

NOTES ON THE MIGRATIONS OF THE ELF AND
FLAMMULATED SCREECH OWLS

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WHILE gathering information on the birds of Arizona, I found in 1937 that winter records for certain owls were few or lacking. When this was mentioned to Mr. E. C. Jacot, who is thoroughly familiar with Arizona night birds, he expressed the opinion that two of these owls did not winter within the state. Further inquiry establishes at least a high degree of probability that Jacot's views are correct. These two very migratory owls are discussed below.

In addition to the literature, I have drawn upon information from the following sources: U. S. Fish and Wildlife Service, U. S. National Museum, Field Museum of Natural History, American Museum of Natural History, and the private collection of Dr. L. C. Sanford, University of Utah, University of Arizona, and Arizona State Museum. Mr. J. Frank Cassel kindly supplied data on specimens in the Academy of Natural Sciences of Philadelphia, and Mr. J. Southgate Y. Hoyt on those in the Museum of Comparative Zoology at Harvard College. I wish to express my appreciation to these gentlemen and to the authorities of these institutions.

ELF OWL (*Micropallas whitneyi*)

Though repeatedly sought, this owl has never been authentically recorded in winter in southern Arizona; it is probably the most numerous of all owls there in summer. A. B. Howell (1916: 211) long ago questioned its wintering there, yet most ornithologists continue to think of it as a resident species.

Three races are currently recognized. Since these do not seem to have the same migratory behavior, it is advisable to consider each separately. *Micropallas whitneyi sanfordi* of Baja California appears to be resident, though further data are desirable. It does not seem to be an especially rare bird.

M. w. idoneus of extreme southern Texas is a rare bird whose status requires further elucidation. As far as I know, the earliest spring record is March 14, 1894, at Brownsville (specimen in Philadelphia Academy of Natural Sciences, fide J. F. Cassel). This date agrees well with the arrival of Elf Owls in southern Arizona and therefore provides no evidence that the species winters in Texas.

The great bulk of our knowledge of the species has been obtained in central southern Arizona, with whose saguaro (giant cactus) country we have long associated it. However, it is by no means restricted to that association. Jacot has found it common in the Huachuca Mountains in the oak belt, and various others have reported it in the same association

in other mountains. In fact, from the live oak belt downward, it apparently breeds wherever there are suitable nesting holes in central southern Arizona.

In this area of abundance, numbers of Elf Owls have been taken from late March to June, and others in the summer months and as late as the first week of October. The latest record seems to be Oct. 10, 1885, at Tucson (one ♀ in Arizona State Museum, taken by Herbert Brown).

Spring return seems to occur usually in early March. The earliest date is February 25, 1940, when I took near Tucson a male which was prepared by Lyndon L. Hargrave and is now in my collection. Probably they arrive regularly the last of February or first of March, although the next certain record seems to be March 12, 1908, at Campbell's Ranch on the Rillito (reported by H. H. Kimball to Fish and Wildlife Service). On both March 16 and 17, 1938, I noted several near Tucson, and three specimens were secured in an hour's collecting on March 16; in view of the number seen, I believe that they had probably arrived some days previously.

The available data, then, show clearly that the southern Arizona Elf Owls migrate to an unknown winter home in early October and return in early March. The male (Fish and Wildlife Service collection) taken by E. W. Nelson at Tehuacan, Puebla, May 4, 1893, furnishes some evidence that the species breeds at least that far south; otherwise the males would probably have migrated north long before that date. I have seen no other dated specimens from southern or central Mexico. Whether the species migrates south out of its breeding range or merely withdraws into the southern part of it awaits discovery.

FLAMMULATED SCREECH OWL (*Otus flammeolus*)

Swarth (1904: 9) long ago stated that this owl was "quite a common migrant" in late April and early May in the Huachuca Mountains, Arizona. Jacot (1931: 10) failed to find it in winter in those mountains. Swarth also (1914: 30) regarded it as a "summer visitant" only, in Arizona. Nevertheless, current literature still treats this owl as a resident, non-migratory bird. This treatment is not justified by the facts. As far as I can ascertain, all but one of the definitely dated records for the United States and Canada fall between April 11 and October 31. Dates of interest, arranged by states and provinces, are as follows:

BRITISH COLUMBIA.—The "dilapidated specimen" picked up in November, 1902, at Penticton (Brooks, 1909: 61) hardly constitutes a satisfactory date of occurrence.

OREGON.—Extreme dates are April 30, 1939, at the Malheur Refuge to October 15, 1940, in the Steens Mountains (both dates reported to the Fish and Wildlife Service by Refuge Manager J. C. Scharff).

CALIFORNIA.—The male reported (Stephens, 1902) as taken north-

east of San Bernardino, January 18, 1885, by Forest Ball, I regard as probably casual. Mr. Hoyt kindly checked the original label on the specimen at Cambridge and found that it confirmed the date. The latest date otherwise is October 31, 1935, at Davis (Emlen, 1936).

IDAHO.—The latest date is Sept. 28, 1914, near Coeur d'Alene (Rust, 1915: 125), but it probably stays later. The supposed egg with "incubation well begun" (Short, 1904) taken April 25, 1901, near Meridian was very doubtfully identified; it is questionable whether the birds even *reach* Idaho before April 25.

UTAH.—The latest date is October 26, 1934, at Salt Lake City (Woodbury, 1939: 158).

COLORADO.—The latest date is October 4, 1894, at Breckenridge (Cooke, 1900: 206), but it doubtless stays later. The supposed "March" record (Ridgway, 1877: 210), based on a skin in the Maxwell collection, I consider unsatisfactory since the data given by Ridgway on this collection have sometimes proved erroneous.

TEXAS.—Earliest of the few records is April 19, 1890, in Presidio County (Oberholser, 1899). Date secured from the specimen in the Fish and Wildlife Service collection.

NEW MEXICO.—Recorded from April 11 and 15, 1887, at Mimbres (skins in Field Museum) to October 19, 1909, in the Mogollon Mountains (Bergtold, 1912: 332).

ARIZONA.—April 13, 1935 (vague statement by Jenks and Stevenson, 1937: 88), or April 14, 1930, in the Huachuca Mountains (Jacot, 1931: 11) is the earliest valid date.

It thus appears that the Flammulated Screech Owl arrives in the western United States generally in middle or late April and remains until late in October. What, then, is its status in Mexico? Here we lack detailed data. The species evidently winters north at least to Mount Orizaba and breeds south to Las Vigas, Veracruz, but the great majority of records lack exact dates.

The discovery of the extent of the migrations of this owl suggests the need for a review of its taxonomy and nomenclature. Kaup's original diagnosis is too brief to indicate the coloration of his specimen or specimens, but six years later (1859: 226) he described the species more adequately. Two specimens are mentioned but the first is described at greater length and must be considered the type. This was a gray bird and the name *flammeolus* is therefore correctly applied to a northern race. I suspect that all these gray individuals from southern Mexico and Guatemala (Ridgway, 1914: 730, footnote) are migrants. Kaup thought that his second bird was young, and his brief remarks that it was smaller and that the "rufous color predominates" indicate that it probably represented the local breeding race.

I know of no published evidence that this species breeds in Guatemala. The two dates seen are both in January. While I fully believe

that Griscom's *rarus* is a valid race, it is possible that it may breed only in southern Mexico. Moore and Peters (1939: 56) state that a specimen from the Valley of Mexico "resembles *rarus* closely, but shows a greater extension of cinnamon markings above and below." This hardly seems likely to prove constant when adequate series become available.

In this connection I have compared three especially critical specimens: a red male (Field Museum No. 19751) from Tecpam, Guatemala, January 7, 1906 (Dearborn, 1907: 84), believed to represent *rarus*; the breeding female (No. 7204, Louis Agassiz Fuertes Memorial Coll. of Cornell Univ.) from Las Vigas, Veracruz, April 4, 1939 (Sutton and Burleigh, 1940: 238); and a female (L. C. Sanford collection, No. 15768) taken by Jacot in the Huachuca Mountains, Arizona, June 5, 1922, which is the reddest United States specimen that I have seen. The Guatemalan bird, unfortunately, may not have reached fully adult plumage. In any case, it differs from the other two much as stated by Ridgway (1914: 729-730). It has an unstreaked pileum; warm brown sides of neck, back, rump, and tail; pale cinnamon tarsal feathers, cheeks, and upper sides; reduced and paler dark streaks and bars in underparts and in rear of auriculars; and less white in the head, the anterior white nuchal band being almost gone.

The Veracruz bird resembles northern birds in its heavy, dark crown-streaking and breast-penciling, but is in most respects intermediate. It is darker than the Arizona bird, probably only by individual variation. The anterior nuchal band is narrow but distinct. The tarsal feathering is cinnamonaceous only proximally. This and the Arizona bird are quite similar dorsally.

The Sanford collection contains an excellent series from the inland southwest. These are mostly from the Huachuca Mountains, Arizona (April and May) and from Reserve, New Mexico (June, July, and September). The southern Arizona series is distinctly different from the more northern New Mexican birds, which are less rufescent, especially on the crown and the scapular spots.

A quite rufescent bird in the Sanford collection, taken by G. F. Breninger and without an exact date or original label, is marked as having been taken at Fresno, California. It agrees well with birds from the Huachuca Mountains, however, and I suspect that that is where it was really taken, as Breninger did considerable collecting there.

It is obvious that, in such a migratory and variable species, the material at present available is insufficient to settle the taxonomic and nomenclatural problems presented. The data at hand indicate that:

(1) The grayest birds are found in the western United States generally, south probably to central Arizona and central New Mexico. If the name *flammeolus* applies to the north Mexican race, these would become *O. f. idahoensis* (Merriam).

(2) Birds breeding from southern Arizona south are slightly redder.

The name *flammeolus* may or may not apply to these birds. Birds of the Sierra Madre Occidental may resemble either southern Arizona or southern Mexican birds, or may fall between the two.

(3) Birds breeding in southern Mexico are still redder, and may or may not be separable from *rarus*. Whether the latter breeds at all in Guatemala remains doubtful.

In connection with the migrations of the Flammulated Screech Owl it is interesting to note that Delacour (1941: 133-134) considers the races of this bird to be subspecies of the Old World *Otus scops*, whose northern forms are known to be migratory.

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