

OBSERVATIONS ON NESTS AND YOUNG OF THE COOT*

BY GEORGE O. HENDRICKSON

The gathering of evidence which reveals the causative agents of the high mortality among young wild animals has proved a very difficult task. This problem is ever present in the minds of animal observers. Consequently, following a fall of 2.5 inches of cold rain on July 17 and 18, 1935, in the vicinity of Ruthven, Iowa, the author began to look for evidence of its effect on young wildlife.

In two hours on June 20 the writer with Logan J. Bennett, in a canoe, visited ten nests of the American Coot (*Fulica americana americana*) in Mud Lake, a marsh of 400 acres. Four nests were empty of eggs and young coots, but remnants of egg shells and feathers indicated that the nests had been used. Two of the nests were of cattail stems (*Typha latifolia*), and two of bulrushes (*Scirpus validus* and *S. occidentalis*). These nests showed two to six inches of dry material above the surface of the water, and each, though anchored in a clump of cattails or bulrushes, could be lifted up and let down quite freely in the water. It was estimated that the depth of water in the slough increased ten inches with the heavy rainfall. If these nests were used for roosting and brooding at night the young birds evidently had not been harmed by the elements at the nest. Some careful searching revealed four broods of young Coots in the slough, totaling fourteen birds with five in the largest group, which may or may not have occupied the four vacant nests.

One Coot's nest was occupied by a half-grown muskrat that was using it as a feeding station. The animal had burrowed into the nest and heaped enough additional bulrushes around and over itself to be hidden from first sight of the structure.

A sixth Coot's nest contained six eggs and one freshly hatched bird not yet able to go into the water. The nest of bulrush stems showed five inches of dry material above the water's surface. From a seventh nest a parent bird swam away and called five brooded young about two days old from the nest. They scrambled into the water at once.

Three nests appeared to be empty but the removal of one to two inches of dry material at the top uncovered one, three, and five dead young Coots about one week old in the respective nests. The dead birds were surrounded by water-soaked nesting material of cattails and

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bulrushes, and they were only about one inch above the water's surface. It is suggested that these birds drowned in the nests or died of chilling either with or without a brooding parent at the nest. Apparently these nests had not risen steadily with the deepening water.

On June 27 a trip was made to observe Coots at Goose Lake, a marsh of eighty acres near Jewell, Iowa. During six hours of poling a canoe through the thirty acres of bulrushes and cattails only eight Coots' nests were found, and they were located in an area of about 2.5 acres of cattails and bulrushes two to four feet above water about three feet deep. At a second visit on July 15 much of the remainder of the thirty-acre portion previously mentioned was covered with islands of decaying vegetation, submerged a month before, and at this second visit the several acres containing the nests were quite void of such floating material.

These eight nests were made of cattails and bulrushes. Two of the nests appeared to be unfinished and not used. Four nests showed signs of use and were water-soaked nearly to the top. A fourth nest contained seven fresh-looking eggs, and the upper four inches of cattail material was dry. Another nest showed signs of previous use by Coots but at the time of the visit was used by a muskrat as a feeding station. One brood of young was observed and clucking parents at several places in the bulrushes suggested the nearness of unseen broods. No nests were found near those adults.

On July 15 during five hours of poling through the taller vegetation between the many islands of floating debris, three additional nests came to view. One among the cattails had three fresh-looking eggs. A second among the cattails appeared to be freshly built but not in use. These two nests were within the 2.5 acre area mentioned above. The third nest was constructed of fresh leaves and stalks of arrowhead (*Sagittaria latifolia*) near the center of a five-acre patch of that plant. Four fresh-looking eggs were seen in this nest.

The brood observed on June 27 consisted of only two birds about one week old. When the canoe came near they dove under duckweeds (*Lemna* sp.) and were not seen again until 2.5 minutes afterward. Then they were discerned with difficulty as they sat on the water very still and well-covered with duckweeds. One of them was picked up and taken to rear.

Its cries were continuous until evening when it found comfort and warmth in a hastily devised brooder consisting of a ten-gallon pail lined with an electric heating pad and completed with two feet of a feather boa. During the succeeding days it spent much time lean-

ing against the heating pad and if kept away a few moments the fledgling began its vigorous outcries. Only direct sunlight seemed to satisfy its need for warmth when away from the artificial source.

The youngster did not care to pick up its food during the first week. Particles of food had to be placed very near the beak and several times a day soft food was forced into its mouth after it appeared from daily weighing of the bird that insufficient food was being consumed. Whitish material such as clabbered milk, bread crumbs, ant pupae, and the blanched ends of dandelion leaves were taken most freely later. Egg yolk, raw, or cooked hard or soft, brought on diarrhea and weakness when tried several times. At the age of about two weeks the bird was able to eat medium-sized earthworms, but continued to show a preference for ant pupae and the white ends of dandelion leaves. A few scraps of green lettuce leaf would be taken at times. As the bird grew it begged less for food but was always willing to have food brought near the beak.

The youngster proved to be a natural climber. Aided by claws on the wings supplementing the feet, it soon learned to get out of the pail-incubator by easily crawling up the electric cord. This climbing action was very pronounced during the first ten days of its captivity. As the tendency was exhibited less it also used the wings less frequently in climbing.

The youngster did not care to spend much time in water, and demanded water warmer than tap water to paddle in during the short swims.

By July 11 its weight was 38 grams; the weight at taking was 15 grams. On that day the bird passed away suddenly while swallowing an earthworm. Presumably it choked on this large particle of food.

The knowledge of the color and nature of food preferred in captivity and its habits of demanding to be fed may help in further interpretation of the observations upon the adults, the young, and their food.

DEPARTMENT OF ZOOLOGY AND ENTOMOLOGY,
IOWA STATE COLLEGE, AMES, IOWA.