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- EAST LANSING, MICH.

A STUDY OF A VIRGINIA RAIL AND SORA RAIL AT THEIR NESTS¹

BY HENRY MOUSLEY

Working over limited areas of ground year after year certainly has its advantages, since one gets to know where certain birds make their homes, and provided nothing happens to them during the winter and at migration times, one can usually count on finding them again not far from the old haunts year after year, thus providing for a renewal of acquaintance with their home life at points where, from some cause or another it may have been broken off.

This has been so in my case with the Sora Rail (*Porzana carolina*) and the Virginia Rail (*Rallus limicola*), pairs of which have nested for some years in two little cattail marshes (one pair in each), but I was never able to find their nests in the making, and obtain their incubation period. This period in the case of the former is said by Mr. Bent² to be fourteen days, while in the case of the latter the exact length has not been recorded, but is known to be not less than fifteen days. In 1935 I discovered the nest of the Virginia Rail after the young had left because of its location in the same marsh with the nest

¹Read by title at the American Ornithologists' Union at Pittsburgh, Pa., October 21, 1936.

²Life History of North American Marsh Birds, Smithsonian Institution, U. S. Nat. Mus. Bull., 135, 1926.

of the Black Duck³, and my desire not to be seen in its vicinity oftener than was absolutely necessary. The nest of the Sora was several hundred yards away in another marsh, and when I found it on June 11 the young had gone, and only one addled egg remained in the nest. The empty nest of the Virginia Rail I found later at the end of June, after the young ducks had hatched out and left their nest.

This year (1936) I started to search early in May in the immediate neighborhood of last year's nests, and was not long in locating a new nest of the Sora just fifteen feet away from that of last year, and one of the Virginia Rail thirty feet from last year's site. The former contained its first egg on May 14, and its full complement of eleven on May 24, an egg being laid each day. In the case of the Virginia Rail the first egg was deposited on May 18, and the tenth, and last, on May 27. The young of the Sora appeared on June 7, and all were gone the following day, thus giving an incubation period of fourteen days from the laying of the last egg. In the case of the Virginia Rail the first young appeared on June 13, and all were gone two days later, the incubation period thus being seventeen days from the laying of the last egg to the appearance of the first young. During the hatching period, I never once saw the male or young in the vicinity of the nest, and it is my belief the latter were led away by the male as soon as they hatched out, as has been stated by Mr. Bowdish⁴. This little rail reminds me very much of the European Water Rail (*Rallus aquaticus*) not only in its general make-up, but also in its habits and behavior. In 1931, a paper of mine was published in the Canadian Field-Naturalist⁵, in which I described my troubles photographing a Virginia Rail. Briefly, it took four hours before the bird accepted the camera, but when she did so, I had no difficulty in obtaining pictures every ten minutes. Naturally, I was more than anxious to see how the present bird would act under similar conditions. So on June 3 I made a start by slightly opening up the nest, setting up the camera, and retiring to my "hide-out" some twenty feet from the nest. Two hours went by, and still the bird would not face the camera, and this was the case with the Sora the day following. I gave up the game in both cases, resolving to try again in a few days when the incubating cycle would be more at its height.

³Birth of a Black Duck Family, Auk, Vol. LIII, No. 4, 1936, pp. 377-380, 2 pls.

⁴Notes on the Virginia Rail. The Ornithologist and Botanist, Vol. I, 1891, pp. 73, 74.

⁵Notes on the Home Life of the Virginia Rail. Can. Field Nat., Vol. XLV, 1931, No. 3, pp. 65-66.

Accordingly, I made another attempt five days later, June 8, too late for the Sora unfortunately, but with somewhat better luck at the Virginia's nest, the bird coming on her nest in three-quarters of an hour after the camera had been set up. Upon obtaining two pictures, one showing her appearing through the runway (which was at the back of the nest), the other of her sitting on the eggs, and drawing up the grasses in front to form a screen, I decided to move up the camera and open the nest a little more (the light not being very good). From here I obtained two more pictures, one showing her turning the eggs, the other depicting her about to step up out of the shallow water into the nest. Two days later, or the 10th, the weather cleared and conditions seemed ideal, so I decided to fully open up the nest and try and get some really good pictures. Because the incubating period being nearly at its zenith, when the bird would be very reluctant to leave her eggs for any length of time, she accepted the nearness of the camera in about one-quarter of an hour after it had been set up, coming somewhat nervously at first to arrange the eggs in two tiers. This took several visits, as she kept coming on and going off the nest before the eggs were apparently arranged to her liking. One photograph taken at this time shows her eyeing the eggs with evident satisfaction, before settling on them.

To make a long story short, I took no especial pains to secrete myself (in fact, I sat in front of a thick bush I was using as a blind, instead of behind it) the bird paying no attention to me whatever, after having once accepted the camera. All I had to do after re-setting the shutter each time, was to walk back to the "hide", and almost before I could sit down the bird was on the nest again. Never, perhaps, shall I have a better opportunity of observing the movements at such close quarters of so shy a bird as the Virginia Rail, as she was in full view every time I re-set the shutter, never moving very far from the nest. After a time the male joined her, this being the only occasion on which I had seen both birds together. During the whole of these proceedings, the female (sometimes joined by her mate) kept up a continuous series of pig-like grunts, some resembling those made by little pigs, others again more gruff like those made by an old sow. But the note that impressed me most, and which was more often given than any other, was horribly sharp, a squeak that set one's teeth on edge. This is the note, I imagine, which has been referred to by the late Dr. Charles W. Townsend⁶ as suggestive at times to the squeak

⁶Supplement, Birds of Essex County, Mass., 1920, p. 72.



FIG. 12. The Virginia Rail in various attitudes on the nest. Upper left, stepping on the eggs; upper right, turning the eggs; lower left, quietly brooding; lower right, inspecting. Photographs by the author .

made by the grass-blade stretched between the thumbs. I can not say I remember having heard it before, at all events not so many times repeated.

The nest, as was the case last year, was composed entirely of dry cattail leaves and grasses, well concealed in a bunch of growing cattails, the top of the nest being 6.5 inches above the water, whilst the bottom rested on the mud 3.5 inches above the shallow water. The dimensions were as follows: Outside diameter, 6.75 inches; inside diameter, 4.25 inches; outside depth, 3 inches; inside depth, 1.5 inches. The cattail leaves forming the foundation consisted of 750 pieces ranging from 2 to 12 inches in length, and from one-fourth to one-half an inch in width, whilst the fine grasses forming the lining consisted of 1,350 pieces also ranging in length from 2 to 12 inches. No empty egg shells were found in, or near, the nest.

In the case of the Sora, half an egg shell and the one addled egg only were found in the nest; some of the empty shells were at the end of the runway, whilst the remainder could not be found. Given sufficient time between the hatching out of the young, I think the parents remove the empty shells as the young leave them. The nest of the Sora (as is usual) was in a much wetter place. It was supported amongst growing cattails, the top being 11 inches above the water, the bottom 6 inches, whilst the water was over 12 inches deep. It was composed entirely of dry cattail leaves, coarse in the foundation, finer as a lining. The dimensions were: Outside diameter, 7.50 inches; inside diameter, 4.25 inches; outside depth, 5 inches; inside, 2.50 inches.

In conclusion, the Sora appears to be much shyer at the nest than the Virginia Rail, and I imagine the obtaining of pictures of it on the nest is likely to be a somewhat tedious undertaking, judging from my experiences this season.

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