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BIRDS OF THE GUADALUPE MOUNTAIN REGION OF WESTERN TEXAS[1]

By THOMAS D. BURLEIGH AND GEORGE H. LOWERY, JR.

Rising from the desert floor amid mesquite, cactus, and grease bush, Guadalupe Peak has the distinction of being the highest point in the big state of Texas—reaching an altitude of 8,758 feet above sea level. There, among its high ridges and escarpments in the heart of a Texas desert plain, one finds a beautiful Canadian-Transition Zone forest. Dense stands of conifers—western yellow pine and Douglas fir—along with oaks and maples, combine to make the area a biotic community quite unlike the remainder of Texas.

One would judge that such an area would have long since attracted ornithologists. In searching for new Texas birds certainly the highest point in the state would merit investigation. To the contrary, however, so far as we can determine, only three ornithologists have collected and observed birds there prior to the present study, and then only for an aggregate of sixteen days during late summer.

During May, 1939, we collected birds in several localities in the Trans-Pecos area of western Texas. Proceeding from Van Horn, ostensibly for El Paso, we made a brief stop during the afternoon of May 17 in Pine Springs Canyon of the Guadalupe range. Even superficial

[1] The present work represents a cooperative study undertaken jointly by the Fish and Wildlife Service, U. S. Department of the Interior, and the Museum of Zoology of the Louisiana State University and Agricultural and Mechanical College.

observation and collecting during those brief hours resulted in some interesting discoveries, enough to warrant remaining overnight and to continue collecting in what appeared to be a coniferous forest on top of the mountain. Thus, on May 18, we ascended Pine Springs Canyon and reached the summit of the overlying ridge. Immediately upon reaching the top we beheld a panoramic view of the mountains—punctuated by dense stands of conifers, some over eighty feet high. Blue-fronted jays, crossbills, juncos, and a multitude of other factors later indicated an entirely different life zone.

During late afternoon we returned to Pine Springs Camp. Upon comparing notes and specimens, it immediately became obvious that we had inadvertently encountered a region where the bird life was far from well known. Using the *A.O.U. Check-List* as a basis for an opinion, it seemed that on the first day of collecting we had added one new bird to the Texas list and some four or five forms to the breeding list. Collecting was continued for several days—as long as time permitted, but plans were begun for a more detailed study.

Thus, in subsequent months, five extended field trips were made by us to the Guadalupe Mountains, resulting in adequate collections and voluminous notes on the occurrence of the birds at the various seasons of the year. By no means, however, does this report represent the final word on the birds of this interesting region. Additional field work would doubtless add other species and geographical races not recorded at present. No attempt has been made to include in this paper those species that presumably occur in the region, and, as a matter of fact, with but very few exceptions, every form included here is substantiated by one or more specimens which we have either collected ourselves or personally examined. Likewise we have confined ourselves to a very definite, limited area, as defined below (see map), and all records incorporated within this report are from that area.

Resumé of Field Work

Apparently the first field work done in the Guadalupe Mountains of Texas was by Mr. and Mrs. Vernon Bailey. On July 19, 1901, Mr. Bailey entered New Mexico by train from Texas and went to Carlsbad, where he was joined by Mrs. Bailey, and they worked in this vicinity until July 30. They then went by wagon up Dark Canyon and camped for a week high up in the Guadalupe Mountains east of Queen; then,

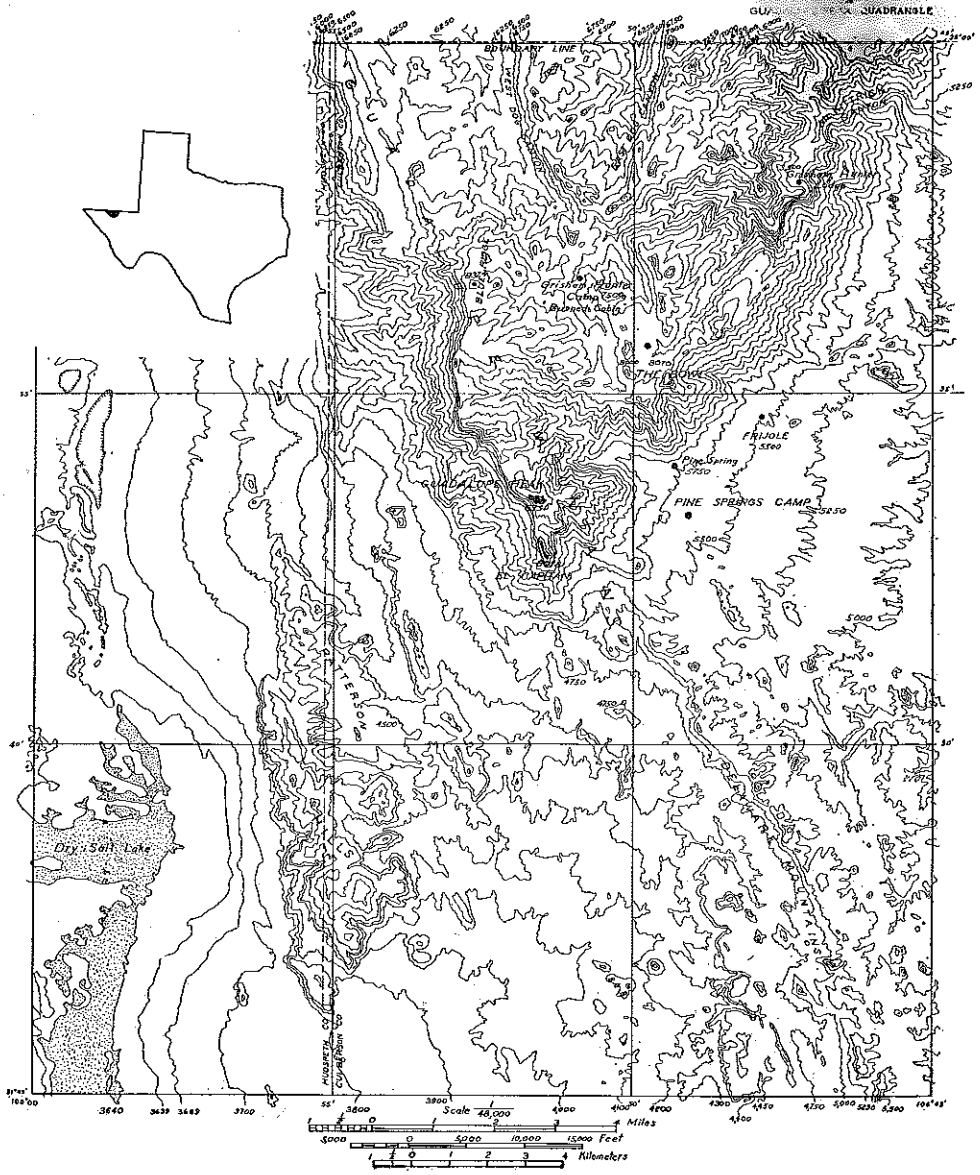


FIG. 1.—Map of the Guadalupe Mountain region, adapted from the U. S. Geological Survey topographic chart of the Guadalupe Peak Quadrangle (advanced sheet). Inset shows relationship of the Guadalupe Mountains to the remainder of the State of Texas (courtesy of W. B. Davis).

they spent two days at Queen, and August 9 to 25 in Dog Canyon, *the base camp being at 6,800 feet altitude in Texas,* one-half mile south of the New Mexico line. From here three trips were made *to McKittrick Canyon,* one overnight, August 20-21.[2]

Louis Agassiz Fuertes apparently visited the Baileys in mid-August. Cornell University has eight specimens taken by him on August 11 and 13. George Willett collected at Queen and the surrounding area just across the state line in New Mexico during January, 1915, but did not enter Texas.

After that we have no other indications of birds having been collected in the Guadalupe Mountains of Texas until about the time we began our work there.

Quite by chance our initial trip to the Guadalupe Mountains was preceeded about a week by one by Dr. W. P. Taylor, who camped at Pine Springs Canyon May 10 to 14, 1938, collecting a few birds incidental to other studies. Our first stay in 1938 was from May 17 to 22, during which time we worked in Pine Springs Canyon, Bear Canyon, and the area known as The Bowl (see map). M. G. Greig, Louisiana State University student, served as field assistant. Lowery later arranged several days of collecting in the region while enroute to and from California. Accompanied by Jean Tiebout Lowery, he made observations and collections on July 10 and 11 and July 28 and 29. Dr. W. B. Davis camped at The Bowl from August 2 to 8, 1938, during which time he procured some valuable bird specimens while engaged in a study of the Texas bighorn sheep.

On October 3, Burleigh and Lowery returned again, accompanied by the junior author's father, G. H. Lowery, Sr. This time operations were extended to include more of the mountain range as well as the surrounding area. Until October 12, collections were made in Pine Springs Canyon, The Bowl, McKittrick Canyon, Bear Canyon, Dry Salt Lake, Frijole, and other nearby points. Likewise the periods December 31, 1938, to January 7, 1939; April 26 to May 5; and June 9 to 15, 1939, were spent collecting birds in the Guadalupe Mountains.

Dr. W. B. Davis again returned to the area on June 9, 1939, and remained until July 4. He was accompanied by seven students of the Texas Agricultural and Mechanical College. They camped at The Bowl,

[2] Florence M. Bailey, "The Birds of New Mexico," Washington, D. C.; New Mexico Department of Game and Fish. . . . . , 1928: 23.

and even though primarily engaged in general collecting, with special emphasis on mammals, they obtained some very interesting bird specimens, which they have kindly made available to us.

ACKNOWLEDGMENTS

For the identification of many difficult specimens and advice on obscure points we wish to thank Dr. Harry C. Oberholser, of the United States Fish and Wildlife Service. We have also been aided in problems of identification by James L. Peters, W. E. Clyde Todd, George Willett, Dr. J. Van Tyne, Dr. Pierce Brodkorb, Dr. Robert Moore, Dr. Alden H. Miller, Dr. Louis Bishop, Dr. Ludlow Griscom, and the late Dr. Joseph Grinnell. For the loan of specimens for comparison, we are indebted to the Fish and Wildlife Service, Museum of Vertebrate Zoology, and the Los Angeles Museum of History, Science, and Art. Our own field notes have been supplemented by notes and specimens sent to us by Dr. W. B. Davis of the Texas Agricultural and Mechanical College and Dr. Walter P. Taylor of the Fish and Wildlife Service. For this generous assistance we are deeply grateful. We wish to thank also the Texas Game, Fish, and Oyster Commission, and its Executive Secretary, Wm. J. Tucker, for cooperation in issuing permits to take specimens as well as for other considerations. For the privilege of comparing some of our specimens with material in the Museum of Vertebrate Zoology, we thank the authorities of that institution. Especially do we wish to express our most sincere appreciation to George Willett, of the Los Angeles Museum, where more than a week was spent in comparing and working-over specimens and deriving the benefit of his excellent advice and criticism. Dr. Hartley H. T. Jackson, of the Fish and Wildlife Service, and Dr. Wm. H. Gates, of the Louisiana State University, made it possible for this work to proceed to completion. Judge J. C. Hunter, President of the Grisham-Hunter Corporation, which owns most of the mountain region, particularly that on top, is to be thanked for kindly granting us permission to collect on the property. Mr. and Mrs. Walter Glover, of Pine Springs Camp, with whom we stayed during our entire work, are to be thanked for the many courtesies extended.

First and foremost, especially insofar as the junior author is concerned, is the generous assistance rendered by E. A. McIlhenny, of Avery Island, Louisiana, in patronizing so much of our field work. We extend him sincere and heartfelt thanks.

Faunal Areas in Guadalupe Mountains

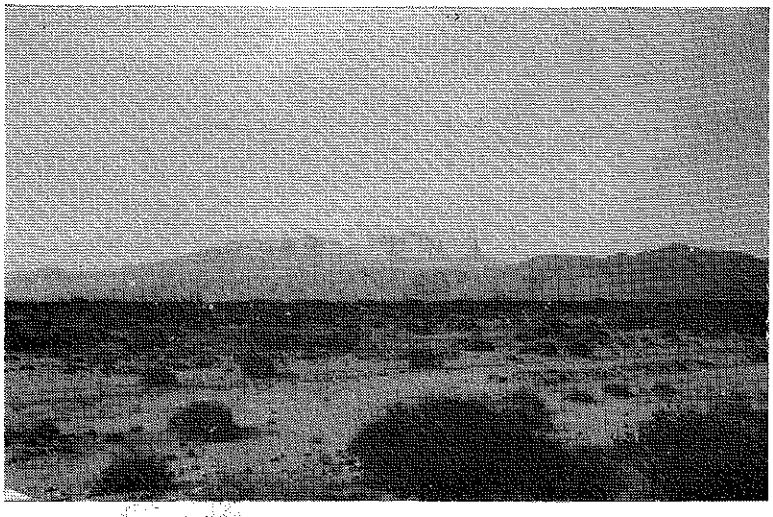
While Vernon Bailey[3] has adequately discussed the "life zones" of western Texas, including the Guadalupe Mountains, a few additional remarks based on our own observations might be made. According to Bailey, three distinct life zones are discernible in the Guadalupe range —Lower Sonoran, Upper Sonoran, and Transition. The first of these comprises the vast arid plains surrounding the mountain (Plate I). Its most characteristic shrub is the evergreen creosote bush (for a more complete account of the vegetation of this region, see W. B. Davis' *Mammals of the Guadalupe Mountains of Texas,* No. 7 of this series). Other conspicuous plants are yucca, agaves, sotol, cactus, and mesquite. Locally the Dry Salt Lakes and environs represent the extreme manifestation of this ecological type.

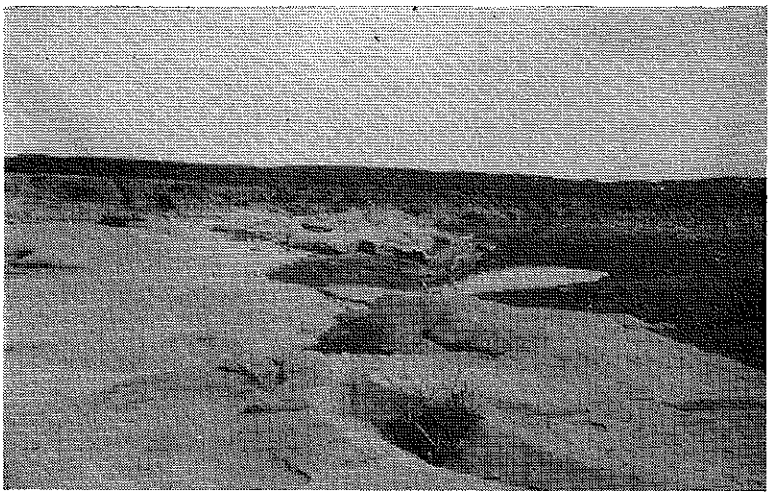
The Upper Sonoran covers the foot hills and lower slopes of the mountains (Plate II). On the southern slopes it extends to the tops of the ridges, while on the northern slopes it gives way to the Transition at about 6,000 feet altitude (Plate III). Characteristic plants include the nut pine, juniper, Texas madrone, cane cactus, catclaw, and wild plum, etc. The Say phoebe, canyon wren, rock sparrow, desert sparrow, and rock wren are typical species of birds.

The Transition Zone takes in the vast area covering the top of the mountains as well as the upper reaches of the various canyons dissecting the range (Plate IV). This is particularly true of McKittrick Canyon, in which the Transition extends even below the 6,000-foot level, except on its southern slopes as indicated above. Western yellow pine, limber pine, Douglas fir, mountain white oak, and buck thorn are characteristic plants.

Bailey was doubtful, if we interpret him correctly, as to the presence of the Canadian Zone on the mountains. This was due likely to his uncertainty regarding the breeding status of certain species of birds. Such typical Canadian Zone forms as *Junco phaeonotus dorsalis, Hylocichla guttata auduboni,* and *Nuttallornis borealis* were suspected by him as breeding, but definite proof was lacking. He made his observations in August, when these birds could have been fall migrants. While we have found all these forms and others as common breeding birds at the higher altitudes, we do not see the desirability of recognizing another "life zone" just because of their presence.

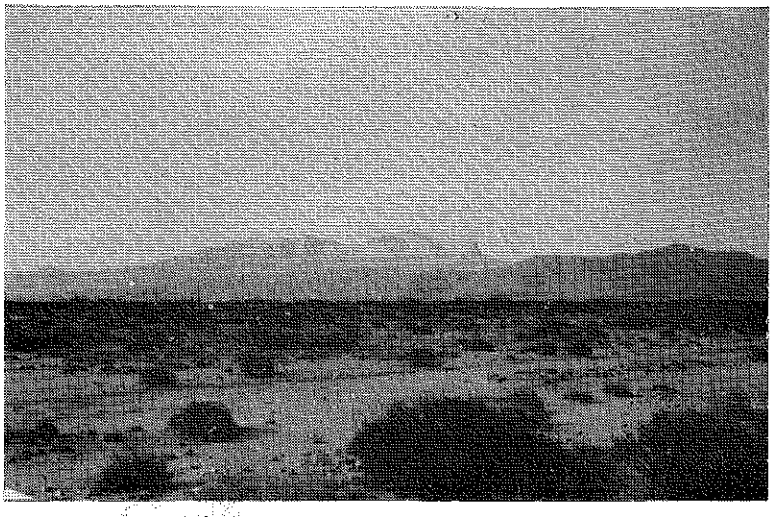
[3] *N. Amer. Fauna,* 25, 1905: 11-38.

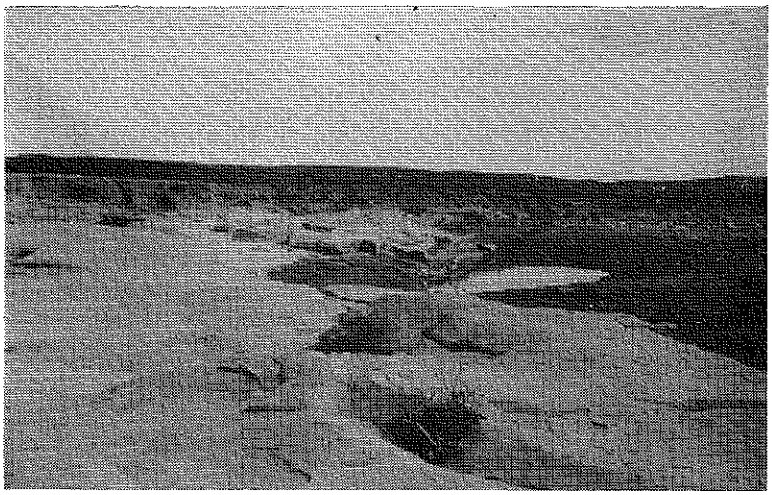




Upper.—The Guadalupe Mountains viewed from the grease bush desert bordering the Dry Salt Lake. The Patterson Hills are seen in the middle foreground.

Lower.—A pond formed by the partially dried-up Delaware River, about twenty miles east of Guadalupe Peak.





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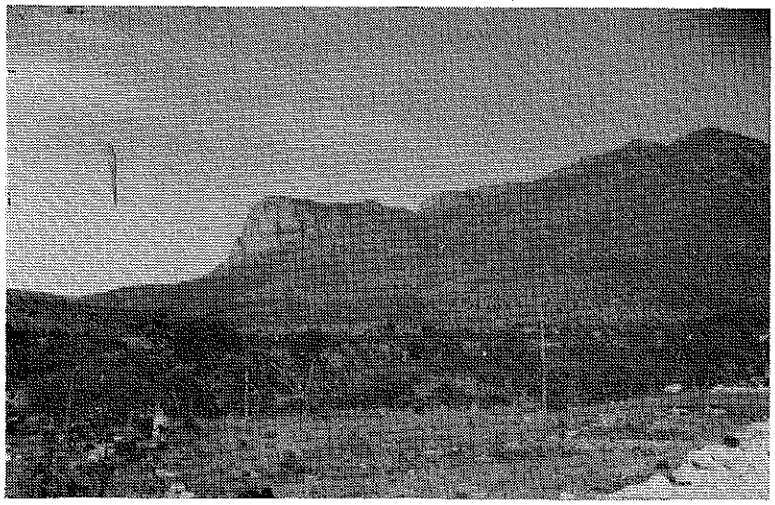
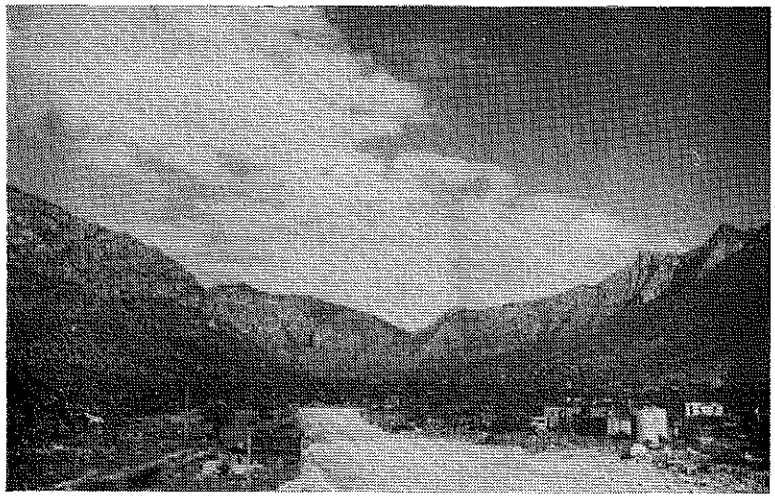
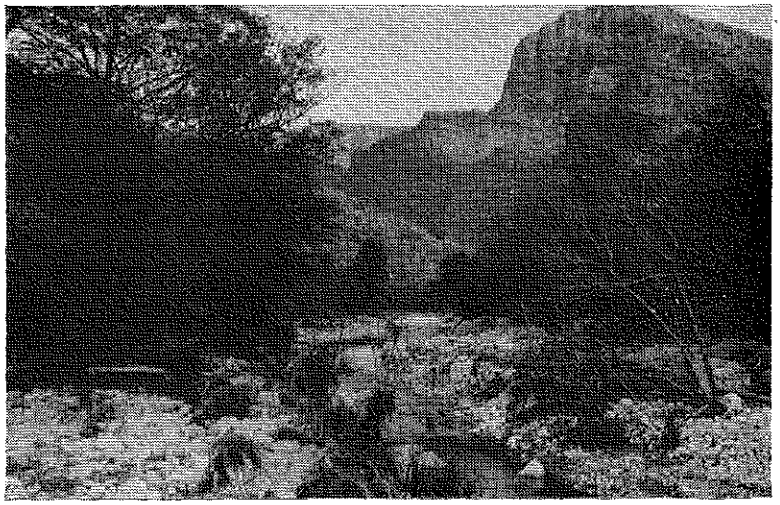
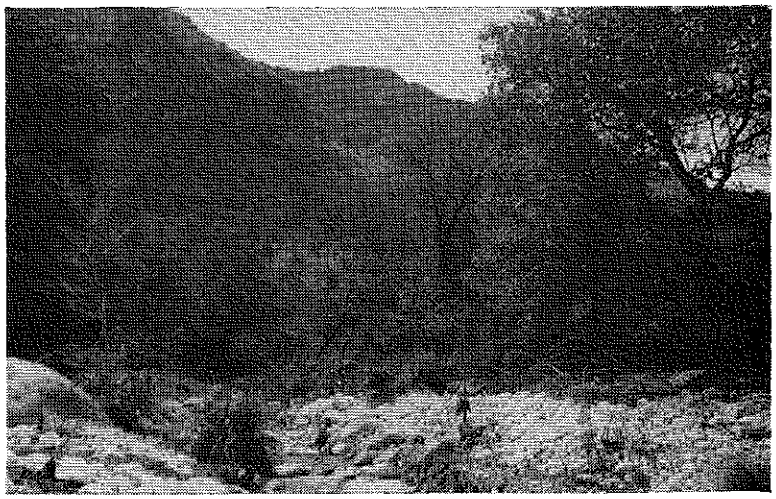




Upper.—El Capitan viewed from Pine Springs Camp. Guadalupe Peak is here concealed by the high peak at the extreme right.

Lower.—Pine Springs Canyon from the same view as above.



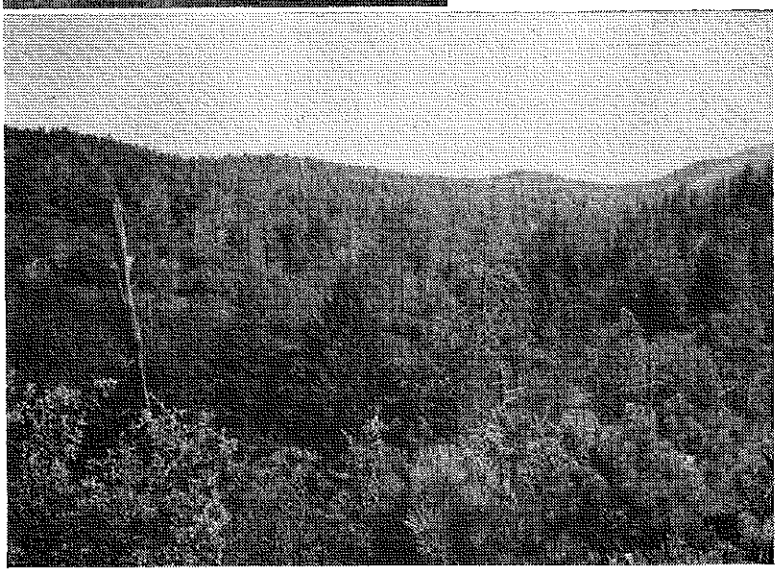


Upper.—McKittrick Canyon showing a bare southern slope.

Lower.—McKittrick Canyon showing a well vegetated northern slope.

Upper.—Typical view of the timber on top of the mountain. The large tree in the center is an example of the western yellow pine (*Pinus ponderosa*).

Lower.—Panoramic view of The Bowl viewed from the ridge above Pine Springs Camp.



SPECIES RECORDED

This account of the birds of the Guadalupe Mountains includes a total of 177 living forms, of which we have actually examined specimens of 164. Of these, eighty-six present definite evidence of nesting in the region, although additional field work will doubtless add others. Our field work in the region has resulted in the discovery of two new forms (subspecies of *Amphispiza bilineata* and *Aimophila ruficeps*), six additions to the known avifauna of Texas (*Dryobates pubescens leucurus, Sayornis saya yukonensis, Regulus satrapa apache, Hesperiphona vespertina montana, Hylocichla guttata, vaccina,* and *Loxia curvirostra bendirei*), and six other forms new as definite breeding birds in Texas (*Nuttallornis borealis, Hylocichla guttata auduboni, Vireo vicinior, Dendroica graciae graciae, Junco phaenotus dorsalis,* and *Spizella atrogularis evura*).

Except as otherwise stated, cited specimens are deposited either in the Fish and Wildlife Service collection or in the Louisiana State University Museum of Zoology.

Anas platyrhynchos Linnaeus

Common Mallard

We noted this species but once, three birds being seen January 3 on a pond two miles south of the entrance of McKittrick Canyon.

Anas[4] *carolinense* Gmelin

Green-winged Teal

1938: 2 immature ♂, Delaware River at Pipe Line Crossing, 15 miles east of Guadalupe Peak, October 6.

Our one record for the occurrence of this species here is that of a flock of five birds seen October 6 at the Pipe Line Crossing of the Delaware River.

Mergus serrator Linnaeus

Red-breasted Merganser

But a single individual of this species was noted, a male being seen January 2 at the Pipe Line Crossing of the Delaware River.

[4] We follow J. L. Peters (and other authors) in the use of the genus *Anas* Linnaeus. Cf. J. L. Peters, Check-List of the Birds of the World. Harvard University Press, 1, 1931: 158.

CATHARTES AURA (LINNAEUS)
TURKEY VULTURE

Although less frequently seen during the winter months, the turkey vulture proved to be resident here, and was noted almost daily soaring overhead. No specimens were taken, so only on the basis of geographical probability can these birds be referred to *C. a. teter,* a race described by Dr. Herbert Friedmann.[5]

ACCIPITER STRIATUS VELOX[6] (WILSON)
SHARP-SHINNED HAWK

1938: 1 adult ♂ (Texas A. and M. Collection), The Bowl, August 3; 1 adult ♀, Pine Springs Canyon, 6,000 feet, October 5; 1 immature ♂, The Bowl, October 8.

1939: 1 adult ♀, Bear Canyon, 6,250 feet, January 6.

In October the sharp-shinned hawk was fairly common, an occasional bird being noted in Pine Springs Canyon, in McKittrick Canyon, and in The Bowl. These were apparently transients, for this little hawk was found to be extremely scarce during the summer months. Our only record for the winter was the adult female taken in Bear Canyon on January 6.

ACCIPITER COOPERII (BONAPARTE)
COOPER HAWK

1939: 1 immature ♂, Bear Canyon, 6,250 feet, May 4.

We recorded this species but once, a male in immature plumage being taken in Bear Canyon on May 4.

BUTEO JAMAICENSIS CALURUS CASSIN
WESTERN RED-TAILED HAWK

1938: 1 ♂ and 1 ♀ (Texas Game, Fish, and Oyster Commission collection), Big Canyon, June 21-23; 1 adult ♂, 10 miles east of Guadalupe Peak, October 6.

1939: 1 immature ♂ (Texas A. and M. collection), McKittrick Canyon, June 26.

In May our field work was limited almost entirely to the higher ridges above Frijole. Here the red-tailed hawk was noted but twice, single birds being seen on the 18th and again on the 21st. In October

[5] "Critical notes on American vultures," *Proc. Biol. Soc. Wash.,* 46, 1933: 188.

[6] We follow Peters (*op. cit.,* p. 221) in regarding the sharp-shinned hawks a subspecies of *A. striatus.*

we included the open desert country between Guadalupe Peak and the Delaware River in our collecting activities, and at this altitude (4,500 feet) found these large hawks rather common. Each day that we spent in this region (6th, 10th, and 11th) we frequently saw one of these birds resting on the top of a telephone pole or soaring low overhead. Returning on January 2, we noted but two birds, so apparently relatively few remain throughout the winter months. On April 29 the morning was spent there and an occasional bird observed, so it undoubtedly breeds where suitable nesting sites are available.

While our adult specimens are clearly referable to *calurus,* it may be noted that on October 6, 10, and 11, 1938, red-tailed hawks were observed that were unquestionably of another race. Judging by the attenuation of the streaks on the upper breast and the apparent absence of barring on the flanks, it is believed that these birds were *B. j. fuertesi,* a race recently described by Van Tyne and Sutton from the Big Bend Region.[7]

Buteo swainsoni Bonaparte
Swainson Hawk

1939: 1 adult ♀, 5 miles south Guadalupe Peak, June 9.

We found this species rather scarce here, and noted it only during the spring and early summer. Apparently it does not winter even sparingly. Two birds were seen near the Salt Lakes on May 1, and a nest was found close to this same spot on June 9 that held two half-incubated eggs. It was eight feet from the ground in the top of a desert willow growing at the side of a dry stream bed, and being rather bulky, was conspicuous for some distance.

Buteo albonotatus Kaup
Zone-tailed Hawk

The one available record[8] for this hawk is that of a single bird noted by Vernon Bailey on August 8, 1901, in Turkey Canyon, "south of the New Mexico Line in Texas." We have been unable to definitely place "Turkey Canyon," but since Bailey specifically stated that it was in Texas, we include records of birds so labeled.

[7] "A new red-tailed hawk from Texas," *Occ. Papers Mus. Zool., Univ. Mich.,* 321, 1935: 1-6.

[8] Florence M. Bailey, *op. cit.,* p. 106.

AQUILA CHRYSAETOS CANADENSIS (LINNAEUS)
GOLDEN EAGLE

1939: 1 skeleton (Texas A. and M. collection), about 20 miles south of Guadalupe Peak on State Highway 54, June 30.

The golden eagle was not uncommon here, and was noted at frequent intervals throughout the year. In May, 1938, a single bird was seen on the 21st soaring over the top of one of the higher ridges near Frijole. The following October it was observed almost daily about The Bowl, in McKittrick Canyon, and in the open desert country east of Guadalupe Peak. At this last locality an occasional bird was found resting on the top of one of the telephone poles at the side of the road. In January, and again the following May and late June, at least one bird, at times two, could always be found in McKittrick Canyon, so apparently at least one pair nested there.

CIRCUS HUDSONIUS (LINNAEUS)
MARSH HAWK

The marsh hawk was found to be a common fall transient, but was not noted in the winter or early spring. In early October it was seen almost daily, both in the open desert south of Frijole and about the higher ridges.

FALCO SPARVERIUS SPARVERIUS LINNAEUS
EASTERN SPARROW HAWK

1938: 1 adult ♂, 1 immature ♀, 10 and 7 miles east of Guadalupe Peak, October 6; 2 adult ♂, 5 miles east Guadalupe Peak, October 10.
1939: 1 adult ♂, 5 miles east Guadalupe Peak, January 6.

It is only as a fall transient that the sparrow hawk occurs in any numbers about Frijole, and it is limited in its distribution to the open desert below an altitude of approximately 5,500 feet. In October it was especially numerous along the telephone lines east of Guadalupe Peak, where it was possible to see eight or ten birds in the course of a morning. In early January it proved unexpectedly scarce, single birds being noted but twice. If it breeds at all, it must do so very sparingly, for no birds were noted during the spring or early summer.

Although the Guadalupe Mountains fall within the range of *F. s. phalaena* (Lesson) as cited by most authors, we are unable to distinguish our birds from those taken in the eastern United States.

CALLIPEPLA SQUAMATA PALLIDA BREWSTER
ARIZONA SCALED QUAIL

1938: 1 ♂, 10 miles east Guadalupe Peak, October 6.

This was an abundant bird in the open desert, where, however, its

distribution was limited to an altitude of approximately 5,600 feet. Numerous coveys were noted both in October and in January, while in late April and early May pairs or single birds were observed at frequent intervals each day.

Cyrtonyx montezumae mearnsi Nelson
Mearns Quail

Apparently once fairly common this species has decreased in numbers in recent years until now it is extremely scarce and rarely seen. We searched for it at every opportunity, but failed to see a single bird. However, it has been reported by Vernon Bailey from Dog Canyon (6,700 feet), where several pairs and one flock of young were seen August 9-25, 1901. Louis Agassiz Fuertes collected both a male and female on August 13, 1901. His labels bear the locality "Guadalupe Mountains, Texas," and the specimens are now in the Cornell collection. More recently the species was recorded from the head of McKittrick Canyon, where in the spring of 1939 seven birds were observed by Robert Snow of the Fish and Wildlife Service.

Charadrius nivosus nivosus (Cassin)
Western Snowy Plover

1938: 2 ♂, 1 ♀, Dry Salt Lake, October 3.

This is a species whose occurrence is undoubtedly influenced to a large extent by the presence or absence of water. In October water was still present in the Salt Lakes after heavy rains during the late summer, and small flocks of snowy plover were observed there, on the 3rd and again on the 9th, feeding about these shallow pools. By the following April this water had to a very large extent evaporated, and, as conditions were not very favorable for shore birds, very few were seen. Then the snowy plover was noted but once, a single bird being seen on April 26. It was not recorded in the winter, nor later in the spring.

Charadrius vociferus vociferus[9] Linnaeus
Killdeer

1939: 1 ♀, Frijole, April 30.

The relative scarcity of water likewise limited the abundance of this species here, and while observed throughout the year, it was at no time common. In October several were seen at the Salt Lakes on the 3rd and again on the 9th, and around a pond a mile or so south of McKittrick

[9] We follow Peters (*op. cit.*, p. 245, 252) and other authors in not using the monotypic genus *Oxyechus*.

Canyon on the afternoon of the 9th. Two birds were seen at the Salt Lakes December 31 and a single bird at this same spot January 7, and two about open water along the Delaware River January 2. The following April it was noted only at the pond near the Frijole post office where two birds observed on the 30th were apparently nesting.

CAPELLA DELICATA (ORD)
WILSON SNIPE

Our one record for this species is that of a single bird that apparently wintered along a stretch of open water in McKittrick Canyon. One bird was noted here on October 9, and it may have been the same bird that was seen at this same spot three months later, on January 3.

ACTITIS MACULARIA (LINNAEUS)
SPOTTED SANDPIPER

1938: 1 ♀, Dry Salt Lake, October 9.

This familiar shore bird was found to be a rather uncommon transient both in the fall and again in the spring. In October single birds were seen at the Delaware River on the 6th and at the Salt Lakes on the 9th, and the following April four birds were observed on the 20th around a small stream in an arroyo six miles east of Frijole.

PISOBIA BAIRDI (COUES)
BAIRD SANDPIPER

1938: 1 ♀, Dry Salt Lake, October 3.
1939: 1 ♂, Dry Salt Lake, April 26.

Our limited observations would indicate that when conditions are favorable this sandpiper is one of the commonest of the shore birds found here in migration. In October small flocks were noted on each visit to the Salt Lakes, approximately 20 individuals being recorded there in the course of a week (from the 6th through the 9th). The following April relatively little water remained and possibly because conditions were so unfavorable this species was noted but once, a single bird being seen on the 26th.

PISOBIA MINUTILLA (VIEILLOT)
LEAST SANDPIPER

1938: 1 ♂, Dry Salt Lake, October 3.

We noted this species but once, several being seen October 3 feeding with other shore birds at the Salt Lakes.

EREUNETES MAURI CABANIS
WESTERN SANDPIPER

1938: 1 ♂, Dry Salt Lake, October 9.

Several small flocks of these birds were found with other shore birds at the Salt Lakes on October 3 and 9, approximately 10 individuals being noted on each occasion.

CROCETHIA ALBA (PALLAS)
SANDERLING

1938: 1 ♀, Dry Salt Lake, October 3.

Several sanderlings were observed feeding with the other shore birds at the Salt Lakes on October 3 and 9, but it apparently is not a common transient here.

HIMANTOPUS MEXICANUS (MULLER)
BLACK-NECKED STILT

Our only record for this species is that of a flock of eight birds seen by Lowery on July 29 feeding along a roadside ditch about 15 miles south of Guadalupe Peak.

COLUMBA FASCIATA FASCIATA SAY
BAND-TAILED PIGEON

1938: 1 immature ♂, Pine Springs Canyon, 5,800 feet, October 11.
1939: 1 ♂ (Texas A. and M. collection), McKittrick Canyon, 5,300 feet, July 3.

The band-tailed pigeon was rather local in its distribution, and, while occurring during the summer at the higher altitudes, was only infrequently encountered. On our first visit to The Bowl, on May 19, 1938, possibly 10 birds were seen in the fir woods, invariably in pairs, but seemingly not yet nesting. None remained during the winter months and departure in the fall was rather early, for in October but a single bird was seen, an immature male in Pine Springs Canyon (5,800 feet) on the 11th. Arrival in the spring apparently does not occur until after the first week in May, for a morning spent in The Bowl on May 2, 1939, failed to reveal any of these birds as yet present there. Vernon Bailey recorded this species as fairly common in Dog Canyon and abundant in McKittrick Canyon, August 10-25, 1901, so it would appear that it has decreased perceptibly in numbers in recent years.

ZENAIDURA MACROURA MARGINELLA (WOODHOUSE)
WESTERN MOURNING DOVE

1939: 1 adult ♀, Frijole, April 30.

Although fairly common and of general distribution during the sum-

mer months below an altitude of approximately 5,800 feet, relatively few of these birds were found to remain about Frijole during the winter. In May, 1938, and again in early October they were seen almost daily, but the following January they were unexpectedly rather scarce. During a week in the field, we recorded their occurrence but once, four birds being seen January 7 in the open desert near the Salt Lakes. They apparently nest rather late in the spring, a flock of fifteen of these birds being noted about Frijole throughout our stay there, April 26 through May 4, 1939.

While there seems to be considerable controversy regarding the validity of *Z. m. marginella,* our one available specimen, listed above, apparently represents the extreme manifestation of the alleged characters of that race. It is decidedly paler than anything examined from the eastern part of the United States and the wing measures 151 millimeters.

Coccyzus americanus (Linnaeus)
Yellow-billed Cuckoo

1939: 1 adult ♀ (Texas A. and M. collection), McKittrick Canyon, 5,500 feet, June 27.

We failed to note this species here, but it was recorded by Davis both in August, 1938, and again in June, 1939, in the lower end of McKittrick Canyon, where apparently at least one pair nests each year. It must be considered, however, an extremely scarce bird in this region.

The label of the specimen listed above carries the notation "one large egg in uterus".

As in the preceeding species, considerable doubt has been cast by certain authors on the advisability of recognizing a western race. As pointed out by Van Tyne and Sutton[10] the commonly accepted range of *C. a. occidentalis* Ridgway includes the western half of Texas.[11] Their excellent series from the Big Bend Region of Texas, however, failed to show any character that would consistently differentiate it from a series of eastern birds. Our one specimen from the Guadalupe Mountains is entirely inadequate as a basis of opinion on our part. The specimen measures as follows: wing (in mm.), 146; exposed culmen, 27.7. Ridgway's average measurements for typical *americana* are 146.4 and 27 millimeters, respectively, while *occidentalis* is supposed to be

[10] "The birds of Brewster County, Texas," *Miscellaneous Publications, Museum of Zoology, Univ. of Mich.,* 37, 1937: 35.

[11] *Check-List of North American Birds,* A.O.U., Lancaster, Pa., 1931: 159.

"decidedly larger" (wing, 150.1; exposed culmen, 28.4.).[12] Our specimen would thus appear to fall more closely within the range of measurements ascribed to typical *americana.* The measurements cited by Van Tyne and Sutton for their western Texas specimens indicate likewise.

Geococcyx californianus (Lesson)
Road-runner

The road-runner was noted at infrequent intervals here, and apparently is not at all common. An occasional bird was observed near the Frijole post office (5,500 feet) and at Pine Springs Camp, but it was only in the open desert below an altitude of approximately 4,800 feet that this species occurred at all regularly.

Otus flammeolus (Kaup)
Flammulated Screech Owl

1939: 1 adult ♀, Pine Springs Canyon, 6,000 feet, April 27; 1 adult ♀ (Texas A. and M. collection), The Bowl, June 13.

Our one record for the occurrence of this elusive little owl is that of an adult female taken in Pine Springs Canyon on April 27 at an altitude of approximately 6,000 feet. Another adult female was taken by Dr. W. B. Davis in The Bowl on June 13. Vernon Bailey (MS) records the capture of an immature bird of this species at the head of Dog Canyon (7,500 feet) on August 25, 1901.

Bubo virginianus pallescens Stone
Western Horned Owl

1939: 1 adult ♂, Pine Springs Canyon, 5,700 feet, May 1; 1 adult ♂, Guadalupe Canyon, 4,900 feet, June 9.

An occasional bird was noted throughout our field work at Frijole, usually about the thickets fringing the dry stream beds from which they invariably flew while we were still some distance away. In late April, early May, and mid-July, several were heard at dusk each evening calling from the higher ridges. We would consider this big owl fairly common here.

Speotyto cunicularia (Bonaparte)
Burrowing Owl

A single bird was seen in the open desert near the Salt Lakes on January 7. An occasional pair is said to have nested in one of the few prairie dog "towns" still in existence, but we were unable to verify this.

[12] "Birds of North and Middle America." *Bull. U. S. Nat. Mus.,* 50, pt. 7, 1916: 13-18.

Strix occidentalis lucida (Nelson)
Mexican Spotted Owl

1939: 1 adult ♀ (Texas A. and M. collection), an upper fork of McKittrick Canyon, about 7,500 feet, June 18.

We did not succeed in recording this species here, but a pair was observed by Dr. W. B. Davis in one of the upper forks of McKittrick Canyon at an altitude of approximately 7,500 feet, and a female was collected there on June 18, 1939.

Antrostomus vociferus (Wilson)
Whip-poor-will

Whip-poor-wills have been heard at the head of McKittrick Canyon by both Vernon Bailey (August 21, 1901) and Dr. W. B. Davis (August, 1938, and June, 1939), but we failed to record this species during the course of our field work in this region. Apparently it is rather scarce as a breeding bird and decidedly local in its distribution during the summer months.

Phalaenoptilus nuttalli nuttalli (Audubon)
Nuttall Poor-will

1938: 1 adult ♂ (Texas A. and M. collection), West Dog Canyon, August 2.

This was one species that was not restricted in its distribution to either the higher or the lower altitudes. We found it common on June 9 in the open desert east of Guadalupe Peak, at an altitude of approximately 4,800 feet; equally common about the Salt Lakes on June 12 (3,300 feet); and heard one bird in The Bowl shortly after dark on June 14 (8,300 feet). At Pine Springs Camp (5,500 feet) a single bird was heard throughout our stay there in June, calling at dusk each evening from the open desert close by.

Chordeiles minor howelli Oberholser
Howell Nighthawk

1939: 3 adult ♂, 3 miles east of Guadalupe Peak, 4,500 feet, June 9; 1 adult ♂, Pine Springs Canyon, 5,500 feet, June 12; 1 adult ♀ (Texas A. and M. collection), The Bowl, 8,000 feet, June 17.

We first noted this species on June 9 when, just before dusk, an occasional bird was seen in the open desert east of Guadalupe Peak. On June 12 a male was flushed from the ground in Pine Springs Canyon, and two days later two birds were seen shortly before dark feeding high overhead over The Bowl. Specimens taken would indicate this race as being the breeding form of *Chordeiles minor* in this region.

Doctor Oberholser has checked the identification of four of the above-listed specimens.

CHORDEILES ACUTIPENNIS TEXENSIS LAWRENCE
TEXAS NIGHTHAWK

1939: 1 ♂, junction of State Highways Nos. 130 and 54, June 12.

It was only in the open desert about the Salt Lakes at the relatively low altitude of approximately 3,300 feet that these nighthawks were observed in any numbers. Here on June 12 one was frequently noted feeding low over the ground, or resting on the gravel road we were following. This was just before dark when, as far as our observations went, these birds were active for the first time that day. It is probable that an occasional pair may be found in the open desert east of Guadalupe Peak, where the altitude is approximately 4,500 feet, for several birds suspected to be of the species were seen there a few days later when it was too dark for satisfactory identification. However, there is little question that altitude is a limiting factor in the distribution of these birds.

AERONAUTES SAXATALIS SAXATALIS (WOODHOUSE)
WHITE-THROATED SWIFT

1939: 1 ♂, Pine Springs Canyon, 8,000 feet, June 15; 1 ♀, Bear Canyon, 6,000 feet, June 11.

The white-throated swift was found to be a common bird here throughout the larger part of the year, small colonies nesting in many of the sheer cliffs at the tops of the higher ridges. Departure in the fall is apparently rather late, for while at The Bowl on October 11 flocks were observed overhead at intervals throughout the day. Although reported from the nearby Diablo Mountains in early January (J. S. Ligon, MS), we did not note this species in the winter. But on our first trip to The Bowl in the spring, on April 28, we found it already fairly common at these higher altitudes. Only rarely do these birds feed at the foot of the mountains, our one exception being possibly ten birds seen on June 11 at the lower end of Bear Canyon (6,000 feet).

Our specimens measure (in mm.) as follows: wing, 143, 151; tail, 60, 57.5; exposed culmen, 6.0, 5.6.

ARCHILOCHUS COLUBRIS (LINNAEUS)
RUBY-THROATED HUMMINGBIRD

1939: 1 ♂, Pine Springs Canyon, 5,600 feet, May 4.

The male taken in Pine Springs Canyon on May 4 was our only record for this species here. According to the *A. O. U. Check-List*

(1931) it had not previously been found west of central Texas, so this constitutes a material extension of range.

Archilochus alexandri (Bourcier and Mulsant)
Black-chinned Hummingbird

1938: 1 ♀, Pine Springs Canyon, 5,600 feet, July 29.
1939: 1 ♀, Guadalupe Peak, 8,750 feet, June 13.

This species was found to breed rather sparingly here, and was not noted above an altitude of approximately 6,000 feet. It was definitely recorded only in Pine Springs Canyon and in Guadalupe Canyon.

Selasphorus platycercus platycercus (Swainson)
Broad-tailed Hummingbird

1938: 1 ♂, Pine Springs Canyon, 5,600 feet, May 10; 2 ♂, The Bowl, 8,000 feet, August 3-4 (Texas A. and M. collection).
1939: 1 ♂, Pine Springs Canyon, 5,600 feet, April 27; 1 ♀, McKittrick Canyon, 5,500 feet, May 3.

The broad-tailed hummingbird is apparently a common breeding bird in this region, for in late April and early May (1939) it was observed daily, both in the canyons and about the dry stream beds in the open desert east of Guadalupe Peak. Davis noted several in The Bowl in early August, where it doubtless breeds at least sparingly. Nests found in McKittrick Canyon on May 3 and in Bear Canyon on May 4 were fully built but as yet held no eggs.

Selasphorus rufus (Gmelin)
Rufous Hummingbird

Our one record for this species is that of a bird seen by Lowery in Pine Springs Canyon on June 28, 1938. Vernon Bailey noted it as common in the Transition Zone, 6,800-8,500 feet, in August, 1901, so its status in this region is probably that of a regular fall transient. Bailey's field notes state that a specimen was "sent in by Mr. Fuertes". We have been unable to locate this specimen either in the Fish and Wildlife Service or Cornell collections.

Megaceryle alcyon (Linnaeus)
Belted Kingfisher

We noted this species but once, two birds being seen in McKittrick Canyon on October 10, at a spot where running water apparently afforded them a food supply.

COLAPTES CAFER CANESCENS BRODKORB
RED-SHAFTED FLICKER

1938: 1 ♂, 1 ♀, The Bowl, 8,000 feet, May 18-21.
1939: 2 ♂, The Bowl, 8,000 feet, January 3-5; 3 ♂ (Texas A. and M. collection), The Bowl, 8,000 feet, June 14, 15 and 17.

We found the red-shafted flicker a fairly common breeding bird in The Bowl, and likewise noted an occasional pair in both Pine Springs Canyon and McKittrick Canyon in the late spring, where it apparently breeds in small numbers above an altitude of approximately 5,800 feet. It was especially numerous in early October, when it was observed daily wherever field work was carried on. Only an occasional bird remains during the winter months at the higher altitudes, although below 5,600 feet it was found in early January to be fairly common.

Six of these specimens measure (in mm.) as follows: males, wing, 160, 163, 167, 157; female, wing, 158.

Doctor Brodkorb has examined our specimens and identified them as belonging to this race which he recently described.[13] He says, however, that none is wholly typical.

BALANOSPHYRA FORMICIVORA ACULEATA (MEARNS)
MEARNS WOODPECKER

1938: 1 ♂, The Bowl, May 21; 1 ♂ (Texas A. and M. collection), The Bowl, August 5.

We found this species only in The Bowl, scattered pairs nesting at the edges of clearings or open spots in the thick woods there. It possibly occurs in the canyons in migration, although at no time did we record it below an altitude of approximately 8,000 feet. An occasional bird was seen in early October, when it was noted on each visit to The Bowl from the 4th through the 11th of that month. None apparently winter, for it was not observed in early January.

SPHYRAPICUS VARIUS NUCHALIS BAIRD
RED-NAPED SAPSUCKER

1938: 2 ♂, The Bowl, 8,000 feet, October 4; 1 ♀, Pine Springs Canyon, 5,800 feet, October 8; 1 ♂, McKittrick Canyon, 6,000 feet, October 9.

In early October this species was found to be a fairly common transient, and was observed daily from the 4th through the 11th wherever field work was carried on. Altitudinal limits were apparently no factor in its distribution, for it was as frequently noted in The Bowl, at 8,000

[13] "Two new subspecies of red-shafted flickers," *Occ. Papers Mus. of Zool., Univ. of Mich.*, No. 314, 1935: 1-3.

feet, as in the canyons below 6,000 feet. It was not recorded in January, nor in the spring migration.

SPHYRAPICUS THYROIDEUS NATALIAE (MALHERBE)
NATALIE SAPSUCKER

1938: 1 ♀, The Bowl, 8,000 feet, October 4; 1 ♀, Bear Canyon, 6,500 feet, October 8.

The Natalie sapsucker was likewise observed only in early October, and then in rather limited numbers in Pine Springs Canyon and Bear Canyon. Three birds seen in Pine Springs Canyon on October 4, and almost daily thereafter until our departure on the 12th, showed a marked preference for the larger pines there. We failed to note this species in McKittrick Canyon, but it doubtless occurs there. Our one specimen from The Bowl indicates that the species occurs at the higher elevations at least to some extent.

DRYOBATES VILLOSUS LEUCOTHORECTIS OBERHOLSER
WHITE-BREASTED WOODPECKER

1938: 1 ♂ (Texas A. and M. collection), The Bowl, August 3; 1 ♂ and 1 ♀, The Bowl, May 18-21.

1939: 1 ♂, 1 ♀, McKittrick Canyon, 6,000 feet, January 3; 1 ♂ and 1 ♀, The Bowl, 8,000 feet, January 5.

This was one of the characteristic birds of The Bowl, one or more being seen each day that was spent there. Even during the winter months they showed little tendency to wander to the foot of the ridges, for in early January but a single bird was noted away from The Bowl, a male being observed in McKittrick Canyon on January 3. On June 14 (1939) a pair of these birds was found feeding young in a nest in the trunk of a dead pine at the edge of an open spot in the fir woods.

Doctor Oberholser has compared our specimens with those in Washington and identified them as *leucothorectis*.

DRYOBATES PUBESCENS LEUCURUS (HARTLAUB)
BATCHELDER WOODPECKER

1939: 1 ♂, 1 ♀, The Bowl, 8,000 feet, January 1.

We noted this little woodpecker only in January, two being seen in The Bowl on January 1, and one in McKittrick Canyon on January 3. Being supposedly non-migratory, it might be assumed that this species breeds at least sparingly at the higher altitudes, but in view of the fact that none were encountered in the spring and summer months we rather suspect that the birds seen were stragglers from farther north.

DRYOBATES SCALARIS CACTOPHILUS OBERHOLSER
CACTUS WOODPECKER

1939: 1 ♂, Pine Springs Canyon, 5,500 feet, January 4.

The cactus woodpecker was found to be a fairly common and well-distributed bird in the open desert at the foot of the ridges, occurring in the canyons to an altitude of approximately 6,000 feet. There was little fluctuation in numbers at different seasons of the year, for it was equally common in October, early the following January, and again in May and early June.

TYRANNUS VERTICALIS SAY
ARKANSAS KINGBIRD

1938: 1 ♂, McKittrick Canyon, 5,800 feet, June 10.

Our one record for this species here is that of the male taken in McKittrick Canyon on June 10. Apparently altitude is a limiting factor in its distribution, for it unquestionably breeds very sparingly in this region.

TYRANNUS VOCIFERANS SWAINSON
CASSIN KINGBIRD

1938: 1 ♂, Pine Springs Canyon, 5,600 feet, July 12.

1939: 1 ♀, Frijole, April 27; 1 ♂, 3 miles east Guadalupe Peak, April 29; 1 ♀, Pine Springs Canyon, 5,600 feet, May 4; 1 ♂, Pine Springs Canyon, 6,000 feet, June 12.

The Cassin kingbird proved to be fairly common here during the summer months, scattered pairs nesting along the dry stream beds and in the canyons to an altitude of approximately 5,600 feet. A nest found in Pine Springs Canyon on June 12 was 20 feet from the ground at the outer end of a limb of a large yellow pine, and on that date was still in process of construction. None of these birds were noted in the winter, and departure in the fall is relatively early, for two birds seen October 10 in the open desert east of Guadalupe Peak were the only individuals of this species encountered then.

MUSCIVORA FORFICATA (GMELIN)
SCISSOR-TAILED FLYCATCHER

1938: 1 ♂, 10 miles east of Guadalupe Peak, October 6.

We noted this species but once, the one male being found in the open desert 10 miles east of Guadalupe Peak on October 6.

Myiarchus cinerascens cinerascens (Lawrence)
Ash-throated Flycatcher

1938: 1 ♂ (Texas A. and M. collection), Pine Springs Canyon, 5,600 feet, May 10.

1939: 1 ♂, 1 ♀, Pine Springs Canyon, 6,000 feet, April 27; 1 ♀, Pine Springs Canyon, 5,600 feet, May 4.

We found this species fairly common as a breeding bird here, scattered pairs being seen in the canyons and in the open desert east of Guadalupe Peak wherever there were available nesting sites. Old woodpecker holes in the telephone poles along the highways frequently proved acceptable for rearing a brood of young. On our arrival at Frijole on April 26 these birds were already present, and were noted daily. Three pairs were observed in Pine Springs Canyon, but neither there nor elsewhere did they occur above an altitude of approximately 5,800 feet. Departure in the fall is apparently relatively early for none were seen in early October.

Sayornis saya saya (Bonaparte)
Say Phoebe

1939: 1 ♂, Frijole, January 6.

The Say phoebe was rather local in its distribution here, and confined almost entirely during the breeding season to the vicinity of the ranch houses. We noted no instance of its nesting on the ledges of the cliffs in the canyons. On May 20, 1938, a nest seen at Pine Springs Camp held half-grown young, while another nest found at the Frijole post office on June 12 held fully fledged young. Although still fairly common in early October, and noted daily then, very few of these birds remain here during the winter months, our one record in early January being that of a single bird seen at Frijole on the 6th.

Sayornis saya yukonensis Bishop[14]
Yukon Say Phoebe

1939: 1 ♀, Dry Salt Lake, 3,300 feet, May 1.

Although we recorded this race but once—the female taken near the Salt Lakes in May—further collecting might possibly show it to be a regular and not uncommon transient here.

George Willett has kindly compared this specimen with material in the Los Angeles Museum, including specimens in the Bishop collection,

[14] Bishop, *The Auk*, 18, April, 1900: 115 (type locality Glacier, White Pass, Alaska).

and confirms its identification as *S. s. yukonensis*. He states that the *short* exposed culmen (12.6 mm.) does not match any of the described races, but of the forms now recognized it is certainly nearest to *yukonensis*. While this race has not been included in the *A. O. U. Check-List*, it appears to us to be clearly recognizable. This record constitutes the first occurrence of the subspecies in Texas and, according to Dr. Louis Bishop (letter to the authors), the first specimen taken east of the Rockies.

EMPIDONAX TRAILLI BREWSTERI OBERHOLSER
LITTLE FLYCATCHER

1939: 1 ♀, junction Highways 130 and 54, 3,300 feet, June 9.

We noted no evidence of this species breeding here, so the female taken in the open desert near the Salt Lakes on June 9 can be considered a rather belated transient.

EMPIDONAX HAMMONDI (XANTUS)
HAMMOND FLYCATCHER

1938: 1 ♂, Frijole, May 19; 1 ♂, Pine Springs Canyon, 5,800 feet, October 5; 3 ♂, McKittrick Canyon, 6,000 feet, October 9.

While an occasional bird seen in Pine Springs Canyon on May 19, 1938, and two days later, the 21st, in Bear Canyon, were presumably of this race, our one definite record for the spring migration is that of the male taken in Pine Springs Canyon on May 19. In early October the Hammond flycatcher was found not only to be fairly common, but apparently the only species of this genus then present in this region, the four specimens taken being all clearly referable to *hammondi*.

EMPIDONAX OBERHOLSERI PHILLIPS
WRIGHT FLYCATCHER

1939: 1 ♂, Frijole, April 27; 2 ♂, Bear Canyon, 7,500 and 8,000 feet, May 2; 1 ♂, Pine Springs Canyon, 5,500 feet, May 3.

This species was apparently the hardiest of the western Empidonaces, and the first to arrive in the spring, for on April 27, our first day in the field on reaching Frijole, four of these birds were seen in Pine Springs Canyon. One or more were noted daily thereafter, but it was not until May 2 after several days of clear warm weather that two were found in The Bowl for the first time. None was observed in early October, so the actual status of *oberholseri* in this region in the fall is at present unknown.

We follow Phillips[15] in his revision whereby *Empidonax oberholseri*

[15] "The type of *Empidonax wrighti* Baird," The Auk, 56, 1939: 311-312.

is proposed for the Wright flycatcher to supplant *E. wrighti* Baird. In the shift, the gray flycatcher, *E. griseus* Brewster, becomes *E. wrighti* Baird.

Empidonax wrighti Baird
Gray Flycatcher

1939: 1 ♂, Pine Springs Canyon, 5,800 feet, May 1.

The male taken in Pine Springs Canyon on May 1 is our only record for the occurrence of this species here.

Empidonax difficilis hellmayri Brodkorb[16]
Western Flycatcher

1939: 1 ♀ (Texas A. and M. collection), McKittrick Canyon, 6,000 feet, June 25; 1 ♂, Frijole, May 20; 2 ♂, Frijole, June 10; 1 ♂, 1 ♀, The Bowl, 8,000 feet, June 11; 1 ♀, Bear Canyon, 7,000 feet, June 11.

We first recorded this species here on May 20, 1938, when a single bird, a transient, was collected in Pine Springs Canyon. On June 10, 1939, two pairs of these birds were noted in McKittrick Canyon, and a nest was found there that day which held three fresh eggs. The following day, June 11, and again on June 15, an occasional pair was seen in The Bowl, frequenting ravines in the thick fir woods. It is doubtful if during the summer months these birds occur below an altitude of approximately 5,500 feet, but above 7,000 feet they are apparently fairly common.

Doctor Brodkorb has kindly examined all of our Empidonaces and confirms the present identifications.

Myiochanes richardsoni richardsoni (Swainson)
Western Wood Pewee

1938: 1 ♀, The Bowl, 8,000 feet, July 11; 1 ♂ (Texas A. and M. collection), West Dog Canyon, August 2.

1939: 1 ♂, 5 miles east Guadalupe Peak, 4,500 feet, April 29; 1 ♂, The Bowl, May 2; 1 ♀, The Bowl, June 11; 1 ♂ (Texas A. and M. collection), The Bowl, June 12; 1 ♂, 3 ♀ (Texas A. and M. collection), McKittrick Canyon, 6,000 feet, June 25.

The western wood pewee was found to be a common and widely distributed bird in this region during the summer months, occurring both in the canyons and in the fir woods on the mountainsides. On our arrival at Frijole in late April the first bird was noted on the 29th in the open desert east of Guadalupe Peak. The following day two were

[16] Pierce Brodkorb, "A new flycatcher from Texas," *Occ. Papers Mus. of Zool. Univ. of Mich.*, 306, 1935: 1-3.

seen in McKittrick Canyon, and on May 2 two hardy individuals were encountered for the first time in The Bowl (8,200 feet). Apparently few linger here after the last of September, for in early October but two birds were seen, one on the 3rd and the other on the 8th, in the open woods in Pine Springs Canyon.

NUTTALLORNIS BOREALIS (SWAINSON)
OLIVE-SIDED FLYCATCHER

1938: 1 ♂, 1 ♀, The Bowl, May 18-20.
1939: 1 ♀, The Bowl, June 11; 1 ♂ (Texas A. and M. collection), The Bowl, June 14.

During the three days spent in field work in The Bowl in May, 1939, the 18th, 19th, and 21st, this species was frequently seen about open spots in the fir woods, and was considered fairly common then. The bulk of the birds encountered at this time, however, proved to be transients, for the following year only two pairs were definitely recorded as breeding here. The female taken on June 11 had the abdomen bare, and unquestionably was incubating eggs at this date. Arrival in the spring is relatively late, for although on May 2 the greater part of the day was spent in The Bowl, none of these birds was seen.

OTOCORIS ALPESTRIS ENTHYMIA OBERHOLSER
SASKATCHEWAN HORNED LARK

1939: 1 ♂, 2 ♀, 10 miles east Guadalupe Peak, January 2-7; 1 ♂, 5 miles south Guadalupe Peak, April 26.

Rather to our surprise we saw no horned larks above an altitude of approximately 4,800 feet, and at no time were these birds very common. A female representing this northern race was taken from a flock of eight birds on January 2, and a male from a flock of forty or more on January 7, each time in the open desert east of Guadalupe Peak. The male taken on April 26 near the Salt Lakes was alone at the time, and until examined critically was thought because of the late date to represent the breeding form.

Doctor Oberholser has identified the above-listed specimens as belonging to this race.

OTOCORIS ALPESTRIS LEUCOLAEMA (COUES)
DESERT HORNED LARK

1939: 2 ♂ and 1 ♀, 10 miles east Guadalupe Peak, January 2-7; 2 ♂, 10 miles east Guadalupe Peak, April 29-June 9.

Although occurring in this region throughout the year the desert horned lark was by no means a common bird, and was only encount-

ered at infrequent intervals. A flock of eight birds seen January 2 in the open desert east of Guadalupe Peak (from which a male was taken) constitutes our only record for the winter months. On June 9, while at the Salt Lakes, three males were noted in an area covered with a thin growth of grass.

TACHYCINETA THALASSINA LEPIDA MEARNS
VIOLET-GREEN SWALLOW

1938: 1 ♂ and 1 ♀, Pine Springs Camp, 5,600 feet, May 18-19.

1939: 2 ♂, 3 ♀ (four in the Texas A. and M. collection), The Bowl, 8,000 feet, June 10-15.

This species was a common bird here during the summer months, but limited in its distribution then to the upper slopes of the mountains above an altitude of approximately 7,000 feet. As far as we could ascertain the nests were invariably placed in a crevice of one of the numerous cliffs or in dead trees in The Bowl, and while an occasional bird was seen in the canyons, even feeding activities were largely confined at this season to the tops of the ridges. On April 27, our first day in the field after reaching Frijole, several birds were seen in Pine Springs Canyon and they were encountered daily thereafter in small numbers. None was observed in early October, so departure in the fall must take place before the latter part of September.

PETROCHELIDON ALBIFRONS TACHINA OBERHOLSER
LESSER CLIFF SWALLOW

1938: 1 immature ♂, Frijole, 5,600 feet, July 28.

The cliff swallow is apparently a rather uncommon transient in this region, our one record being that of a flock of ten birds seen on July 28 in an arroyo a few miles east of Frijole.

PROGNE SUBIS HESPERIA BREWSTER
WESTERN MARTIN

1939: 1 adult ♀ (Texas A. and M. collection), The Bowl, June 11 (collected by E. R. Walker).

The only record for the occurrence of this species here is that of two birds seen by Dr. W. B. Davis in The Bowl on June 11. We failed to note it in the course of our field work, but it is possible that it breeds sparingly where suitable nesting sites are available.

Doctor Van Tyne has examined this specimen and makes the following comment: "Your bird is like *hesperia* in the extent of 'frosted' area on forehead, pale and frosted appearance below, grayish collar, and

white on the belly. I have also seen one specimen of *hesperia* from Fort Davis[17] (Texas), a breeding female."

CYANOCITTA STELLERI DIADEMATA (BONAPARTE)
LONG-CRESTED JAY

1938: 3 ♂, The Bowl, May 19-21; 1 ♂ (Texas A. and M. collection), The Bowl, August 3; 1 ♂, McKittrick Canyon, 6,000 feet, October 9.

1939: 1 ♀, The Bowl, January 1; 3 adult ♂, 1 adult ♀, 1 immature ♂, 2 immature ♀ (Texas A. and M. collection), The Bowl, June 10-18.

While fairly common in the thick fir woods in The Bowl throughout the year these jays were rather quiet and inconspicuous, and were only observed at infrequent intervals. The first day spent there, May 19, 1938, but two birds were seen, causing us to consider them much scarcer than they actually proved to be. In early October and again in early January small flocks were noted, apparently family parties that were associating together until the nesting season. During the fall months an occasional bird apparently wanders to the foot of the mountains, for on October 9 several were seen in McKittrick Canyon (6,000 feet). A brood of fully fledged young observed in The Bowl on June 14 would indicate that nesting takes place after the first of May.

APHLECOMA CALIFORNICA WOODHOUSEI (BAIRD)
WOODHOUSE JAY

1938: 1 ♂, Pine Springs Canyon, 5,900 feet, May 17; 2 ♂, Pine Springs Canyon, 5,000 feet, October 3; 1 ♂, The Bowl, October 4.

1939: 1 ♂, 1 ♀, Frijole, 5,800 and 6,000 feet, January 6.

This species was rather local in its distribution here, occurring in the canyons throughout the larger part of the year. It was rarely noted above an altitude of 6,000 feet. It was most numerous in Pine Springs Canyon, where it was observed almost daily irrespective of season. An occasional bird seen in The Bowl in early October and a flock of possibly twenty-five encountered in Pine Springs Canyon on May 1 were very probably transients from farther north.

PICA PICA HUDSONIA (SABINE)
AMERICAN MAGPIE

This species is very likely of only accidental occurrence in the Guadalupe Mountains. Jean Linsdale cites[18] two specimens recorded by G. A.

[17] C. E. Hellmayr, "Catalogue of Birds of the Americas," *Field Mus. of Nat. Hist., Zool. Ser.*, 13, pt. 8, 1935: 13.

[18] "The natural history of magpies." *Pacific Coast Avifauna*, 25, 1937: 25.

McCall[19] of a "pair of these birds . . . . seen near Turkey Creek, in western Texas, early in November in the latitude 29°15′." A storm from the north had been prevailing on the plains for three days, and "had no doubt brought them with it from the upper country." Vernon Bailey mentions (MS) two killed in McKittrick Canyon in January, 1901.

Corvus corax Linnaeus
American Raven

Our few records for the occurrence of this species in this region are for October so, while it may breed sparingly, this is at present merely surmise. One bird was seen in McKittrick Canyon on October 10 and another the following day in The Bowl.

Corvus cryptoleucus Couch
White-necked Raven

It was only in the open desert about the Salt Lakes at an altitude of approximately 3,300 feet that we noted this species here. In similar country east of Guadalupe Peak, where an altitude of 4,800 feet is reached, none was seen. We were somewhat surprised to find that none of these birds remained in this region during the winter months, for we failed to record a single individual in early January. Departure in the fall was also early, for just once was the white-necked raven observed in early October, four birds being seen near the Salt Lakes on the 9th. A nest found at this spot on May 17, 1938, held seven half-incubated eggs and was eight feet from the ground in the top of a yucca.

Gymnorhinus cyanocephalus cassini (McCall)[20]
Piñon Jay

1938: 1 ♂, 19 miles east Guadalupe Peak, 4,400 feet, October 6.

We noted the piñon jay both in the fall and again in the spring, and it is possible that when conditions are suitable it may occur during the summer months. In October a single bird was seen in Pine Springs Canyon on the 3rd and on the 6th. Again on the 10th a small flock was encountered in the open desert east of Frijole Peak. The following May a noisy flock of possibly thirty of these birds was seen in Pine

[19] "Some remarks on the habits, etc., of birds met with in western Texas, ..." *Proc. Acad. Nat. Sci. Phila.*, 5, 1851: 213-224.

[20] Pierce Brodkorb, "Geographical variation in the piñon jays." *Occ. Papers Mus. Zool., Univ. Mich.*, 332, 1936, p. 2.

Springs Canyon on the 1st, and a smaller flock, equally noisy however, was observed in The Bowl the next morning.

PENTHESTES GAMBELI GAMBELI (RIDGWAY)
MOUNTAIN CHICKADEE

1938: 2 ♂; The Bowl, May 18; 1 ♂, The Bowl, October 4.
1939: 1 ♂, 1 ♀, The Bowl, January 1; 2 ♂, The Bowl, April 28; 1 ♀ (Texas A. and M. collection), The Bowl, June 11.

The mountain chickadee was a common bird in the thick fir woods at the tops of the ridges, and regardless of season, was seen daily when our field work took us up the mountainsides. Throughout the larger part of the year it was never recorded below an altitude of approximately 8,000 feet, but in the fall months a definite tendency to wander to the foot of the canyons was observed. In early October small flocks were frequently seen each day from the 3rd through the 11th in Pine Springs Canyon and Bear Canyon, and not infrequently an occasional bird was observed in the open desert east of Guadalupe Peak. This wanderlust was apparently short-lived, for the following January, with the exception of several small flocks in McKittrick Canyon (6,500 feet) on January 3, all mountain chickadees seen were again in the fir woods at the tops of the ridges.

BAEOLOPHUS INORNATUS GRISEUS (RIDGWAY)
GRAY TITMOUSE

1938: 1 ♂, 1 ♀, Pine Springs Canyon, 5,800 feet, October 5-8; 1 ♂, McKittrick Canyon, 5,800 feet, October 9; 2 ♂, 1 ♀, Nipple Hill, 5,400 feet, December 31.
1939: 1 ♀, Pine Springs Canyon, 5,800 feet, January 6.

The exact status of this species is rather puzzling. None of this genus is credited with any tendency whatsoever to migrate, and yet, while unrecorded at any time during the breeding season, we found these birds fairly common in early October and again in early January. At this time of the year they were quiet and inconspicuous and the small flocks that were seen almost daily could easily have been overlooked. They were rarely observed on the mountainsides and, although occurring regularly in both Pine Springs Canyon and McKittrick Canyon, were never noted above an altitude of approximately 5,800 feet.

Our series, as above-listed, is remarkably uniform in being grayer than most other specimens of *griseus* examined. However, as pointed out by George Willett in conversation with the writers, the museum age of titmouse specimens possibly has a great deal to do with the shade of gray demonstrated, specimens tending to turn appreciably browner

as they grow older. Particularly convincing on this point was a titmouse skin in the Los Angeles Museum collection taken by Willett in the Guadalupe Mountains in 1915 (just across the State Line in New Mexico). That skin, when compared with our present fresh series, would appear to represent an entirely different geographical race due to the browness of its color. In our opinion, however, the difference noted here is attributable to post-mortem fading.

Auriparus flaviceps ornatus (Lawrence)
Verdin

1939: 1 ♀, Junction State Highways 130 and 54, 3,900 feet, June 9.

Rather surprising, and quite unexpected to us, was the almost total absence of verdins in country that was apparently well suited to their needs. It is possible that altitude may have been the factor responsible for their extreme scarcity, for the one pair of these birds that was seen on June 9 was in the open desert near the Salt Lakes where the altitude was approximately 3,900 feet.

Psaltriparus minimus plumbeus (Baird)
Lead-colored Bush-tit

1938: 1 ♂ (Texas A. and M. collection), Pine Springs Canyon, 5,600 feet, May 10; 1 ♂, 1 ♀, Pine Springs Canyon, 5,800 feet, October 5.

1939: 1 unsexed and 1 ♂, Frijole, 6,000 feet, January 5-6; 1 ♀, Guadalupe Peak, 8,700 feet, June 13.

While characteristically a bird of the mountainsides the bush-tit was apparently unaffected by altitude and was equally common in the canyons and at the tops of the higher ridges. Except during the breeding season, flocks varying in number from nine to twelve birds were encountered almost daily during the course of our field work. The rigors of winter seemed to cause them little concern, for on January 1 a flock was noted at the head of Bear Canyon at an altitude of 8,000 feet. On June 13 eight fully fledged young of the year were seen in fir woods at the extreme top of Guadalupe Peak (8,758 feet).

Sitta carolinensis nelsoni Mearns
Rocky Mountain Nuthatch

1938: 1 ♂, 1 ♀, The Bowl, May 18; 1 ♂, The Bowl, July 11; 1 ♂, 1 unsexed (Texas A. and M. collection), The Bowl, August 3.

1939: 1 ♂, The Bowl, January 1; 1 ♂, 1 ♀ (Texas A. and M. collection), The Bowl, June 11-12.

We found the white-breasted nuthatch a rather common bird in The Bowl, seeing it at rather frequent intervals each day that was spent

there. In one respect it was unlike the other species with which it associated, for even during the winter months it was rarely observed at a lower altitude. Our one record for the foot of the mountains is that of two birds seen January 3 in McKittrick Canyon.

The above-listed specimens measure (in mm.) as follows: males, wing, 89.5, 91.2, 90.8, 94.0; exposed culmen, 18.6, 20.2, 17.2, 17.2; females, wing, 91.0, 88.0; exposed culmen, 18.9, 17.4.

Sitta canadensis Linnaeus
Red-breasted Nuthatch

This species proved to be extremely scarce here and was noted but once. One bird was seen by Burleigh on October 4 in the fir woods in The Bowl.

Sitta pygmaea melanotis van Rossem
Black-eared Nuthatch

1938: 1 ♂, The Bowl, May 18; 1 ♂, The Bowl, July 11; 2 ♂ (Texas A. and M. collection), The Bowl, August 3-7; 1 ♀, The Bowl, October 4.
1939: 1 ♀, The Bowl, January 1; 1 ♀ (Texas A. and M. collection), The Bowl, June 12.

This was another species that was limited in its distribution to the fir woods at the tops of the ridges, rarely venturing below an altitude of approximately 8,000 feet. It was especially numerous in The Bowl and was frequently seen there on each occasion that this area was visited. During the late fall and winter months these small nuthatches were invariably noted in flocks, one such flock encountered in The Bowl on January 5 containing twenty individuals. Only once was this species found at the foot of the mountains, several being seen in McKittrick Canyon on October 9.

Certhia familiaris montana Ridgway
Rocky Mountain Creeper

1938: 1 ♀, The Bowl, May 19; 1 ♀, The Bowl, October 11.
1939: 2 ♀, The Bowl, January 5; 1 ♂, 1 ♀, The Bowl, April 28; 1 ♂, 1 immature ♀, The Bowl, June 14-15.

While never a very common bird, the brown creeper occurred throughout the year in the fir woods at the tops of the ridges and was usually observed at infrequent intervals each day that was spent in The Bowl. A female taken there on May 19, 1938, had a well defined brood patch; she was unquestionably incubating eggs on this date. At this same spot the following year, on June 15, a pair of these birds was seen with five fully fledged young that had been out of the nest for

some time. Four birds were noted during the course of a morning spent in The Bowl on January 5.

Troglodytes domesticus parkmani Audubon
Western House Wren

1938: 3 ♂, The Bowl, May 18-21 and August 2.

1939: 1 ♂, 1 ♀, Bear Canyon, 7,500 and 8,000 feet, May 2; 2 ♂, The Bowl, June 14.

Although a common bird in the fir woods at the tops of the ridges during the summer months, the western house wren was never noted below an altitude of 7,800 feet. Even in migration it shunned the foot of the mountains and, while looked for in early May in the canyons, it was never observed there. On our first visit to The Bowl, on May 18, 1938, it was much in evidence in the more open woods, and an occasional bird was seen that day carrying nesting material. Arrival in the spring is relatively late, for although looked for throughout the day, none was found in The Bowl on April 28 and it was not until May 2, 1939, after two days of clear warm weather, that several were seen there. Departure in the fall apparently occurs in September, for none of these birds were noted in early October.

Troglodytes domesticus baldwini Oberholser
Ohio House Wren

1938: 1 ♂, lower end of McKittrick Canyon, about 5,600 feet, October 10.

The only house wren seen here in early October was the one bird that was taken in McKittrick Canyon on October 10, and it proved to be typical of this eastern race. Its occurrence in this region extends materially the range of this recently described subspecies.

Thryomanes bewicki eremophilus Oberholser
Baird Wren

1938: 1 ♀, Pine Springs Canyon, 5,600 feet, July 29; 1 ♂, Pine Springs Canyon, 5,800 feet, October 5; 1 ♂, McKittrick Canyon, 5,800 feet, October 9.

1939: 1 ♂, 15 miles east Guadalupe Peak, about 4,200 feet, January 2; 2 ♂, Pine Springs Canyon, 6,000 feet, April 28-June 12.

It was in the open desert at an altitude of approximately 5,600 feet that we found these wrens fairly common throughout the greater part of the year. Below 5,000 feet only an occasional pair was noted, while in the canyons they were equally scarce above 6,000 feet. A singing male seen in Bear Canyon on May 20, 1938, at an altitude of 7,000 feet was the highest point we recorded this species on the mountain-

sides. Relatively few winter here, for only at infrequent intervals was a bird seen in early January.

Heleodytes brunneicapillus couesi (Sharp)
Northern Cactus Wren

1938: 1 ♀ (Texas A. and M. collection), 2 miles southwest Frijole, May 13; 1 ♀, Pine Springs Canyon, 5,800 feet, October 5.
1939: 1 ♂, Frijole, 6,000 feet, January 6.

We found the cactus wren fairly common here and of general distribution below an altitude of 5,000 feet. Several pairs were found nesting in Pine Springs Canyon at an altitude of 5,600 feet, but this marked the highest limits this species apparently reaches. In early January these wrens were frequently seen in the open desert east of Guadalupe Peak (4,800 feet), but could not be found then in Pine Springs Canyon or about Frijole. The female taken in Pine Springs Canyon on October 5 was in partial moult and in extremely worn plumage.

Catherpes mexicanus albifrons (Giraud)
White-throated Canyon Wren

1938: 1 ♂, Pine Springs Canyon, about 7,000 feet, May 19; 1 ♀, Bear Canyon, about 7,000 feet, May 21; 1 ♂, Bear Canyon, about 7,500 feet, October 4; 1 ♀, McKittrick Canyon, 6,000 feet, October 10.
1939: 1 ♂, 2 ♀, Pine Springs Canyon, 7,000-8,000 feet, January 3-5; 1 ♂ (Texas A. and M. collection), McKittrick Canyon, about 7,500 feet, July 4.

The canyon wren was a bird of the higher mountain slopes and, while common throughout the year about the numerous cliffs above an altitude of 6,500 feet, was never known to venture to the foot of the mountains. A single bird was, however, seen on January 3 feeding among the boulders at the side of the stream well up McKittrick Canyon, the altitude there being approximately 6,000 feet. The thick fir woods in The Bowl offered few inducements for such a bird as this and it was noted there but once, one bird being seen January 5 feeding at the edge of a dry stream bed. A nest found in Bear Canyon on May 19, 1938, in a pocket of a cliff at the side of the trail (6,500 feet) apparently held eggs, but as it could not be reached we were unable to verify this assumption.

After examining several large series of canyon wrens, with which the above-listed specimens were compared, we follow Grinnell and W. H. Behle[21] in recognizing only two subspecies within the boundaries of

[21] "Comments upon the subspecies of *Catherpes mexicanus*," *The Condor*, 37, 1935: 247-251.

the United States: namely, *C. m. conspersus* Ridgway and *C. m. albifrons* (Giraud). Our specimens measure (in mm.) as follows: male, wing, 61.8, 64.0, 61.2, 61.9; tail, 50.0, 56.5, 50.0, 53.0; female, wing, 57.7, 60.1, 60.0, 59.0; tail, 50.0, 49.5, 51.0, 50.0. While averaging slightly smaller than *albifrons*, they agree closely in color and are thus referred to that form. In view of the geographical position of the Guadalupe Mountains birds from that area might be expected to tend toward *conspersus*, but there seems to be no ground for giving them subspecific distinction.

Salpinctes obsoletus obsoletus (Say)

Common Rock Wren

1939: 1 ♂, Pine Springs Canyon, 5,700 feet, January 4; 1 ♂ (Texas A. and M. collection), Bear Canyon, June 21.

This species was found to be fairly common and well distributed in the open desert east of Guadalupe Peak, scattered pairs occurring about the dry stream beds and in the arroyos. Only an occasional bird was seen in the canyons above an altitude of 5,600 feet, but that the rock wren possibly nests sparingly to the tops of the ridges was suggested by seeing a bird at the head of Bear Canyon (8,000 feet) on May 2, 1939. Fewer birds were observed in early January, but, being quiet, they were inconspicuous and easily overlooked.

Mimus polyglottos leucopterus (Vigors)

Western Mockingbird

1939: 1 ♂, Pine Springs Camp, 5,600 feet, April 27.

This familiar bird was common throughout the larger part of the year in the open desert at the foot of the ridges and was noted in the canyons to an altitude of 5,800 feet. The winters are relatively mild here. Despite this fact the bulk of these birds went farther south in early October, and it was not until the following April that we found them present in any numbers again. Although in the field daily from December 31 through January 7, the only mockingbirds seen then were two about Pine Springs Camp.

Toxostoma curvirostre curvirostre (Swainson)

Curved-billed Thrasher

1938: 1 ♂ (Texas A. and M. collection), Pine Springs Canyon, 5,600 feet, May 13.

1939: 1 ♀, 5 miles east Guadalupe Peak, 4,500 feet, April 29.

The status of this species was much like that of the mockingbird. It was common and well distributed in the open desert at the foot of the

ridges throughout the summer months and nested in small numbers in the canyons to an altitude of 5,600 feet. It was still fairly common in early October, but none was seen the following January, and on our return to this region in late April it was still scarce, only an occasional pair of these birds being noted then.

Toxostoma dorsale dorsale Henry
Crissal Thrasher

1938: 1 ♂, Pine Springs Canyon, 5,600 feet, July 29; 1 ♀, Pine Springs Canyon, 5,500 feet, December 31.

The crissal thrasher was not a common bird about Frijole, occurring in limited numbers in the open desert at the foot of the ridges to an altitude of 5,600 feet. It seemed unaffected by the inclement weather of the winter months, for in early January it was observed as frequently as in the breeding season.

Oreoscoptes montanus (Townsend)
Sage Thrasher

1938: 1 ♂, lower end of McKittrick Canyon, 5,600 feet, October 10.

It was only in early October that we observed this species about Frijole, but it doubtless occurs here as a spring transient. It was especially numerous in the open desert east of Guadalupe Peak on October 6 and at the lower end of McKittrick Canyon three days later, on October 9, when small flocks were frequently encountered.

Turdus migratorius propinquus Ridgway
Western Robin

1938: 1 ♂, Frijole, May 21; 1 ♀, Frijole, October 7.

1939: 1 ♂, 1 ♀, Frijole, January 6; 1 ♂, Frijole, June 12.

Although an occasional pair of these birds was found nesting in the canyons at an altitude of approximately 6,000 feet, it was only in the thick fir woods at the tops of the ridges that many were observed during the breeding season. In The Bowl they were fairly common and well distributed, but throughout the larger part of the day were so quiet and inconspicuous that they were easily overlooked. They are probably absent from The Bowl for only a short interval in the winter, for while none was noted there in early January, they were not uncommon the preceeding October, and present in normal numbers the following April. Our one record for the winter months is that of a flock of five

birds seen about the pond at the Frijole post office on December 31 and throughout the remainder of our stay here.

Hylocichla guttata polionota Grinnell
Mono Hermit Thrush

1938: 1 ♂, Frijole, May 19; 2 ♂, The Bowl, October 4-8.

The fact that three of the small series of hermit thrushes taken represented this race and that it occurred both in the spring and in the fall would indicate that it is a regular and not uncommon transient in this region.

Hylocichla guttata oromela Oberholser
Cascade Hermit Thrush

1938: 1 ♂, The Bowl, October 8; 1 ♂, 1 ♀, Pine Springs Canyon, 5,800 feet, October 5-8; 1 ♂, McKittrick Canyon, 5,800 feet, October 9.

1939: 1 ♂, Frijole, 5,800 feet, January 6; 1 ♂, Bear Canyon, April 27.

On the basis of actual specimens taken this would appear to be the commonest of the various races of the hermit thrush occurring as transients about Frijole.

Hylocichla guttata vaccina Cummings
Vancouver Hermit Thrush

1938: 1 ♂, The Bowl, 8,000 feet, October 4.

1939: 1 ♂, Bear Canyon, 6,000 feet, January 5; 1 ♂, Frijole, 5,600 feet, May 4.

This recently described race was likewise not uncommon here, but as with the other hermit thrushes, was but of casual occurrence during the winter months.

Hylocichla guttata auduboni (Baird)
Audubon Hermit Thrush

1938: 1 ♂, The Bowl, 8,000 feet, July 11.

1939: 1 ♂, The Bowl, May 2; 2 ♀, The Bowl, June 14-15.

This Rocky Mountain race of the hermit thrush was found to be fairly common during the summer months in the fir woods at the tops of the ridges, but was never noted then below an altitude of 8,000 feet. It was fairly common in The Bowl, scattered pairs occurring in the ravines in the thick fir woods. The females taken there June 14 and 15 had well defined brood patches and apparently were incubating eggs on this date. Oddly enough, no specimens of this breeding form were taken either in the spring or in the fall.

Doctor Oberholser has kindly made the subspecific determinations on our hermit thrushes.

SIALIA MEXICANA BAIRDI RIDGWAY
CHESTNUT-BACKED BLUEBIRD

1938: 1 ♂, The Bowl, May 19.

1939: 2 ♂, Frijole, 5,600 feet, January 4; 2 ♂ (Texas A. and M. collection), The Bowl, June 12.

In May, 1938, and again the following June, we found a single pair of these birds nesting at the edge of a clearing in The Bowl, but they are apparently rather local in their distribution here and far from common. Only during the winter months were they seen at the foot of the ridges, small flocks being noted about Frijole (5,600 feet) on December 31 and again a few days later on January 4 and 6.

SIALIA CURRUCOIDES (BECHSTEIN)
MOUNTAIN BLUEBIRD

1939: 1 ♂, 10 miles east Guadalupe Peak, 4,500 feet, January 2.

We noted this species only in early January, and then in rather limited numbers. A flock of twelve birds was seen January 2 in the open desert east of Guadalupe Peak, and a flock of eight in Pine Springs Canyon on January 5.

MYADESTES TOWNSENDI (AUDUBON)
TOWNSEND SOLITAIRE

1938: 2 ♀, Pine Springs Canyon, 5,800 feet, October 3-5; 1 ♂, The Bowl, 8,000 feet, May 21; 1 ♂, Pine Springs Canyon, 5,600 feet, December 31.

1939: 1 ♂, The Bowl, 8,000 feet, April 28.

We first noted this species on May 21, 1938, a single bird being seen in the thick fir woods in The Bowl. The following October it was fairly common in both Pine Springs Canyon and Bear Canyon and was seen daily in small numbers from the 3rd through the 11th. None was noted at this time, however, in the fir woods at the tops of the ridges. On our return to Frijole in early January it was of interest to find practically no change in the numbers of these birds encountered in the canyons, where they were frequently seen each day to an altitude of approximately 6,000 feet. Departure in the spring is apparently relatively early, for in 1939 our only records are for The Bowl—a flock of six birds being noted on April 28 and two birds on May 2.

Polioptila caerulea amoenissima Grinnell
Western Gnatcatcher

1938: 1 ♂ (Texas A. and M. collection), 2 miles southwest Frijole, May 10; 1 ♂, Frijole, 5,600 feet, May 17.

1939: 1 ♂, McKittrick Canyon, 5,800 feet, June 10; 1 ♂ (Texas A. and M. collection), Bear Canyon, June 21.

The western blue-gray gnatcatcher was a fairly common bird during the summer months in Pine Springs Canyon, Bear Canyon, and McKittrick Canyon; but it was not noted in the open desert at any distance from the foot of the mountains. Altitudinal limits appear to be between 5,400 and 5,800 feet. The majority of the birds apparently arrive about the first of May, for while several were seen in McKittrick Canyon on April 30, it was May 1 before two were observed for the first time in Pine Springs Canyon. Departure in the fall must occur in September, for this species was not recorded at Frijole in early October.

Polioptila melanura melanura Lawrence
Plumbeous Gnatcatcher

1938: 1 ♂, 5 miles east Guadalupe Peak, October 11.

1939: 1 ♀, near Dry Salt Lake, 3,300 feet, January 7.

Although this species may breed sparingly in the open desert east of Guadalupe Peak, we recorded it only as a casual winter visitant and noted it at no time above an altitude of 4,800 feet. Two birds were seen five miles east of the Peak on October 10 and a male was collected at this same spot the following day, while on January 7 a single bird, a female, was taken in the open desert near the Salt Lakes.

Regulus satrapa apache Jenks[22]
Arizona Golden-crowned Kinglet

1939: 2 ♀, McKittrick Canyon, 6,000 feet, January 3; 1 ♂, The Bowl, 8,000 feet, January 5.

Despite our few records for the occurrence of the golden-crowned kinglet here, it is probably not uncommon during the winter months in the fir woods at the tops of the ridges. Possibly because of the early date it was noted but once in October, two birds being seen on the 4th in The Bowl. The following January two birds, both females, were noted on the 3rd in McKittrick Canyon, and three birds, at least one of them a male, were found on the 5th feeding with mountain chickadees in The Bowl.

[22] *The Condor,* 38, Nov., 1936: 239.

These specimens, identified by Oberholser, measure (in mm.) as follows: male, wing, 57.9; tail, 41.0; exposed culmen, 8.0; tarsus, 17.0. Females, wing, 56.0, 56.0; tail, 40.0, 42.0; exposed culmen, 7.7, 8.0; tarsus, 18.7, 18.0.

Regulus calendula calendula (Linnaeus)
Eastern Ruby-crowned Kinglet

1938: 1 ♂, McKittrick Canyon, 6,000 feet, October 10.

The male taken in McKittrick Canyon on October 10 constitutes our only record for the occurrence of this eastern race here.

Regulus calendula cineraceus Grinnell
Western Ruby-crowned Kinglet

1938: 1 ♂, 2 ♀, The Bowl, 8,000 feet, October 4-7.
1939: 1 ♂, McKittrick Canyon, 6,000 feet, January 3; 1 ♂, Bear Canyon, 6,000 feet, January 6; 2 ♀, Frijole, 5,600 and 5,800 feet, May 1-4.

The ruby-crowned kinglet was a fairly common transient about Frijole and of at least casual occurrence during the winter months. On the basis of actual specimens taken the western race was the predominating form, but further collecting is necessary before any definite conclusions can be reached. In early October one or more birds were observed daily and they were found then not only in the canyons but in the thick fir woods on the higher ridges. On October 4, and again on the 7th, they were seen at frequent intervals during the course of mornings spent in The Bowl. The following January they were noted only in the canyons and apparently did not venture at this time of the year above an altitude of 6,000 feet. Three birds were seen in McKittrick Canyon on January 3, but in Pine Springs Canyon and Bear Canyon only single birds were encountered at infrequent intervals. Departure in the spring is relatively early, for our only records in May, 1939, are those of two females seen in Pine Springs Canyon, May 1 and 4, respectively.

Anthus spinoletta pacificus Todd
Western Pipit

1939: 1 ♂, lower approach to McKittrick Canyon, 5,500 feet, January 3; 1 ♀, 15 miles east of Guadalupe Peak, 4,800 feet, January 2; 1 ♂, 1 ♀, Guadalupe Canyon, 4,500 feet, May 3.

Pipits proved to be of but casual occurrence in this region, and while occurring throughout the winter months, were observed only at rather infrequent intervals. Specimens were taken each time these birds were encountered, so dates of occurrence are listed above.

ANTHUS SPINOLETTA ALTICOLA[23] TODD
ROCKY MOUNTAIN PIPIT

1938: 1 ♀, 15 miles east of Guadalupe Peak, 4,000 feet, October 6.
1939: 1 ♂, Frijole, 5,500 feet, April 26.

Our one record for this recently described race is that of two birds seen April 26 feeding at the edge of the pond near the Frijole post office.

W. E. Clyde Todd has generously made the subspecific determinations with regards to our pipits from the Guadalupe Mountains.

BOMBYCILLA CEDRORUM VIEILLOT
CEDAR WAXWING

1938: 1 ♀, Pine Springs Canyon, 5,800 feet, October 11.

A flock of eight birds seen October 11 in Pine Springs Canyon constituted our only record for this species here.

LANIUS LUDOVICIANUS SONORIENSIS A. H. MILLER
SONORAN SHRIKE

1938: 1 ♂, Dry Salt Flat, 3,300 feet, October 5.
1939: 2 ♂, 10 miles east Guadalupe Peak, 4,500 feet, January 2-June 9.

Shrikes were not uncommon throughout the year in the open desert east of Guadalupe Peak and about the Salt Lakes, but were never noted above an altitude of 4,800 feet. On the basis of specimens taken in early June this is the breeding form in this region.

LANIUS LUDOVICIANUS EXCUBITORIDES SWAINSON
WHITE-RUMPED SHRIKE

1939: 1 ♂, 10 miles east Guadalupe Peak, 4,500 feet, January 3.

Although but a single specimen taken was found to represent this race, it is possibly of more than casual occurrence here during the winter months.

Dr. A. H. Miller has seen our shrikes and identified them as here indicated.

VIREO HUTTONI STEPHENSI BREWSTER
STEPHENS VIREO

1938: 1 ♀, Pine Springs Canyon, 5,800 feet, October 8.

The female taken in Pine Springs Canyon on October 8 is our only record for the occurrence of this vireo here.

[23] W. E. Clyde Todd, "Geographical variation in the American pipits," *Proc. Biol. Soc. Wash.*, 48, 1935: 63-65.

Vireo vicinior Coues
Gray Vireo

1938: 2 ♂ (Texas A. and M. collection), Pine Springs Canyon, 5,600 feet, May 10-13; 1 ♂, Pine Springs Canyon, 5,600 feet, May 18; 2 ♂, Pine Springs Canyon, 5,600 feet, July 12.

1939: 1 ♂, Pine Springs Canyon, 5,500 feet, April 30.

The gray vireo was characteristically a bird of the lower canyons, and while this limited its distribution in this region, it was locally fairly common during the summer months. The first individual, a male, was seen on May 18, 1938, in Pine Springs Canyon, but its relative abundance was not suspected until the following July, when, on the 28th and the 29th, Lowery recorded eight of these birds about Pine Springs Camp. Departure in the fall is apparently in September, for in early October, although watched for daily, none was noted in the course of nine days field work. On April 30 two singing males were seen in McKittrick Canyon, and each day thereafter until our departure on May 5 an occasional bird was encountered in Pine Springs Canyon and Bear Canyon.

The above-listed specimens constitute only the second record of the occurrence of this species in Texas, the first being made by Van Tyne and Sutton.[24] The fact that we have established it as a nesting bird extends the known breeding range materially beyond that cited in the 4th edition of the *A. O. U. Check-List.*

Vireo solitarius plumbeus Coues
Plumbeous Vireo

1938: 3 ♂, 2 ♀, The Bowl, 8,000 feet, May 17-18.

1939: 2 ♂, Bear Canyon, 6,000 and 8,000 feet, April 28; 2 ♂ (Texas A. and M. collection), The Bowl, June 12-13; 1 ♀ (Texas A. and M. collection), McKittrick Canyon, 6,000 feet, June 25.

This was one of the few species occurring here during the summer months that nested both in the canyons and in the fir woods on the higher ridges. On May 17, 1938, we noted two pairs of these birds in Pine Springs Canyon, and the following day found them common in The Bowl. Subsequent field work verified the fact that in each case they were breeding birds, so altitudinal limits would appear to range from 5,600 feet to approximately 8,200 feet. Departure in the fall is rather early, this species not being recorded here in early October. It was of interest to find this vireo one of the earliest transients to arrive in The

[24] *Loc. cit.*, p. 81.

Bowl in the spring. On April 28 it was already fairly plentiful at this spot and males were heard singing throughout the day. Two days later, on April 30, it was found to be equally numerous in McKittrick Canyon. In June it was recorded as breeding commonly there.

Our specimens of the plumbeous vireo were found to differ somewhat from specimens examined from northern and central Arizona. The length of the exposed culmen averages slightly shorter and the gray of the head, cheeks and upper parts averages somewhat darker. We suspect that a large degree of the color difference might be due to the museum age of the Arizona material which was at our disposal. Through the kindness of Dr. Alexander Wetmore and Dr. Herbert Friendmann, we were permitted to make a first-hand examination of Coues' type of *Vireo s. plumbeus*. Collected nearly eighty years ago at Fort Whipple, Arizona, it has doubtless suffered some degree of post-mortem fading. Moreover, the sheath of the bill has been wholly removed (the exposed culmen now measures only 7.5 mm.).

Vireo solitarius cassini Xantus
Cassin Vireo

1938: 3 ♂, Pine Springs Canyon, 5,800 feet, October 8; 1 ♀, lower end of McKittrick Canyon, 5,600 feet, October 10.
1939: 1 ♀, Pine Springs Canyon, 5,600 feet, April 29.

In the fall we noted this vireo but twice, the male taken in Pine Springs Canyon on October 8 and the female taken in McKittrick Canyon on October 10. It was equally scarce in the spring, our only record being that of a female taken in Pine Springs Canyon on April 29.

Vireo gilvus swainsoni Baird
Western Warbling Vireo

1938: 1 ♀, The Bowl, 8,000 feet, July 11.
1939: 1 ♂, Frijole, 5,500 feet, April 30; 1 ♂, The Bowl, 8,000 feet, June 11.

This vireo was a fairly common breeding bird in McKittrick Canyon, where scattered pairs occurred during the summer months above an altitude of 6,000 feet. It was never seen in the other canyons, however, and was otherwise limited in its distribution to the fir woods on the higher ridges. It was one of the characteristic summer birds of The Bowl, and could be found then about many of the clearings and openings in the thick fir woods. It is apparently early May before many of these birds appear in the spring, for while one was seen in The Bowl on April 28, it was several days later, on May 2, 1939, before they were fairly common there and singing for the first time. In McKittrick

Canyon on April 30 an occasional bird was noted and several were heard singing that day.

VERMIVORA CELATA CELATA (SAY)
ORANGE-CROWNED WARBLER

1938: 1 ♂, 1 ♀, Pine Springs Canyon, 5,800 feet, October 5-8.
1939: 1 ♀, Frijole, 5,500 feet, April 30.

On the basis of actual specimens taken this eastern race is a rather uncommon transient about Frijole, for the specimens listed above constitute our only records for this region.

It is interesting to note that Van Tyne and Sutton[25] found the orange-crowned warbler an uncommon bird throughout the Big Bend country, observing only three individuals throughout the period of their study. All were collected and proved to be of the eastern race, *celata.* In the Guadalupe Mountains we found the species very common. However, with the exception of the three individuals listed above, all proved referable to the Rocky Mountain race, *orestra.*

VERMIVORA CELATA ORESTRA[26] OBERHOLSER
ROCKY MOUNTAIN ORANGE-CROWNED WARBLER

1938: 4 ♂, The Bowl, 8,000 feet, May 18; 1 juvenile ♂, The Bowl, July 11; 1 ♂, Pine Springs Canyon, 5,500 feet, October 11.
1939: 1 ♂, The Bowl, May 2; 5 ♂ (four in the Texas A. and M. collection), The Bowl, June 11-14.

During the summer months this western race of the orange-crowned warbler is limited in its distribution to the fir woods on the higher ridges, but is fairly common then above an altitude of 8,000 feet. It is one of the characteristic birds of The Bowl, scattered pairs being found in early June in the more open woods where there was an undergrowth of deciduous hardwoods. Arrival in the spring is apparently in early May, for while a single male was noted in The Bowl on April 28, it was not until May 2 that these birds were noted in any numbers and that the males were heard singing for the first time. In common with so many of the breeding birds of these high altitudes, departure in the fall must occur in September, for our only record in October is that of the male taken in Pine Springs Canyon (5,500 feet) on the 11th.

While not included in the 4th Edition of the *A. O. U. Check-List,*[27]

[25] *Ibid.,* p. 83.
[26] "The forms of *Vermivora celata* Say," *The Auk,* 22, 1905: 243-244.
[27] *Op. cit.*

V. c. orestra appears to be a very well-defined race, particularly as evidenced by our excellent series from the Guadalupe Mountains. It is appreciably larger than *celata* and more extensively yellowish both above and below. H. S. Swarth[28] and Charles E. Hellmayr[29] have heretofore confirmed its subspecific validity.

VERMIVORA RUFICAPILLA RUFICAPILLA (WILSON)
NASHVILLE WARBLER

1939: 2 ♀, Frijole, 5,500 and 5,800 feet, April 30 and May 1.

We did not note this species in the fall and recorded it but twice in the spring, as listed above. It apparently is an uncommon transient in this region.

VERMIVORA VIRGINIAE (BAIRD)
VIRGINIA WARBLER

1939: 1 ♂, McKittrick Canyon, 5,800 feet, April 30; 1 ♂, McKittrick Canyon, 5,800 feet, May 3.

This species would appear to be a regular and not uncommon spring transient here, being noted in 1939 as follows: two birds in Pine Springs Canyon April 29, two in McKittrick Canyon April 30, one in the Bowl May 2, one in McKittrick Canyon May 3, and one in Pine Springs Canyon May 4. It was not observed in October, but may possibly have been present earlier in the fall.

DENDROICA AESTIVA MORCOMI (COALE)
ROCKY MOUNTAIN YELLOW WARBLER

1939: 1 ♂, Frijole, 5,500 feet, April 30.

Our only record is that of the male taken April 30 about a small stream in an arroyo six miles east of Frijole.

DENDROICA AESTIVA SONORANA BREWSTER
SONORA YELLOW WARBLER

1939: 1 ♂, Frijole, 5,500 feet, April 30.

We likewise noted this race but once, the male taken April 30 being at the same spot in the arroyo six miles east of Frijole.

DENDROICA AUDUBONI AUDUBONI (TOWNSEND)
AUDUBON WARBLER

1939: 1 ♂, 1 ♀, Bear Canyon, 5,800 and 6,000 feet, May 1.

Although the specimens listed above are our only records for this

[28] "Systematic status of some northwestern birds," *The Condor,* 37, No. 4, 1935: .

[29] "Catalogue of Birds of the Americas," *Field Mus. Nat. Hist., Zool. Series,* 13, pt. 8, 1935: 340-341.

region, this race, the Audubon warbler, is possibly a regular and not uncommon transient both in the spring and in the fall.

These measure (in mm.) as follows: male, wing, 75.4; female, wing, 69.0.

DENDROICA AUDUBONI MEMORABILIS OBERHOLSER[30]

ROCKY MOUNTAIN AUDUBON WARBLER

1938: 2 adult ♂, 2 adult ♀, The Bowl, 8,000 feet, May 18-21; 1 adult ♀, 1 juvenile ♀, The Bowl, July 11; 1 adult ♀, The Bowl, October 7.

1939: 2 adult ♂, Bear Canyon, 5,600 and 8,000 feet, April 27-28; 1 adult ♂, Frijole, 5,800 feet, May 1; 2 ♂, 1 ♀, The Bowl, June 11; 1 ♂, 2 ♀ (Texas A. and M. collection), The Bowl, June 12-18.

This handsome warbler was another of the characteristic breeding birds of the fir woods on the higher ridges. It was noted at the very top of Guadalupe Peak (8,752 feet) on June 13 and was common then in The Bowl, scattered pairs being seen the following two days about open spots in the thick fir woods. We have no evidence that it nests below an altitude of approximately 8,000 feet, for it was only in the spring months that it was recorded in the canyons. In the fall it apparently does not depart before the middle of October, being frequently seen each day both in the canyons and in the fir woods at the tops of the ridges. Arrival in the spring is likewise relatively early, for on April 28 three males, each singing, were observed in The Bowl and on May 2 these birds were already fairly common there.

While not included in the 4th Edition of the *A. O. U. Check-List*,[31] *D. a. memorabilis* appears distinct enough to merit recognition. Our series averages darker on the breast than *auduboni* and, in addition, the wing is appreciably longer. The above-listed specimens measure (in mm.) as follows: male, wing, 78.4, 81.9, 82.0, 78.0, 79.0, 80.0, 82.3; female, wing, 72.0, 74.5, 74.3, 77.6, 80.6, 74.7.

DENDROICA NIGRESCENS (TOWNSEND)

BLACK-THROATED GRAY WARBLER

1938: 1 ♂, Pine Springs Canyon, 5,800 feet, October 8.

Our only record for this species is that of the male taken in Pine Springs Canyon (6,000 feet) on October 8, 1938.

Oberholser[32] has revived the old name *D. n. helseii* Giraud for the breeding bird of Arizona. It is said to be larger and with a greater

[30] "A revision of the races of *Dendroica auduboni*," *Ohio Journ. of Sci.*, 21, 1921: 243.

[31] *Op. cit.*

[32] H. C. Oberholser, *Sci. Pub. Cleveland Mus. Nat. Hist.*, 1, 1930: 101.

extent of white on the second and third rectrices viewed from the outside. Oberholser has seen the above-listed specimen and referred it to *helseii*. The wing of this specimen measures (in mm.) 63.4.

DENDROICA TOWNSENDI (TOWNSEND)
TOWNSEND WARBLER

1938: 2 ♂, 1 ♀, Bear Canyon, 7,000 feet, October 7-11; 1 ♂, 1 ♀, Pine Springs Canyon, 6,000 feet, October 8-11.

We found the Townsend warbler a not uncommon transient here in early October, for in 1938 small flocks were seen in Bear Canyon (7,000 feet) on the 7th, in Pine Springs Canyon (6,000 feet) on the 8th, and again in Pine Springs Canyon on the 11th. It was not noted in the spring.

DENDROICA GRACIAE GRACIAE BAIRD
GRACE WARBLER

1938: 3 ♂, The Bowl, May 18-21; 1 ♀ (Texas A. and M. collection), The Bowl, August 4.

1939: 1 ♂, The Bowl, 8,000 feet, April 28; 1 ♂, 1 ♀, The Bowl, May 2; 1 ♂, Pine Springs Canyon, 5,500 feet, May 3; 1 ♂, 1 ♀, McKittrick Canyon, 5,800 feet, June 10; 2 ♂ (one in the Texas A. and M. collection), The Bowl, June 11-14.

The Grace warbler was found to be a fairly common summer resident in The Bowl and was noted in small numbers in McKittrick Canyon at an altitude of 6,000 feet. While it was not infrequently observed feeding in the upper branches of the larger firs, its distribution was apparently limited to open spots in the fir woods where the larger pines occurred. But in such spots as this singing males were frequently encountered. It is early May before many of these birds arrive in the spring, for on April 28 but a single male, quiet and inconspicuous, was seen in The Bowl. However, four days later a perceptible increase was noted, males being frequently seen that day. In McKittrick Canyon none was recorded until May 3, when a singing male was observed in the upper branches of a tall pine. Departure in the fall must occur before the latter part of September, for this species was not recorded in early October.

OPORORNIS TOLMIEI (TOWNSEND)
MACGILLIVRAY WARBLER

1938: 1 ♀ (Texas A. and M. collection), Pine Springs Canyon, 5,600 feet, May 13; 1 ♂ and 1 ♀, Frijole, May 17-20.

1939: 3 ♂, Frijole, 5,600 and 5,800 feet, April 27-May 1.

This species was first noted on May 17 and 20, when an occasional

bird was seen in Pine Springs Canyon at an altitude of 5,600 feet. The following year it was again observed in small numbers, males being noted in Pine Springs Canyon on April 30. We have no record for the fall migration.

GEOTHLYPIS TRICHAS CHRYSEOLA VAN ROSSEM
SONORAN YELLOW-THROAT

1939: 1 ♂, 10 miles east Guadalupe Peak, 4,500 feet, April 29.

The male taken on April 29 in an arroyo in the open desert east of Guadalupe Peak is our only record for the occurrence of this species here.

WILSONIA PUSILLA PUSILLA (WILSON)
WILSON WARBLER

1938: 1 ♀, Pine Springs Canyon, 7,000 feet, May 18.

Our one record for this eastern race is the female taken in Pine Springs Canyon on May 18.

WILSONIA PUSILLA PILEOLATA (PALLAS)
NORTHERN PILEOLATED WARBLER

1938: 1 ♀, Pine Springs Canyon, 5,600 feet, May 20; 1 ♂, 5 miles east Guadalupe Peak, 4,500 feet, October 10.

1939: 1 ♂, 3 ♀, Frijole, 5,600-5,800 feet, May 1-4.

This was one of the commonest of the warblers found about Frijole in migration, occurring then both in the open desert and in the canyons to an altitude of 7,000 feet. In 1938 it was seen daily from the 18th through the 21st of May, and the following October was observed at intervals from the 8th through the 11th. In 1939 a male was seen near the Salt Lakes on April 26, and daily thereafter through May 4 an occasional bird was noted in the canyons to an altitude of 5,800 feet.

PASSER DOMESTICUS DOMESTICUS (LINNAEUS)
ENGLISH SPARROW

1939: 1 adult ♂, Pine Springs Camp, 5,600 feet, January 6.

At the Frijole post office and about Pine Springs Camp the English sparrow was noted in small numbers throughout the year.

STURNELLA MAGNA LILIANAE OBERHOLSER
LILIAN MEADOWLARK

1939: 1 ♂, 5 miles east Guadalupe Peak, 4,500 feet, April 29.

It was only in the open desert east of Guadalupe Peak at an altitude of 4,800 feet that meadowlarks occurred rather sparingly during the

summer months. On the basis of the one male taken there on April 29 this race would appear to represent the breeding birds of this region.

STURNELLA NEGLECTA AUDUBON
WESTERN MEADOWLARK

1938: 1 ♀, 10 miles east Guadalupe Peak, 4,000 feet, October 6.
1939: 1 ♂, Frijole, 5,600 feet, January 6.

We did not note this species about Frijole during the breeding season, although it is possible that an occasional pair nests in the open desert east of Guadalupe Peak. Small flocks were seen there daily from the 6th through the 11th of October, and again the first week in January. It was during this latter interval, but at no other time, that small flocks were observed about Pine Springs Camp and the Frijole post office (5,600 feet).

XANTHOCEPHALUS XANTHOCEPHALUS (BONAPARTE)
YELLOW-HEADED BLACKBIRD

1939: 1 ♂, Frijole Pond, April 30.

The adult male taken at the pond near the Frijole post office on April 30 is our only record for the occurrence of this species here.

ICTERUS PARISORUM BONAPARTE
SCOTT ORIOLE

1938: 2 ♂, Pine Springs Canyon, 5,600 feet, May 20; 1 ♀, Pine Springs Canyon, October 11.
1939: 1 ♂, Pine Springs Canyon, 6,000 feet, April 27.

This oriole was characteristically a bird of the lower canyons, where during the nesting season scattered pairs were observed to an altitude of 6,000 feet. Only rarely was one of these birds seen about the dry stream beds in the open desert. Arrival in the spring is relatively early, for on our arrival at Frijole on April 27 two males were noted in Pine Springs Canyon, and daily thereafter this species was frequently encountered. Departure in the fall is correspondingly late, for during October we saw small flocks daily from the 3rd until our departure on the 12th.

EUPHAGUS CYANOCEPHALUS (WAGLER)
BREWER BLACKBIRD

1938: 1 ♂, 1 ♀, 10 miles east Guadalupe Peak, 4,000 feet, October 6.

Despite the mild winters normally experienced here the Brewer blackbird apparently occurs only as a spring and fall transient, but is fairly common then. Flocks of twenty to thirty individuals were observed

from October 3 through the 11th, and again from April 26 through May 4, 1939, feeding about the corral at Pine Springs Camp or about grazing cattle in the open desert.

MOLOTHRUS ATER ARTEMISIAE GRINNELL
NEVADA COWBIRD

1939: 1 adult ♂, 1 adult ♀, Frijole, 5,500 feet, April 27.

The two birds taken April 27 as they fed with a flock of Brewer blackbirds at the side of a road near the Frijole post office constitute our only record for this race here.

MOLOTHRUS ATER OBSCURUS (GMELIN)
DWARF COWBIRD

1939: 1 adult ♂, lower end of McKittrick Canyon, 5,500 feet, May 3; 2 adult ♂, 1 immature ♂, Filling Station near Dry Salt Lake, 3,300 feet, June 12.

Although seldom observed in the open desert, the dwarf cowbird was not an uncommon bird during the summer months in the canyons. Small flocks were seen in early October, but the following May only pairs, rarely males alone, were noted. On June 12 a flock of eight adult birds, six males and two females, were seen about a corral near the Salt Lakes.

PIRANGA LUDOVICIANA (WILSON)
WESTERN TANAGER

1938: 1 ♂ (Texas A. and M. collection), Pine Springs Canyon, 5,600 feet, May 10; 2 ♂, The Bowl, 8,000 feet, May 19-20; 1 ♂, The Bowl, August 5; 1 ♂, Pine Springs Canyon, 6,000 feet, October 8.

1939: 1 ♂, Frijole, 6,000 feet, April 27; 2 ♂ and 2 ♀ (two in the Texas A. and M. collection), The Bowl, June 11-15.

The western tanager was limited in its distribution during the summer months to the thick fir woods at the tops of the ridges and was not noted at this season of the year below an altitude of 8,000 feet. It was a common bird then in The Bowl, scattered pairs being seen there in May, 1938 (from the 18th through the 21st), and again the following June (from the 11th through the 15th). Arrival of these birds on their breeding grounds apparently does not occur until after the first few days of May, for in 1939 males were noted in Pine Springs Canyon on April 27 and in McKittrick Canyon on April 30, but on May 2 none had appeared as yet in The Bowl. In early October an occasional bird was observed in the canyons (6,000 feet) until our departure on the 12th, but none was seen then at a higher altitude.

PIRANGA FLAVA OREOPHASMA OBERHOLSER[33]
HEPATIC TANAGER

1938: 1 ♂, The Bowl, 8,000 feet, July 11.
1939: 5 ♂, 1 ♀ (3 in Texas A. and M. collection), Bear Canyon and The Bowl, June 11-27.

We found this tanager rather uncommon here during the summer months and noted it at but a few widely separated localities in June. On the 11th of that month one pair was seen in Bear Canyon (7,000 feet) and another in The Bowl (8,000 feet). On the 12th a pair was observed in Pine Springs Canyon (5,800 feet), and on the 13th another pair was encountered almost at the top of Guadalupe Peak (8,600 feet). These were all unquestionably nesting, or about to nest, at the spots where they were seen. It would appear, therefore, that this species is not influenced to any marked degree by altitude.

Doctor Oberholser has seen three of the above-listed specimens and identified them as belonging to this race.

PIRANGA RUBRA COOPERI RIDGWAY
COOPER TANAGER

1939: 1 ♂ (in mixed plumage), Bear Canyon, 6,000 feet, June 12.

This western race of the summer tanager is apparently a rather scarce bird here during the summer months, and is limited then to the lower canyons. A pair was seen in Pine Springs Canyon (5,800 feet) on May 17, 1938, and a subadult made, presumably representing a breeding pair, was observed in Bear Canyon (6,000 feet) on June 12.

PYRRHULOXIA SINUATA SINUATA (BONAPARTE)[34]
TEXAS PYRRHULOXIA

1939: 1 ♂, 10 miles east Guadalupe Peak, 4,500 feet, April 29.

It was only in the open desert east of Guadalupe Peak (4,800 feet) that we recorded this species, two males being seen there on April 29.

HEDYMELES MELANOCEPHALUS MELANOCEPHALUS (SWAINSON)
ROCKY MOUNTAIN BLACK-HEADED GROSBEAK

1938: 1 adult ♂, 1 ♀, The Bowl, 8,000 feet, May 18-21.
1939: 1 adult ♂, Pine Springs Canyon, 6,000 feet, June 12; 2 adult ♂, 1 immature ♂ (first breeding plumage), 2 adult ♀, The Bowl, June 10-15 (three of the latter in Texas A. and M. collection).

This species occurred during the summer months both in the canyons

[33] H. C. Oberholser, "Description of a new subspecies of *Piranga hepatica* Swainson," *The Auk,* 36, 1919: 75-80.

[34] For the use of this name, see A. J. van Rossem, "Notes on some types of North American birds," *Trans. San Diego Soc. Nat. Hist.,* 7, 1934: 355-357.

and in the fir woods at the tops of the ridges, but was nowhere common. In June at least two and possibly three pairs nested in Pine Springs Canyon, while in The Bowl an occasional pair was noted about the clearings or open spots in the thick fir woods. Arrival in the spring is relatively late, for in the interval from April 26 through May 4, 1939, single males were recorded but twice, in McKittrick Canyon on April 30 and in The Bowl on May 2. We have no fall records, so departure is apparently before the first of October.

GUIRACA CAERULEA INTERFUSA DWIGHT AND GRISCOM
WESTERN BLUE GROSBEAK

1939: 1 ♂, 1 ♀, in McKittrick Canyon, 5,600 feet, June 10.

We noted this species only in 1939, when two pairs were seen June 10 in McKittrick Canyon and another pair observed near the Frijole post office on June 12.

PASSERINA AMOENA (SAY)
LAZULI BUNTING

1939: 1 ♂, Pine Springs Canyon, 5,600 feet, May 4.

Our one record for the occurrence of this species here is that of two males seen May 4, 1939, in Pine Springs Canyon (5,600 feet).

HESPERIPHONA VESPERTINA MONTANA RIDGWAY
MEXICAN EVENING GROSBEAK

1938: 1 ♀, McKittrick Canyon, 6,000 feet, October 9.
1939: 1 ♀, Bear Canyon, 6,000 feet, April 28.

Although heretofore unrecorded from the state the evening grosbeak would appear to occur at least casually both in the spring and in the fall about Frijole. A flock of four birds was seen in McKittrick Canyon on October 9 and a single female in Bear Canyon (6,000 feet) on April 28.

CARPODACUS MEXICANUS FRONTALIS (SAY)
COMMON HOUSE FINCH

1939: 2 ♂, Pine Springs Camp, 5,600 feet, January 1-4.

The house finch was a common bird throughout the year about Frijole, occurring both in the open desert and in the canyons to an altitude of approximately 6,000 feet. It was never at any time recorded in the fir woods at the tops of the ridges. It apparently does not migrate to any extent in the fall, for small flocks were as numerous in early January as they had been the previous October. A nest found on June 12 in

Pine Springs Canyon held four fresh eggs and was five feet from the ground in a cactus (*Opuntia*).

Dr. Robert Moore has kindly examined our two specimens and states that they are almost exactly intermediate between *C. m. frontalis* and *C. m. potosinus.*

Spinus pinus pinus (Wilson)
Northern Pine Siskin

1938: 1 ♂, The Bowl, 8,000 feet, June 11.
1939: 1 ♂, The Bowl, June 14.

The pine siskin was found during the summer months in the thick fir woods at the tops of the ridges, but was rather local in its distribution and by no means common. A small flock was seen in The Bowl on May 19, 1938, and the following year, on June 14 and 15, an occasional pair was noted at this same spot. Our only record for the winter is that of two birds seen December 31 feeding with juncos in Pine Springs Canyon.

Spinus psaltria (Say)
Arkansas Goldfinch

We noted this species in small numbers throughout the year, small flocks being seen in the canyons to an altitude of 6,500 feet. A flock comprising approximately 25 individuals, encountered in Pine Springs Canyon on October 7, was the largest number observed together during the course of our field work. Flocks seen December 31 and January 5 consisted of but eight of these birds. A pair observed in Bear Canyon on July 11 were unquestionably nesting there.

Loxia curvirostra bendirei Ridgway
Bendire Crossbill

1938: 2 ♂, 1 ♀, The Bowl, 8,000 feet, May 19-20.

Although we recorded the crossbill but once, there are possibly years when it is not uncommon as a breeding bird in the thick fir woods at the tops of the ridges. A flock of eight birds was seen May 19, 1938, feeding on the ground at the side of the cabin in The Bowl. Dr. W. B. Davis reports a flock of "twenty or thirty" near the same place on August 6.

While we have referred our three crossbill specimens to the race *bendirei,* it is to be noted that such an assignment is with reservations. As a matter of fact, our birds possess characteristics which, in our opinion,

merit their recognition as a new race. Had definite evidence been available that the specimens at hand were examples of a resident race, we would not have hesitated in taking the necessary steps toward describing it as new. However, in line with present trends in North American ornithology it appears inexcusable to describe a new race unless it is based on definitely known breeding birds.

Our three specimens are particularly unique in the ratio between exposed culmen length and bill depth. Comparison with an extensive series of crossbills in the Los Angeles Museum (including Dr. Bishop's collection) failed to show a single other specimen demonstrating this aforementioned ratio. The closest affinities seem to be with specimens of the race *bendirei.* Later, we sent our specimens to Dr. Ludlow Griscom who recently revised the American crossbills. Doctor Griscom states that he also has seen no specimens which match ours and concurs with us in the belief that an undescribed race is involved.

Our specimens measure (in mm.) as follows: males, wing, 87.3, 91.0; length of exposed culmen, 20.0, 18+ (this bill has the tip broken, otherwise it is obvious it would have measured 20 mm. or more); depth of bill at the base of the exposed culmen, 9.7, 9.6; female, wing, 86.0; length of exposed culmen, 19.1; depth of bill at the base of the exposed culmen, 9.2.

OBERHOLSERIA CHLORURA CHLORURA (AUDUBON)
GREEN-TAILED TOWHEE

1938: 2 ♂, 10 miles east of Guadalupe Peak, 4,000 feet, October 6.

This species was fairly common both in the spring and fall. In October, single birds, rarely small flocks, were seen from the 6th through the 11th in the open desert east of Guadalupe Peak (4,500 feet). The following spring these birds were equally common at this spot on April 29, while on May 1 several were noted in Pine Springs Canyon (5,800 feet).

OBERHOLSERIA CHLORURA ZAPOLIA OBERHOLSER
OREGON GREEN-TAILED TOWHEE

1939: 1 ♀, Pine Springs Canyon, 5,800 feet, May 1.

Our one record for the occurrence of this recently described[35] race about Frijole is that of a female taken in Pine Springs Canyon on May 1, 1939. Oberholser made the identification.

[35] "Description of new birds from Oregon chiefly from the Warner Valley," *Sci. Publ. Cleveland Mus. Nat. Hist.,* 4, no. 1, 1932: 5.

PIPILO MACULATUS MONTANUS SWARTH
SPURRED TOWHEE

1938: 1 ♂, Pine Springs Canyon, 5,600 feet, December 31.

1939: 1 ♂, Pine Springs Canyon, 5,800 feet, January 6; 1 ♂, Frijole, 6,000 feet, April 27; 1 ♂, The Bowl, May 2.

The spurred towhee was found to be a common transient and winter resident in this region and was observed almost daily in the course of our field work not only in the fall and late spring but in the winter as well. Its departure in the spring is rather late, for in 1938 it was noted in The Bowl on May 18, and was apparently not uncommon at this spot then. In early January it was frequently seen in the canyons to an altitude of 6,000 feet, but it was not recorded then in the fir woods at the tops of the ridges.

PIPILO MACULATUS GAIGEI VAN TYNE AND SUTTON[36]
GAIGE SPURRED TOWHEE

1938: 2 ♂, 1 ♀, The Bowl, 8,000 feet, May 18-20; 1 ♂, Pine Springs Canyon, 5,500 feet, October 3; 1 ♂ and 1 ♀ (Texas A. and M. collection), McKittrick Canyon, 5,900 feet, and Little Dog Canyon, August 1-8.

1939: 1 ♀, Guadalupe Peak, 8,750 feet, June 13; 1 ♂ (Texas A. and M. collection), The Bowl, 8,000 feet, June 14.

On the basis of actual specimens taken during the breeding season this recently described race is the form occurring here during the summer months. It was not noted then in the canyons, but was fairly common on the mountainsides above an altitude of 7,500 feet. Several males were seen June 13 in thickets at the very top of Guadalupe Peak (8,752 feet).

Doctor Van Tyne has seen our series of towhees and made the identifications.

PIPILO FUSCUS TEXANUS VAN ROSSEM[37]
TEXAS BROWN TOWHEE

1938: 2 ♂, 1 ♀ (1 ♂ in the Texas A. and M. collection), Pine Springs Canyon, 5,600 feet, May 13-20; 2 ♂, Pine Springs Canyon, 5,600 feet, December 31.

1939: 1 ♂, Pine Springs Camp, 5,800 feet, January 1; 1 ♀, Pine Springs Camp, 5,600 feet, May 4.

This towhee was one of the characteristic birds of the lower canyons,

[36] *Loc. cit.*, p. 102-103.

[37] A. J. van Rossem, "A subspecies of the brown towhee from south-central Texas," *Trans. San Diego Soc. Nat. Hist.*, 7, May 31, 1934: 371-372.

and was common throughout the year below an altitude of 5,800 feet. In early January it was observed in small flocks, but throughout the remainder of the year occurred singly or in pairs. Only infrequently was an occasional bird seen about the dry stream beds in the open desert.

We have sent the above-listed series to James L. Peters at the Museum of Comparative Zoology. In a letter to the authors, he makes the following comments:

"Your specimens are rather difficult to place. I have compared them with the type series of *texanus*, which is not of exactly comparable plumage. Your Guadalupe Mountain birds seem to partake of the characters of *texanus*, *mesoleucus*, and *potosinus*. The wing-tail proportions, however, are more nearly like those of *mesoleucus*. No. 2553 LSU is very large and dark, while Burleigh Nos. 5446 and 5457, taken at the same time and place, are much smaller and paler; they can hardly be referred to the same race. The four summer birds plus the two Burleigh specimens referred to are adults of the same race and can be called *mesoleucus* just as well as *texanus*. I cannot place LSU 2553 satisfactorily without practically revising our whole series here."

Our treatment of the brown towhee under the name *P. fuscus texanus* is therefore tentative.

Calamospiza melanocorys Stejneger
Lark Bunting

1938: 1 immature ♂, 10 miles east Guadalupe Peak, 4,500 feet, October 6.
1939: 1 ♂, Delaware River at Pipe Line Crossing, April 29.

In early October this species was noted but once, a flock of probably fifty birds being seen on the 6th in the open desert ten miles east of Guadalupe Peak. It is probable, however, that later in the month it was a fairly common transient. Apparently very few remain throughout the winter, for our only record in early January is that of three birds encountered on the 7th near the Salt Lakes (3,300 feet). It proved to be a common transient in the spring and was especially abundant on April 29, when large flocks were observed in the open desert east of Guadalupe Peak.

Passerculus sandwichensis nevadensis Grinnell
Nevada Savannah Sparrow

1939: 1 ♂, 10 miles east Guadalupe Peak, 4,500 feet, January 2; 1 ♂ and 3 ♀, near Dry Salt Lake, 3,300 feet, January 7.

We found savannah sparrows not uncommon during the winter months, small flocks being seen in early January in the open desert below an altitude of 4,800 feet.

PASSERCULUS SANDWICHENSIS ANTHINUS BONAPARTE
WESTERN SAVANNAH SPARROW

1939: 1 ♀, 10 miles east Guadalupe Peak, 4,500 feet, January 2.

Our one record for the occurrence of this race here is that of the female taken January 2 from a small flock of these birds in the open desert 10 miles east of Guadalupe Peak (4,500 feet).

POOECETES GRAMINEUS DEFINITUS (OBERHOLSER)
GREAT BASIN VESPER SPARROW

1939: 1 ♀, near Dry Salt Lake, 3,300 feet, April 26.

Vesper sparrows were found to be rather uncommon transients in this region, small flocks being noted at rather infrequent intervals in the fall and again in the spring. Our one record for this race is that of the female taken from a flock of five of these birds near the Salt Lake (3,300 feet) on April 26. Doctor Oberholser has identified it as belonging to this race.

POOECETES GRAMINEUS CONFINUS BAIRD
WESTERN VESPER SPARROW

1938: 1 ♀, 5 miles east Guadalupe Peak, 4,500 feet, October 10.
1939: 1 ♀, 5 miles east Guadalupe Peak, 4,500 feet, April 29.

Our one record for the fall is that of two birds seen in the open desert east of Guadalupe Peak on October 6. In the spring it was again noted but once, a small flock of these birds being seen near this same spot on April 29.

CHONDESTES GRAMMACUS STRIGATUS SWAINSON
WESTERN LARK SPARROW

1939: 2 ♂, Pine Springs Camp, 5,600 feet, April 27-June 13.

The lark sparrow was not an uncommon bird about Frijole during the summer months, scattered pairs nesting in the open desert to an altitude of 5,600 feet. In spite of the relatively mild weather none apparently remain throughout the winter, for this species was not recorded here in early January. On our arrival at Pine Springs Camp on April 27 four of these birds were seen feeding about the corral, and small flocks were noted daily thereafter, so arrival in the spring must be fairly early. Departure in the fall must be correspondingly late, for from the 4th through the 11th of October these birds were observed daily and were rather common then.

AIMOPHILA RUFICEPS TENUIROSTRA BURLEIGH AND LOWERY[38]

GUADALUPE MOUNTAIN ROCK SPARROW

1938: 1 juvenile (unsexed), Pine Springs Canyon, 5,600 feet, July 29; 1 ♀, Pine Springs Canyon, 5,800 feet, October 8.

1939: 1 ♀, Pine Springs Canyon, 6,000 feet, January 1; 3 ♂, 1 ♀, McKittrick Canyon, 5,500-5,800 feet, January 3; 1 ♀, Frijole, 5,500 feet, May 3; 1 ♀, Guadalupe Canyon, 7,000 feet, June 13.

This sparrow was one of the characteristic birds of the canyons, but being somewhat shy, had to be looked for to be seen. Originally it was considered rather scarce, but increasing familiarity with its habits ultimately revealed its presence throughout the year about many of the rocky slopes on the mountainsides. It was never observed below an altitude of 5,300 feet, and a female taken at approximately 7,000 feet in Guadalupe Canyon on June 13 would appear to mark the upper limits reached by this species during the summer months. There was no perceptible decrease in the numbers of these birds seen in the winter nor any evidence that it seeks a lower altitude at this season of the year.

AIMOPHILA CASSINI (WOODHOUSE)

CASSIN SPARROW

1939: 1 ♂, Pine Springs Camp, 5,500 feet, January 4; 1 ♂, Frijole, April 26.

It is possible that the Cassin sparrow breeds at least sparingly in this region, but we were unable to verify this fact. Our only records are the male taken at Pine Springs Camp on January 4 and several birds noted near the Salt Lakes, associated with other sparrows, on April 26.

AMPHISPIZA BILINEATA OPUNTIA BURLEIGH AND LOWERY[39]

FRIJOLE DESERT SPARROW

1938: 1 ♂, Pine Springs Canyon, 5,800 feet, October 5; 1 ♂, 1 juvenile ♂, 5 miles east Guadalupe Peak, October 10.

1939: 1 ♀, 10 miles east Guadalupe Peak, 4,500 feet, January 2; 2 ♂, near Dry Salt Lake, 3,600 feet, April 26; 1 ♂, Pine Springs Camp, 5,600 feet, April 27; 1 ♂, 2 ♀, Frijole, 5,000 and 5,800 feet, April 30-May 1.

We found the desert sparrow to be a common bird here throughout the larger part of the year, occurring both in the open desert and in the canyons to an altitude of approximately 6,500 feet. Its distribution during the summer months, however, was limited by the presence of the cane cactus (*Opuntia arborescens*), and in spots where this characteristic plant was scarce or wanting, none of these sparrows was en-

[38] "Description of two new birds from western Texas," *Occ. Papers Mus. Zool., Louisiana State University*, 6, 1939: 67-68.

[39] *Ibid.*, p. 68.

countered. This partiality was eventually explained by the fact that so far as we could determine the nest was always placed in this cactus. It is apparently the middle of May before nesting activities are well under way and a month later before the young are fully fledged. That there is no uniformity in the date at which individual pairs begin to nest was evidenced by a nest found June 12 that held three half-grown young. During the winter months these birds desert entirely that portion of their breeding range lying above an altitude of 4,800 feet, and even at this lower altitude are rather scarce at this season of the year. In early January only an occasional small flock was noted in the open desert east of Guadalupe Peak (4,500 feet) and none elsewhere.

We have recently examined six of the specimens which A. J. van Rossem used in describing *Amphispiza bilineata confinus*[40] from Chihuahua, Mexico. These specimens, collected by M. Abbot Frazar and part of the Brewster collection in the Museum of Comparative Zoology at Harvard, have been compared with the type series of *A. b. opuntia.* The Frazar skins show evidence of post-mortem fading and, since we have been unable to locate recently collected specimens from Chihuahua, a true color comparison between *confinus* and *opuntia* cannot be made here. However, the differences as evidenced by the specimens at hand are sufficient, in our opinion, to predict that both races will prove valid. Aside from color, in which case *opuntia* is distinctly and emphatically darker, it is also slightly larger. In fact, *opuntia* is the largest of the named races of *Amphispiza bilineata.*

Amphispiza nevadensis nevadensis (Ridgway)
Northern Sage Sparrow

1939: 2 ♀, 15 miles east Guadalupe Peak, 4,500 feet, January 2.

We noted this species only in early January, when it was found to be fairly common in the open desert below an altitude of 4,800 feet. Small flocks were seen on January 2 east of Guadalupe Peak (4,500 feet) and again on January 7 about the Salt Lakes (3,300 feet).

Junco oreganus montanus Ridgway
Montana Junco

1938: 2 ♀, The Bowl, 8,000 feet, October 4; 1 ♀, Pine Springs Canyon, 5,600 feet, October 11.

1939: 1 ♀, Frijole, 5,800 feet, January 5.

This junco would appear to migrate earlier in the fall than others of

[40] "Critical notes on Middle American birds," *Bull. Mus. Comp. Zool.,* Harvard College, 77, no. 7, pt. C, 1934: 487-488.

this genus, for not only was it the only one noted in early October, but it was fairly plentiful then. Small flocks were seen almost daily both in the canyons and in the fir woods at the tops of the ridges from the day of our arrival at Frijole, the 3rd, until our departure the morning of the 12th. It was less numerous the following January, being observed in small numbers in the canyons to an altitude of 5,800 feet.

Junco oreganus shufeldti Coale
Shufeldt Junco

1938: 3 ♂, Pine Springs Canyon, 5,500 feet, December 31.

1939: 1 ♂, 1 ♀, Pine Springs Canyon, 5,500 and 5,800 feet, January 4.

This proved to be the common junco in the open desert about Frijole in early January, numerous small flocks being encountered daily. Only an occasional bird was seen with the flocks of red-backed juncos (*Junco phaenotus dorsalis*) found in The Bowl on January 1 and 5.

Junco mearnsi Ridgway
Pink-sided Junco

1938: 1 ♀, The Bowl, 8,000 feet, May 21.

1939: 3 ♀, Pine Springs Canyon, 5,500-5,800 feet, January 4-5; 1 ♀, Frijole, 5,500 feet, April 30.

This species was first recorded here on May 21, 1938, when the female taken that day was found feeding alone at the edge of a clearing in The Bowl. An examination of its ovary showed clearly that it was a non-breeding bird. Only at infrequent intervals in early January were one or two of these birds noted with flocks of other juncos in the lower canyons. In the spring it was seen but once, a female being collected in McKittrick Canyon on April 30.

Junco caniceps (Woodhouse)
Gray-headed Junco

1939: 1 ♂, 2 ♀, Bear Canyon, 6,000 feet, January 5-6; 2 ♀, Frijole, 5,500 feet, April 27.

This was by far the scarcest of the juncos occurring here during the winter months. In early January it was noted but once, two birds being seen the morning of the 5th feeding with other juncos in Bear Canyon (6,000 feet). It apparently lingers later in the spring than others of this genus for on April 27 two were seen near Frijole, and on May 3 two were again encountered in McKittrick Canyon.

JUNCO PHAEONOTUS DORSALIS HENRY
RED-BACKED JUNCO

1938: 3 ♂, The Bowl, 8,000 feet, May 18-20; 1 juvenile ♀, The Bowl, July 11; 1 ♀ (Texas A. and M. collection), The Bowl, August 5; 1 ♂, The Bowl, October 4.

1939: 5 ♂, 1 ♀, The Bowl, January 1; 2 ♂ (Texas A. and M. collection), 1 nestling, The Bowl, June 11-14.

Although common throughout the year in the fir woods at the tops of the ridges, this species was not noted at any time below an altitude of 8,000 feet. Even in early January when the ground in The Bowl was covered with several inches of snow and the temperature each night dropped well below the freezing point, none of these birds was observed in the canyons or on the mountainsides. At this season of the year they were found in small flocks feeding in the more open woods and were the only birds at all common then at these higher altitudes. In late April and early May they were in pairs but not nesting yet, for it was the middle of June before the first well fledged young was seen.

We are indebted to Dr. A. H. Miller for the identification of most of our juncos.

SPIZELLA PASSERINA ARIZONAE COUES
WESTERN CHIPPING SPARROW

1938: 1 ♂, The Bowl, 8,000 feet, July 11; 1 ♂ (Texas A. and M. collection), Little Dog Canyon, August 2; 1 ♀, Pine Springs Canyon, 5,800 feet, October 5.

1939: 1 ♂ and 1 ♀, Frijole, 5,600 feet, January 4; 1 ♀, Pine Springs Canyon, 5,900 feet, January 6; 1 ♀, The Bowl, June 13.

Throughout the larger part of the year this was one of the most common of the birds found about Frijole. Numerous flocks were seen daily in the course of our field in early October, in January, and again in late April and early May. Altitudinal limits are seemingly more or less disregarded during the breeding season, for in June scattered pairs were found both in The Bowl and in the canyons above an altitude of 5,400 feet. In the winter it was not found far up the mountainsides, but was common then in the open desert east of Guadalupe Peak.

SPIZELLA PALLIDA (SWAINSON)
CLAY-COLORED SPARROW

1938: 1 ♂, Pine Springs Canyon, 5,800 feet, October 5; 1 ♂, 3 miles east Guadalupe Peak, 4,800 feet, October 6; 1 ♂, 2 ♀, 5 miles east Guadalupe Peak, October 10; 1 ♀, McKittrick Canyon, 5,500 feet, October 10.

We noted this species only in the fall, but it doubtless occurs here in the spring and possibly winters at least sparingly. From the 4th

through the 11th of October scattered small flocks were seen in the open desert east of Guadalupe Peak and in the canyons to an altitude of 5,800 feet.

SPIZELLA BREWERI BREWERI CASSIN
BREWER SPARROW

1938: 1 ♂, 1 ♀, 10 miles east Guadalupe Peak, 4,500 feet, October 6.

1939: 2 ♂, 1 ♀, near Dry Salt Lake, 3,600 feet, January 7; 1 ♀, Frijole, 5,500 feet, May 3.

It would appear that this species arrives rather late in the fall, for while it winters commonly, it was noted but once in early October, two birds being seen on the 6th in the open desert east of Guadalupe Peak. On January 2 small flocks were encountered at frequent intervals at this same spot; on January 7 it was found to be equally numerous about the Salt Lakes. Departure in the spring apparently does not occur until after the first of May, for small flocks were not uncommon about the Salt Lakes on April 26 and in the open desert east of Guadalupe Peak three days later. On only one occasion was this sparrow found in one of the canyons, a small flock of five birds being seen in McKittrick Canyon on May 3, 1939.

The January 7 female listed above has the size of *S. b. taverneri* Swarth and Brooks but according to James L. Peters it is not dark enough to justify calling it such, at least for the time being.

SPIZELLA PUSILLA ARENACEA CHADBOURNE
WESTERN FIELD SPARROW

1939: 1 ♂ and 3 ♀, Frijole, 5,500-5,800 feet, January 1-6; 1 ♂, Frijole, 5,800 feet, May 1.

One of the unexpected results of our field work in this region was finding the western field sparrow not uncommon during the winter months. In view of the fact that it has never been recorded in New Mexico it was rather surprising to find it of more than casual occurrence here in extreme western Texas. On January 1 and daily thereafter through the 7th one or two of these birds were seen at intervals feeding with flocks of other sparrows in the canyons. At no time were they encountered elsewhere than on the lower slopes of the ridges and were largely limited in their distribution at this season of the year to an altitude of approximately 5,600 feet. In the spring we noted this species but once, a male being taken in Pine Springs Canyon (5,800 feet) on May 1.

SPIZELLA ATROGULARIS EVURA COUES
BLACK-CHINNED SPARROW

1938: 2 ♂, Pine Springs Canyon, 6,000 feet, May 19-20; 1 ♂, Pine Springs Canyon, 6,500 feet, July 11; 2 ♀, Pine Springs Canyon, 6,000 and 7,900 feet, October 4.

1939: 1 ♂ (without black throat), McKittrick Canyon, 5,500 feet, January 3; 1 ♂, Frijole, 6,000 feet, April 28; 1 ♂, Guadalupe Peak, 8,200 feet, June 13.

This was another characteristic bird of the canyons, occurring from the foot of the mountains to almost the tops of the ridges. In both Pine Springs Canyon and in Bear Canyon none were noted at a lower altitude than 5,800 feet, while several birds seen on June 13 at an altitude of 8,200 feet in Guadalupe Canyon marked the upper limits this species apparently reaches during the summer months. Although fairly common throughout the larger part of the year very few remain during the winter months, our one definite record then being the male taken in McKittrick Canyon on January 3.

The only previous record of this species in Texas is of specimens recorded by Van Tyne and Sutton.[41] More interesting than that, however, is the statement by A. J. van Rossem[42] in his recent review of the races of this species to the effect that the winter range of *S. a. evura* is not known. It would thus seem that the specimen listed above as being collected January 3 is the first specimen of this subspecies taken within the boundaries of the United States during that season.

ZONOTRICHIA LEUCOPHYRS LEUCOPHYRS (FORSTER)
WHITE-CROWNED SPARROW

1938: 1 adult ♂, Pine Springs Canyon, 5,500 feet, December 31.

The adult male taken in Pine Springs Canyon on December 31 is our only record for the occurrence of this more eastern race here.

ZONOTRICHIA LEUCOPHYRS GAMBELI (NUTTALL)
GAMBEL SPARROW

1938: 1 adult ♂, 10 miles east Guadalupe Peak, 4,500 feet, October 6; 1 immature ♂, 1 adult ♀, Pine Springs Camp, 5,600 feet, December 31.

1939: 2 adult ♂, 2 immature ♂, 1 adult ♀, Pine Springs Camp, 5,600 feet, January 4-6; 1 adult ♀, Frijole, April 29; 1 adult ♀, 10 miles east Guadalupe Peak, 4,500 feet, May 3.

Early October would appear to be the date at which the Gambel

[41] *Loc. cit.*, p. 112.

[42] "Notes on the forms of *Spizella atrogularis*," *The Condor*, 37, 1935: 282-284.

sparrow arrives in this region in the fall, for while it was not uncommon then in the open desert east of Guadalupe Peak, it was not noted elsewhere. From October 6th through the 11th scattered small flocks were seen at this spot, usually with other sparrows about underbrush fringing the dry stream beds. In early January similar small flocks were encountered daily and were more widely distributed then, occurring both in the open desert and in the canyons to an altitude of 6,000 feet. Departure in the spring is relatively early, for only a few birds were observed in the open desert, 4,500 feet, on April 29 and about Pine Springs Camp on May 3.

Melospiza lincolni lincolni (Audubon)
Lincoln Sparrow

1939: 1 ♀, McKittrick Canyon, April 30.

We noted this species but once, so apparently it is a rather uncommon transient in this region. The female taken in McKittrick Canyon on April 30 was feeding alone in the underbrush fringing the stream.

Melospiza melodia juddi Bishop
Dakota Song Sparrow

1939: 1 ♂, Frijole, January 4.

The one bird recorded here, a male, was feeding on January 4 at the edge of a thicket at the side of the small stream flowing from the pond near the Frijole post office.