

## THE SUMMER DISTRIBUTION OF CERTAIN BIRDS IN CENTRAL AND NORTHERN ARIZONA

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The summer of 1931 I spent in the Rocky Mountain and Great Basin regions for the purpose of studying breeding populations of Juncos. I was accompanied in the field by Mrs. Miller, and our expeditions to various mountain ranges in central and northern Arizona incidentally afforded opportunities to observe and collect birds of species other than Juncos. In view of the scanty information regarding the birds of some of the localities visited, it is appropriate to record certain of our findings. Eleven principal collecting stations were made in Arizona, but unfortunately our stay at each place was limited to four days or less. Rather than attempt to produce a full list of birds observed, I will confine comment to a few species which by reason of extension of range, breeding record or rarity seem to merit consideration.

Briefly, our itinerary was as follows: May 24-27, Soldier's Camp, elevation 7700 feet, Santa Catalina Mountains, Pima County; May 29-31, Stanley, elevation 4600 feet, Graham County; June 1-3, Pinal Mountain, elevation 7500 feet, Gila County; June 4-7, Workman Creek, elevation 5600 feet, Sierra Ancha, Gila County; June 8-10, Collum's Ranch, elevation 4000 feet, base of Mazatzal Mountains, 7 miles west of Rye Creek, Gila County; June 11, 12, Pivot Rock Spring, elevation 7000 feet, Mogollon Mountains near Baker Butte, Coconino County; June 13, Mingus Mountain, elevation 7500 feet, Yavapai County; June 14, 15, Mount Union, elevation 7500 feet, Bradshaw Mountains, Yavapai County; June 17-18, Sitgreaves Mountain, elevation 7500 feet, 8 miles north of Maine, Coconino County; June 22-24, 3 miles south of Dry Park Ranger Station, elevation 8000 feet, Kaibab Forest, Coconino County; June 25, 26, 4 miles north of Jacob's Lake, elevation 7200 feet, Kaibab Forest, Coconino County.

In the belief that vernacular names for subspecies are unnecessary as well as awkward, I have, as far as possible without creating new names, used common names representative of the entire species regardless of race. The numbers of the specimens listed are those of the Museum of Vertebrate Zoology.

***Astur atricapillus atricapillus.*** Goshawk. Twice seen in the Kaibab Forest, once on June 24 in aspen and spruce timber near Dry Park and again in pure yellow pine timber four miles north of Jacob's Lake. At the latter place the bird came into the trees at camp at dusk and commenced squalling. It was plainly seen to be an adult, but no young could be found much as its actions suggested the presence of a nest or family. It is presumed that these birds belong to the eastern form, *A. a. atricapillus*, since a bird taken to the north in Utah proved to be of this race.

***Accipiter cooperii.*** Cooper Hawk. A nest was found in a grove of yellow pines almost over our camp at Sitgreaves Mountain. On June 18 the nest contained one infertile egg, one piped egg, and one young which had hatched the day preceding.

***Aquila chrysaetos canadensis.*** Golden Eagle. At Sitgreaves Mountain a fully grown young eagle was found occupying a nest and adjoining ledge on a 150-foot cliff within 300 yards of camp. The young bird yelped almost continuously during early morning and evening. Its curiosity was aroused by my presence at the base of the cliff to the extent that it came out on the ledge to peer over. Upon the approach of a parent carrying food it lost all interest in me and after loud cries soon became engrossed in tearing at the animal which had been brought.

***Lophortyx gambelii gambelii.*** Gambel Quail. Seen in numbers even in the oak and chaparral belts north as far as Collum's Ranch. A single male was noted as it uttered its spring call at Phantom Ranch, Bright Angel Creek, Grand Cañon, on June 19. This point is several miles east of Cataract Cañon which Swarth (Pacific Coast Avifauna, No. 10, 1914, p. 22) gives as the eastern limit of this species in the northern part of the State.

*Antrostomus vociferus arizonae*. Whip-poor-will. Heard in the oak and pine forests on the Santa Catalina Mountains, on Pinal Mountain, where they were seen, and in the Sierra Ancha. Swarth (Condor, xx, 1918, p. 22) already has reported them north to the latter locality, but they also were found by us much farther to the north in the Bradshaw Mountains near Prescott on the night of June 13.

*Sphyrapicus thyroideus nataliae*. Williamson Sapsucker. Part of one of these woodpeckers was taken from the stomach of a female Cooper Hawk collected at Sitgreaves Mountain. In the Kaibab Forest they were the most abundant of the woodpeckers, their characteristic broken drumming, *tttttt—tt—tt—tt—tt*, being heard everywhere. Two nests containing well grown young were found on June 22. Both nests were in dead trees twenty to twenty-five feet above ground. This sapsucker was present in pure stands of yellow pine at Jacob's Lake.

*Picoides tridactylus dorsalis*. Three-toed Woodpecker. Frequently met in the yellow pine and spruce forests of the Kaibab Plateau where a pair was collected: ♂, no. 58100; ♀, no. 58101.

*Myiarchus tyrannulus magister*. Arizona Flycatcher. This flycatcher, which usually is associated with the saguaro belt, was found at Stanley among sycamore trees in a cañon bottom. It also was met at Collum's Ranch north of the saguaro belt in the upper Tonto Basin. This bird is one of a number of low desert types noted by Swarth (Birds of the Papago Saguaro National Monument, etc., U. S. Dept. Int., 1920, pp. 56, 57) around Roosevelt Lake, which types range north along Tonto Creek into the oak and juniper belt in the vicinity of Rye Creek.

*Empidonax wrightii*. Wright Flycatcher. Although known as a migrant within the State, published evidence of breeding seems to have been lacking heretofore. A male, no. 58106, was taken June 22 near Dry Park and many others were seen. Nests were not located, but the actions of the birds and condition of the gonads of the bird collected indicate breeding in the Kaibab area.

*Aphelocoma sieberi arizonae*. Arizona Jay. Swarth (Condor, xx, 1918, p. 21) found these birds north as far as the Sierra Ancha where we also took specimens. However, they were found by us to occur north of this point at Collum's Ranch on June 9 and even as far as Payson, where on June 10, I watched a pair feeding a short-tailed juvenile in a clump of alligator junipers.

*Corvus brachyrhynchos hesperis*. Crow. The scarcity of the crow in the State makes it desirable to mention a single bird seen in the Sierra Ancha in pine timber at 6500 feet elevation on June 7, and a small flock noted in the live oaks near Collum's Ranch, June 9.

*Penthestes gambeli gambeli*. Mountain Chickadee. Found breeding in small numbers on the Santa Catalina Mountains and on Pinal Mountain. A single bird was seen on the summit of the Mazatzal Mountains in the yellow pines, June 9.

*Baeolophus inornatus griseus*. Plain Titmouse. Records of this titmouse are few for south-central Arizona. Brewster (Bull. Nutt. Orn. Club, vii, 1882, p. 79) reported it from the Chiricahua Mountains, and more recently L. Miller, W. P. Taylor and H. S. Swarth (Condor, xxxi, 1929, p. 77) recorded a specimen taken November 28, 1928, at the base of the Santa Catalina Mountains. I collected a male, no. 58114, of a pair encountered in the junipers near Stanley, May 30, 1931. The birds evidently had young in the vicinity. No other examples of *inornatus* were seen in this part of the State; *B. wollweberi* was common.

*Heleodytes brunneicapillus couesi*. Cactus Wren. Swarth noted this wren at Roosevelt. We found it here and also north as far as Collum's Ranch in the opuntia cactus on open hillside.

*Oreoscoptes montanus*. Sage Thrasher. This thrasher apparently was breeding in the artemisia brush south of Fredonia near the edge of the Kaibab Forest, inasmuch as it was present there on June 26. Breeding season records for the State were lacking heretofore.

*Turdus migratorius propinquus*. Robin. Present throughout the pine forest on the Santa Catalina Mountains where evidently nesting. A nest containing four piped eggs was found in a yellow pine tree above our camp on Pinal Mountain on June 1. It is difficult to believe that robins could have been overlooked by previous visitors to the Santa Catalina Mountains during the summer months, yet this range is not mentioned as a breeding station by Swarth (Pacific Coast Avifauna, No. 10, 1910,

p. 80). Scott (Auk, v, 1888, p. 167) evidently did not find them breeding there in 1885 and 1886. Possibly they have since then commenced nesting in these mountains; they have long been known to winter in this general territory.

*Hylocichla guttata auduboni*. Hermit Thrush. Abundant and breeding on the Santa Catalina Mountains, contrary to what might have been expected from Scott's statement (Auk, II, 1885, p. 349) that he found only one pair of these birds in late April of 1885 on this range. Three males were heard singing at different points in the dense timber of the northeast slope of Pinal Mountain on June 2.

*Poliophtila caerulea amoenissima*. Blue-gray Gnatcatcher. Seen occasionally in the chaparral at both Stanley and Collum's Ranch.

*Corthylio calendula calendula*. Ruby-crowned Kinglet. Abundant throughout the spruce belt of the Kaibab Forest in the latter part of June. Its presence here in summer was to be expected although it does not seem to have been recorded before.

*Vireo huttoni stephensi*. Hutton Vireo. This vireo was met at Collum's Ranch in the large live oaks in the cañon bottoms. A singing male, no. 58144, was taken June 9 and a fully grown juvenile, no. 58145, on June 10. Both are typical of *stephensi*.

*Vireo vicinior*. Gray Vireo. Very abundant in the juniper and scrub oak cover of the hillsides at Stanley, occasionally invading the live oaks in the cañon bottoms where they sang in the same trees with Solitary Vireos, specimens of both having been taken. Gray Vireos and Black-chinned Sparrows occurred in the same brush patches much as they often are associated in parts of southern California. Gray Vireos also were present at Collum's Ranch.

*Vireo gilvus swainsonii*. Warbling Vireo. This vireo, supposedly of limited occurrence in southern Arizona during the summer months, was fairly common in the deciduous oaks on the Santa Catalina Mountains and on Pinal Mountain.

*Vermivora virginiae*. Virginia Warbler. In addition to mountain ranges from which this form is already known during the summer, we encountered it on Pinal Mountain, the Mazatzal Mountains and Mingus Mountain.

*Vermivora luciae*. Lucy Warbler. Found ranging north and east into the Upper Sonoran oak belt at Stanley, where a bird, no. 58148, was collected in a grove of sycamores, and at Collum's Ranch where they were present in the live oaks.

*Dendroica aestiva sonorana*. Yellow Warbler. A breeding male, no. 58151, typical of this race, was taken at Collum's Ranch, June 9.

*Dendroica graciae graciae*. Grace Warbler. This warbler was breeding commonly in pure stands of yellow pines on most of the mountain ranges visited. They were present on Pinal Mountain and the Mazatzal Mountains, localities not specifically mentioned before. More unusual, however, was their presence in numbers four miles north of Jacob's Lake in the Kaibab Forest where a breeding female, no. 58153, was secured on June 25. Previously they have not been reported north of the Grand Cañon. A nest was found on June 5 at about 6500 feet elevation in the Sierra Ancha. It was twenty feet above ground in the terminal tuft of needles of a low side branch of a yellow pine. Both parents were occupied feeding large-sized young.

*Icterus cucullatus nelsoni*. Hooded Oriole. Found at Stanley on May 29 with nest and young and at Collum's Ranch on June 9. Swarth found the species at Roosevelt Lake in 1917.

*Icterus parisorum*. Scott Oriole. Rare at Collum's Ranch. North of here only one bird was noted; this was seen in the vicinity of Monte Rio on the juniper-covered plateau about twenty-five miles north of Prescott, June 15.

*Richmondia cardinalis superba*. Cardinal. Found to extend north of Roosevelt Lake, where noted by Swarth, to Collum's Ranch where at least two pairs were seen on June 9. A female, no. 58162, accompanied by two short-tailed juveniles was collected in the chaparral at Stanley, May 30.

*Passerina amoena*. Lazuli Bunting. Two males singing continuously and seemingly stationed for breeding, on June 9 at Collum's Ranch.

*Hesperiphona vespertina warreni*. Evening Grosbeak. A pair was taken on the Sierra Ancha, June 5, the female possessing a brood patch and having laid a short time previously. These birds are interesting since they come from a region between the ranges of *warreni* and *montana* as defined by Grinnell (Condor, XIX, 1917, pp. 20, 21). *Warreni* is recorded by him from Fort Verde to the north and *montana* from the Chiricahua Mountains to the south. The male which I collected, no. 58164, the only bird preserved as a skin, has a decidedly stouter bill than any specimen of *mon-*

*tana* in comparable plumage which I have examined. It also shows a broad frontal bar which is characteristic of *warreni*. I do not have material available to warrant comment upon the validity of *warreni* as distinct from *brooksi* of the more northern Rocky Mountains. However, the Sierra Ancha bird clearly belongs to the central Rocky Mountain form and I can see no approach in characters to *montana*. Evening Grosbeaks were common in the Kaibab area.

*Loxia curvirostra* ssp. Crossbill. On May 26 on the Santa Catalina Mountains, a flock of a dozen Crossbills was feeding near camp and some of the birds singing. On June 1 and 2 on Pinal Mountain they also were noted. These occurrences at this season hardly are evidence of breeding in a bird of such nomadic habits and irregularity as regards breeding; nevertheless it is not unlikely that they nest in the localities mentioned. It is assumed that the birds above noted were *L. c. stricklandi*.

At Jacob's Lake, Kaibab Forest, a male, no. 58337, not breeding, taken June 25, is *L. c. bendirei*, as also are several specimens taken in southern Utah.

*Junco caniceps dorsalis*. Gray-headed Junco. Pending a full report upon the Juncos of this region, I will at present mention only the discovery of breeding birds on Mingus Mountain and on the Bradshaw Mountains. Both these ranges are south and west of the previously known breeding range of this form in the Mogollon Mountains and on Bill Williams Mountain. They were decidedly rare on both Mingus and the Bradshaw mountains, as one specimen only was taken in each place (numbers 58198 and 58199, respectively) after considerable effort. I place *dorsalis* as a subspecies of *caniceps* because intergradation between the two was found in the Kaibab Forest. The forms *dorsalis* and *J. phaeonotus palliatus* possess distinguishing characters in the color of eye and bill which are constant and do not intergrade, at least in Arizona.

*Spizella atrogularis atrogularis*. Black-chinned Sparrow. About eight males were heard singing in the scrub oak brush at 5000 feet elevation near Stanley on May 30. This species also was present near Collum's Ranch, June 9, on brush covered hillsides. Birds collected are of interest since they materially add to the number of specimens of *S. a. atrogularis* which were available for comparison when Grinnell and Swarth (Auk, XLIII, 1926, pp. 475-478) demonstrated the existence of the race *cana*. The measurements in millimeters of my specimens are as follows:

			Wing	Tail	Exposed culmen	Tarsus
No. 58351	♂ Stanley	May 30, 1931	69.0	80.0	8.9	1.85
No. 58352	♂ Collum's Ranch	June 9, 1931	63.4	70.5	9.1	1.86
No. 58353	♂ Collum's Ranch	June 9, 1931	63.3	70.7	9.1	1.92
No. 58350	♀ Stanley	May 30, 1931	60.2	68.9	9.1	1.85

Comparisons with measurements given by Grinnell and Swarth (*op. cit.*, p. 477) and by A. H. Miller (Condor, XXI, 1929, p. 207) in connection with the description of *S. a. caurina* show that the size differences between *cana* and *atrogularis* are as marked in these specimens as in those previously available for examination. The long tail of no. 58351 is unusual even for the long-tailed race *atrogularis*. The small series above listed is appreciably less brown than *cana*. They also are consistently lighter above and below than *caurina*, particularly as regards the pileum. The wing and tail of *caurina* and *S. a. atrogularis* are similar as to length, but the culmen and tarsus measure shorter in *caurina* than in *atrogularis*, as before pointed out. A juvenile, no. 58354, the offspring of no. 58353, is markedly lighter on the pileum and back and much less streaked beneath than the juvenile of *caurina*. The *S. a. atrogularis* juvenile is grayer, that is, less brown, above than juvenal *cana*.

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