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## NESTING OF THE DUSKY POOR-WILL

WITH SIX ILLUSTRATIONS

By ELMER C. ALDRICH

To have any bird unexpectedly flush from beneath one's feet is a thrill; to have a bird unexpectedly flush from beneath one's feet, exposing a nest, certainly is a greater thrill; but to have a bird such as the Poor-will, with its exceedingly interesting habits, quickly and silently unmoor itself from its perfectly harmonizing surroundings and fly away, exposing two eggs, produces the acme of thrills, especially if the find entails many pleasant hours of subsequent observation.

On July 5, 1934, at 7:30 p. m., the writer with seven boys from a recreation camp had such an experience on a north-easterly ridge about three-fourths of a mile from Longbarn, Tuolumne County, California, where the nest of a Dusky Poor-will (*Phalaenoptilus nuttallii californicus*) was found. The altitude was about 5600 feet, and the general vegetation of the area consisted of yellow pines, incense cedars, white firs, black oak islands, a few species of ceanothus, and a little manzanita, with mountain misery covering most of the open hillside.

The immediate location of the nest was in a little circular clearing about fifteen yards in diameter, surrounded by young yellow pines closely knit together by small, interwoven branches. The clearing contained three manzanita bushes and one ceanothus bush. The greater part of it was strewn with long dead pole-like logs, which appeared to be one of the basic requirements for the Poor-will's protection. The entire north side of the opening was bordered by a large decayed log of a diameter of three feet, which, because of common use by the Poor-will, came to be called "the log."

The nest was found when we were coming from the north and upon advancing four yards after stepping over this log. When the adult flushed from the nest the observer's foot was but eighteen inches from the site. The bird flew across the clearing into the edge of the dense forest, where it lit on a small log and watched without movement for fifteen minutes while pictures of the two light buff eggs were obtained.

Before leaving, a test was made to see how close the observers could approach the parent on the log. It flushed when approached within five yards, and flew onto a boulder some ten yards away. Without disturbing the bird further, the observers left to return at about 9:15 p. m. The parent was on the nest and the large eyes, with several flashlights turned on them, shone like fire klinkers in the darkness. Cautiously the eight observers managed to approach within two feet, while the bird sat tight all the time. Fearing that not another chance would be had to photograph

the parent on the nest, a few pictures were attempted with 18 to 30 seconds exposure under a battery of five ordinary flashlights. The only movement was the blinking of the shaggy eyelids about every 30 seconds. It was found that loud talking did not disturb the sitting bird, but a slight shuffle of the observers' feet, or the crackle of a twig, caused it to stir on the eggs. After three-quarters of an hour of such close scrutinizing, the bird won "her" (sex undetermined) instinctive attempt not to expose the conspicuous eggs.



Fig. 7. Dusky Poor-will incubating eggs placed on ground at base of manzanita bush. The log used frequently as a perch is shown in the background.

The next morning's visit was decidedly more interesting, because it marked the maximum amount of fearlessness presented by the parent birds during the study. While within about twenty yards of the nest, one of the parents flushed from a log and flew out of sight. Expecting this to be the incubating bird, the approach was made carelessly. When within several yards the other parent was noticed on the nest, so advance was made more slowly. When we were but three feet from the nest, the bird's large clear white spots on the tail identified it to be the male that was doing the incubating. Many pictures were taken, some as close as ten inches, without the slightest sign of fear on the part of the sitting bird. Under such supposedly ideal conditions, however, great difficulty was had in obtaining the exact pictures wanted, because the bird closed his eyes, and much noise would have to be made to get him to open them even slightly. Experiments were made to find the extent of his "bravery" by touching him. While touching the head the first time he flattened out his wings and spread the fan-like tail over the tips of them showing all the tail spots. The large head was then brought far back on the shoulders, the

cavernous mouth opened extremely wide showing the pink interior, and a low guttural hiss was emitted at short intervals. Very tensely excited at seeing this display at such a close range, the observers were encouraged to see how much further these queer actions might be extended. Several strokes of the back and head produced a slightly different effect. He remained in the flattened position, stopped hissing, and moved sideways, exposing part of one egg. Touching him again caused him to slide completely off the eggs, where he remained for part of a minute with



Fig. 8. The Poor-will with half-opened eyes sits in "frozen" position, concealing the otherwise conspicuous eggs.

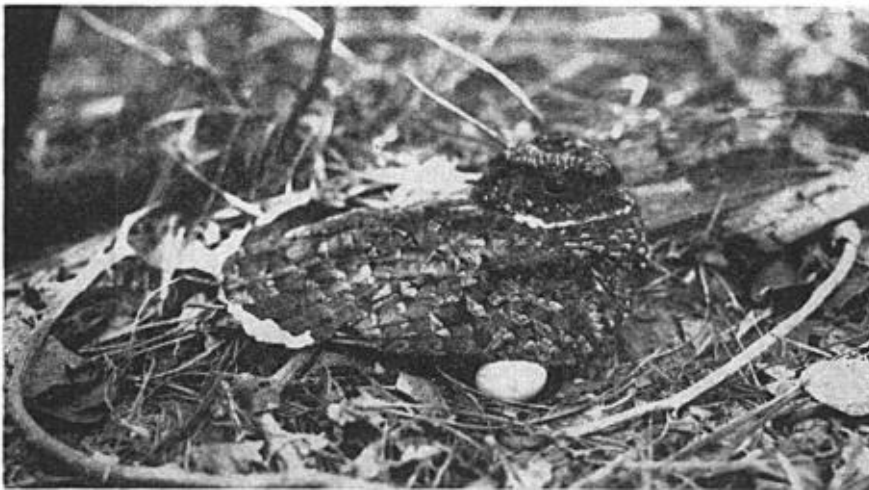


Fig. 9. When touched, the bird slid partly from the nest, giving its intimidation display. The large, clearly-defined white areas of the tail show the bird to be the male.

the tail still spread and both the wings held vibrantly straight up into the air. Suspecting that further disturbance might cause desertion of the nest, we ended the visit.

Returning again at dusk we found the eggs uncovered but warm. The eggs were "candled" with a flashlight and they showed no development. Waiting in a concealed spot for seventeen minutes resulted in no return of the parents. Probably they were feeding in one of the much larger, near-by clearings where more insects were present at crepuscular hours.

A visit to the nest the following morning showed a slight decline in the fearlessness of the bird in attendance. While about ten yards from the nesting site, the writer was struck with amazement at the protecting element given to the parents. Neither the eggs nor the parent could possibly be discerned at this distance with the unaided eye, but with binoculars the disjointed outline of the sitting parent could be made out. When touched this time, the male, which was on the nest, acted about the same as on the last visit, but when annoyed further, he flushed, to alight just over the log, and out of sight.

The nest was revisited the same day at 2 p. m. The sitting bird took off from the eggs when a careful approach brought us no closer than three and one-half feet. This time it was believed to be the female, for the spots on the tail were inconspicuous in flight. She lit out of sight just over the log, and the observer immediately seated himself in plain sight of the nest five yards away, to determine the rate and method of recovery from the disturbance. Exactly ten and one-half minutes marked the reappearance of the same bird. She had flown from behind the log nearly to the top where she could barely look over and observe the surroundings. Immediately she started swaying from side to side very slowly and rhythmically for about five seconds before walking to the top of the log, each step in synchronization with the swaying. Here she paused for about twenty seconds, and then flew a few yards, within two and one-half feet of the nest, where she began swaying again. The rest of the distance to the nest was accomplished by this slow walking-swaying process, and she did not seem to get anxious and speed up as she came closer. Two short stops were made on the way. Always the bird was so close to the ground that her feet did not show, and the sideward movement was always started about five seconds before any walking was done. When her breast was almost touching the eggs she nestled down and waited a few seconds and then one by one she pulled the eggs underneath her with the short wide bill. After she had finished this laborious task in the hot sun, she opened her bill and proceeded to pant, the contrasting white collar on her throat vibrating like a tiny flag in the wind.

A slight movement on the part of the observer caused her to flush, with a mellow note, *werk*, and alight facing him about ten yards away. While waiting to see her second approach, the observer's attention was distracted by a loud whirring of wings and a rustle in the low limbs of the pines on the opposite side of the clearing. The intruder was an adult goshawk that spread its tail a few times and then winged its way across the canyon on the right. Looking back to observe the Poor-will's reaction to this, the watcher saw that she had faded into the background. Standing up to find the Poor-will caused her to take off through the trees and out of sight.

The next day, the closest approach made was within four feet. From then on, the birds became more wary, and a wait of half or three-fourths of an hour did not induce either of them to return and sit on the eggs.

A visit to the nest on July 13, almost exactly eight days after the nest was found, showed one of the eggs to have a slight hole in it, and the other one to be cracked in several places. While waiting from quite a distance the Poor-will flew

within fifteen inches of the nest, where she stood watching the eggs for about a minute and then suddenly flew off and out of sight, uttering a series of liquid *werk, werk* notes. While we were leaving, the bird flew near us and back to the clearing. At 9:30 the same evening the sitting bird took off, first giving the solicitous *werk* notes and then breaking into the *poor-will-o, poor-will-o* notes as it flew to a larger clearing near-by. Little progress in hatching was shown by the eggs. By noon the next day one young was completely out and fully dry. The other egg had quite a large hole in it, and the inhabitant of it was squeaking vigorously, every note being answered by a similar cheep from the young already out. As the incubating bird flushed disclosing this progress in the hatching, she lit on the log fluttering her wings and

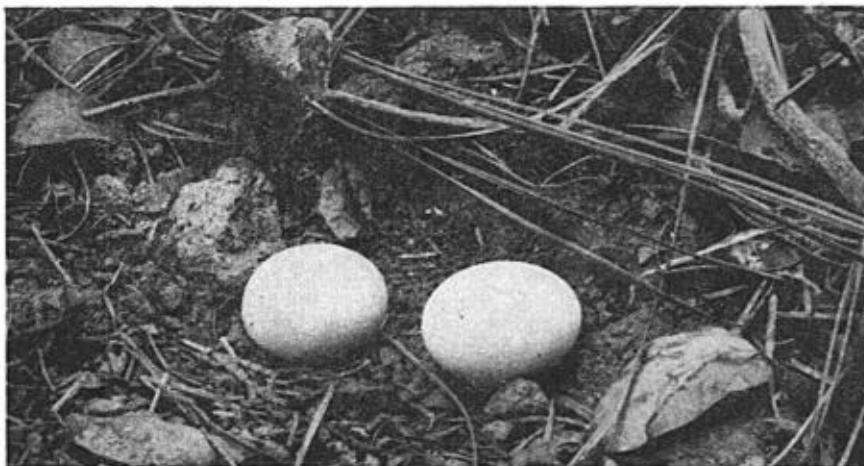


Fig. 10. Eggs of the Poor-will in natural position in the nest depression.

opening her mouth for part of a minute, and then flew to a near-by boulder. The precocious young was about two and one-half inches long when stretched out. The down that covered it was a rich buff, and the short tarsus and foot were light grayish flesh color. The eyes were black and the nostrils already formed external tubes on top of the upper mandible, as in the case of the adults. Several red ants were chased away from the pipped egg. About one-third of the shell from the already-hatched young was still in the nest; the rest was nowhere to be found. Evidently the parent had neglected to remove this piece.

The next morning, July 15, unfortunately was the last day observations could be made. At about ten yards from the nest, a look through binoculars revealed one of the fluffy young looking out from beneath the breast of the brooding male. When the observer came a little closer, the old bird took off, showing that the other egg had hatched. The adult then flew to the log and with vibrant outspread wings gave the *werk, werk* notes frequently. The older young already seemed much larger than the new one, which could not have been out much more than two hours, for spots underneath the wings and on the back were still wet. Its eyes were open and it seemed very weak. The older one was active, and when put in the sun it would hobble back to a strip of shade cast by the manzanita bush.

The protective equipment of the Dusky Poor-will is rather intricate. In the first place, the variegated dark coloration was concealing in many conditions presented by this clearing. The best protective background seemed to be a "tie" between the

dark dead logs, where the Poor-will, if present, looked exactly like a broken off limb; also effective was the ground where there were dark pine needles, and light and dark manzanita leaves along with the shadows and bits of bark. The bird could absolutely fade into these two types of background. Occasionally the Poor-will lit on a large boulder. The rock was slightly lighter in color than the bird, but unless one was looking in that particular place he might pass by unconscious of the Poor-will's presence. The birds were always careful to make no movement while concealed in these places.

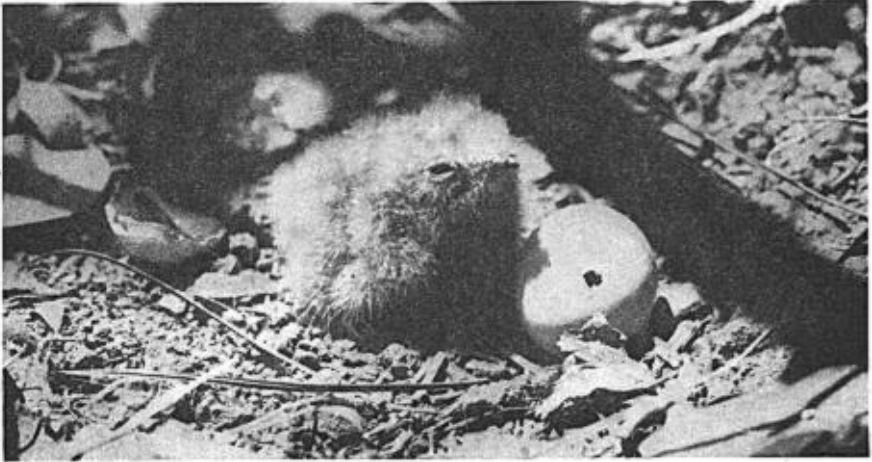


Fig. 11. One young hatched and the remaining egg pipped. Part of the broken egg-shell shows at left.



Fig. 12. The second young Poor-will hatched a day later. It is shown on the right, still slightly wet.

From these facts it seems that the Poor-wills chose the site best suited for protection of the eggs. In view of the fact that the young liked shade, another requisite for a nesting site might be protection from the sun. One first thinks that better shade could be secured beside a large fallen log. The writer believes that the patchy shade offered by the manzanita is far more valuable to the protective coloration scheme than solid shade. It also seems that more searching predators would follow along the side of a log. A wider angle of observation would also be gained in the center of the clearing.

With comparatively short periods of observation, the results pointed toward the fact that the male did most of the incubating and brooding. Of course watching of the nest for the whole time would be necessary to establish this, for maybe the male and female indulged in shifts. Incubation must have started when the first egg was laid, for the second young bird hatched more than a day after the first.

The fact that only natural noises perturbed the incubating bird caused the observer to try a few experiments. First, loud talking, laughing, and clearing the throat were tried while he was standing within a few yards of the parent on the nest. The bird seemed almost asleep, and no noticeable reaction was obtained, perhaps because it had not learned to fear human intrusion. Then, crackling of sticks, imitation of Horned and Spotted owls (both in that region) were tried. The noise of the breaking wood was the most effective, causing the bird to open its eyes widely and settle more closely on the eggs. It probably had learned to fear surface lurking animals most. Though the reaction to the Horned Owl note might have been lessened by the response to the first experiment, the hooting caused him to open his eyes again. The Spotted Owl call did not have much effect, perhaps due to poor imitation, but it caused him to open his eyes just enough to be able to see. This might show that the Poor-will has some fear of owls, the Horned Owl being the worse of the two mentioned.

*Oakland, California, November 20, 1934.*