

SUMMERING BIRDS OF ZACATECAS, MEXICO, WITH A DESCRIPTION OF A NEW RACE OF WORTHEN SPARROW

By J. DAN WEBSTER and ROBERT T. ORR

Although Zacatecas is the seventh largest state in México, information relating to its bird life is meager. This is shown by the fact that a brief trip to that state made by the senior author in the summer of 1950 resulted in the recording of eight species of birds not previously reported there (Webster and Orr, 1952). In the summer of 1952 Webster made two additional short trips to western and central Zacatecas. On the first of these he was accompanied by his wife, Juanita R. Webster. Later he returned with Dr. Ernest P. Edwards, Mr. Stephen L. Russell, and Mr. and Mrs. Arnold Weinberg. All localities visited are in either the "mesquite-grassland" or the "pine-oak forest" zones of Leopold (1950), and all are in the northwestern or west-central part of the state.

From June 17 to 19, 1952, field work was carried on 3 miles east of Cerro Gordo, at 8000 feet just inside the northwestern boundary of the state. In the immediate vicinity of this camp juniper predominated, with some piñon and mesquite scattered about. Within a mile to the south and east the trees and brush thinned out and gave way to open grassland. To the west there was a rise to the oak-clad peak of Cerro Gordo and to the north were a creek, some wheat fields, and piñon-covered ridges. Part of June 19 and most of June 20 were spent 3 miles southeast of Sain Alto, 6900 feet, in mesquite-prickly pear association, and along the Río Atotnilco about one mile south of Sain Alto where there was a heavy growth of cottonwood and willow. A return was made to the first camp near Cerro Gordo the evening of June 20 and collecting was done there the next day.

On July 11 the senior author and party camped overnight along the Río Florido (= Río Trujillo), 16 miles north-northwest of Fresnillo, at 6500 feet, beside riparian growth of cottonwood and willow. From July 12 to 17 camp was established at Laguna Valderama, 56 miles by truck trail west of Fresnillo. The laguna has been dry since 1945 and is now a prairie, about four by ten miles in dimension. Most of it is now grown to short bunch grass. The camp site selected was east of the prairie in a ravine at 7900 feet where there was a curious mixture of trees—juniper and yellow pine in the bottom, and oak, manzanita, juniper, and piñon on the slopes. Farther east, and higher, yellow pine and oak predominated, while on the highest peak in this vicinity (about 9300 feet) there was oak, yellow pine, and madrone. On July 13 and 14 Edwards and Russell made a trip by jeep 15 miles to the west of Milpillas and then southwest another 15 miles to Rancho Hornillas. They found most of the route from Laguna Valderama to Milpillas to be through gently rolling oak-savannah. From Milpillas to Rancho Hornillas it was mostly pine-oak woodland. Río Florido was revisited on July 17 and 18.

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In the following annotated list an asterisk indicates that, in so far as the authors are aware, the species or subspecies so marked has not heretofore been recorded from the state of Zacatecas. Unless otherwise indicated, dates listed are for 1952 and specimens referred to are in the collection of the California Academy of Sciences.

**Cyrtonyx montezumae mearnsi*. Montezuma Quail. A female taken at Laguna Valderama on July 17 and another at Hornillas on July 14, the latter with an egg in the oviduct, match perfectly specimens from southern Durango. They are somewhat darker, less gray, than examples of *mearnsi* from Arizona, New Mexico and Chihuahua, but they are not nearly as dark as females of *montezumae* from Tamaulipas, San Luis Potosí, and Michoacán in the Museum of Vertebrate Zoology. One to three birds were seen each day at Laguna Valderama and Hornillas, July 12 to 17.

**Bubo virginianus mayensis*. Horned Owl. At Laguna Valderama the hoot of this owl was heard each evening, from July 12 to 14. On July 15 a crowd of excited birds, including Ultramarine Jays, Painted Redstarts, and Bridled Titmice, directed our attention to a Horned Owl in an oak-grown ravine above camp. This bird proved to be a very large (wing 378 mm.), dark male. It is darker and larger, in fact, than any of the 30-odd Mexican specimens with which it was compared, and as dark as the darkest specimen of 31 examples of *pacificus*.

**Glaucidium gnoma gnoma*. Pygmy Owl. An adult female in pale red phase was taken in daylight on July 14 at Laguna Valderama.

**Otus trichopsis trichopsis*. Spotted Screech Owl. At Laguna Valderama the soft notes of this owl were heard every evening, from July 12 to 16. On the evening of July 12 it was estimated that at least 15 individuals could be heard from camp. The number diminished, however, on subsequent evenings. An adult female was taken on July 13 and a juvenile on July 17.

Centurus aurifrons aurifrons. Golden-fronted Woodpecker. On June 19 two were seen in mesquite near the creek 3 miles southwest of Sombrerete. Several were seen in the willow-cottonwood association beside the Río Atotnilco on June 20, and along the Río Florido on July 12, 17, and 18. An adult female was taken July 18 at Río Florido, where it had been incubating a set of eggs in a tall cottonwood. The specimen is of the brown-bellied, black-backed type found in the central Mexican highlands, as implied but not definitely listed by Wetmore (1948).

**Tyrannus vociferans vociferans*. Cassin Kingbird. A female taken on July 15 at Laguna Valderama represents this common bird which was seen every day in the field in practically every habitat visited. The specimen perhaps shows a tendency toward *zenoapterum* of Guerrero in the slightly whiter throat as compared with specimens from Durango and Arizona. The outer primaries, however, are distinctly emarginate as in *vociferans*. On July 13 at Laguna Valderama a pair of adults was observed feeding two fledglings.

**Myiarchus cinerascens cinerascens*. Ash-throated Flycatcher. The only bird of this species seen was taken in arid mesquite-prickly pear near Sain Alto on June 20. It proved to be an adult male with enlarged testes, 10 and 9 mm. long. In this specimen the tenth primary exceeds the fourth; the wing measures 102 mm. and the tail 94. The color very nearly matches that of a long series from Arizona and California, but the color is slightly darker dorsally than all but the one or two darkest specimens examined from the United States.

If more specimens from Zacatecas prove to be *cinerascens*, then the status of *Tyrannula mexicana* Kaup (1852) must be further investigated. At present the name is used for a race breeding in the Arid Tropical Zone of Sonora. The type is an unsexed, undated Wollweber specimen from "Zacatecas" (Osgood, 1907; van Rossem, 1945).

**Contopus virens placens*. Wood Pewee. An adult female (wing 81 mm.) taken on July 17 at Laguna Valderama and a male (wing 85 mm.) taken the next day at the Río Florido are best referred to this pale race, although they are certainly paler than birds of southern Arizona and north-western Chihuahua. The species was very common at Río Florido in the willows and cottonwoods; at Laguna Valderama one or two were noted each day.

**Contopus pertinax pertinax*. Coues Flycatcher. Commonly seen and heard each day at Laguna Valderama and Hornillas. A specimen taken at Laguna Valderama, like others from southern Durango, clearly belongs to the darker southern race.

Eremophila alpestris. Horned Lark. A series of eight breeding specimens from near Sombrerete

and Laguna Valderama is intermediate between *chrysolema* (specimens from Guanajuato, Mexico, Distrito Federal, and Puebla) and *aphrasta* (specimens from Chihuahua and Durango).

**Hirundo rustica erythrogaster*. Barn Swallow. Common in Fresnillo and the city of Zacatecas and near all towns and villages in the mesquite-grassland area. At Río Florido a specimen was taken on July 18.

**Auriparus flaviceps ornatus*. Verdin. Two adult males were taken near the Río Florido on July 18. Several others were seen there on July 12 and 18 and near Sain Alto on June 20. Previously, the southernmost locality from which the Verdin was recorded was Durango City, Durango, by Ridgway (1904) and van Rossem (1930).

**Turdus migratorius propinquus*. Robin. Several were seen each day in the pines at Laguna Valderama and Hornillas. On July 24, 1950, one paused briefly in prickly pear and mesquite growth near Sombrerete and then flew off southward. A female, taken on July 16 at Laguna Valderama, had an egg in her oviduct. The wing length of this specimen (127 mm.) is short; the coloration is of the pale extreme of *propinquus*. Griscom (1935) has identified specimens from Zacatecas (no locality noted) as "nearer *permixtus*." The specimen from Laguna Valderama was compared with one from Michoacán (see Davis, 1953, and Lea and Edwards, 1950) and seven from Tequila, Jalisco (of the intermediate, darker type, nearer *permixtus*), as well as a long series of true *permixtus* from Guerrero, but it matched, instead, specimens from Durango (♂, wing 136 mm.; ♀, wing 127) and extreme southwestern Chihuahua (♂, wing 137 mm.) in size and pallor.

**Polioptila caerulea amoenissima*. Blue-gray Gnatcatcher. Arnold Weinberg secured a male of this species at Laguna Valderama on July 16. Several others were observed in oaks at the same place two days previously. In view of the confusion presently existing with regard to the status of the several Mexican races of *Polioptila caerulea*, the specimen from Zacatecas is tentatively placed in the race *amoenissima*. It was examined by Dr. Thomas R. Howell of the University of California at Los Angeles and found to be identical in color and markings with a male taken in June in Los Angeles County, California.

**Vireo huttoni carolinae*. Hutton Vireo. Several were seen each day at Laguna Valderama and Hornillas. Two specimens from Laguna Valderama are strikingly darker, grayer, and less green than *stephensi* from southern Arizona and northwestern Chihuahua and slightly grayer than *carolinae* from Durango. None of these specimens has any tendency toward the yellow color of *mexicanus* from Hidalgo, Guerrero, and Michoacán. For the previous southern extension of this race, which was originally described from the Chisos Mountains of Texas (Brandt, 1938), see Sutton and Pettingill (1943, Nuevo León) and Burleigh and Lowery (1942, Coahuila).

**Vireo solitarius pinicolus*. Solitary Vireo. The song of this vireo was frequently heard at Laguna Valderama and one or two were seen each day in the oaks. A male was taken on July 17.

**Peucedramus olivaceus arizonae*. Olive Warbler. Single birds were seen at Laguna Valderama on July 13, 15, and 17, and a male was taken on July 15. This specimen, like one from extreme southwestern Chihuahua in the Museum of Vertebrate Zoology (taken July 2) has the large size and lack of green of the northern race, but it is as dark (blackish) as *olivaceus* of central México (specimens examined from Michoacán, Distrito Federal, Oaxaca, and Jalisco).

**Dendroica aestiva sonorana*. Yellow Warbler. On June 20, along the Río Atotnilco, several were seen, including a female feeding a bob-tailed young Red-eyed Cowbird. An adult male was taken on this date. On July 12 and 18 several were seen, several more heard singing, and two adult males were taken in the cottonwoods and willows along the Río Florido. These specimens are clearly *sonorana* in color, but they approach *dugesi* in having the slightly heavier bill of that race. As to size, the two races are distinguished by an average difference in wing length, but there is considerable overlap. The wings of the three specimens from Zacatecas measure 63, 65, and 67 mm.

**Geothlypis trichas chryseola*. Yellow-throat. Single birds were noted in riparian growth by the Río Atotnilco on June 20, and at the Río Florido on July 12 and 18. A male taken on July 18 has the size (wing 64 mm., bill heavy) of *melanops* from central México, but it is close to the race of southeastern Arizona in color.

**Icteria virens auricollis*. Chat. Several singing males were seen in the willows and cottonwoods along the Río Atotnilco on June 20 and along the Río Florido on July 12 and 18. Three male specimens, like the one previously reported from Durango (Webster and Orr, *sup. cit.*), are even ashier

than the extreme grayest specimens from southern Arizona. Measurements, however, are similar to those of *auricollis* from the western United States.

**Setophaga picta picta*. Painted Redstart. Several were seen each day at Laguna Valderama. On July 17, for instance, Webster watched a closely bunched flock of five adult males working through the oaks. A female was taken on July 16.

**Sturnella magna auropectoralis*. Meadowlark. Common in all sections visited in 1952, except in the pines above Laguna Valderama and near Hornillas. Specimens were taken on June 21 at Cerro Gordo and on July 16 at Laguna Valderama, both in full breeding condition. Saunders (1934) in the original description of this race lists specimens from neither Zacatecas nor Durango, although he does list them from several surrounding states.

**Piranga flava hepatica*. Hepatic Tanager. Several were seen each day at Laguna Valderama. A streaked juvenile was taken on July 13 and an adult female the following day. These specimens are indistinguishable from those examined from southern Arizona.

**Pheucticus melanocephalus melanocephalus*. Black-headed Grosbeak. A singing male was taken on July 14, 1950, in the oaks at 9700 feet on Cerro Pachon and several others were seen that day. In 1952 one was seen on June 18 in the junipers at Cerro Gordo, and one or two were noted each day at Laguna Valderama.

**Carpodacus mexicanus*. House Finch. This species was common at Cerro Gordo, Río Atotnilco, Río Florido, and Laguna Valderama. Webster and Orr (1952) recorded a male from Sombrerete as intermediate among three races. With the addition of three more males taken at Cerro Gordo and with considerably more comparative material of other races available, it appears that the series taken in Zacatecas now nearly approaches *coccineus*. The four birds are definitely *coccineus* in color and pattern, but they tend somewhat toward *potosinus* and/or *centralis* in larger size (wing 80 to 83 mm., average 81.5 mm.; tail 62 to 66 mm., average 64.5 mm.) than toptotypical *coccineus*. Two males in the Museum of Vertebrate Zoology were taken May 28, 1940, at Lulu, in extreme northeastern Zacatecas. They are clearly of the race *potosinus*, the adult being dull red rather than the brilliant scarlet red of *coccineus* from Cerro Gordo and Sombrerete.

**Oriturus superciliosus*. Striped Sparrow. One to three were seen each day at Laguna Valderama, and two adults were taken. On July 13 Edwards and Russell saw several in the pines between Millillas and Hornillas.

**Ammodramus savannarum bimaculatus*. Grasshopper Sparrow. In several areas of the dry "Laguna" at Laguna Valderama there was bunch grass nearly a foot high, and here many Grasshopper Sparrows were heard singing on July 15, 16, and 17. Five males in full breeding condition (wing 63 to 65 mm., average 63.8 mm.) and one female with a brood patch (wing 59 mm.) were taken. As to color, this series is very different from *pratensis* of the eastern United States and Canada (buffier laterally) and from *ammolegus* of southeastern Arizona (paler, less rufescent dorsally). Specimens from Zacatecas can be distinguished from those representing the *pratensis* x *perpallidus* populations of Kansas and Texas by the paler, more buffy color on the sides of the head and neck and the paler breast. They differ from specimens of *perpallidus* from California and Nevada in somewhat darker, more blackish upper parts and slightly longer wing.

**Chondestes grammacus strigatus*. Lark Sparrow. Several were seen each day in the sparse junipers at Cerro Gordo, and males in full breeding condition were taken on June 18 and 19. On July 12, 13, and 17 a few were seen in oak-savannah country just northeast and just west of Laguna Valderama.

**Aimophila ruficeps simulans*. Rufous-crowned Sparrow. Common and apparently breeding in the mesquite-prickly pear association near Sombrerete, July 13 to 24, 1950. Males were taken on July 13 and 16. Not seen in 1952. Ridgway (1901) listed the race *fusca* from central and southern Zacatecas. These two birds, however, are whiter ventrally and less rusty dorsally than *fusca* from Jalisco and Michoacán, but they are larger (wing 68, 69 mm., tail 72, 69 mm.) than either *fusca* or *simulans*, the latter from Durango and Sinaloa.

**Amphispiza bilineata grisea*. Desert Sparrow. A very common species in the arid mesquite-prickly pear association near Sain Alto on June 20 and about Río Florido and Fresnillo on July 11, 12, and 18. Two singing males were taken at Sain Alto.

**Spizella passerina mexicana*. Chipping Sparrow. Very common in the junipers at Cerro Gordo and in the pines about Laguna Valderama and Hornillas. The three specimens taken seem best re-

ferred to the southern race, but this does not imply nonrecognition of the race *atremaeus* described by Moore (1937).

**Spizella wortheni*. Worthen Sparrow. On the morning of June 19 the senior author located an unfamiliar species a half mile south of the camp at Cerro Gordo. The spot was a grassy, nearly level pasture dotted sparsely with low mesquites and small junipers. The male was singing continually from a waist-high mesquite and the female was in close attendance. Both birds consistently returned to this bush after they were disturbed, but no nest could be found. The song suggested a cross between the song of an Eastern Field Sparrow (*S. p. pusilla*) and that of a Chipping Sparrow (*S. passerina*), for there was a slurred-down note followed by a trill on a higher pitch with no intermediate notes or gradual *accelerando*. Both birds were collected after another singing male was noted.

Two days later, on June 21, a return to this area resulted in the discovery of three singing males, at least one of which was accompanied by a female. The songs of all three were rather similar to the one described previously, except that one bird pitched his initial (Field Sparrow-like) slurred note higher than the subsequent (Chipping Sparrow-like) trill. One male was collected.

All three specimens are in an early stage of the "postnuptial" molt, which has progressed from the mouth posteriorly to varying points on the head. This makes comparison with existing specimens of Worthen Sparrows rather difficult, since most of them exhibit varying degrees of wear of the plumage. Nonetheless, it is clear that this extension of the known breeding range to western México involves sufficient difference in coloration to warrant nomenclatural recognition.

Spizella wortheni browni new subspecies

Type.—Adult male, no. 61596 California Academy of Sciences, taken near Cerro Gordo, 9½ miles northwest of Sombrerete, 8000 feet, Zacatecas, México, on June 19, 1952, by J. Dan Webster; original no. 1040.

Diagnosis.—Considerably darker above than *Spizella wortheni wortheni*; fresh plumage on crown of males nearest Mars Brown of Ridgway (1912) rather than Cinnamon-Brown; back and scapulars more buffy (less grayish) than *S. w. wortheni*; rectrices of specimens examined, although decidedly worn, much darker than those of *S. w. wortheni* in comparable plumage.

Range.—Known only from the type locality in western Zacatecas.

Specimens examined.—*S. w. browni*, 3: 9½ miles NW Sombrerete, 8000 ft., Zacatecas (Calif. Acad. Sci.), 2 ♂♂; 1 ♀. *S. w. wortheni*, 13: Silver City, New Mexico (U. S. Nat. Mus.), 1 ♂ (type); Miquihuana, Tamaulipas, 7 (Calif. Acad. Sci., 1 ♂, U. S. Nat. Mus., 4 ♂♂, 1 ♀; Mus. Vert. Zool., 1 ♂); Salinas, San Luis Potosí (La. State Univ. Mus. Zool.), 2 ♀♀; Tepetate, San Luis Potosí (La. State Univ. Mus. Zool.), 1 sex?; Saltillo, 5500 ft., Coahuila (La. State Univ. Mus. Zool.), 1 ♂; Chalchicomula, Puebla (U. S. Nat. Mus.), 1 ♂.

The new race is named in honor of the late Wilmot W. Brown, who collected so much of the valuable material of Mexican birds now in several museums, including a majority of the above-listed specimens of *S. w. wortheni*.

Remarks.—The existence of a breeding population of *Spizella wortheni* in Zacatecas marks a considerable extension of the range of this little known species in México.

In view of the conclusions reached earlier by Burleigh and Lowery (1942) regarding conspecificity of *Spizella wortheni* and *S. pusilla*, careful consideration was given to this question. In brief, after examining a large series of *S. pusilla* (including both *pusilla* and *arenacea*) and the sixteen specimens of *S. wortheni* (including the type) previously listed, we are forced to disagree with these authors. It is true that, as Burleigh and Lowery have indicated, these two species are extremely close in measurements and certain of the characters used by Ridgway (1901) to separate them fail to do so. A white eye ring is clearly evident in some examples of *pusilla*. A brown postocular patch is distinctly present in the specimen of *wortheni* from Coahuila in the Louisiana State University Museum of Zoology and it is felt that this specimen may have influenced Burleigh and Lowery. Furthermore, the specimen from Coahuila is so much darker (more reddish) than any other examples of *wortheni* that it will likely prove to belong to a distinct race of this species when further material is secured. However, the very distinct wing

bands and rusty brown color of the back and scapulars in *pusilla* are not duplicated in any specimens of *wortheni* examined. The difference in song between these two kinds of sparrow, as noted by one of us in the field, further confirms our present views. We do not wish to preclude the possibility that intergradation may occur but our feeling is that it cannot be satisfactorily demonstrated at present.

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Hanover College, Hanover, Indiana, and the California Academy of Sciences, San Francisco, California, and the University of San Francisco, January 19, 1954.