

Several of them were killed, but I could learn of but the one that was preserved. It is now in the possession of Mr. Jno. C. Leffel of Mt. Vernon.

On September 11, 1888, while engaged for the U. S. Fish Commission in exploring the Wabash River, I had the good fortune to come upon a flock of nine Wood Ibises at Mackey's Ferry, ten miles west of Mount Vernon. They were sitting in the tops of two dead trees just across the river on the Illinois side, and remained there during the entire time of our stay at the Ferry,—from about 8 to 11 A. M.

In addition to these, I find the following general references to its occurrence in Indiana. An old hunter of this city (Terre Haute) in whom I have confidence tells me that his father shot a Wood Ibis several years ago from a flock of several at the Old Reservoir south of Terre Haute. From the description given by the hunter I am quite certain he was not mistaken.

Ridgway, in his catalogue of the birds of Illinois, says the Wood Ibis is a summer sojourner in the extreme south of the State, and an irregular summer visitant in the northern portion. And in a letter to me dated January 26, 1889, Mr. Ridgway says:—"I remember, years ago, seeing these birds occasionally, soaring in circles, high in air, above the Wabash River, at Mt. Carmel, the season being, I think, midsummer. Again, either in summer or early fall, I started a large flock which had been perching on the branches of a large dead sycamore tree overhanging the bank of White River Pond, just below the mouth of the White River, but did not get any specimens. The species, to my certain knowledge, occurs more or less plentifully, at times, at the Cypress Pond in the southwestern corner of Knox County, [Indiana], but owing to the circumstance that I am so little in that part of the country, I am unable to state whether they occur there regularly or not. I believe that the species formerly bred in small numbers in that portion of the Wabash Valley, though I have no distinct evidence upon which to base this supposition. Most of the birds now seen there, however, occur there late in summer (August and September), a considerable portion of them, perhaps a majority, being young birds of the year." Mr. Ridgway further says that he saw "at Mt. Carmel, the dried head of one that was killed by a hunter at the Cypress Pond in Knox County," and that he has been "reliably informed of others having been killed there."

I may add that inquiry among people in Posey, Gibson, and Knox Counties seems to show that it is a very rare bird there,—one that is not often seen except by those fellows who are wont to prow around secluded ponds and wade cypress swamps, looking for the unusual among animate things.—B. W. EVERMANN, *State Normal School, Terre Haute, Indiana.*

**Additional Notes on the Bittern.**—Mr. Torrey's notes on the 'Booming of the Bittern' interested me very much, and while in most respects my observations agree closely with his, I hope to be able to throw light on some particulars.

For many years I had been familiar with the hiccoughing noise which precedes the booming notes, and had often tried to find out how it was produced; but although many times able to get within a few yards of Bitterns, the grass and bushes among which they stood always prevented my seeing plainly. At last fortune gave me the long-desired opportunity. One day while quietly paddling my canoe up a crooked stream, on turning a short bend in the stream, I came in sight of a Bittern caught by the toe in a muskrat trap. As I was approaching him he commenced pumping, and by taking time and working cautiously I was able to draw the stern of the canoe within a paddle's length of him, where he allowed me to observe him as much as I chose. This was in April before the grass had begun to grow and he was in perfectly plain view. His motions in making the noise were those described in the article referred to, but the first noise was not made by snapping the beak. The bill was opened with every noise; but the sound, which resembled the retching of a seasick person, came from within, not from snapping the bill. The movements of the bird were almost exactly such as the bird might be expected to make if sick at the stomach and trying to vomit. When this noise was made there was not much distention of the throat, but when the pumping sound began the gullet was greatly enlarged at each noise. The idea that the breast is expanded, is erroneous, as the *breast* cannot be distended. This notion doubtless arises from the fact that the Bittern, like all the Heron family, has long plumes which overhang the breast and by the motion of the throat are raised with every expansion of the gullet. Between each fit of pumping the Bittern assumed its various well-known attitudes. How the different noises were produced I can no more tell than I can tell how a Dusky Grouse 'booms,' though I have seen them do it within a very few feet of me, and think they also open their bill with each noise.

I can fully corroborate all Mr. Torrey says of the fearlessness of the Bittern in allowing cars to pass him, as I once saw one near Sacramento stand in the tulés at the edge of the ditch and allow our train to pass within twenty feet of him. In this case the bird stood with his bill pointing directly upward, and doubtless trusted to his resemblance to the dry tulé stalks for escaping observation.

There is one point on which I should like information. How do Bitterns kill the frogs which they eat? Once in the spring of the year I took from a Bittern's gullet, where they lay contracted into the smallest possible space, three large-sized frogs, all perfectly dead, and none showing any mark of violence either by piercing or pinching. Did the bird kill the frogs first, or swallow them alive? If he killed them first, how could it be done without leaving some mark upon them? If, as it is often reported, frogs have been found in rock where they have been imbedded hundreds of years without air, how could they be killed by suffocation? Besides, if they lived only a few moments it would seem that they must tear the bird's gullet in their struggles to escape. I hope some one may be able to give information on this point.—MANLY HARDY, *Brewer, Maine.*