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## Summer Birds of the Chiricahua Mountains, Arizona

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The Chiricahua Mountains are in eastern Cochise County, the southeasternmost county of Arizona. They rise from an elevation of about 4700 feet to 9795 feet, and are surrounded by desert grassland supporting scattered shrubs and mesquite which extend upward to about 5000 feet. Above this is oak woodland, an open stand of small oaks (including *Quercus hypoleucoides*, *Emoryi*, *Toumeyii*, *arizonica*),<sup>3</sup> alligator juniper (*Juniperus Deppeana*), and scattered pines (*Pinus cembroides*, *P. chihuahuana*), with yucca (*Yucca* spp.?) and century plant (*Agave* spp.?). This oak woodland extends up the dry ridges to above 7500 feet. In the canyon bottoms is a richer growth of larger trees. Above the oak woodland a forest of yellow pine (*Pinus ponderosa*) and Apache pine (*P. latifolia*), or a mixture of these, Douglas fir (*Pseudotsuga taxifolia*), and Gambel's oak (*Q. Gambelii*) begins at about 7000 feet on north-facing slopes. The highest peaks support a forest of Douglas fir, white fir (*Abies concolor*), Engelmann spruce (*Picea Engelmannii*), yellow pine, white pine (*Pinus reflexa*), and aspen (*Populus tremuloides*). The vegetative pattern resembles that described for the near-by Huachuca Mountains by Wallmo (1955, pp. 466-480), but is generally more mesic. The highest elevations of the Chiricahua Mountains support certain montane mesophytes not found at equivalent elevations in the

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<sup>3</sup> Scientific names of plants mentioned in this paper are from "Arizona Flora," by T. H. Kearney and R. H. Peebles (1951, Berkeley, University of California Press).

Huachucas. Examples are Engelmann spruce and cork-bark fir (*Abies lasiocarpa*).

The distribution of birds in the Chiricahua Mountains is greatly affected by the distribution of plant associations. Lowland species of birds extend highest in the oak woodland where it spreads up dry ridges and south-facing slopes. Some birds characteristic of the high elevations are found lowest where Douglas fir and aspen extend down the canyon bottoms to below 6000 feet.

We were in the Chiricahua Mountains throughout most of June and July in 1956, working at the Southwestern Research Station of the American Museum of Natural History. The Station is in Cave Creek Canyon at an elevation of 5400 feet. The nature of our separate research programs required us to make almost daily field trips. These were concentrated between the elevations of 5000 feet and 8400 feet; consequently most was learned about the birds living in the oak woodlands, canyon bottoms, and pine forests. Several trips were made into the spruce and fir forest at higher elevations. Fewer trips were made to the edge of the desert, so least was learned about the birds of this habitat.

The Chiricahua Mountains have been visited by many ornithologists, but none to our knowledge has made extended observations through the nesting season. Herbert Brandt (1951) described his observations made mostly at Rustler Park (8400 feet). Allan R. Phillips has compiled a preliminary list, mimeographed by the Southwestern Research Station, of the birds of the area.

In the following list subspecific names are used only when identification to subspecies was based on a specimen. The terms describing the status of each species are, in order of decreasing abundance: abundant, common, uncommon, and rare; the term "regular" is used for species that were conspicuous and wide-ranging although few in numbers. Locality names are taken from United States Geological Survey topographic maps, Chiricahua and San Simon quadrangles. The village of Portal, referred to frequently in the following list, is on the eastern edge of the mountains at an elevation of 4770 feet.

*Cathartes aura*, TURKEY VULTURE: Regular at all elevations.

*Accipiter gentilis atricapillus*, GOSHAWK: Rare at all elevations. On June 4, at the Research Station (5400 feet), Hardy shot an emaciated male weighing 555.5 grams and having minute (3 by 8 mm.) testes. The specimen shows no consistent agreement with the brief description of the proposed subspecies *A. g. apache* (Van Rossem, 1938, p. 99) which has not been recognized by the American Ornithologists' Union check

list. A nest of this species was found by Hardy on June 16 in a tall Douglas fir at 8500 feet about one-quarter of a mile south of Rustler Park. On July 24 and 26, one young bird was sitting on a limb beside this nest, and both parents were in the vicinity; the young bird was gone on July 31. A full-grown immature Goshawk was seen near the Southwestern Research Station several times between June 25 and 30, once eating a rabbit. This species is known to breed in northern Arizona. There are scattered records, including three specimens, from the Chiricahuas (cf. Van Rossem, 1936, p. 126). However, the above record seems to be the first definite observation of the Goshawk breeding in the basin range country.

*Accipiter cooperii*, COOPER'S HAWK: Uncommon, observed between 5000 and 7400 feet. One nest 50 feet up in a pine was found by Hardy in South Fork of Cave Creek Canyon at 5300 feet; the adult male here was taken. A second nest near the Station contained two small young on June 21.

*Buteo jamaicensis*, RED-TAILED HAWK: Uncommon at all elevations.

*Buteo swainsoni*, SWAINSON'S HAWK: Uncommon on the desert.

*Aquila chrysaetos*, GOLDEN EAGLE: Regular at all elevations.

*Falco mexicanus*, PRAIRIE FALCON: One seen by Tanner on June 14, on the cliffs near the mouth of Cave Creek Canyon and, on July 18, 3 miles farther up the canyon.

*Falco sparverius*, SPARROW HAWK: Regular on the grassy desert west of the mountains; rare in the mountains up to 6000 feet.

*Callipepla squamata*, SCALED QUAIL: Uncommon in the mesquite desert.

*Lophortyx gambelii*, GAMBEL'S QUAIL: Common around Portal; half-grown young following adults on June 20.

*Meleagris gallopavo*, TURKEY: Uncommon, but widespread between 5400 feet and the top of the highest mountain. Two adults with at least 12 young able to fly seen along the Flys Peak trail from Rustler Park at 8800 feet elevation on July 2.

*Charadrius vociferus*, KILLDEER: Two at a water tank near the mouth of Keating Canyon, at the edge of the desert, on July 25.

*Columba fasciata*, BAND-TAILED PIGEON: Regular at elevations above 7600 feet, and, after June 17, appearing in flocks of up to 10 birds as far down as Portal.

*Zenaidura macroura*, MOURNING DOVE: Common from the desert up to the Station.

*Zenaida asiatica*, WHITE-WINGED DOVE: Common on the desert; rare at

higher elevations as high as the Station. Two birds fed occasionally in the Station's barnyard in June and early July.

*Geococcyx californianus*, ROAD-RUNNER: Uncommon on the desert below Portal.

*Otus flammeolus*, FLAMMULATED SCREECH OWL: One heard calling at 7400 feet by Hardy on July 22, in a yellow pine forest near Fossil Saddle about  $2\frac{1}{4}$  miles east-northeast of Snowshed Peak.

*Strix occidentalis*, SPOTTED OWL: One heard calling in South Fork of Cave Creek Canyon on the nights of June 14 and 15, and at least three on the night of July 22.

*Caprimulgus vociferus*, WHIP-POOR-WILL: Common from 5200 to 8200 feet elevation. Two downy young found by Tanner on June 25, at 8200 feet about  $1\frac{1}{2}$  miles east-southeast of Flys Peak.

*Phalaenoptilus nuttallii*, POOR-WILL: Rare, observed and heard a few times between 5200 and 7000 feet elevation.

*Chordeiles acutipennis*, LESSER NIGHTHAWK: Uncommon on the desert, rare at higher elevations. Two birds seen each night between June 8 and 13, at the Station.

*Aëronautes saxatalis*, WHITE-THROATED SWIFT: Common at all elevations in the mountains, especially around tall cliffs.

*Archilochus alexandri*, BLACK-CHINNED HUMMINGBIRD: Uncommon on the desert. After June 26, approximately eight birds frequently visited a hummingbird feeder maintained at the Station.

*Selasphorus platycercus*, BROAD-TAILED HUMMINGBIRD: Common at high elevations, above 8000 feet, appearing rarely at the Station after early July.

*Selasphorus rufus*, RUFIOUS HUMMINGBIRD: A single male visited the feeder at the Station regularly from July 19 through the rest of the month.

*Eugenes fulgens*, RIVOLI'S HUMMINGBIRD: Rare; a single male visited the feeder at the Station June 24 and afterward, and a female came once on July 23.

*Lampornis clemenciae*, BLUE-THROATED HUMMINGBIRD: Uncommon from 5400 to 8400 feet, regularly visiting feeder at the Station after June 26.

*Trogon elegans*, COPPERY-TAILED TROGON: On July 27, a male was found by Tanner in Pine Canyon at 6000 feet. The bird was followed for an hour and a half during which time it moved over half a mile and called frequently; several good views of it were obtained. It was found again in the same area on July 29. This species has been reported before from the Chiricahua Mountains, but it is rare and irregular.

*Colaptes cafer*, RED-SHAFTED FLICKER: Common at all elevations above Portal. A nest 3 miles west of the Station at 6700 feet contained large young on July 9.

*Melanerpes formicivorus*, ACORN WOODPECKER: Common at all elevations between Portal and 7500 feet.

*Dendrocopos villosus*, HAIRY WOODPECKER: Regular at elevations above 6500 feet. A nest 3 miles west of the Station at 6500 feet held noisy young on June 18.

*Dendrocopos scalaris*, LADDER-BACKED WOODPECKER: Uncommon on the desert and up to 5200 feet.

*Dendrocopos arizonae*, ARIZONA WOODPECKER: Common from 5200 to 7200 feet. A full-grown immature was obtained on June 20 by Hardy at the Station.

*Tyrannus verticalis*, WESTERN KINGBIRD: Two seen along Cave Creek below Portal, at the edge of the desert, by Tanner on July 25.

*Tyrannus vociferans*, CASSIN'S KINGBIRD: Common from the edge of the desert up to the Station, rarely present up to 7500 feet. Tanner found a nest with an incubating adult on July 25 below Portal.

*Myiodynastes luteiventris*, SULPHUR-BELLIED FLYCATCHER: Rare between Sunny Flats, 5200 feet, and the Station; first observed on July 12.

*Myiarchus cinerascens*, ASH-THROATED FLYCATCHER: Common in trees along streams in desert, extending up to 5500 feet on dry open slopes.

*Myiarchus tuberculifer*, OLIVACEOUS FLYCATCHER: Common in canyons, 5100 to 6800 feet.

*Sayornis nigricans*, BLACK PHOEBE: Rare; on June 1, full-grown juveniles were seen at the Station. Also observed at 5300 feet in South Fork of Cave Creek Canyon.

*Sayornis saya*, SAY'S PHOEBE: Uncommon in desert; one nest with three eggs on June 30, in abandoned mine entrance 2 miles southeast of Portal and another also containing three eggs on July 10, approximately 14 miles north of Portal in a bank of the San Simon River.

*Empidonax difficilis*, WESTERN FLYCATCHER: Common at high elevations, from 6500 feet to the top. Nest containing young on July 7, at Rustler Park Ranger Station, 8400 feet.

*Contopus pertinax*, COUES'S FLYCATCHER: Common but less so than the Western Flycatcher, from 6000 to 8700 feet.

*Contopus sordidulus*, WESTERN WOOD PEWEE: Abundant from Portal to 8700 feet. Building nest on June 17, another nest with young leaving on July 14, both at the Station.

*Pyrocephalus rubinus*, VERMILION FLYCATCHER: Rare; Hardy saw two males at mouth of Keating Canyon in desert on June 6, and a male

near Portal on July 26; Tanner saw a male and female at the former locality on July 25.

*Eremophila alpestris*, HORNED LARK: Common on grassy desert.

*Tachycineta thalassina*, VIOLET-GREEN SWALLOW: Common, flying at all elevations. Two nests in a dead pine near the Snowshed Peak trail at 7600 feet on July 8.

*Progne subis*, PURPLE MARTIN: Uncommon, flying at all elevations. Adults seen carrying food to a cavity in dead pine near the Snowshed Peak trail at 7500 feet, July 8.

*Cyanocitta stelleri*, STELLER'S JAY: Common at high elevations, nesting from 6500 feet to top of mountains. Young just out of nest on June 21, at 6600 feet on East Turkey Creek, adults feeding almost grown young on July 2, along the trail above the Cima Canyon ranger cabin at 9200 feet. A few non-breeding adults summered in the Station area. Hardy collected two of these, each of which had small gonads.

*Aphelocoma ultramarina arizonae*, ARIZONA JAY: Common at low and medium elevations, from near Portal to 7800 feet. Nest with four eggs, eggs hatching on June 17, at 5000 feet in South Fork of Cave Creek Canyon; young leaving other nests on June 8 and June 14, at the Station approximately 3 miles from Portal in Cave Creek Canyon. Several collected by Hardy near the Station.

*Corvus corax*, RAVEN: Rare at tops of mountains, found especially around tall cliffs.

*Corvus cryptoleucus*, WHITE-NECKED RAVEN: Uncommon on the desert.

*Nucifraga columbiana*, CLARK'S NUTCRACKER: Two found by Tanner on July 21, at 9100 feet, above Long Park, feeding on cones of white pine (*Pinus reflexa*). Presumably the same two birds were collected by Hardy in the same location on July 23; they were adults, molting, one of each sex with small gonads. This is the first summer record of the species in the Chiricahua Mountains. There are early June records from the Huachuca Mountains (cf. Brandt, *op. cit.*).

*Parus sclateri*, MEXICAN CHICKADEE: Common from 6400 feet to highest elevations, at lower elevations always in cooler ravines where pines, Douglas firs, and white firs grow. Adults carrying food on June 11, 3 miles west of Station at 6600 feet.

*Parus wollweberi*, BRIDLED TITMOUSE: Common from 5000 to 7000 feet in the oak woodland.

*Auriparus flaviceps*, VERDIN: Uncommon on desert. Full-grown juveniles on June 30, 2 miles southeast of Portal.

*Psaltriparus minimus*, BUSH-TIT: Common from Portal to 7600 feet, usually in oak woodland.

*Sitta carolinensis*, WHITE-BREASTED NUTHATCH: Common from 5100 to 9500 feet. Adults feeding young at Station during first week of June.

*Sitta canadensis*, RED-BREASTED NUTHATCH: Rare, five records of from one to four birds each between 8800 and 9400 feet in July. One obtained at 8800 feet in Cima Canyon by Paul S. Martin on July 2.

*Sitta pygmaea*, PYGMY NUTHATCH: Abundant at high elevations, from 6500 feet to the highest elevations. Full-grown juveniles on June 25, one mile south of Flys Peak.

*Certhia familiaris*, BROWN CREEPER: Common from 6000 feet to tops of mountains.

*Troglodytes aëdon*, HOUSE WREN: (Perhaps intermediate with *brunneicollis* group.) Common above 7000 feet. Four half-grown young in nest at 8700 feet near the Flys Peak trail from Rustler Park on June 16.

*Thryomanes bewickii*, BEWICK'S WREN: Common from edge of desert up to 5500 feet.

*Campylorhynchus brunneicapillus*, CACTUS WREN: Common on desert.

*Catherpes mexicanus*, CAÑON WREN: Uncommon, frequenting canyon cliffs up to 6600 feet. Paul S. Martin found a nest with small young on July 29 in Wood Canyon at 5100 feet.

*Salpinctes obsoletus*, ROCK WREN: Rare; two seen in Horseshoe Canyon at 4700 feet on July 4 by Hardy.

*Mimus polyglottos*, MOCKINGBIRD: Common on desert, rarely extending up to 5400 feet.

*Toxostoma bendirei*, BENDIRE'S THRASHER: One on July 4, one on July 17, and two on July 25, in desert on San Simon Road near Portal.

*Toxostoma dorsale*, CRISSAL THRASHER: Uncommon at edge of desert. Two were seen below Portal and five in Keating Canyon by Tanner on July 25.

*Turdus migratorius*, ROBIN: Common at all elevations from 5400 feet up. Building nest at Station on June 3.

*Hylocichla guttata*, HERMIT THRUSH: Common at elevations above 6600 feet in firs.

*Sialia mexicana*, CHESTNUT-BACKED BLUEBIRD: Uncommon between 8000 and 8700 feet. Full-grown juveniles observed on July 11 near Long Park.

*Myadestes townsendi*, TOWNSEND'S SOLITAIRE: One observed on July 11 at 9400 feet elevation near Flys Peak by Tanner. When first seen, it was sitting high in a tree, calling constantly. Attracted by squeaking

noises, it came within 40 feet, still calling. This species is not known to breed in the basin ranges of southern Arizona. Swarth (1914, p. 79) states that Willard saw a pair in June, 1910, in the Huachuca Mountains "under circumstances possibly indicative of their breeding." The bird breeds in northern Mexico (Ridgway, 1907, pp. 163-164). It would seem that careful search might reveal this solitaire to be a rare nester in the Chiricahuas.

*Polioptila caerulea*, BLUE-GRAY GNATCATCHER: Common between 5000 and 7000 feet. One nest being built at 7000 feet in Pinery Canyon on June 8, another with four young in South Fork of Cave Creek Canyon at 5400 feet on July 5.

*Polioptila melanura*, PLUMBEOUS GNATCATCHER: Observed once below Portal on July 17 by Tanner.

*Regulus satrapa*, GOLDEN-CROWNED KINGLET: Locally distributed in the highest spruce and fir forest, around 9500 feet.

*Regulus calendula*, RUBY-CROWNED KINGLET: One heard singing by Tanner in Douglas fir forest at 9000 feet on June 25, near the Cima Ranger Station 1 mile south of Flys Peak.

*Lanius ludovicianus*, LOGGERHEAD SHRIKE: Common on desert.

*Vireo huttoni*, HUTTON'S VIREO: Uncommon between 5100 and 7600 feet in oak and pine. Young out of the nest on June 11, 3 miles west of Station at 6900 feet.

*Vireo bellii*, BELL'S VIREO: Uncommon in trees along desert washes. On July 25, Tanner found one singing bird below Portal and a second at Keating Canyon.

*Vireo vicinior*, GRAY VIREO: A singing bird was found on July 25 by Tanner in oaks and shrubbery near a tank in the mouth of Keating Canyon. Phillips states that this species has not been reported before from the Chiricahua Mountains except in the vicinity of Fort Bowie.

*Vireo solitarius*, SOLITARY VIREO: Common from 5000 to 8400 feet. One nest being built at the Station on June 10, an incubating bird in South Fork of Cave Creek Canyon at 5100 feet on June 24, and young out of nest at Rustler Park at 8400 feet on July 7.

*Vireo gilvus*, WARBLING VIREO: Uncommon between 5000 and 7200 feet. Incubating in Pinery Canyon at 7000 feet on June 7.

*Vermivora virginiae*, VIRGINIA'S WARBLER: Uncommon between 7000 and 8500 feet.

*Vermivora luciae*, LUCY'S WARBLER: Common from the desert to 5400 feet. Young out of nest on June 24 at the Station.

*Peucedramus taeniatus*, OLIVE WARBLER: Rare between 8200 and 9000 feet.



*Dendroica petechia*, YELLOW WARBLER: One singing at the Station during the first week of June.

*Dendroica nigrescens*, BLACK-THROATED GRAY WARBLER: Common from 5200 to 8800 feet. Young out of nest at 5400 feet in first week of July near the Station.

*Dendroica graciae*, GRACE'S WARBLER: Common from 5100 to 8000 feet.

*Cardellina rubrifrons*, RED-FACED WARBLER: Common from 6400 to 8500 feet.

*Wilsonia pusilla*, PILEOLATED WARBLER: On June 1, at the Station, Hardy shot a female having a minute ovary and saw another there the next day.

*Setophaga picta*, PAINTED REDSTART: Common between 5100 and 7000 feet, usually along streams. Adults feeding grown young on June 23, at 5200 feet in South Fork of Cave Creek Canyon.

*Passer domesticus*, HOUSE SPARROW: Common at Portal, not observed above there.

*Sturnella magna*, EASTERN MEADOWLARK: Uncommon on grassy desert west of the mountains.

*Icterus cucullatus*, HOODED ORIOLE: A common species on the desert.

*Icterus parisorum*, SCOTT'S ORIOLE: Common from the edge of the desert to 7600 feet on dry ridges.

*Molothrus ater*, BROWN-HEADED COWBIRD: Uncommon from edge of desert to the Station.

*Piranga ludoviciana*, WESTERN TANAGER: Common from 6600 feet to the tops of the mountains.

*Piranga flava*, HEPATIC TANAGER: Common from 5200 to 7600 feet in the mixed forest in canyons. Young just out of nest at the Station on July 13.

*Richmondia cardinalis*, CARDINAL: Seen below Portal on July 17 and 25, and a pair at the mouth of Keating Canyon on July 25, by Tanner.

*Pheucticus melanocephalus*, BLACK-HEADED GROSBK: Common from 4700 to 7600 feet, usually in canyons and neighboring oak woodland.

*Passerina amoena*, LAZULI BUNTING: An adult male was shot by Hardy at 5100 feet, at a water hole in South Fork of Cave Creek Canyon, on June 21. Testes 6 by 4 mm. and 4 by 3 mm. Right leg infected and swollen at heel joint. There are no definite breeding records for southern Arizona, although there are indications of the species' nesting

near Tucson (cf. Swarth, 1914, p. 61) and in Sonora, Mexico (Van Rossem, 1945, p. 256).

*Carpodacus mexicanus*, HOUSE FINCH: Common at and below Portal and extending sparingly up to the Station.

*Spinus pinus*, PINE SISKIN: Rare, three records in early June above 7400 feet on the Flys Peak trail from Rustler Park and along road to Rustler Park from Portal.

*Spinus psaltria*, GREEN-BACKED GOLDFINCH: Uncommon, observed only between 5200 and 5400 feet.

*Loxia curvirostra bentii*, RED CROSSBILL: Rare between 8700 and 9400 feet in Douglas fir, white fir, and spruce. A female, which was in company with a singing male, was shot by Hardy on July 23, at 9500 feet, 2½ miles south of Rustler Park. This specimen was compared with a series of six female *L. c. bentii* taken in Kansas in winter and with a female *L. c. stricklandi* from Jalisco, Mexico, taken in June. In length of wing, culmen, and depth of bill the Arizona specimen is typical of the subspecies *bentii*. Griscom (1937, pp. 147-148) states that *L. c. bentii* is a very rare vagrant in Arizona, but that in 1894 it reached the southern part of that state and may have remained to breed. Evidence of this is given by one female and five juveniles collected in the Chiricahua Mountains in May, 1896, and now in the collection of the Academy of Natural Sciences of Philadelphia.

*Chlorura chlorura*, GREEN-TAILED TOWHEE: One observed by Hardy at the Station on June 3.

*Pipilo erythrophthalmus*, BROWN-SIDED TOWHEE: Abundant from 5400 feet to 8700 feet.

*Pipilo fuscus*, BROWN TOWHEE: Uncommon in desert.

*Chondestes grammacus*, LARK SPARROW: Common along upper edge of grassy desert, up to 5500 feet.

*Aimophila ruficeps*, RUFIOUS-CROWNED SPARROW: Uncommon between 5300 and 7200 feet.

*Amphispiza bilineata*, BLACK-THROATED SPARROW: Abundant on the desert.

*Junco phaeonotus*, RED-BACKED JUNCO: Common above 7600 feet, extending down to 6500 feet in some canyons. Nesting begins in early May and lasts to late July.

*Spizella passerina*, CHIPPING SPARROW: Common around Station. Young out of nest in first week in July at the Station.

*Zonotrichia leucophrys*, WHITE-CROWNED SPARROW: One observed at the Station on June 3.

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