

# THE AUK:

A QUARTERLY JOURNAL OF  
ORNITHOLOGY.

---

VOL. XLIII.

OCTOBER, 1926.

No. 4.

---

## HABITS OF THE SPOTTED OWL (SYRNIUM OCCIDENTALE.)

BY J. STOKLEY LIGON.

*Plates XIX-XXI*

THE Spotted Owl, although one of the most interesting birds of the southwest, is, because of its retiring habits and the character of country it occupies, known to comparatively few. Its weird notes piercing the still darkness of some supposed wild beast infested mountain fastness have sent chills through the veins of many a camper upon his introduction to its haunts.

For several years I have been closely associated with the Spotted Owl in its seclusive retreats of the southern Rocky Mountains, and this association has enabled me to study its habits rather carefully. It was not until the spring of 1925, however, that definite information was obtained relative to the nesting of the bird. I had previously seen nesting sites but because of inaccessibility or lack of necessary equipment with which to reach them, had not been able to investigate them in detail.

Vividly do I remember the first Spotted Owls that I ever saw, although at the time I did not know what Owl I had seen. This was while hunting bears with some companions in the autumn of 1908 in the roughs of the San Mateo Mountains in south central New Mexico, my first visit to these interesting and rugged mountains where I eventually collected eggs of the bird. I later occasionally observed the birds while on hunting trips in these and other mountains of that region. It was five or six years later,



UPPER: SPOTTED OWL, NEST AND EGGS.  
LOWER: SPOTTED OWL RESTING IN TREE.

while making some observations for the Biological Survey, that I began, through a rather singular circumstance, to make a more careful study of the birds. Dr. E. W. Nelson, now Chief of the Biological Survey, wrote me relative to a certain Owl of that region, which he stated was a little smaller than the Great Horned Owl and of which skulls, but not complete specimens had been obtained. I informed him that I thought I had seen the species to which he referred, having in mind the two I had seen sitting side by side in a fir tree in the San Mateo Mountains, and the few others subsequently observed. Specimens were secured and sent to the Biological Survey and I was advised that this was the bird desired. I collected a series of them over a wide range in New Mexico for the Biological Survey, and the collecting of these specimens brought an ever increasing interest in the birds.

The Spotted Owl is resident where found and entirely nocturnal; I have never seen it in action in daylight, unless forced from its perch or disturbed at its nest. This accounts largely for its being so little known. So far as I am aware, it is entirely beneficial, feeding almost exclusively on small rodents. In nearly every instance the stomachs examined by me contained parts of the large wood rats that inhabit the country to which the Owls are indigenous. The adult birds are rarely seen solitary; they are nearly always in pairs throughout the year. They are by no means as scarce in favored sections of their range as one unfamiliar with their habits might believe. I have observed them over rather an extensive range in the mountains of New Mexico and Arizona, but most commonly through south central New Mexico in the Sacramento Mountains, San Mateo Mountains, Black Range and Mogollon Mountains and in corresponding latitudes in eastern Arizona. They have been noted by me, although not commonly, as far north in New Mexico as the Sangre De Cristo Range, east of Taos.

The favored haunts of the bird are deep, narrow, timbered canons where there are always cool shady places, at elevations ranging from 6,500 to 9,000 feet. They are usually to be found sitting in young spruce or fir trees or in a cave or crevice in the shaded canyon wall; cliffs and caves being one of the range requirements of the birds in the region referred to. They may be

observed in the quietest and most inaccessible mountain sections. The birds are very often seen sitting twenty or thirty feet from the ground on a small horizontal limb near the trunk of a spruce or fir. Not often have I seen them out of the spruce and fir zone. They appear little disturbed by intruders, only casually looking sleepily at one. Their haunts are nearly always rendered conspicuous by the white droppings, and a tree in which they perch during the day can be located by observing the droppings at the base. Fortunately for them, in view of their unconcern, their color harmonizes well with their surroundings, such as the cliffs, and their habits are such that the casual observer is not likely to notice them, or they would commonly be the victims of thoughtless vandalism, as one generally needs nothing more than a stone or stick to kill a Spotted Owl. So fearless or reluctant were they to leave a perch to which they had become attached that by quiet maneuvering I have caught the birds by hand. They appear to fear man no more than they do any other creature and seem more annoyed than frightened when driven from their day abode. Year after year the birds have been observed in the same places, probably due to the fact that in any given locality only a limited number of places favorable to them may be found.

The call of the Spotted Owl, though causing trepidation on the part of some, is thrilling and pleasing to the ear of the ornithologist and lover of nature. The principal call note, in my experience, consists of four distinct "coo's," the first short, followed by a pause, then two in more rapid succession, followed after another pause by a longer drawn out note with a falling tone, or it may be indicated thus: *coo—coo-coo—coo-o-o*. The last syllable is sometimes so delayed as to lead one to believe that the call is completed. The call when uttered at full volume is loud, clear and carries far, and in the stillness of the night is generally heard from some high cliff or from the top of a canyon wall. The note is generally uttered at intervals of a minute or longer. This same note, however, is often given soft and low during the day if the birds are molested. They also have a low two syllable *coo-coo* note and sometimes at night give a shrill whistle, drawn out to a high treble pitch. All notes of the bird appear to be subject to variation in tone as well as in pitch and volume.

The first clue to the nesting habits of the Spotted Owl was obtained when I learned that the birds commonly lived in caves or crevices in canyon walls, however, there was always difficulty in reaching the nesting sites, as they are generally situated in almost inaccessible places; in fact all nests that have been located by me, with the exception of one, have been found in such locations. Nesting begins in south-central New Mexico in late March and early April. Since the Owls do not leave their nests or day perches at the approach of an intruder, they rarely give any clue as to location of the nest as do most other birds.

On April 4, 1925, I located the first nest containing eggs; this nest was in the entrance of a cave, about which pine and fir trees grew, on the south side of a steep canyon. The cave faced the north, insuring perpetual shade, and had an opening about thirty-five feet high, forming a large circular room (see photograph) forty feet in depth. The nest, which was an old one reconstructed, was situated on a shelf about four feet wide and thirty feet from the floor of the cave on the east side of the entrance. The overhanging roof of the cave and the perpendicular wall on the side concealed the nest from above and only by the use of an improvised ladder could it be reached from below. It was constructed of pine limbs and twigs and some small clusters of dead pine needles, and was three feet or more in diameter. The cavity was about three inches deep and ten inches wide and contained no lining. Upon my first visit to the cave, the male bird was sitting on a natural perch or spire of which there were several in the interior of the cave, worn smooth and plastered with droppings as a result of much use on the part of the birds. As I entered the rocky, quarried floor of the cave, he displayed alertness and some uneasiness, rather uncommon for this bird, and sailed out and down into the thick fir saplings that grew on the steep shoulder of the canyon to the west. The top of the cave resembled the inside of a dome while the floor carried out almost the natural pitch of the canyon slope, which at this point was steep, to the exterior wall. By climbing up on the wall opposite to where I suspected the nest was located, the edge of the nest could be seen on the shelf to the right. Though I felt reasonably certain that the female bird was on the nest as feathers and



SPOTTED OWL IN TREE AND ON NEST.

other signs indicated the nest was being used, I was not prepared to investigate it. On my return that afternoon with a companion a pole was cut and dragged into the mouth of the cave where it was leaned against the shelf on which the nest was located. I then climbed to the shelf and found the bird on three eggs. She did not leave the nest until I reached the shelf and was within a few feet of her; she then raised up, snapping her bill, scolding and fussing, and flew down on one of the interior perches. She displayed uneasiness by flying in and out of the cave, down the canyon side into a thick fir tree and then back into the cave, softly giving the call note of four syllables. The male bird down in the forest answered but never appeared.

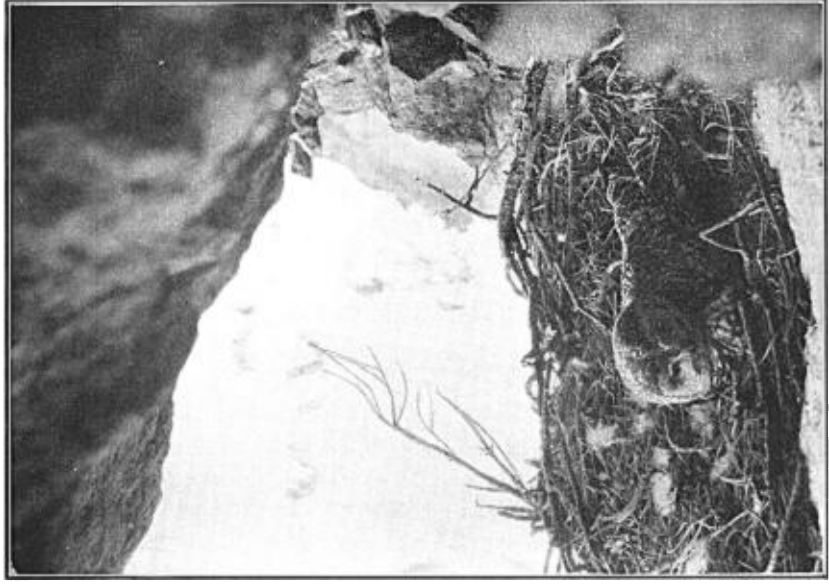
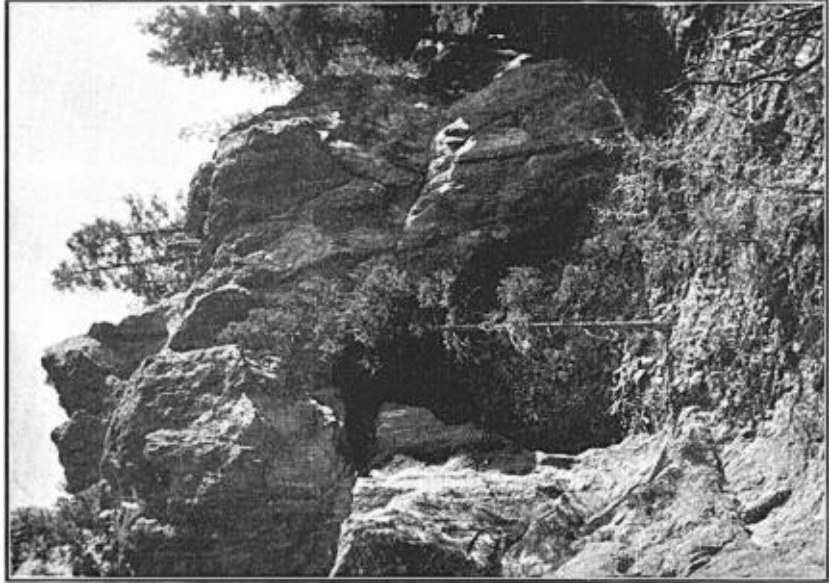
Thinking that probably the full complement of eggs had not been laid, I decided to leave them and return later. In the meantime, on April 6, while hunting mountain lions further to the south, I located another nest in a narrow box canon, the southern slope of which, wherever there was footing, supported a rather thick growth of young fir, fifty to seventy-five feet high. I knew this particular place to be an Owl haunt and also knew there were some old nests in the caves and crevices of the canyon wall. I investigated several old nests but none of these showed signs of having been used this season; however, up in a narrow cave or rent, which penetrated well back into the cliff that stood behind the evergreens was evidence that the Owls were inhabiting the place. An old nest in the cave was inspected and as I was about to leave it, I discovered at the entrance of the cave, about twenty-five feet up in the side wall to my left, projecting sticks and a few clinging feathers in a natural cavity or pocket. I managed to climb up a little on the opposite wall and from there I saw the top of the bird's head on the nest. The male bird was located in a spruce nearby. That afternoon I returned to the cave and placed a pole so that I was able to climb to the nest. The bird remained at its post through all this commotion but when I reached the nest she snapped her bill and flew out, almost striking me in the face as she passed. This nest contained two eggs. The cavity, which could not have been more suitable if made to order, was just large enough to permit of the construction of the nest, about three feet high and three feet wide on the inside, with

a little smaller entrance. This nest, which was perpetually shaded, was an old one with little indication that it had recently been repaired. I did not take the eggs. Five nests were located at this point but only the one above described was being used. One of the vacant nests higher up on the canyon wall was in a pocket almost identical with the one that contained the nest with eggs. The bird at the nest containing the eggs stayed nearby, fretting and calling; but her mate did not appear although he answered her calls occasionally from somewhere below in the spruce. I returned to this nest on April 12, or six days after discovering it, and found that it still contained only two eggs.

On April 9, I returned to the first nest found and it still contained the three eggs. On this visit I was prepared to take some pictures and in doing so had a most interesting time with the female bird; the male was not seen at this time, although he was heard answering the call notes of the female several times from the thick spruce in the canyon below.

At first the female was a little shy. When I would climb to the ledge on which the nest was constructed, she would snap her beak and fly into the tree in front of the cave, or perch on the accustomed stands back in the cave, all the time closely watching the nest; and when I would get down, she would lose no time in getting back on the eggs. Finally, I took my place on the ledge, which formed an elbow, the nest being on the outward exposure, with my camera in shape for action. I was within eight feet of the nest, crouched on the ledge; however, the bird would alight on the ledge near the nest, but whenever she glanced in my direction she would fly off. Sometimes she would alight in the tree opposite the nest and impatiently watch me and the nest alternately. Now and then she would give the call note in a restrained tone. Finally she became more reconciled to my presence and took advantage of the occasion to preen her plumage, sitting on the cave perches and occasionally casting her big, attractive, innocent eyes up at me and the nest location. She then began to display one of the Owl's dominant traits—patience—which I could not match; she was at home while I was a long way from camp, in a rough country with a heavy pack to carry. I crawled down, secured a fir bough and placed it, as a blind, between my





NESTING CAVE AND NEST OF THE SPOTTED OWL.

location and the nest. After a few minutes the bird was on her nest and permitted me to take several exposures through an opening in the bough. I then removed the bough but when I endeavored to ease up nearer, she left the nest again. I was preparing to take a close-up view of the nest and eggs when she deliberately flew up, walked in on the side of the nest and sullenly sat down four feet away, facing me with feathers slightly ruffled, blinking her eyes with a determination to guard her treasures. She remained there stone-still regardless of my movements. By the time I had made several exposures of the bird and its nest and eggs, we had become quite friendly, and I had developed a high degree of admiration for her devotion and courage in defending her home. I took the eggs but did not harm her and I trust she laid another clutch, for she had a nesting site that might well be coveted by all other Spotted Owls of that locality.

On April 10, in the same mountains, a third nest was found in a dense abnormal growth of Douglas fir, generally termed "witch limbs" and common among the trees in this region. The first two nests located were each at about 7,000 feet elevation, but this one was at 7,500 feet or higher, in the bed of a canyon. While walking up the canyon, where there was a rather thick growth of spruce and fir, I noticed one of the birds, evidently the male, just ahead of me, about fifteen feet from the ground, in a small white fir. I laid down my pack and sat on it to rest and, incidentally, to observe the bird which seemed more curious than disturbed at my presence. I had been there only a minute or two when it looked dreamily away and gave the four syllable call, rather softly, as if it were a love note. To my surprise an answer came from, I presumed, a fir tree that stood alone in a little smooth space just out of the canyon bed behind me. The day was clear and pleasant and the hour about 2 o'clock in the afternoon.

I had suspected that the Spotted Owl nested in the "witch limbs" of Douglas fir, as such examples of tree growth were often noted where the Owls were seen. The tree in question was 16 inches in diameter at the base with no limbs below the mass that encircled it fifteen feet or more from the ground. There was indication of a nest in the base of the limbs; and deciding that the unseen Owl was in this tree, I threw a stone into the branches,

whereupon the female hopped up into one of the two openings that furnished easy access to the place. After some difficulty I climbed to the nest but found that the bird had not laid, although she was reconstructing what was evidently a nest that had been used before. While I was in the tree containing the nest, both birds fussed and flew about from tree to tree, giving in subdued tones all the varied vocal expressions that I had ever heard and some that were new to me. I sat on the edge of the nesting site for a few minutes observing their actions. In a short while a raucous-voiced audience of Long-crested Jays and Clark's Crows had collected and were clearly directing their complaints at me as well as at the Owls. These seemed to make no impression on the Owls and the intruders soon retired; neither were the Owls long frustrated, as both soon settled in trees not far apart and carried on a loving conversation. Among their other notes, they at last alternately indulged in their shrill whistling note, ventriloquial in effect and one would assume that this is a mating call.

On April 12, I visited this nest again and found it contained one egg. The birds were now more concerned at my presence than they were on my previous visit, and both remained near, flying from tree to tree, calling and fretting. In addition to the other familiar notes, this time one mewed cat-like several times. One is inclined to believe after association with these sober fellows, that they may possibly be more or less imitators of sounds that have become familiar to them.

On April 12, I returned to the second nest, which I had found on April 6, and it still contained only the two eggs, evidently the complement; probably two and three are the usual number laid by the birds. The three eggs that were in the first nest were considerably incubated when I took them and were all in about the same stage of advancement.

From what I can learn it would seem that the Spotted Owls of this locality belong to the typical form (*Syrnium occidentale*). The three eggs collected by me are now in the National Museum, Biological Survey collection. They are dull white with a very faint tinge of buff, shell faintly roughened, with no glaze apparent. The eggs are rounded ovate in shape and the measurements are 50.1 x 40.6, 49.9 x 41.5 and 48.0 x 40.6 millimeters.

Published nesting records of the Spotted Owl that I have seen are few. Bendire on April 17, 1872 (*Life Histories North American Birds*, 1892, p. 344), found a nest of this bird about 30 feet from the ground in a large and bushy cottonwood between Picacho Peak and Whipple Station in Arizona. This nest, built like that of a large Hawk, contained a single egg; "oval in shape and pure white in color," measuring 52.0 x 45.5 mm. He also cites a record of a nest containing four newly hatched young found by O. C. Poling, May 23, 1890, in a large cavity in an oak near the northern end of the Huachuca Mountains.

Nests have also been described by L. Peyton (*Condor*, 1910, pp. 122-123) who for three consecutive years found a pair breeding in a cavity in the face of a cliff in Fish Canyon, a tributary of Castaic Canyon, Los Angeles County, California. On April 1, 1909, two partly incubated eggs were taken at this site. On March 30, 1910, a second set of three eggs was secured from this same nesting cavity.

Donald R. Dickey, (*Condor*, 1914, pp. 193-202), on May 15, 1913, discovered a nest in a pot-hole high on the rock wall of a canyon in the Coast Mountains of Ventura County, California, that subsequently was found to contain two young. Mr. Dickey sets forth his impressions of his experience with these birds in a most graphic and interesting manner.

The egg taken by Bendire, which I examined in the collection of the U. S. National Museum, is distinctly more oval than the three that I have described. Bendire erred in noting it as pure white in color as it exhibits the same faint tinge of buff as those from the San Mateo Mountains, New Mexico. As the latter are freshly taken, it does not appear that variance from Bendire's description in the color of the older egg is due to age. The lack of gloss in all these specimens is especially noticeable when they are compared with series of the Barred Owl.

*Santa Fe, New Mexico.*