

under observation had a strong tendency to remain on her eggs. This is in agreement with Audubon's account (Bent, 1932. *U. S. Natl. Mus. Bull.* 162).

The blind was entered at 10:00 AM on 3 June. The first poult was observed at 11:00 AM, one day after the estimated hatching date. The hen raised her body slightly, and the poult walked out of the nest from underneath her. It appeared to be dry, and stayed close to the nest. The hen fed the poult for four minutes by picking up material she could reach from a sitting position, and placing it in the poult's mouth. The poult then returned to the nest.

Subsequent poult observations on 3 June were at 11:45 AM (three observed for 10 minutes), 2:20 PM (five observed for 15 minutes, and 2:45 PM (two observed for 15 minutes). In each of these cases the poults stayed close to the nest. During the 11:45 AM observation, the hen picked at her body and then the poults picked at the hen's mouth.

We left the blind at 4:10 PM. The hen was on the nest and showed no indication of leaving.

When we entered the blind at 5:15 AM on 4 June the hen was on the nest. At 8:00 AM a poult walked out of the nest from underneath the hen, followed by another poult. They picked at material around the nest and appeared to be more active, sometimes running four or five feet from the nest and returning. These poults were replaced by two more poults that exhibited the same behavior pattern. A crow (*Corvus brachyrhynchos*) flew over the nest area, called, and the poults immediately ran for cover under the hen.

On 4 June, at 9:15 AM, the hen without hesitation walked off the nest followed by four poults, and disappeared in the cover to the southwest. We left the blind at 9:45 AM to examine the nest. Two dead poults and six infertile eggs were found. The poults had apparently been stepped on by the hen.

This paper is a contribution from Ohio Pittman-Robertson Project W-105-R.—ROBERT W. DONOHUE, CHARLEY E. MCKIBBEN, AND CHARLES B. LOWRY, *Waterloo Wildlife Experiment Station, Ohio Division of Wildlife, New Marshfield, Ohio 45766, 23 January 1967.*

Incubation period of the Spotted Sandpiper.—A. C. Bent (1927, *U.S. Natl. Mus. Bull.* 142, Part I, 84) reports the incubation period of the Spotted Sandpiper (*Actitis macularia*) to be 15 days. Although Bent mentions no variations, I found the incubation period to vary normally from 14 to 16 days. In one case the incubation period was 18 days.

In the summers of 1959 through 1961 observations were made on Spotted Sandpiper nests on the farm of E. M. Burger, Niskayuna, New York. All nests were within 1,000 feet of the Mohawk River. Eleven nests were studied throughout the entire incubation period and were checked daily. In 10 of the nests both parents were often observed on or near the nest. In two nests the incubation period lasted 14 days, in one nest the incubation period lasted 16 days; and in the remaining seven nests the incubation period was 15 days.

On 16 June 1961 a nest was found 160 feet from the river under a squash plant. Three eggs were in the nest and both parents were nearby. The next day the nest contained four eggs. Thereafter only one parent was observed at the nest. This bird was marked with paint applied with a squirt gun. Although the nest was checked at least three times daily, the marked adult was the only bird observed on the nest. The

lone parent was away from the nest in 22 out of 61 observations and it stayed away from the nest for up to 180 minutes at a time. The incubation period was 18 days for this nest. It is assumed that this increased time was due to the lack of normal incubation because of the presence of only one parent.—JOANNA BURGER, *Biology Department, State University College, 1300 Elmwood Avenue, Buffalo, New York, 12 December 1966.*

Reaction of Mourning Doves to cowbird eggs.—Friedmann (1963. *U. S. Natl. Mus. Bull.* 223:46–47.) reported that Mourning Doves (*Zenaidura macroura*) are occasionally parasitized by the Brown-headed Cowbird (*Molothrus ater*) but that there is no positive record of a fledgling being produced. In 1966 at Fremont, Nebraska, cowbird parasitism on several species was found to be heavy. The absence of parasitism in 110 Mourning Dove nests was very conspicuous. Therefore, eggs of cowbirds and Red-winged Blackbirds (*Agelaius phoeniceus*) were removed from Redwing nests and placed in Mourning Dove nests.

The following results were obtained:

M-31—On day eight of incubation I put in two Redwing eggs. They were there for three days. On the fourth day they were both broken on the ground directly under the nest.

M-21—A cowbird egg was added on day 15 of incubation. The Mourning Dove eggs both hatched, the cowbird egg remained on the nest for four days with three dove young. All were taken by a predator.

M-24—I put in a cowbird egg (incubated one day) between the laying of the first and second dove egg. The eggs were all taken by a predator on about the day when the cowbird should have hatched, 11 days later.

M-23—Two cowbird eggs were added on the fifth day of incubation. On the day when they should have hatched (11 to 12 days), one cowbird egg disappeared. The other was still present seven days later when the doves hatched and eventually was pushed off the nest by the growing young.

M-26—A cowbird egg was put in on day three of incubation; seven days later (day 11 of cowbird egg incubation) the cowbird egg was gone.

M-45—Two cowbird eggs were put in on day four of incubation; all eggs were gone on the following day.

From these few experiments it appears that Mourning Doves are tolerant to other eggs in their nests. In M-23 and M-26, cowbird eggs disappeared on the day when they should have hatched. It may be that these eggs hatched and the nestling cowbird was removed from the nest by the Mourning Dove.

I would like to hypothesize why cowbirds do not parasitize Mourning Dove nests more often, and if they do, why eggs and young are not found often in the nests. If eggs are laid in a nest, they may be knocked off accidentally from the frail platform nest of the dove. When doves leave the nests, they do so very quickly, and I have known them to knock their own eggs or young off the nest. The quick, fluttering take-off from the nest by the adult dove may knock off the cowbird eggs which are much lighter than dove eggs. I suspect this is what happened to the Redwing eggs in M-31. Mourning Doves stay at the nest site and leave for only short periods of time. I have very infrequently found an adult dove away from the nest in the morning hours when the cowbird would be laying her eggs. Friedmann (op. cit.) discusses reasons why a dove would have difficulty in raising a cowbird, the major reason being a difference in behavior of feeding young.—LARRY C. HOLCOMB, *Department of Biology, Creighton University, Omaha, Nebraska, 27 September 1966.*