

NOTES ON THE SPOTTED AND FLAMMULATED SCREECH OWLS IN ARIZONA

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The Huachuca Mountains of southern Arizona, where these notes were taken, have been visited so frequently by ornithologists that they hardly need an introduction here. The nocturnal birds of that region, however, have been very much neglected due to the extreme difficulties of night travel. Steep, rocky slopes, and much dense brush do not encourage activity at night. Fear is another discouraging factor, a fact seldom admitted. However, I have never known a man who did not show fear in some way when he suddenly found a rattlesnake within a few inches of his leg, or who felt perfectly comfortable in the presence of a growling lion which he could not see in the dark. Fear need not prevent one from accomplishing a given task but it does prey upon the nerves. The concentration necessary to interpret the slightest sound by ear, and at the same time keep an elusive owl within one's range of vision, noting its actions, and anticipating its movements, is no small drain upon one's nervous energy.

Since 1920, when I first became interested in the screech owls of the Huachuca Mountains, hundreds of trees have been climbed and many nights have been spent in the field in an endeavor to delineate their respective ranges and to learn something of their habits. This year fifty nights were spent in the field and some twenty square miles of country were worked. Considering the number of days and nights spent in the work, the results have been rather discouraging. However, I believe a summary covering my observations of the past ten years will be of some help to those interested in the two owls treated in this paper.

THE SPOTTED SCREECH OWL (*Otus trichopsis*)

Range.—The Spotted Screech Owl is a permanent resident in the Huachuca Mountains. Specimens were taken during February, 1923; March, 1923; April, 1930; May, 1926 and 1930; June, 1923 and 1930; October, 1922; December, 1925. This is evidently a bird of the Arizona white oak (*Quercus arizonica*) belt, and none was taken outside of this region, all having been secured between 5500 and 6500 feet elevations.

Food.—Black crickets, hairy caterpillars, moths, grasshoppers, large beetle larvae, and centipedes form the principal diet of the Spotted Screech Owl. Moth eggs, undoubtedly taken with the female moths, were found in two stomachs, and a large spider was found in another. Caterpillars and black crickets are staple articles of their diet the year round. Centipedes are taken more frequently during the winter months than during the summer. Practically every stomach examined during the colder months contained one or more small centipedes.

Calls.—The mating song or call of the male consists of about six rapidly delivered notes. These notes sound very much like *boo* or *boot*, and are delivered about as fast as a person can count: *boot-boot-boot-boot-boot-boot*. The male may be heard calling a half mile or more away, but at times the call may be uttered so softly that the sound carries only a few feet. The female also gives the mating call in an emergency but at a higher pitch.

There are several alarm notes used by both the male and the female. A worried *chang* is most frequently given, especially by the female. A rather mournful *choo-you—coo-coo* is uttered when the owls are greatly disturbed. They also snap their

bills as other screech owls do. Both birds give clucking notes while courting, or when one or the other of the owls flies into a tree where its mate may be.

Habits.—The Spotted Screech Owl is seldom seen above thirty feet from the ground in any species of tree, and usually ranges below fifteen feet. The birds prefer the Arizona white oak to all other trees, but they were also observed to frequent the alligator-barked juniper, sycamore, Emory oak, mountain ash, and to some extent the walnut. The pine seems to be the least favored of the trees in the region, although it is not uncommon. I have only one record of a Spotted Screech Owl frequenting a pine. This was a small sapling, with its branches intermingled with those of a small white oak, and the owl retreated into it at my approach.

The plumage of the Spotted Screech Owl blends admirably with the bark of the Arizona white oak in daylight or at night. The owl during the day perches at times on a branch close to the trunk of the tree. In this situation, with its eyes closed and hiding the yellow iris, and stretched to its full height, it resembles the dead stub of a branch. This screech owl does not attempt to escape observation at night in this way, but when it is on a large limb, it fluffs out its feathers and leans forward in such a manner that it looks very much like a bulge on the limb. Occasionally, one will be seen perched near the end of a branch among the twigs. In this position, it inclines its body toward the end of the branch and closely resembles a cluster of leaves. Whether this posture is assumed to avoid detection, or is merely a position preparatory to flight, could not be determined, as, although the owls often hold this position for several minutes, they do not always fly.

The males usually call from the white oak trees, but the alligator-barked junipers also furnish favorite perches for this purpose. The perch from which a male calls is usually a dead stub of a branch, either horizontal or vertical, protected by branches above, but with a clear field below. It may perch near the trunk of the tree or out toward the end of a horizontal perch, but on the tip of a perpendicular one. The owl tilts forward each time it calls, and may call repeatedly for a half hour or more.

While the male is calling, the female is often near-by and frequently in the same tree as the male. However, she chooses a less conspicuous perch and is seldom seen unless disturbed. She may at times be located by her soft *chang* note.

Males answer each other's calls sometimes a half mile or more apart, but never more than two were heard calling at one time. If one of the calling birds is taken, the other will stop calling at the report of the gun; but they usually keep on calling if they are not shot at, even though the gun is fired. This was verified on several occasions, and I have come to the conclusion that their notes have more different meanings than they have been credited with.

The Spotted Screech Owl is attracted at night by the alarm notes of other owls. A pair of Elf Owls was very much disturbed at my approach. Their alarm notes attracted a pair of Spotted Screech Owls from quite a distance. The male screech owl gradually approached, calling at intervals, until he was within twenty yards of me. The female was seen shortly afterward a few yards from the position the male had taken.

The mating call is used by the female to attract a male during the nesting season, if some accident has befallen her mate. This statement is based on the actions of only one female, and should be verified before being applied to the species, although I believe it to be a universal practice. Under the circumstances, a full account of the actions of the birds involved seems desirable.

I was almost certain that a pair of Spotted Screech Owls was nesting in the vicinity of my camp, as the male had been heard several times during the month. Another male arrived one night and passed on, acting like the wandering males earlier in the season. About a week later the worried *choo-you—coo-coo* notes of the pair attracted my attention. Working carefully toward them, I realized that both birds were giving this call, and I was also surprised that both birds were coming toward me. The female gave the *chang* note almost continually, and gave the longer call only twice after the two birds were located. The male also gave the *chang* note a few times. He flew within a few yards of me, lit on a green limb of a white oak, well out near the end, and continued to call *choo-you—coo-coo*. The male was taken. The female did not call after the shot, but I was able to follow and watch her for a short time. Six nights later, a male giving the mating song was taken within seventy-five yards of the place where the pair had first been seen. The following night the mating call was again heard in the same locality, the owl calling about twenty yards from the place where the first male had been secured. Another owl was answering farther up the cañon, and it was noticed that the notes of the calling bird were higher pitched than those of the answering bird. Thinking the bird nearest me was a male, I shot it. This owl, however, proved to be a female in brooding condition. The external indications were verified later when the owl was sexed.

I believe that this female would have had three different mates during the week if she had not been killed.

The males thus attracted are probably year-old males, which have not mated and are wandering singly over the country. This statement is not based on this one instance only, as I had come to the conclusion earlier in the season that some males were wandering about, remaining in a locality for a night or two, and then moving on if they had not found mates. However, conclusions are not facts, and a great deal more work will have to be done before anything definite can be stated about these wandering males.

THE FLAMMULATED SCREECH OWL (*Otus flammeolus*)

Range.—The Flammulated Screech Owl nests from the crest of the Huachuca Mountains to well down into the foothills. A female taken June 5, 1922, at approximately 9000 feet, and another female secured May 19, 1926, at 5500 feet, both in brooding condition, indicate the extreme ranges of elevation at which I have found them. No specimens were taken during the winter months.

Food.—The food, as far as could be determined from the examination of stomach contents, consists entirely of insects.

Calls.—The mating song is composed of two notes: *boo-boo*. The second note is accentuated and louder than the first. This song is usually given at regular intervals so that it becomes monotonous. However, at times, when a bird's attention is attracted, the song may be uttered at irregular intervals. The *boo* note is then often dropped and the *boo* note given alone. At such times, this note may be considered by the birds as a note of warning. The mating song of the Flammulated Screech Owl is the most ventriloquial owl call I have ever heard.

The male, and I believe also the female, when apprehensive, utters a mewling note, very much like that of a kitten, and almost identical with a warning note of the Elf Owl. In courting, both birds make clucking noises, and upon rare occasions one of the birds (it was not determined which) utters a screech which with a little more volume would be "blood-curdling".

Habits.—The pine trees seem to furnish the favorite perches from which the Flammulated Screech owls call, and the Arizona white oak is a close second. They were also heard calling from sycamore, Emory oak, madroña and thick oak brush, having flown into the latter on several occasions when disturbed and continued to call. The owl, in calling from a pine tree, is usually to be found at about two-thirds the height of the tree, perched on a live limb near the trunk. In a white oak, the calling bird may be perched on the bulge of the trunk or near the trunk on a live limb, and at times well out near the twigs, but I have seen it only once on the dead stub of a branch. Usually, the Flammulated perches near the trunk of the tree from which he may be calling, and there may or may not be intervening branches between the bird and the ground.

In my experience, the Flammulated is the shyest of the screech owls at night, and is adept at keeping some obstruction between itself and the observer, although a given individual may not be consistent in this. It is greatly assisted in avoiding detection by the color of its plumage. The owl's back blends perfectly with the bark of the pine tree, and the markings of its underparts with that of the white oak at night, so that it is almost invisible when it is perched with its back toward the stem of the tree.

The screeching note of this owl was heard only twice, both times on the one night, April 14, 1930. The sky was so overcast that the outline of the mountains could not be seen against the sky. I had become lost in a dense oak flat, and was wondering which way to go, when a scream out of the darkness startled me. In a short time a Flammulated Screech Owl was heard calling in the general direction from which the screech had been heard. The pine tree, from which the owl was calling, was finally located, but the bird could not be seen. A few minutes later and while the owl was calling, clucking noises were heard, about twenty feet from the pine, in thick oak timber. The calling bird was seen to fly toward the sound and then there were more clucking noises produced by both of the owls. The screech immediately followed. There is no doubt that one or the other of the birds was the author of this unusual note.

Prescott, Arizona, August 7, 1930.