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## NESTING OF THE BALD EAGLE

## BY A. F. GANIER

My first expedition in guest of a nest of the Bald Eagle (Haliaetus leucocephalus) dates back to some thirty years ago. At that time I was living in the lower Mississippi Valley in the little city of Vicksburg, Mississippi, when word was brought to me of an eagle's nest about twenty miles above town at a lake which lay secluded among the cypress swamps. I at once began to lay plans and entertain visions of collecting the eggs for my fast growing collection. Ben, my partner in the egg collecting game, was a poor climber himself, but flattered my youthful confidence by picturing what a mere everyday affair it would be for me to scale the mere hundred feet or so, and then how thrilling it would be to look over the brim at two great white eggs of the King of Birds. The day of days finally arrived, the 5th of April, 1899, to be exact, and we sallied forth well loaded down with climbing irons, ropes, lunch, camera, and last but not least a box filled with cotton in which to pack the eggs. We left the train at an obscure little station and, after inquiring the way to Cypress Lake, we launched forth on a four-mile trek through an unbroken forest. Our boyish spirits were keyed up to the highest pitch and I never recall a more pleasant tramp, with sunlight breaking through the trees overhead and woodland voices all about us. As we approached the lake, however, our troubles began. We were beginning to tramp through shallow water and before open water was reached we were knee deep and all but lost in a jungle of "button willow" bushes. No one lived at the lake and no boat could be found, so we began a tedious tramp, peering overhead meanwhile, trying to locate the eagle's nest among the tree-tops. To make a long story short, we finally came upon the eyrie at three o'clock in the afternoon, and to our dismay we saw that it had been built among the topmost branches of a giant cypress tree, larger than we had ever dreamed of. The trunk was about eight feet in diameter at shoulder height, and since it was approximately sixty feet up to the first limb we decided that after all the eggs weren't worth

the effort and that it was about time to start back to the railway station anyway.

A good many years passed between that first eagle's nest and my second. A good many events crowded into my life other than bird study and, too, I may have been influenced by the impression I had gotten to the effect that an eagle's nest was not a climbable affair after all. And so it happened that it was not until 1919 that I had the pleasure of looking upward into another great cypress tree to view my second nest. The site of this nest was in the low forest which borders Reelfoot Lake, Tennessee, at its upper end. This lake, lying in the extreme northwest corner of the state and close to the Mississippi, was formed by an earthquake in 1812. It is from two to four miles wide and about twelve miles long. Cypress trees, which were submerged when the lake was found, continue to grow where the water is less than three or four feet deep and large areas are grown up in saw-grass. "Black Slough" is a shallow wooded swamp in the low forest, above referred to, and here in a large old cypress was the first of three nests which I succeeded in finding at this lake. At the time of my visit, on May 30, the young had just left the nest. It was constructed almost entirely of dead cypress limbs and twigs and, due to the decay resistant quality of this wood, the nest, though old, was in good condition. The interior lining was composed largely of cypress bark which, like cedar bark, is very fibrous and may be torn from the trees in long and pliable strips. The outer portions of the nest, the limbs below and the ground underneath were much soiled with excreta ejected by the young before they left. This description of a nest is quite applicable to seven others which it has been my good fortune to find.

The next nest located was at the southwest corner of the lake, in a very similar environment and about five miles southwest of Black Slough. It was built near the top of one of the largest cypress trees I have ever seen and which was dead at that time. A conservative estimate of its height would be 125 feet. It reminded me of the nest visited when I was a boy so I made no attempt to scale its dizzy height. My visit here was on May 26, 1921, and as in the previously described nest, the young had already taken flight. I believe that this site had been selected for the reason that within a few hundred feet was a long established nesting colony comprising some two hundred and fifty nests of the Great Blue Heron and fifty nests of the Doublecrested Cormorant. The young of these birds doubtless come in quite



F1G. 1. Nest of the Bald Eagle in the "Scatters," Reelfoot Lake, Tenn.

handy to vary the bill of fare of the young eagles and of course the inhabitants of the rookery can do nothing less than pay tribute.

The third and last nest at Reelfoot, I found well out into the lake, about two miles east of the one last described. It differed from the others" in that its location was quite open, being built in a living cypress in a narrow fringe of these trees which form one of "the scatters" projecting far out into the open water. The eyrie was easily visible from a distance and the tree was not a particularly large one. The nest was some sixty feet above the shallow water in which the tree grew. On the date of my visit, May 24, 1923, the one large young bird which the nest held, appeared to be quite capable of taking its first flight and spent most of its time perched on limbs several feet from the nest (Fig. 1). Many irresponsible hunters and fishermen visit this lake, some wishing nothing better than to take a pot shot at an eagle, so it is quite probable that as many young eagles are shot from this nest as leave it on full-fledged wings. I have endeavored, on my several trips to Reelfoot, to do missionary work on behalf of these splendid birds but find it difficult to convince irresponsible people, chiefly visitors, that they should refrain from shooting an eagle.

For some years I had been getting reports of a swamp-surrounded lake some twenty miles southwest of Memphis, Horseshoe Lake by name, where more than one Bald Eagle was said to breed. I had pretty well combed the Tennessee lowlands and had come to the conclusion that nowhere else in this area than at Reelfoot, could a nest of this species still be found. On March 9, 1930, Mr. B. B. Coffey, of Memphis, and myself, with a small group of local bird students, visited Horseshoe Lake and spent the day with interesting results. On arrival, we embarked in a motor boat and after a twenty-minute cruise, had the pleasure of sighting an eagle's nest built near the edge of a low wooded island around which the lake made nearly a complete circle. This island was almost a mile long and was covered with virgin forest, immense white oaks predominating. It is owned by a hunting club which has for some time given protection to the eagles and which has also stocked the place with deer.

As our boat neared the shore, we had the pleasure of seeing a fine white-headed eagle sitting on a branch near the nest and another on the wing nearby. We landed, and as we approached the eyrie both birds circled about within a few hundred yards of us, giving vent to their shrill cries; but after a time they settled on trees some distance away showing no further concern. I supposed that this nest held eggs in



Photograph by B. B. Coffey.

FIG. 2. Climbing to a nest of the Bald Eagle in the Mississippi River Swamp Country. The rim of this eyrie was 103 feet from the ground. The nest held young birds, the eggs having been laid about Christmas time.

course of incubation, because of the fact that March 1st had marked the laying date of a pair in Arkansas, some sixty miles to the north, a few years before. The nest was built about seventy feet from the ground in a large elm (Fig. 4). The tree presented a swollen place in its trunk, some distance above the ground, which made climbing a difficult job, so I postponed the attempt, hoping to find another nest more accessible. After a short search we found a second nest not far away, built in an immense oak, but since no eagles were about we passed it by. Cruising along the shore, flushing flocks of ducks and cormorants here and there, we espied a third nest, also on the island, and drove the boat through the willows to the shore. Wading several shallow sloughs we approached the nest tree and again had the thrill of seeing a fine white-headed eagle leave it, joining its mate in the air. The pair then sailed around above us within a few hundred feet of our heads, voicing disapproval and giving us a wonderful example of how bold these birds will become if afforded protection. I resolved to climb this tree without searching further. The tree was a white oak and the nest, measured later, was 103 feet above the ground. Due to the trunk being clad with rough, loose bark, progress was slow and it required nearly an hour of gruelling work to reach the nest. Resting on a branch a few feet below the big platform (Fig. 2) I surveyed the forest about me. To the west, at a distance of a half mile and at the far end of the island, I was pleasantly surprised to see still another eagle's nest (Fig. 3) and this, when later visited, was found to be occupied. It was built in a large white oak about eighty feet up.

A stiff chilling breeze and swaying branches made the last ten feet of my climb more or less of an adventure, but I finally succeeded in working my head and shoulders through the rim of the nest and looking upon the eyrie. I was totally unprepared for the sight which greeted me for there, standing before me with mouths open and feathers bristling, were two young eagles nearly as large as their parents. They were apparently nearly ready to fly and were as black as vultures. After noting the nest carefully I descended and we visited nests number four and number one. Both of these were found to have two young which, as well as I could judge from the tops of nearby trees, were of about the same age as those more closely examined. By comparison with the pictures taken by Professor F. H. Herrick, I judged them to be about fifty days old. Allowing thirty-five days for incubation it would appear that the eggs of these three pairs were laid prior to Christmas, a date rather surprising for any location north of the latitude of southern Louisiana.

The valley immediately adjacent to the Mississippi River, from Memphis southward, is doubtless the last great stronghold of Bald Eagles in the interior of the United States. The meandering river itself contains many wooded islands and "old rivers", formed by cut-offs, while nearby are numerous extensive cypress swamps and lakes of considerable size, some of which are bordered by low woodlands and uninhabited areas. Such of this area as is on the river side of the



Photographs by Coffey and Ganier.

FIGS. 3 and 4. Two nests of the Bald Eagle near Memphis. They were built in giant oak and elm trees and had been in use for years.

great levees is usually under water through the nesting season and this affords protection against human visitation. More than a dozen pairs are known to breed here, and a more complete census of their numbers is now under way.

There is some evidence to support a belief that the Bald Eagle has bred and may still nest in cliffs in the mountainous sections of Tennessee, North Carolina, and Georgia, this evidence being the taking of this species there during the early spring.

NASHVILLE, TENN.