

**King Snake Eating Eggs of California Quail.**—The following history of a single nest of the California Valley Quail (*Lophortyx californica vallicola*) furnishes an insight into a few of the many difficulties with which these birds may have to contend. It also lends credence to the frequently voiced idea that a nest once disturbed is doomed to misfortune. This incident occurred while I was engaged in an investigation of the California Quail on the ranch of Mr. R. W. Hanna, three miles west of Payne Creek Post Office, Tehama County, California. It was through the courtesy of Mr. Wilbur Eckels, who was in charge of the farm, that my attention was called to this particular nest. The observations upon it will be given under the date and hour at which they were made.

*July 15, 1930, 11:30 a. m.* Mr. Eckels reported that while grubbing black walnut sprouts he sank his hoe into a quail's nest. The nest was well hidden and his first realization of its presence came when the incubating bird, the female, fluttered from it.

*12:45 p. m.* In company with Mr. Eckels, I visited the nest. The bird had not returned, and he feared that he had hit it with the hoe. He said that it appeared to be badly wounded. An examination of the nest revealed that originally it had contained thirteen eggs, and that seven of them had been crushed by the single stroke of the hoe. I cleared away the broken eggs and disposed of them in a nearby pond. The remaining whole eggs I washed to remove the egg contents with which they were smeared. The egg material spattered in and around the nest was dry by the time the whole eggs were replaced. The nest had been torn slightly, and I restored it to as natural a condition as possible.

The nest was of the usual quail type, made of grass, and had been placed in the center of a small clump of black walnut sprouts which had been about 15 feet in diameter before the grubbing began. It was within 35 feet of an infrequently used ranch house, and was about 65 feet from a large artificial pond. An irrigation ditch ran within 40 feet of the nest. Nearby trees afforded shade during the morning, but after noon the walnut shoots were the only protection from the sun.

*4:30 p. m.* When I visited the nest again at this time I found that the female had returned and was incubating. It was evident that her experience of the morning had been unnerving, for she flushed from the nest when I was still twelve feet away. The eggs and nest appeared to be unchanged from their condition at noon.

*6:30 p. m.* Mr. Eckels visited the nest at this time and discovered a king snake (*Lampropeltis getulus boylii*) in the act of eating the eggs. He watched the snake eat two of the six eggs, breaking them in its mouth before swallowing them. He said that the quail stood close by and watched the procedure but did not show any excitement or make any sounds. Mr. Eckels killed the snake after it had eaten the second egg.

*7:10 p. m.* After hearing Mr. Eckels' report I went to collect the snake and to see what further damage had been done. To my surprise I found that the quail had returned to the nest and that the dead snake lay only five feet from where she was incubating. This time she flushed when I was about eight feet away.

*9:50 p. m.* The shack in which I was staying was about 100 feet from the nest and was sufficiently close that I could hear most noises originating in that vicinity. At 9:50 I heard a quail flush and fly noisily through the brush. This came from the general direction of the nest and possibly may have been made by the same bird.

*July 16.* The quail apparently had deserted the nest, since in three visits to it I failed to find her incubating. At 4:20 p. m. the eggs were cold.

*July 17, 5:00 p. m.* When the nest was visited at this time the eggs had disappeared. Unfortunately, it had not been looked at earlier in the day, so it is impossible to say whether they were taken during the preceding night or during the day. There were no egg-shells either in the nest or in the nearby grass and brush. The nest remained intact and no hair, tracks, or droppings could be found in or close by it. It is difficult to say to what agency this final destruction can be attributed. Stoddard (*The Bobwhite Quail*, New York, Charles Scribner's Sons, 1931, pp. 187-193) found, in the case of bobwhite nests, that most predatory mammals left broken egg-shells at the nest. At the Hanna ranch, pains had been taken to remove house cats and free-ranging dogs, so that the possibility of these doing the damage was small. Spotted skunks (*Spilogale*) were common, but these would probably have left the egg-shells. King snakes and gopher snakes (*Pituophis catenifer heermanni*) were

also common. One gopher snake, about six feet in length, was regularly seen about the barn and corral, which were 150 feet from the nest. In view of the circumstances it seems that the disappearance of the eggs can be most logically attributed to some species of snake.

The attraction of the observed king snake to the nest can probably be explained by the egg material spattered in and around its edges. This, doubtless, gave rise to an odor that possibly could be detected by a foraging snake or other predator to whom quail eggs might appeal as food. It is interesting to note the relatively short time that elapsed between the initial disturbance of the nest and the appearance of a hungry animal to finish the destruction. It is probable that, had the nest been near an ordinary farm or ranch, where there are numerous dogs and house cats, the remaining eggs would not have lasted as long as they did.

There may have been any one of three reasons for the wounded appearance of the bird when it fluttered from the nest at its initial disturbance. The bird may have been actually wounded by the striking of the hoe. Its peculiar behavior may have been an attempt to draw away the intruder; or, it may have resulted from a lack of coördination and direction, brought on either by extreme fright, or by a conflict of instincts, due to the suddenness and intensity of the disturbance. In considering these possible reasons the following facts should be kept in mind. Only in the first observation did the bird display any signs of being wounded. All subsequent flights were perfect and the response quick. In the succeeding observations the bird made no attempts, either when flushed from the nest or when the snake was eating the eggs, to draw away the intruder. These facts lend strength to the supposition that fear, or a conflict of instincts, may have been responsible for the wounded-like actions. This infrequently expressed hypothesis for the explanation of the broken-wing trick is advanced and argued for in detail by Douglas Dewar (*Birds at the Nest*, London, John Lane, the Bodley Head, Limited, 1928, pp. 167-194).

The fact that the incubating bird returned to the nest after the eggs were suddenly reduced in number from thirteen to six, their contents smeared over the nest, and finally, after two more were taken by a snake, makes this an unusual demonstration of dominance of parental instinct. This could hardly have been the devotedness that is frequently observed to accompany long incubation, since the eggs were almost fresh.—LAWRENCE V. COMPTON, *Museum of Vertebrate Zoology, University of California, Berkeley, January 20, 1933.*

**The Hudsonian Curlew at Wales, Alaska.**—Among the specimens received by the Chicago Academy of Sciences this past season from its representative, Dwight Tevuk, at Cape Prince of Wales, Alaska, was an adult male curlew (*Phaeopus hudsonicus*). The specimen (C. A. of S., no. 5840) was taken near the Mint River on July 1, 1932. This is the first record, so far as I know, of the species from the Wales region, although I saw a few curlew in this vicinity on July 6 and 8, 1922, and recorded the sight observations in the *Condor* (XXVIII, 1926, p. 84). As I had taken *P. tahitiensis* at Wales, these observations were mentioned under that heading.—ALFRED M. BAILEY, *Chicago Academy of Sciences, Chicago, Illinois, December 1, 1932.*

**Two Duck Records from the Imperial Valley of California.**<sup>1</sup>—During the past several winters the writer has shot at a small, ten-blind club between Mecca and the northern end of Salton Sea and consequently has had opportunity to observe enough ducks to gain a fair idea of the species which go to make up the winter duck population of that locality. Of course, by far the great majority of ducks seen or killed belong to the "common" species (though "once common" would be a better term) and only two have been of sufficient rarity to be noteworthy. The Ring-necked Duck (*Nyroca collaris*) is a rare, though apparently regular, visitor; for one or two have been killed each season. Dates are from November 11 to December 20, the last one being November 27 of the present (1932) year. A still rarer visitor to this desert locality is the Wood Duck (*Aix sponsa*). On November 13 of this year a male was unwittingly killed by one of the other members, who brought it to my blind to have it identified! The bird is now a skin in the collection of the California Institute of Technology.—A. J. VAN ROSSEM, *Pasadena, California, December 7, 1932.*

<sup>1</sup> Contribution from the California Institute of Technology, Pasadena.