

GENERAL NOTES

Additional notes on pre-nesting and nesting behavior of the Swainson's Warbler.—Since the publication of my recent paper "Pre-nesting and nesting behavior of the Swainson's Warbler" (Wilson Bull. 81:246-257, 1969), I have obtained additional notes on courtship, copulation, nest building, and incubation period of the Swainson's Warbler (*Limnothlypis swainsonii*).

During pre-nesting I observed a paired male giving a display which resembled a female soliciting copulation. His quivering wings were partly extended; his head, tail, and rump feathers raised. The male was perched about 3 feet from the ground. The female approached to within about one foot of the posturing male, where she alighted. The male then uttered a faint *tee-tee-tee* that was barely audible from where I was standing less than 8 feet away. In a display the next day the same male only extended his rump feathers and uttered the faint *tee-tee-tee* notes.

Before I wrote my earlier paper I had not observed that during pre-nesting, copulation sometimes takes place when a mated male flies to the female, pounces on her as she forages on the ground, pecks at her rump, and struggles with her along the ground for a few feet. The movements are usually so rapid that it is difficult to determine if copulation is actually consummated. My earlier observations involved only one pair, but I have since observed pouncing numerous times in two additional pairs. It was difficult to believe that copulation could occur during such rapid movements. However, on several occasions, when the action was a little slower, I observed that copulation was consummated in the ensuing struggle on the ground following pouncing. Hann (Wilson Bull. 49:154, 1937) made similar observations of copulation on the ground by Ovenbirds (*Seiurus aurocapillus*): "When copulation takes place on the ground, it is practically always accompanied by a struggle, which looks more like mortal combat than sexual intercourse."

I also have observed that copulation may occur when the female is perched in a bush or tree. Then the male often grasps the crown feathers of the female.

For three or four days prior to nest-building, an activity of the pair is the examining of nest-sites. The male of a pair that I watched led the way more than his mate, and at times he examined nest-sites alone. One such potential nest-site frequently visited by a male was subsequently used by the female for her nest. One might therefore conclude that the male selects the nest-site.

At two Dismal Swamp nests the female, which builds the nest, did virtually all of the building in the forenoon. Building of a nest took parts of 3 days between 07:00 and 11:00, and between 16:00 and 17:00. The female made 100-125 trips each morning, but no more than a half-dozen each afternoon. From 09:25 to 10:00 one morning, she made 34 trips, an average of about one trip per minute. She spent an average of 24 seconds at the nest, with a range of 9 to 70 seconds. The female sometimes *chipped* a few times while working on the nest. During the nest-building period, her mate rarely sang after 08:00.

A second example on record of a definite incubation period was determined through the cooperation of Mrs. Floy Burford of Norfolk, Virginia. I discovered a nest under construction in the Dismal Swamp on 23 April 1969. The four eggs were laid each morning before 07:00 during the period 1-4 May. I was unable to make continued visits to the nest, but Mrs. Burford visited the nest and found the first egg hatching at 06:30 on 17 May. Thus, the incubation period was determined to be 13 days.—BROOKE MEANLEY, U. S. Department of the Interior, Patuxent Wildlife Research Center, Laurel, Maryland, 6 July 1970.