

that it was a Scissor-tailed Flycatcher (*Muscivora forficata*). Grinnell and Miller (Pac. Coast Avifauna No. 27, 1944:251) cite four records from southern coastal counties of the state, the last reported in 1937.—ERNEST R. TINKHAM, *Indio, California, November 6, 1948.*

Bird Records from the Navajo Country.—The excellent recent summary of the ornithology of northeastern Arizona and adjacent Utah by Woodbury and Russell (Bull. Univ. Utah, 35, No. 14, 1945:1-160) prompts us to publish the following supplemental records. For certain data, we are indebted to Messrs. Lyndon L. Hargrave and Keith Warren.

Callipepla squamata. Scaled Quail. *Lophortyx gambelii*. Gambel Quail. The occurrence of both species of quail near Navajo, Apache County, Arizona, seems significant. The region is a very sparsely settled one, and introduction seems unlikely. A covey of each species was seen by Wetherill in October, 1947, that of *Lophortyx* (22 birds) being much the larger. The latter may possibly have spread from south of Chambers, where quail supposedly from Texas, were liberated in 1939 or 1940. At the present time, quail possibly from this source range on the south side of the Rio Puerco from Navajo to Sanders. No introductions of *Callipepla*, however, are known to us, so these birds may be native. But we may never be sure of the original status of quail in the Navajo country.

Larus pipixcan. Franklin Gull. Two black-headed gulls soaring over Phillips' head at the reservoir east of Joseph City, April 26, 1948, were clearly seen to have black patches on the primaries subterminally. They must, therefore, have been of this species, which has been taken on the Colorado River in southeastern Utah, not far north of the Navajo country, at this season (Behle, Auk, 65, 1948:306), but is not mentioned by Woodbury and Russell. Other birds not previously recorded in the Navajo country at this season were seen the same day in the Holbrook-Joseph City region, including about 25 White-faced Glossy Ibis (*Plegadis mexicana*), 7 Lesser Scaup (*Aythya affinis*), 48 Dowitchers (*Limnodromus griseus*), 2 Lesser Yellow-legs (*Totanus flavipes*), 9 Wilson Phalaropes (*Steganopus tricolor*), and about 4 Tree Swallows (*Iridoprocne bicolor*) and 5 Bank Swallows (*Riparia riparia*).

Columba fasciata. Band-tailed Pigeon. The most definite record for the Navajo country is that of Wetherill, who saw six birds at War God Spring, Navajo Mountain, Utah, on August 1, 1932.

Geococcyx californianus. Road-runner. No valid records since 1930 are listed by Woodbury and Russell. Wetherill saw one 5 miles west of Joseph City on July 4, 1942, and another at Cibola Rock, a bit north of Lupton, in February, 1948. He also secured the remains of a skin found nailed to a barn door on the Rio Puerco near Lupton, where it had been killed in 1944 or before.

Strix occidentalis. Spotted Owl. A partial skeleton, still articulated, was found by Wetherill on an Indian ruin near Manuelito, New Mexico (a little east of Lupton, Arizona). It was sent to Dr. Alexander Wetmore for identification. He has kindly reported that, while the United States National Museum has no full skeleton of that species, he was able to identify it as *Strix occidentalis*, partly by elimination. The condition of the bones indicates that the bird had been dead for a long time, but it was not prehistoric. This owl also occurs on the Arizona side of the state line, as shown by an adult female in the Phillips collection taken in Good Luck (Lupton) Canyon, 5 miles north of Lupton, July 24, 1937, by A. W. Sanborn and Hustace H. Poor. The nearest previous points of record appear to be Navajo Mountain, Utah, and central northern and central New Mexico.

Aegolius acadicus. Saw-whet Owl. The first recent record for this general region is a mummified specimen found by Wetherill south of Lupton on January 12, 1947. It is in good condition and had probably not been dead very many months.

Colaptes auratus borealis. Yellow-shafted Flicker. One was found drowned at Cedar Ridge, 40 miles north of Cameron, Coconino County, Arizona, on May 7, 1947, by Keith Warren. Recognizing the rarity of the bird, he skinned it and presented it to the Museum of Northern Arizona. Its size (wing 160 mm.) agrees with birds from the Dakotas rather than with Alaskan birds. This is the first certain record of any Yellow-shafted Flicker for northern Arizona or any nearby area.

Sphyrapicus thyroideus. Williamson Sapsucker. There are records in the museum's files of a male seen in an aspen thicket at Kiet Siel Spring, Skeleton Mesa, on June 26, 1933, by Hargrave, and of one seen about a mile south of pueblo in Kiet Siel Canyon, on August 8, 1936, by Wetherill. These data, apparently overlooked heretofore, indicate probable breeding locally in the Tsegi Canyons. Woodbury and Russell give no summer records except for the Lukachukai Mountains.

Dendrocopos pubescens. Downy Woodpecker. A male seen in Betatakin Canyon, January 25, 1938, by Wetherill furnishes the first winter record for the Tsegi Canyon region.

Empidonax wrightii. Wright Flycatcher. A male taken by Phillips 4 miles west of Holbrook, April 25, 1948, is the first spring record for the Navajo country.

Empidonax difficilis. Western Flycatcher. Mr. Hargrave tells us the March record credited to him (p. 78) is an error, the notes evidently being transcribed under the wrong species.

Petrochelidon pyrrhonota. Cliff Swallow. Wetherill's earliest date at Lupton is April 10, 1947. Specimens taken there by Hargrave are not typical of either *tachina* or *albifrons*. Wetherill has found nests in ten different locations thereabouts. A male taken by Phillips on the south side of the Little Colorado River 3 miles west of Holbrook on April 26, 1948, proved to be a very fat migrant of *P. p. hypopolia*, which race has not previously been taken in the Navajo country or elsewhere in northern Arizona.

Corvus brachyrhynchos. Crow. The specimen taken at Kayenta was obtained in November (not March), 1937. Phillips was responsible for misleading Drs. Woodbury and Russell on this point. Wetherill saw a crow at the lake west of Kayenta on June 14, 1937, and remarks that it was the first one seen near Kayenta in several years. The only crows seen in his three years at Lupton were on November 11, 1947, when a flock of 40 flew south overhead at 11:15 a.m. These winter birds are presumably *hesperis*, like the specimen (which was measured); but the occasional summer birds have not been determined racially.

Nucifraga columbiana. Clark Nutcracker. A desert record station for the 1935 flight is Kayenta, where a flock of eight was reported to Wetherill in the early part of November. He saw others in Tsegi Canyon August 6-8, 1935, and in Kiet Siel Canyon on May 4, 1936. It may also be noted that the female taken on August 4 was obtained in 1935 (not 1936). In 1937, Wetherill was at Betatakin Canyon from May to December, but noted nutcrackers only once: four birds seen on September 16. This is further proof that the numbers in 1935-36 were unusual.

Thryomanes bewickii. Bewick Wren. Although the majority of these wrens retire to the south or to desert localities (such as Tuba City) in winter, a single bird was still present among the pigmy conifers near Lupton on November 14, 1947 (Phillips).

Hylocichla guttata. Hermit Thrush. A male taken by Phillips four miles west of Holbrook, April 25, 1948, is referable to *H. g. sequoiensis* (or "*dwightii*," if that name can be upheld). It measures: wing, 94.8 mm., tail, 74.5. Bill size is about as in *H. g. guttata*, but it is slightly darker grayish brown above. This is the first definite record of any migrant Hermit Thrush in the Navajo country.

Myadestes townsendi. Townsend Solitaire. Wetherill saw two at War God Spring, Navajo Mountain, on July 1 and 2, 1937. There are no previous records for this mountain.

Bombycilla cedrorum. Cedar Waxwing. Hargrave saw a flock of about 15 in lower Oraibi, Navajo County, Arizona, on November 15, 1936. There are no other fall or winter records for the Navajo country.

Lanius ludovicianus. Loggerhead Shrike. A dark-looking female was taken by Phillips near the reservoir east of Joseph City on November 27, 1946. It proved to be of the race *gambeli*, which is thus added to the Navajo country list.

Sturnus vulgaris. Starling. The first Arizona record was a flock seen by Wetherill at Three Hogans, 3 miles west of Lupton, in May, 1946. At least 26 were seen by Phillips in the same region on November 27, 1946, but there are no other records for the Lupton area. In the Holbrook-Joseph City area, Starlings must have arrived much earlier, as they were abundant by November, 1946. On November 27, Phillips saw several hundred there, which flew off toward the west; soon afterward, a flock estimated to contain a thousand Starlings flew back eastward. This last flight, at 5:00 p.m., may have contained the birds seen previously. Again, on November 15, 1947, Phillips saw about 60 Starlings near the reservoir east of Joseph City. Monson (Condor, 50, 1948:45) has also reported Starlings seen in this vicinity. This is evidently the only area in Arizona where they are now common.

Oporornis tolmiei. MacGillivray Warbler. An early migrant was seen 4 miles west of Holbrook on April 25, 1948 (Phillips). At this date, the commonest bird in the brush along the Little Colorado River was the Pileolated Warbler (*Wilsonia pusilla*), of which about 35 were seen in three hours. Two Bullock Orioles (*Icterus bullockii*) were also seen. None of these birds had been previously recorded so early in the Navajo country.

Molothrus ater. Brown-headed Cowbird. A singing male taken by Phillips 4 miles west of Holbrook on April 25, 1948, is *artemisiae*. The museum series from the northeast slopes of the San Francisco Mountain region, however, is *obscurus*. The line of separation of the two races thus appears to be a north-south one in the western part of the Navajo country.

Spinus pinus. Pine Siskin. The large autumn flocks have been seen as early as August 6, 1937 (about 30 in Tsegi Canyon), and September 27, 1937 (about 20 in Kiet Siel Canyon, Tsegi Canyons) by Wetherill, and as late as November 14 and 15, 1947, by Phillips (about 45 at Lupton and about 10 near Holbrook). No specimens are available to determine the race or races represented.

Spinus tristis. American Goldfinch. Probably winters at Lupton, where about five were seen with Siskins on November 14, 1947, and near Holbrook, where up to about eight birds were seen on all Phillips's visits (November 15, 1947, and April 25-26, 1948). There are few previous records for the region at any season.

Pipilo fuscus. Brown Towhee. Up to six birds were seen regularly at Lupton in the winter of 1946-47 (Wetherill). A pair was seen in the same vicinity on November 14, 1947 (Wetherill, Phillips), and one was taken, which proved to be typical *mesoleucus*. Probably the species is a permanent resident there, although not yet detected in summer. The species is not mentioned by Woodbury and Russell.

Calamospiza melanocorys. Lark Bunting. A male was seen by Phillips on April 26, 1948, on the south side of the Little Colorado River 3 miles west of Holbrook. This is the third individual reported in the entire region.

Junco oreganus. Oregon Junco. Woodbury and Russell assign their birds to the race *shufeldti*, as defined by Miller. While this may be true of the migrants in the University of Utah collection, the winter birds in the Museum of Northern Arizona are his *montanus*. The only one that is at all doubtful is no. Z8.267, which appears to be a female *montanus*, although sexed as a male. Also, a female taken by Wetherill near Farmington, northwestern New Mexico, on December 14, 1940, is evidently a small specimen of *montanus*. With further collecting, a small proportion of *shufeldti* may be found wintering, but it is certainly not the common race at that season.

Junco caniceps. Gray-headed Junco. The earliest record for transients is September 29, 1937, when Wetherill saw three in Betatakin Canyon. The "September" records cited by Woodbury and Russell are misprints for October.

Melospiza melodia. Song Sparrow. Woodbury and Russell, in the absence of specimens, assigned their Song Sparrow records to the race *montana*. The correctness of this prediction is proved by two winter specimens taken east of Farmington, New Mexico by Wetherill, and one from west of Holbrook, Arizona by Phillips. In the latter locality, two birds were still present on April 25, 1948. —MILTON A. WETHERILL and ALLAN R. PHILLIPS, *Museum of Northern Arizona, Flagstaff, Arizona, July 25, 1948.*

Early Sexual Behavior in Flocking Robins.—Large flocks of migrating Robins (*Turdus migratorius*) gather on the campus of the University of California, Berkeley, in January and February. The flocks soon strip berry-laden bushes (chiefly *Pyracantha*, *Catoneaster*, and *Photinia*) and then concentrate for feeding on the lawns. Here they space themselves evenly, reaching a maximum observed density of about 0.07 birds per square yard. Dominance is constantly in evidence; too close passage results in a peck and retreat by one of the birds. This behavior contrasts with an awakening territorial defense which is shown less frequently by a bird defending its little area of lawn with a threatening display consisting of crouching with tail feathers spread and of occasional fighting. The fighting usually consists of a rush by one of the birds, at the end of which the two birds fly up vertically, squawking, pecking, and clawing each other as reported by Price (Condor, 35:52-54). On January 25, 1949, the first of three attempts at copulation was observed. The two birds were in the top of a low bush. The top bird grasped the neck feathers of the other in its bill and mounted while the lower bird fluttered in resistance. The top bird then flew off a few feet, wiggled its tail, and commenced feeding. February 2 and 9 the same behavior was observed, this time on the lawn. The sex of these birds was not known except in one case where the coloring of the top bird was deep enough to indicate definitely that it was a male. It is regrettable that the preliminary steps in this behavior, which would have made these notes more valuable, were not observed. Blanchard (U. C. Publ. Zool., 46(1), 1941:41-42)