

NOTES ON THE ORNITHOLOGY OF SOUTHEASTERN SAN LUIS POTOSI

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On the basis of current estimates, about one-half of the species comprising the avifauna of México occur also in the state of San Luis Potosí, in the east-central part of the republic. As recently as 12 years ago, however, it would have been difficult to find definite published evidence for the presence there of even 200 kinds of birds. Several factors contributed to this circumstance.

In the earlier days of Mexican ornithology, the middle latitudes of the country were less accessible to visiting naturalists than the northern and southern parts and offered less promise. The few ornithologists who did reach San Luis Potosí were collectors primarily interested in acquiring the novel and the exotic. They must have met with, but passed by, scores of common species obtainable with less effort in the United States. In general, these men left no record of their achievements other than the data on their specimens, and this information has but gradually filtered into the literature through taxonomic reviews and works of a broad distributional nature. Furthermore, the celebrated team of E. W. Nelson and E. A. Goldman were the only early collectors to push down over the rough mule trails into the southeastern corner of the state, where the Sierra Madre Oriental rises abruptly to an altitude of 9000 feet, where the rain forest of San Luis Potosí attains its highest development, and where, in consequence of these combined influences, the most colorful and most varied elements of the birdlife are concentrated. Their brief stay at Xilitla, rendered rather unfruitful by difficulties of terrain and by bad weather, failed to disclose the real potentialities of the surrounding area.

With the official completion of the Pan-American Highway through southeastern San Luis Potosí in 1936, that corner of the state was rapidly to prove itself the richest source of new distributional data in all east-central México. It early attracted the attention of L. Irby Davis, who used it as an area for studies in the field identification of tropical birds. His work was all of an observational nature and has remained for the most part unpublished, so that the full extent of his numerous early accomplishments cannot be gauged. The excellent report on the birds of Tamazunchale and its environs by Sutton and Burleigh (1940b) was the first published locality list from the region. Fifty-nine of the 141 species included had never before been reported from the state, and the proportion would have been larger, had not a slightly earlier publication by the same authors (1940a), on the birds of Valles, listed for the first time species also seen at Tamazunchale. Our own activities in San Luis Potosí began in 1941. They initiated a decade of study which during its latter half has been devoted to a systematic survey of the vertebrate fauna of the state sponsored by the Louisiana State University Museum of Zoology. Our work

in the southeastern corner of the state alone has revealed the presence of well over 80 additional species of birds for which at the time there were no San Luis Potosí records in the literature. State records for many of these birds have subsequently appeared in a breeding bird census (Davis and Johnston, 1947), in Audubon Bird Counts (Newman and party, 1947; Davis and party, 1951), in the first part of the "Distributional Check-List of the Birds of México" (Friedmann, *et al.*, 1950), and in short papers of a taxonomic or distributional character (Lowery and Newman, 1949; Sutton, *et al.*, 1950; Pitelka, 1951).

Meanwhile the list for the whole state, as represented in our files, has climbed to a total of no less than 490 species. A book-length report would be required to set down all that is known, but yet unpublished, about the distribution of these birds on a statewide basis. Pending the preparation of such a report it is possible, however, to compress a relatively large amount of information into a small compass by confining attention to the extreme southeastern portion of the state, arbitrarily defined for this purpose as the area lying south of latitude $21^{\circ} 28'$.

Among the references cited, two relate directly and exclusively to the area herein defined (Sutton and Burleigh, 1940; Davis and party, 1951). Sixty-one of the birds in the Sutton and Burleigh paper and, of course, all of the records in the 1951 Christmas bird count, were included on the basis of sight identifications. Our collection contains corroboration of the state occurrence of all but three of these species. The exceptions are the Mississippi Kite, in the Tamazunchale report, and the Tennessee Warbler and Grace's Warbler, in the bird count. The latter was made on December 28, 1950, by Davis and 19 collaborators within a circle 15 miles in diameter, centered one mile north of Xilitla. Their spectacular list of 230 species far exceeds the results for any previous effort of this sort and shows that the Xilitla area encompasses a variety of birdlife unsurpassed by any known district of its size on the North American continent. While it is true that 40 of the birds included have never been noted by us in the same locality in winter, this result may be attributed in large measure to a "norther" of unprecedented severity that shifted many birds of western range transiently to the east. Most of the 31 species formally attributed to San Luis Potosí for the first time in the Xilitla bird count have an unchallengeable right, as indicated above, to a place on the state list, at least on the basis of occurrence in other localities or at other seasons.

There remain another 32 species that are found in southeastern San Luis Potosí but whose presence in the state is still generally unknown. The majority of these birds were recorded not far from Xilitla, within the boundaries of the bird count territory defined by Davis—an area of such tremendous interest that we and our associates have devoted 1650 party hours to its exploration. These birds are listed in the account that follows, together with an indication of their status in southeastern San Luis Potosí, their observed altitudinal range, the essential details concerning the first record and first specimen from

the area, and brief taxonomic comments where pertinent. All sight identifications and specimens cited in detail but not otherwise credited represent the work of Newman.

Cairina moschata. Muscovy Duck.

The wild ancestor of our domestic duck of the same name, apparently resident in small numbers on the Río Huichihuayán, at an elevation of 400 feet or less. It was first observed at the dugout crossing near the village of Huichihuayán, on June 20, 1942, when a pair was noted. A female was later shot by Charles Shaw 1 mile west of the village, on August 29, 1947.

Micrastur ruficollis. Small Forest Hawk.

Our three records of this trim little hawk of the dense rain forest are all of birds collected in the vicinity of Xilitla, at elevations of from 600 to 4000 feet. An immature male was taken by Shaw on September 9, 1946, in a ravine about 2.5 miles by road from the Pan-American Highway, along the road to Xilitla; an adult male and an adult female were taken subsequently. Since each specimen is in a different plumage, it is not possible to evaluate fully the color-characters of this extreme northern population of the species. The wing and tail measurements of each, however, fall within the limits of variation for the Mexican race, *M. r. guerilla*, as given by Friedmann (1950: 575).

Falco albigularis. White-throated Falcon.

A small tropical falcon, noted several times in the area, within an altitudinal range of 400 to 2800 feet. Our initial observation of this species in San Luis Potosí was that of two individuals seen in the vicinity of the Río Huichihuayán on December 20, 1946. A female shot 2 miles northwest of Xilitla on January 29, 1947, is definitely assignable to *F. a. albigularis*, though several San Luis Potosí specimens, like material from farther north, show some of the paleness characteristic of the western race, *F. a. petrophilus*—a resemblance we believe to be of independent origin.

Dendrotyx barbatus. Bearded Wood-Partridge.

Though unreported anywhere in the present century, the Bearded Wood-Partridge is a not uncommon resident of the mountain forests back of Xilitla, from 4000 feet to probably 7000 feet. Its presence there was not definitely established until June 12, 1947, when a female and three downy young were captured in the cloud forest on Cerro San Antonio. Adults are so difficult to secure that our present series of nine of these partridges, comprising every major developmental stage, includes only one fully mature bird. While we are not, therefore, yet certain that recognizable geographic variation occurs in this species, the possibility of such variation is rather definitely indicated.

Heliornis fulica. Sun-Grebe.

The Finfoot or Sun-Grebe, otherwise unknown north of Boca del Río near the city of Veracruz (*cf.* Warner and Mengel, p. 290 of this issue) was found only on the Río Huichihuayán between the village of Huichihuayán and the ferry crossing on the road to Xilitla, a stretch of river where on occasion several have been seen in a day. It was first recorded on December 14, 1941, and first collected (by David Cutler) on August 29, 1946.

Oreopeleia albifacies. White-faced Quail-Dove.

This heavy-bodied, slate-headed dove occurs, and probably is resident, in cloud forest above Xilitla, at elevations of 4000 to 5000 feet. It was discovered by Shaw on the mountain adjoining the village of Ahuacatlán on September 7, 1946, when he shot one of two birds seen.

damaging it so badly it could not be preserved. Our subsequent series of three specimens, all from Cerro San Antonio, differs in numerous details of coloration from examples of *O. a. albifacies* from central Veracruz, the northernmost district from which the species was previously known. Since, however, only one of our birds is fully adult, we feel that we do not yet have sufficient material to consider naming a new race.

Otus guatemalae. Middle American Screech Owl.

Owls of this species were presumably heard several times at elevations of 5200 to 6800 feet in the mountains of the Cerro Conejo group, but were seen only twice. The first of our two specimens was shot in broad daylight in the forest bordering the Llano de la Cruz on May 9, 1947. The somewhat greater grayness of our material compared with topotypes of *O. g. cassini* from central Veracruz may be simply a matter of individual variation, since too few specimens are available to demonstrate the full probable range of grayness among topotypical birds.

Ciccaba nigrolineata. Black and White Owl.

Although this extremely rare owl was taken on three occasions, in three widely separated months, all three specimens came from a single vine-covered tree in a ravine along the road to Xilitla, the same ravine that also produced the cited example of *Micrastur ruficollis*. This remarkable sequence of records began on September 9, 1946, when Shaw shot a female. According to Friedmann, *et al.* (*op. cit.*, p. 147), the species has hitherto been known in México from only eleven specimens, from Veracruz, Oaxaca, and Chiapas.

Xiphocolaptes promeropyrhynchus. Giant Woodhewer.

A flicker-sized woodhewer, which is fairly common in the high forests of Cerro Conejo and the associated peaks, above 6200 feet. It was not certainly identified until May 14, 1947, when a pair was obtained at 7300 feet near Cerro La Luz. Our six specimens, three of which were taken in 1947 and three in 1951, demonstrate the tremendous amount of "foxing," or brightening of the browns, that can occur in the short span of four years. Our early material from San Luis Potosí was impressively darker and duller than the much older skins available from the range of the geographically nearest race, *X. p. sclateri*, in Veracruz and Oaxaca; but it is rapidly becoming indistinguishable from examples of that race.

Xiphorhynchus triangularis. Spotted Woodhewer.

An inconspicuous inhabitant of wooded slopes from 4200 to 6800 feet encountered only in the Xilitla area. A female was shot near the Llano de Garzas on May 24, 1947, and but two other specimens were taken thereafter. All Mexican examples of this species are currently assigned to *X. t. erythropygius*. Our birds differ from the bulk of the material currently representing *erythropygius* in museums; but the differences, being of much the same order as those discernible in the preceding species, are probably the result of postmortem change.

Automolus rubiginosus. Ruddy Automolus.

Our one record for this rare furnariid is that of a male collected at 4000 feet among the tree-ferns on Cerro San Antonio, on June 7, 1948. This specimen cannot be exactly matched among available examples of *A. r. rubiginosus*, which has heretofore been believed to be confined to the neighboring state of Veracruz. Its darker coloration may, however, be explainable on the same basis as that of the woodhewers, while the greater thickness of its bill may not be significant in view of the considerable variation in this character already demonstrable in the nominate race.

Erator inquisitor. Black-capped Tityra.

An uncommon species of the lower tropics, not recorded above 400 feet and most frequently

observed in the low country east of the Pan-American Highway. An immature male (Texas A. and M. College Collection) was taken at the village of Axtla on June 26, 1942, by C. W. Reid and we have encountered the species on five occasions since. Like all Mexican examples of the species, San Luis Potosí birds are assignable to the race *E. i. fraseri*.

Myiarchus crinitus. Crested Flycatcher.

This well-known bird of the eastern United States is doubtless commoner in migration than the three state records indicate, since the presence of five species of *Myiarchus* in San Luis Potosí tends to discourage sight identification. The single specimen from the southeastern corner of the state, a supposed female from El Sol, dated August 22, 1946, has the small bill that is the chief distinguishing feature of *M. c. boreus*.

Empidonax flaviventris. Yellow-bellied Flycatcher.

A common spring and fall migrant and winter resident, found from 400 to 4300 feet. The extreme dates for the state are August 23 (a female taken in 1946 at El Sol) to May 22.

Empidonax hammondi. Hammond's Flycatcher.

One of the commonest winter Empidonaces in the Xilitla area, from 2200 to at least 4500 feet. Dates on specimens extend from January 18 (1947 at the village of Xilitla) to March 10.

Empidonax albigularis. White-throated Flycatcher.

A not uncommon inhabitant of weedy fields around the 4000-foot level immediately above Xilitla, where it presumably breeds. Seasonal limits are uncertain. It was unrecorded until June 17, 1947, when a female was obtained at Rancho Miramar Chico. We have identified our series as *E. a. axillaris*, a race that occurs also in the state of Veracruz.

Pipromorpha oleaginea. Ochre-bellied Flycatcher.

The nine state records of this little flycatcher are all from the humid tropics within six miles of Xilitla, between 600 and 2900 feet. They extend from September 9, 1946, when Shaw secured an immature male in a wooded ravine along the road to Xilitla, 2.5 speedometer miles from the Pan-American Highway, to April 30 (1947). Our two adult males are shorter-winged (63.6, 65.2 mm.) than any of the other 12 males from México and Guatemala that we have examined (65.5-72.9 mm.). The birds from the Tuxtla Mountains of Veracruz in that series are, however, larger than other Mexican material to about the same degree that San Luis Potosí birds are smaller. Nomenclatural recognition of the interesting size trends indicated would therefore require describing not just one but two additional races. Even if more adequate material should bear out these minor trends, we would recommend that all Mexican *Pipromorpha* continue to be called *P. o. assimilis* as at present.

Iridoprocne albilinea. Mangrove Swallow.

A predominantly coastal swallow that ranges inland along the larger rivers, reaching Tamazunchale in small numbers. Although we observed and collected the species farther north in the state much earlier, it escaped our detection within the area of this report until May 17, 1948, when a single bird was seen flying over the Río Amajaqui near its junction with the Río Moctezuma. All Mexican and Central American populations of this species belong to one subspecies, *I. a. albilinea*.

Cyanocitta stelleri. Steller's Jay

A common resident of the higher mountain forests of the Cerro Conejo district, recorded from 6000 to 7200 feet. A female taken on February 25, 1947, near the Llano de la Cruz was the first of our present series of 14 specimens from the area. With the exception of one apparently mutant individual, these are all typical blue-crested *C. s. coronata*, exhibiting no constant differences, either in size or coloration, even from examples of the species from Guerrero.

Henicorhina leucophrys. Gray-breasted Wood Wren.

This tiny but brilliant vocalist is an abundant resident of the upper wooded slopes above Xilitla (recorded altitudinal range: 2000 to 7000 feet). Seemingly it replaces *H. leucosticta* at about the level of the village, where Cutler took a female on September 2, 1946. We have referred our series of 22 specimens to *H. leucophrys mexicana*, though they are somewhat darker in over-all coloration than older material from the range of that race.

Hylocichla mustelina. Wood Thrush.

A rare winter resident and migrant. Our only record for the area is that of a single male secured on December 22, 1946, 6 miles by speedometer east of Xilitla on the Xilitla Road.

Catharus occidentalis. Russet Nightingale-Thrush.

This Veery-like thrush of the deep forest shade is common the year around at elevations above 5000 feet. It was added to the known avifauna of the state on February 25, 1947, when a male was taken near the Llano de la Cruz, at 5800 feet. Two types, distinguished by subtle, but numerous, correlated characters, occur and may represent age classes. These introduce such complications that the whole problem of geographic variation in the species should be reinvestigated on a broad basis. Pending such a reappraisal, we tentatively have placed our Conejo series with *C. o. occidentalis*.

Vireolanus melitophrys. Honey-browed or Chestnut-sided Shrike-Vireo.

An uncommon inhabitant of the wooded mountain district back of Xilitla. Our four records range from 4000 to 6700 feet. One was seen on December 21, 1946, on Cerro San Antonio, but none was collected until May 8, 1947, when a female was taken at 5800 feet, near Puerto del Oso. Pending further study of specimens from Guerrero, all the Mexican material from north of Chiapas may be treated under one name, *V. m. melitophrys*, since the type of *V. m. goldmani* proves to be nothing but an immature example of the nominate race.

Hylophilus decurtatus. Gray-headed Hylophilus.

This rare little vireo, which superficially resembles the Tennessee Warbler (*Vermivora peregrina*), is known in San Luis Potosí only from a mountain along the Pan-American Highway 3.6 speedometer miles south of Tamazunchale, where a pair were taken by Newman and Leonardo Guerrero on May 22, 1948. These specimens have never been actually compared with a representative series of *H. d. decurtatus* from elsewhere in México; but, since the species ranges from Veracruz to Panamá in a more or less continuous habitat without any named geographic variation, it would be surprising if they did not closely agree with that form.

Vermivora chrysoptera. Golden-winged Warbler.

A rare transient in México. The one record for San Luis Potosí is that of a male taken by Shaw on April 19, 1947, one mile south of Xilitla.

Vermivora pinus. Blue-winged Warbler.

Similar in status to the preceding species. There is a single state record, that of a male shot by Lowery on April 3, 1950, 7 miles east of Tamazunchale.

Dendroica fusca. Blackburnian Warbler.

A rather uncommon spring transient, unrecorded in fall. A male was secured one mile west by north of Xilitla at 2400 feet on April 19, 1947, and there is one subsequent record for the same general locality.

Wilsonia canadensis. Canada Warbler.

A spring and fall migrant, more frequently observed than any of the preceding warblers.

It was first noted on September 3, 1946, when a female was collected 1.5 miles north-northwest of Xilitla by Shaw, and three other individuals were observed by the field party.

Myioborus miniatus. Slate-backed or Bright-bellied Redstart.

A fairly common resident of the high elevations back of Xilitla; altitudinal limits, 5800 to 7200 feet. The discovery of the species in eastern San Luis Potosí on May 13, 1947, when a female was obtained at Puerto del Oso, was long preceded by the unpublished records of W. W. Brown at Alvarez in the western part of the state (specimens in American Museum of Natural History). Our small series from eastern and from western San Luis Potosí definitely differ from each other in the coloration of the under parts. It is difficult, however, to imagine a pattern of true geographic variation that would account for this situation, since populations from central Veracruz to faraway Sonora are currently regarded as one subspecies, *M. m. miniatus*.

Icterus wagleri. Wagler's Oriole.

An oriole of the arid plateau, probably merely a stray on the eastern side of the Sierra Madre Oriental. Our one record from eastern San Luis Potosí is that of a male taken on April 19, 1947, at Xilitla. This specimen conforms fairly well with samples of *I. w. wagleri*, but the material from the state as a whole does not. The matter requires further study on a broad geographical basis.

Thraupis episcopus. Blue-gray Tanager.

Not uncommon at low humid elevations throughout the area, from 400 to 2200 feet. It was first seen on June 21, 1942, in a tree-dotted pasture on the outskirts of Tamazunchale and was first taken on September 14, 1946, along the Río Axtla, three kilometers west of the village of Axtla by W. W. Dalquest (skeletal specimen of a female in the collection of the University of Kansas Museum of Natural History). This species extends all the way from San Luis Potosí to Panamá without significant variation, under the name *T. e. diaconus*.

Spizella breweri. Brewer's Sparrow.

Recorded but once in southeastern San Luis Potosí—on April 17, 1948, when a female was secured on the Llano de Conejo, at 7000 feet. It has been referred to *S. b. breweri*.

Place names mentioned in this paper may be identified as follows: **Ahuacatlán**, village south and west of Xilitla, at latitude 21° 19' N., longitude 99° 03' W.; **Alvarez**, abandoned rail point in western San Luis Potosí, at 22° 02', 100° 37'; **Axtla**, village just east of the Pan-American Highway, at 21° 27', 98° 52'; **Cerro Conejo**, 9000-foot mountain northwest by west of Xilitla, with summit at 21° 27', 99° 06'; **Cerro La Luz**, unmapped peak about 4 miles from Cerro Conejo, along the crestline of the same mountain mass; **Cerro San Antonio**, unmapped mountain 5000 feet high just west and southwest of Xilitla; **El Sol**, locality on the Pan-American Highway, 1 mile north of Tamazunchale; **Huichihuayán**, village on Pan-American Highway, 25 miles by road north of Tamazunchale, at 21° 28', 98° 57'; **Llano de Conejo**, unmapped meadow on shoulder of Cerro Conejo at an approximate elevation of 7000 feet; **Llano de la Cruz**, unmapped meadow on shoulder of Cerro Conejo at an approximate elevation of 6000 feet; **Llano de Garzas**, another unmapped mountain meadow in the Cerro Conejo group; **Puerto del Oso**, unmapped pass on the trail between Xilitla and Cerro Conejo, at about 6000 feet; **Rancho Miramar Chico**, unmapped rancho on trail from Xilitla to Cerro Conejo, at elevation of 4000 to 4500 feet; **Río Amajaquí**, an affluent of the Moctezuma River, joining it at Tamazunchale; **Río Huichihuayán**, a branch of the Axtla River, flowing in a course roughly parallel to the Pan-American Highway, south of the village of Huichihuayán; **Tamazunchale**, town on Pan-American Highway

in extreme southeastern San Luis Potosí, 21° 16', 98° 48'; Valles, town on Pan-American Highway, at 21° 58', 99° 02'; Xilitla, village at 21° 23', 99° 01' in mountains west of the Pan-American Highway, connected with that highway by an all-weather dirt road.

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