blinds with large viewing windows that hide the observer's movements from wary subjects more than outweigh these minor problems.—M. A. PURDY, *University of Victoria, Box 1700, Victoria, British Columbia V8W 2Y2, Canada.* Received 29 Feb. 1984; accepted 6 Nov. 1984.

Observations at a Northern Waterthrush Nest.—In this note, we give information on the incubation period and fledging age for the Northern Waterthrush (*Seiurus noveboracensis*).

On 5 May 1983, in the Sourland Mountains of southern Hunterdon County in central New Jersey, we flushed a Northern Waterthrush from a nest containing 3 eggs. Concealed by roots and overhanging dead grasses, the nest was in a hollow in a 45 cm vertical bank bordering an old logging road. Water flowed slowly along the ruts in the road, and reached a depth of 7–8 cm directly below the nest.

On 7 May the nest contained a complete clutch of 5 eggs. Since we had originally flushed the bird near midday on the 5th, incubation apparently started with the third egg. Although no information is available on the congeneric Louisiana Waterthrush (*S. motacilla*), the Ovenbird (*S. aurocapillus*) begins incubation with the next-to-last egg of its 4- or 5-egg clutch (Hann, Wilson Bull. 49:145–237, 1937). All young hatched on 17 May; therefore the incubation period was about 13 days (assuming it began with the third egg). We did not disturb the nest further until 25 May, when we banded the 8-day-old nestlings. Juvenal plumage was well developed then, and in color and pattern strongly resembled that of the adults. It differed from the description in Bent (Bent, U.S. Natl. Mus. Bull. 203, 1953) in that it was whitish below rather than "primrose yellow," and the superciliary line was distinct rather than "indistinct." Weights of the 5 young on day 8 were 17.2, 17.7, 17.8, 18.2, and 18.3 g ($\bar{x}$ = 17.8 g).

The young Northern Waterthrushes fledged on 26 May, day 9 after hatching. This fledging age is comparable to that of the Louisiana Waterthrush (Bent 1953; Eaton, Wilson Bull. 70:211–236, 1958) and Ovenbird (Hann 1937).

Although we had been visiting this site regularly since late April, we heard the male waterthrush sing only once; thereafter it went undetected until 27 May, when both adults gave alarm chips near the empty nest. Thus, the species could easily have been missed in a breeding bird census of the area.

We have found no other published observations on incubation period and fledging age in the Northern Waterthrush. This nest also constitutes the only confirmed breeding record for New Jersey, although based on the presence of singing males, breeding has been presumed in northern New Jersey (Bull, Birds of the New York area, Harper & Row, New York, 1964) and more recently in the Pine Barrens and as far south as the Delaware Bayshore (Wander, New Jersey Audubon records of New Jersey birds, winter 1980–1981).—SHARON ANN WANDER, *Department of Biological Sciences, Rutgers University, Piscataway, New Jersey 08854; and* WADE WANDER, *RD3, Box 270AA, Somerset, New Jersey 08873.* Received 14 Nov. 1983; accepted 30 July 1984.

Mockingbird Use of Chatbursts with Neighbors versus Strangers.—Northern Mockingbirds (*Mimus polyglottos*) produce several calls in addition to their elaborate song. One of these, the chatburst, is produced primarily during the period of fall territoriality, when the major influx of strangers occurs (Laskey, Wilson Bull. 48:241–255, 1936). At that time, chatbursts are produced spontaneously, in no obvious context, and in the context of overt territorial interactions. For example, significantly more territorial interactions are accompanied by chatbursts than by either song or no vocalization (Logan et al., J. Comp. Psychol. 97:292–301, 1983). The prominence of the chatburst in fall territorial defense raises questions concerning the presumed territorial function of fall song, produced from mid-September to early November. Logan et al. (1983) have hypothesized that the chatburst may function in response to specific demands posed by the fall influx of strangers. If this were the case, the call should occur more commonly in competitive

interactions with intruding strangers and less in interactions between neighboring residents. I report here observations which support this hypothesis.

In the mid-Atlantic states, mockingbirds normally molt in August and early September (Laskey, 1936). Pronounced fall territorial activity usually begins in mid-September, when birds hatched in the previous spring disperse to establish territorial space. The progress of the molt is readily apparent by the length of the 5th and 6th pair of rectrices, which are predominantly white and easily visible from below (Michener, Condor 55:75–89, 1953). Observations on the length of the outer rectrices in the fall of 1983 suggested that mockingbirds inhabiting the Piedmont region of North Carolina did not complete their molt until the end of September through early October. Possibly because of late molt, the fall influx of dispersing newcomers did not begin until well into October. This circumstance provided an opportunity to observe territorial interactions between neighboring residents at the time of year when the chatburst normally occurs, but in the absence of interactions with dispersing strangers. Following molt, one color-banded resident offensively "tested" the boundaries of each of his 4 neighbors. I observed 9 aggressive interactions between Bird A and his 4 neighbors from 4–15 October 1983. Two of the 4 neighbors were color-banded, and all neighbor-neighbor interactions occurred on shared territory boundaries. The unbanded birds were assumed to be neighbors when, after an encounter, they retreated into the neighboring space and remained visible there for extended periods. Six of the 9 encounters occurred after Bird A spontaneously produced both chatbursts and song, indicating that the bird was able to produce both types of vocalization. Chatbursts, however, occurred during only one of the 9 encounters between neighbors.

I made similar observations of a second pair of color-banded neighbors. These males engaged in fights and chases near their common boundary, apparently drawn there by a third, unbanded bird (most likely a female) that ranged freely through both males' territories. Though fewer fights were observed between these males, none involved chatbursts. Across a total of 3 neighbor pairs, I observed 12 interactions between a defending resident and from 1 to 3 identified neighbors; only 2 involved chatbursts.

Intruding birds with no known established territorial space began appearing in mid-October. The behavior of Bird A changed dramatically with the appearance of intruders. From 13–16 October, I observed 9 interactions between Bird A and apparent strangers. In each he fought with and chased at least one unbanded intruder. Many of these occurred at or near a boundary which he shared with a color-banded neighbor. Both resident and neighbor were involved in at least 5 of the 9 interactions, and with one exception, interactions involved at least 3 and sometimes 4 or 5 mockingbirds. In most cases, the interaction continued until the intruders were driven out of the resident's territory. Eight of the 9 encounters were accompanied by chatbursts. In some cases, the 2 neighbors simultaneously defended against the same intruder on a common boundary. Here, too, chatbursts were employed, possibly produced by both residents. As little as 3 to 5 days earlier, however, interactions involving only neighboring residents were unaccompanied by chatbursts.

The boundary context by itself cannot provide the cue signalling the use of chatbursts in territorial encounters with strangers. Interactions both with neighbors and with intruders occurred on boundaries; the former usually did not involve chatbursts, the latter did. However, the number of birds involved in an encounter may alter the context provided by the boundary. At least 3 birds were involved in 9 of the 10 interactions in which chatbursts were produced. The number of birds involved in an interaction and not the specific identity of neighbor versus stranger may, therefore, provide a critical cue distinguishing the two territorial contexts and signalling the use of chatbursts. In the 2 cases in which chatbursts were observed in interactions between neighbors, a third bird was always involved. In one instance the third bird was the mate of the offending neighbor; in the second, the interaction occurred on a boundary bordering 3 residents' territories, and all 3 birds were involved. When strangers intrude into established space, multiple bird chases along boundaries are common, as each resident appears to guide the direction of a chase away from his territory. The number of birds involved in the chase and not distinct attributes of neighbors versus strangers may, therefore, signal the use of chatbursts during boundary disputes.

These observations do not address the question of why calling should be used in response to the intrusion of strangers, but not neighbors. It may be that features of the call occurring in the context of a boundary evoke more aggression than would otherwise be directed towards familiar neighbors. If the call contains no elements signalling individual identity, its use in interactions between neighbors might be incompatible with the decreased levels of aggression appropriate for neighbors. Such considerations cannot be addressed directly here. These observations do, however, support the hypothesis that the function of chatbursts in the mockingbird's fall territoriality is primarily restricted to defense against intruding conspecifics rather than defense against neighboring residents.—CHERYL A. LOGAN, *Department of Psychology, University of North Carolina at Greensboro, Greensboro, North Carolina 27412.* Received 14 Jan. 1984; accepted 6 Dec. 1984.

Initiation of nest-roosting by passerines with open nests.—Reporting on an Eastern Phoebe (*Sayornis phoebe*) that began roosting on her nest 3 days before laying her first egg, Mueller et al. (J. Field Ornithol. 53:421–422, 1982) state that "we have been unable to find any account of a passerine spending the night on an open, cup-shaped nest before incubation begins. It is likely that few observers have looked for the possibility."

In Baltimore, between 1943 and 1976, I watched for the start of roosting at 31 open nests of 6 passerine species, checking by flashlight beginning one or more nights before the first egg appeared. I never found a bird roosting on the nest until there was at least 1 egg. There was variation in the time of start; neither clutch size nor time of year seemed to be a factor in this. My data are:

American Robin, *Turdus migratorius,* 17 nests. At 6 April and May nests, clutches 2 to 4, roosting began with the first egg; at 3 in May, roosting began only when clutches of 4 were complete; at a 5-egg May nest roosting began with the second egg; at the other 7 nests, clutches 3 and 4, roosting began on intermediate laying days.

Wood Thrush, *Hylocichla mustelina,* 5 nests. At 3 May nests, roosting began with the first egg; at another May nest with the second egg, all clutches 4; roosting began with the second egg of a June clutch of 3.

Cardinal, *Cardinalis cardinalis,* 4 nests, all clutches 3. At 2 April and 1 May nests, roosting began only with the final egg; at 1 in May with the second egg.

Song Sparrow, *Melospiza melodia,* 2 nests. Roosting began with the second egg in April, final egg in June, clutches 4; same marked bird.

Gray Catbird, *Dumetella carolinensis,* 2 nests. Roosting began with the third of 4 eggs in May; last of 3 eggs in July.

Mockingbird, *Mimus polyglottos,* 1 nest. Roosting began with second of 3 eggs in May.—HERVEY BRACKBILL, *2620 Poplar Drive, Baltimore, Maryland 21208.* Received 1 June 1983; accepted 16 Jan. 1984.