

## BEHAVIOR-WATCHING FIELD NOTES

by Donald and Lillian Stokes, Carlisle

This new feature of Bird Observer is designed to encourage reader participation in watching the behavior of birds, and at the same time to build up a file of behavioral observations on the birds of our area. It will attempt to do this in three ways.

First, and most important, is by asking readers to submit descriptions of behavioral interactions that they observe, written on separate 3x5 cards for each incidence. A few of these will be printed along with the name of the observer in a section called "Field notes on behavior", and all notes will be kept on file. Send behavior observations to: Behavior-watching Field Notes, 52 Nowell Farm Road, Carlisle, MA. 01741.

Second, there will be a section called "Behavior-watching in the months ahead", which will point out some interesting feature of bird behavior that can be observed in the next one or two months and raise questions that will hopefully stimulate further observations.

Third, there will be a section on "Behavior research articles," which will summarize and comment on one or two particularly interesting articles from major bird journals. The topics chosen will be relevant to behavior-watching at that time of year and will be a stepping stone for your own original observations.

### FIELD NOTES ON BEHAVIOR

For this premier installment, we have drawn upon our own field notes. In future issues we hope to feature mostly your observations.

5/18/81 Carlisle State Forest

10:17 Saw a pair of Chipping Sparrows near the center of their territory (limits determined from previous observations). Female was on a fence rail with head and tail raised and wings quivering. She was also giving a rapid high-pitched trill. Male flew at her, landed on her back, and mated. Male repeated this action four times in one minute, hopping to one side of the female each time after mating. He then flew into the grasses below and she preened.

10:22 Mating three more times on ground.

10:28 Male and female flew to blue spruce on a lawn.

10:30 Two more matings on ground beneath spruce.

10:34 Female picked up fishing line segment by road and flew with it to spruce. Male mated with her while she still had material in bill. Afterward, he flew higher in tree, and she dropped down to a lower branch and placed material in nest. This was our first sighting of the nest.

7/7/81 Old Dump Site near Routes 2 and 126

9:50 Found two Mourning Doves at the end of dump road building a nest on the horizontal limb of an oak. Nest branch 20 ft. high. Male picks up material off ground at road edge. He pecks at various pieces of grass before picking one up and flying to nest. He lands on branch near female who is sitting on nest and walks toward her from behind, sometimes even stepping on her tail feathers as he gives the single piece of material to her over her shoulder. She takes it in her bill and places it in the nest to one side of her without getting up. Male immediately flies off to collect more material. Male's trips averaged one per minute during the 20 minutes that we watched.

10:00 Another Mourning Dove flies up and lands near nest while the male was collecting material. Male immediately flies up from ground and approaches other bird like it was going to land on its back. The new bird flies off at the last possible instant, and the male flies after it and out of sight. Within a minute, the original male returns and continues collecting nesting material.

5/11/81 Drumlin Farm

12:55 to 1:25 We heard the "High-tsee-call" (a piercing, continuous, high-pitched call) of Tufted Titmice, and upon approaching we saw mate-feeding (one adult bird feeding another adult, usually male feeding female). After being fed, bird A flew down to a moss-covered rock and started to pull off a clump of the moss. It then flew up 15 feet with the moss and entered an oblong crevice. We had found the nest! While we watched, bird A made 25 more trips with moss to the nest.

Meanwhile, bird B stayed about 20 feet from the nest and mostly fed. Every so often it gave the High-tsee-call while quivering its wings. Once it chased off another titmouse from the area and once it brought food to the nest site and possibly fed it to bird A. At 1:20 bird A stopped building the nest and flew up into a nearby tree. It bill-wiped, preened, and

hopped about. Bird B immediately approached with food and fed it. Bird A continued bill-wiping and preening in the same spot, and bird B again fed it. Then both birds flew off and out of sight.

7/3/81 Corner of Routes 2 and 126

11:20 to 11:35 Heard two Cedar Waxwings give their high thin call as they flew up into a tree. As I approached, I noticed that they were near an Oriole nest and pulling strands of material from it. They then flew off to a horizontal limb over the road. I went closer and saw the start of their nest. The birds then made repeated trips from a pine forest to the nest, carrying small twigs that they broke from dead pine branches. Both birds participated in the building and almost continuously gave the typical high thin call.

#### COMMENTS ON THE FIELD NOTES.

These four observations were selected to highlight variations in social behavior during nest-building. First, it is interesting to compare how much work is done by each member of a pair in nest construction. The Tufted Titmouse and Chipping Sparrow are similar, in that one member collects material and builds while the other remains nearby. Mourning Dove males collect all the material and the female does all the building. Cedar Waxwings equally take part in collecting and building. Why have these different strategies evolved?

In two cases, the Tufted Titmouse and Mourning Dove, a third bird showed up during nest-building and was chased away by the male. Why do these other birds appear? Are they looking for nesting sites, nesting material, or mates?

The amount of vocal behavior differs in each example. The Mourning Doves were silent, the Cedar Waxwings both gave soft, high calls continuously, the Chipping Sparrow produced high trills before mating, and the male (?) Tufted Titmouse made high thin calls while the female (?) was silent.

Is it just a coincidence that all calls were high-pitched? Is there danger in attracting predators due to conspicuous nest-building activities? These are just a few of our thoughts and questions concerning these observations. Undoubtedly, you have your own observations of nest-building and associated behavior that would raise other questions or answer these.

#### BEHAVIOR-WATCHING IN THE MONTHS AHEAD

Some warm morning in Autumn you may walk outside and get a feeling of spring. It may be the angle of the sun, or the quality of the air, but it may also be the songs of birds. For the past month, practically no birds have given their

primary song - breeding is finished, many birds are molting, and song is no longer functional. But in some species the males and females start singing in fall, and the effect can make a warm autumnal day seem a little like spring.

Two species known for this behavior are the Mockingbird and Song Sparrow. With Mockingbirds, both the male and the female sing because both become involved with the formation of fall and winter feeding territories. This species also uses other calls at this time, including the Ch'ch'chick, Chick-chick, and Chewk. Neighboring Mockingbirds may be seen chasing one another or doing an elaborate display called the "border-dance" as they attempt to define territorial limits. Mockingbirds also become aggressive toward other species that feed on the same foods (mostly berries).

Song Sparrows also sing in fall on warm days. Some males winter on or near the breeding territory, and in the autumn they sing from perches and chase other males much as they did in spring. For more details of the winter and fall behavior of these birds, see A Guide to the Behavior of Common Birds by the first author of this article.

Very little is known about the singing behavior of birds in fall, and it would be a substantial gain in knowledge if, through reports to this column, we could gather information on such activities. If you hear birds giving their main song in fall, move to where you can see them and watch their behavior. Are they alone or near other birds? Are they using any other calls? Are there chases or other forms of aggression? If so, are they between the same or different species? For how many weeks do the birds sing? Are the singing birds male or female?

It should also be mentioned that not all members of a species share the same behavior. Many Mockingbirds gather into flocks and roam about. Many Song Sparrows migrate. Look for these differences within a species' behavior as well.

#### BEHAVIOR RESEARCH ARTICLES

"Territoriality and flocking by Buff-breasted Sandpipers: variations in non-breeding dispersion" J. P. Myers 1980, Condor 82: 241-250.

In this article the author discusses some previously unstudied aspects of Buff-breasted Sandpiper behavior on its wintering grounds in Buenos Aires Province, Argentina. Many of these sandpipers defend non-breeding territories while feeding in the short upland grass. However, when a predator appears, they gather into a flock, whirl over their feeding area, and resettle when the predator leaves. At night they roost communally at the edge of a short grass pasture.

Most wintering shorebirds feed in flocks. The unusual territorial behavior of this sandpiper raises some intriguing questions about how birds space themselves over an area. What is the purpose of the sandpipers' territorial behavior? Does it lower the risk of predation by reducing prey density, and thus make the area less attractive to predators? Or does their territorial behavior function mainly to increase food gathering ability? Tinbergen (*Behavior* 28: 307-321) theorizes that "certain predators exert pressure on individuals even of well-camouflaged prey species to live well spaced-out". On the other hand, Myers' observations showed that sandpipers flocked at the appearance of a predator, suggesting that flocking rather than territoriality was their defense. The function of territorial behavior may then be to reduce competition during foraging.

While defending territories the sandpipers used several displays that are employed in the same situation by other shorebirds, for example, Sanderlings and Pectoral Sandpipers. These are: "raising one wing vertically and running toward an intruder"; "erecting back feathers and depressing tail while moving slowly near a mutual boundary"; "crouching parallel close to neighbor at territorial boundary."

Although this article does not deal with a species we commonly see, it does present some interesting observations which we may be able to apply to behavior-watching of our own common species.

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DONALD AND LILLIAN STOKES are naturalists, authors, and educators. Don's many works include A Guide to Nature in Winter, A Guide to the Behavior of Common Birds, and The Natural History of Wild Shrubs and Vines. He and Lillian are collaborating on a second volume soon to be published.

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