The Lumholtz Expedition to Sonora and Chihuahua was a model of confusion, remarkable not only for the paucity and poor quality of the zoological material collected over a period of two years and the abundant inaccuracies in the report thereon, but also for the vagueness of some of the localities visited. Certainly the names given to the rivers are incorrect. Personal field work by Phillips and Dr. Joe T. Marshall, Jr., has indicated the probability that the Lumholtz camp on the "headwaters of the Bavispe River" was not in Sonora at all! If so, certain other records will, of course, have to be deleted from the Sonora state list, as now understood, such as *Sphyrapicus thyroideus* and *Oriturus superciliosus*. The darker Song Sparrows from that camp do indeed, as Ridgway pointed out, closely resemble *merrilli* in color; their dimensions, however, agree rather with the more southern races. Pending the taking of better material, accurately labeled, we should consider their description as a distinct race unwarranted—though admittedly a good many races of birds have been named from Mexico in recent years on still flimsier evidence. The point we wish to stress is that *merrilli* proper does *not* migrate to the Sierra Madre Occidental, and that the fundamental relationship of the darker specimens taken by Robinette on the Lumholtz Expedition is with *goldmani*. Parenthetically, we know of no valid record of *merrilli* in eastern or central Arizona, nor in southern or central New Mexico, so the taking of two *merrilli* by chance in Chihuahua would be most unlikely. Furthermore, the Chihuahua birds are too large for *merrilli* of eastern Washington, which measures (8 males): wing 64.1 to 69.5 and 71 (av. 66.8); tail 63.8 to 71.9 and 75 (67.8); culmen from base 12.6 to 14 (13.4); and bill from nostril 8.1 to 8.9 and 9.5 (8.6) mm. Corresponding measurements of Chihuahua birds are: male, 72.9, 75.5, 14.5, 9; female, 67.1, 65.5, 15, 9.7 mm.

Museum of Northern Arizona, Flagstaff, Arizona; and University of Minnesota Museum of Natural History, Minneapolis, Minnesota (formerly of University of Kansas Museum of Natural History, Lawrence, Kansas), May 3, 1956.