

These data show that some Swainson's Thrushes leave their breeding areas before starting to molt, or when they are still in the early stages of molt. The proportion of the population that does this is unknown. In some cases the birds I examined must have moved at least 250 km from their breeding sites, although birds captured at Berne may have moved only 30 km. The pattern of captures suggests that Swainson's Thrushes are less likely to move during the middle of molt.

I thank LPBO and PEPT for providing unpublished banding data. R. Smith and H. Quilliam helped me extract the data, and R. Weir provided information on the breeding status of Swainson's Thrush in the PEPT area.—JEFFREY D. CHERRY, *Dept. Biol. Sci., State Univ. New York, Albany, New York 12222. Accepted 10 Mar. 1985.*

Wilson Bull., 97(3), 1985, pp. 370–372

Nest-defense of the Florida Scrub Jay and the problem of "incubation" by male passerines.—Wyckoff (*Wilson Bull.* 95:472, 1983) reported "the first record of incubation behavior by a male" Chestnut-collared Longspur (*Calcarius ornatus*). She may have observed nest-defense behavior instead.

Grimes (quoted by Sprunt in Bent, U.S. Natl. Mus. Bull. 191:77–88, 1946) believed erroneously that the male Florida Scrub Jay (*Aphelocoma c. coerulescens*) performed incubation, although Amadon (*Am. Mus. Novitates* 1252:1–22, 1944) had correctly reported that only females incubate. Only the female of this species develops an incubation patch. As noted by Woolfenden (*Living Bird* 12:25–49, 1974), Sprunt probably wrote his contribution before Amadon's paper appeared, and Grimes' mistake "most likely originates from observing nest-defense behavior by the male."

Nest-defense by the Florida Scrub Jay is similar in the sexes and may be described as follows, based on our separate and joint observations over many breeding seasons at Archbold Biological Station, Lake Placid, Highlands Co., Florida. The most commonly observed occurrence is upon an observer's approach to a nest in which the female is incubating or brooding. Whether the breeding female or male defends is a matter of individual variation, probably depending in part on how bold the birds are with respect to human intruders; we frame our description in terms of the male. The defending male flies to the vicinity of the nest whether or not the female flushes, and either before or after she departs if she does flush. If she departs and he lands adjacent to or on the nest, he often looks down into it as if to inspect its contents. Sometimes he stands on a branch adjacent to and usually a little higher than the top of the nest, often a little forward of the nest in the direction of approach by the observer. He may also stand on the nest-rim itself or upon the female if she remains. Most often on close approach by an observer to a nest from which the female has fled, the male jay straddles the nest contents, placing his feet on the inside of the nest-rim, and drops his body low over the eggs or nestlings.

Whatever his position relative to the nest, the defending male adopts a characteristic posture. His gray crown feathers are depressed strongly as the bird faces the intruder, and his "eyebrow" feathers protrude laterally, forming a ridge over the eye that gives the bird a "scowling" appearance. His body feathers are erected somewhat, especially on the flanks, making the male seem larger than usual, and his folded wings are held out at the carpal joints (Figs. 1, 2). Sometimes his tail is spread and sometimes it is not. The male is silent while in this posture, and he may remain over the nest for as long as observers are nearby,



FIG. 1. Male Florida Scrub Jay in nest-defense posture on nest. Note depression of crown feathers, erection of body feathers, and holding of wings out at the carpal joints. (Photo by JPH of breeding male SRW- on 21 April 1981.)

and for some minutes after they leave the immediate area and watch from afar with binoculars. During such lengthy periods of defensive behavior, the male may give the appearance of incubating or brooding, but he does not settle far enough down upon the nest contents to be pressing against eggs or young. By contrast, an incubating female that is not defending settles farther down on the nest, does not have crown feathers sleeked, and does not hold her wings out at the carpal joints (except in response to hot conditions).

Wyckoff's (1983) male longspur may have been defending the nest on the four occasions of reputed incubation she reported. On the first (3 June), the male circled and vocalized upon approach of the observer, and settled on the nest when the female flushed; the observer watched from 3.6 m away. The maximum time the male could have been on the nest was the 14 min from 11:09 through 11:22. On 4 June the male was flushed from the nest, to which he may have gone upon approach of the observer. On 5 June the male was on the nest for 5 min, and on 6 June was seen on the nest. No details are provided that would confirm actual incubating behavior by the male, and the circumstances of the observations (approach of the observer, retreat of the female, circling by the male, vocalizing by the male, short stays on the nest) all suggest that the male may have been defending rather than incubating.

Many families of passerine birds include species in which the male is reported to incubate. No doubt many of these reports are accurate, but it seems likely that others could have resulted from observers mistaking defensive behavior for incubation. When there is no evidence concerning incubation patches in the sexes, behavioral observations are useful data. However, reputed male incubating behavior by any sexually dichromatic species such



FIG. 2. The same male as in Fig. 1, lowered in the nest-cup in a position that could be mistaken for incubating or brooding behavior. Note that the body is not sufficiently lowered to be pressing against eggs or nestlings.

as the Chestnut-collared Longspur should be immediately suspect if the male wears brightly colored, display plumage and the female is concealingly colored. As the case of the Florida Scrub Jay shows, even sexually monomorphic birds may have division of labor in incubation. Therefore, we recommend that all reports of suspected male incubation in passerine birds be accompanied by sufficient observational details to rule out nest-defense as a possibility.—JACK P. HAILMAN, *Dept. Zoology, Univ. Wisconsin, Madison, Wisconsin 53706*; AND GLEN E. WOOLFENDEN, *Dept. Biology, Univ. South Florida, Tampa, Florida 33620*. Accepted 25 Mar. 1985.

Wilson Bull., 97(3), 1985, pp. 372–374

Nestling feeding schedules of Turquoise-browed Motmots in Yucatán, Mexico.—Skutch (Auk 62:489–517, 1945; Auk 64:201–217, 1947; Ibis 106:321–332, 1964; Wilson Bull. 83: 74–94, 1971) and Orejuela (Living Bird 16:193–208, 1977) have provided data on schedules maintained by adult members of the family Motmotidae during provisioning of their young. For the Turquoise-browed Motmot (*Eumomota superciliosa*), one of the two most common members of this family, Skutch's (1947) data do not include nestling weights, and both he (1947) and Orejuela (1977) only provide data for portions of the first posthatching week. Here, we augment those data and supplement information provided by Scott and Martin (Biotropica 15:8–14, 1983) on other aspects of reproduction of this species in central Yucatán