

AN OBSERVATION OF THE TERRITORIAL AND REPRODUCTIVE BEHAVIOR OF THE RED-WINGED BLACKBIRD

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PART II

ARRIVAL AND BEHAVIOR OF FEMALES

Again, many varied times are given for the arrival of females into different areas within our region. In general, they begin arriving some 2-3 weeks after resident males. Here the time span was greater. Although some females were seen as early as mid-March, it is thought that these were migrants that wintered not far south. The resident females began arriving sporadically from April 1 on. This further strengthens the idea that the movements of these different classes of individuals put forth by Allen (1914) are not so clearly defined.

The majority of the females had arrived by the third week in April. Their initial behavior reveals that they flew into the area in groups of three and four, perching within a male's territory. The males then in many cases would approach and drive them off, since they display at both sexes and will not tolerate the females until they are ready to mate. The females then begin to select specific territories. In all cases observed, the first territories selected were those considered to be prime habitat. As this has been explained before, it is definitely a natural mechanism by which the best genes of the species are perpetuated.

Once a territory has been selected, the females begin to spend much time within it, moving about from perch to perch as if unsure. The male-female interaction at courtship is especially interesting. Once she selects a territory and begins to spend increasingly longer periods within it, the male, if he is ready to mate, will perch close by and she will move away. This goes on for several minutes until she lofts high into the air above the territory. The male will then follow her, circling close behind for a period of from 10 seconds to nearly a full minute. He then drops back to the territory and she follows. This action has been noted by Bent (1958) and Allen (1914), and indicates that the two have paired.

Nesting does not begin immediately. In fact, 2-3 weeks may separate the pairing and the nest building. The female's activity during this period is usually very tranquil. She will flit about the territory,

many times following the male very closely. If she ventures too close to the perimeter of an adjacent territory, her mate will fly quickly up and usher her back within his bounds to protect his mating right.

Both now spend increasingly more time within the territory. The daily flight to the upland meadows to feed is reduced, and more time is spent perched within the territory.

A very interesting phenomenon was observed with 3 females. Though females select territories and not males (Smith, 1973), they have not been recorded as showing any territoriality although the male is known to be promiscuous—mating with more than one female within the established territory. The male distinction between polygamy and promiscuity seems to be an ambiguous one at best. The reason is that males will mate often with more than one female and protect each nest with equal fervor (Bent, 1958). How then is one to distinguish between the pair bond and the promiscuity? At best the distinction in this case is vague and its value unclear. From this point it appears as an unnecessary confusion of the data.

However, since many times there is more than one female per territory, it would tend to negate any territorial behavior among the females. What has been observed in four different instances tends to confuse this issue. This is not to say that the author feels that females are necessarily territorial, but that there is some aberration in the thought, based upon personally observed accounts.

On three separate observations females at close distance were seen “puffing up,” extending the shoulders and spreading the tail. The call and song were certainly distinct from the call of the male. The first sighting was of only one call, the second of two or three. The last female observed within a territory was seen to call in this manner some 15 times while perched upon a cattail stalk. Nine or ten of those calls were in rapid succession and occurred within the time interval of one minute. What may be of importance was that this was observed on the day before nesting was recorded for this bird.

The other observation that was unique occurred within the well-established territory of a male. A female had already been paired with, but nesting had not occurred. Another female was seen to fly into the area. Each time, she was met by the resident female. No action was observed. However, the male soon flew up and began chasing her erratically throughout the territory with the resident female following. Soon the tumult was joined by several males from adjacent territories. The intruding female then flew high above the marsh and was followed closely by the resident female until she deserted

the area and the resident female returned. The resident male's behavior might be explained by the fact that he was not ready to accept this female. What of the other males, and more importantly the behavior of the resident female? This is certainly peculiar, but since observations were carried out for such a short period of time it may not be that uncommon.

The calling of the females is another peculiarity, and no other explanation is offered other than that these three may have been genetically distinct in those terms.

As was previously stated, red-wings are considered polygamous or promiscuous depending upon your point of view. In any event, it has been fairly well established that they mate with more than one female and hence there may be more than one female per territory. Bent states, as do many others, that it is often evident that there are more females and more occupied nests in a marsh than there are males.

This current study exhibits a discrepancy between the female-male ratio and my own findings. More than likely it is peculiar to this study area, but the males outnumbered the females. Though 45 to 50 male territories have been established, only approximately 33 females have selected territories. This far exceeds the expected ratio of males to females and it is evident that some mechanism is operating here. Perhaps the type of nesting area, the size of the territories or the age and experience of the males are factors. Of the 33 males known to have selected territories, all appeared to be alone, with secondary habitat only partially filled. The eight nests located at this time are each alone in an individual territory.

As has been documented thoroughly, the female builds the nest alone. But it is not known what triggers this activity, since females have been observed within the territories for 2-3 weeks before actual nesting begins. Perhaps it is the increasing length of day, and then induction by activity of some females on others. Of the eight nests observed, 7 were located in prime habitat and one in a questionable area. All nests were constructed in well protected areas from 2-6 feet above the water level. Located in bushes of bayberry, blueberry and prickly dewberry, they were recently finished. Three of the nests had 3 eggs and the other five were empty, indicating that they were just recently finished and in some cases egg laying had not occurred. Also, red-wings normally have a clutch of from 3-5 eggs, 4 being normal (Bent, 1958). This leads one to think that perhaps an interruption had occurred and all eggs had not been laid. Bent (1958) states

that the nest takes six days to complete, and gives a good description of it. Little more can be said concerning nesting since it has just begun and substantiated data cannot be collected and relied upon.

FEEDING BEHAVIOR

The food of the red-wing is primarily composed of seeds of weed and farm crops (Martin, Zim and Nelson, 1951) such as ragweed, bristlegass, corn, oats, wild rice, smartweed, wheat, dock, panic grass, timothy and paspalum. The animal portion of the diet is almost exclusively insects, but this provides only a small percentage that fluctuates with the conditions of the particular environment. Young, as has been mentioned, are fed almost entirely on insects from the area surrounding the nest. These may be weevils, caterpillars, beetles, grubs, cankerworms, grasshoppers and ants with an occasional meal of snails, crustaceans and spiders.

Prior to hatching of the young, adults are known to feed in the upland meadows on the previously mentioned plant and animal foods. One interesting aspect of this behavior that was recorded throughout the study period shows that the males and females observed within the territories on the marsh do not normally feed there during the territorial phase. In the literature investigated, no mention is made of this beyond the fact that they leave the marsh to feed in the uplands. From observations, it appears that males and females during the selection and establishment of the territories and prior to the hatching of young, rarely, if ever, feed on the foods available in the marsh. It is not known whether this behavior changes with the hatching of the young. Do the adults then feed there along with feeding the young? Or do the males still move off to the uplands to feed? Allen (1914) writes that at this point both remain on the marsh which would indicate that feeding must be continued there.

Feeder behavior as observed is still unclear. A test feeder was located on the marsh within a well-defined territory. Males of adjacent territories were quickly drawn to it, but were reluctant to attempt feeding although sporadic use was observed. The resident male of the territory at first flew up close and seemed uncertain of the reason for the series of intrusions. He would display and call, intimidating the other males until they were forced off to some distance. This male was seen to fly to the feeder, call, and perhaps eat a few seeds. His feeding was rare though he would often fly off to the north presumably to feed there. Is there some sort of inhibition that does not allow the birds to feed on the marsh until some future date? And if

this is true, what has been the selective advantage of such behavior?

Still it is not known whether this bird was specifically defending a feeding area, or just protecting the territory in which the feeder was located. More work is definitely necessary in order to clarify this point.

In a backyard feeder, where in previous years many red-wing males and females were known to feed throughout the day, only one of each was seen. Still this does not explain whether the bird in this instance was defending the feeder itself or the territory in which the feeder was located.

In conclusion then it appears that many questions have been raised in this current study. Though one study of this nature is not nearly enough to put forth conclusive data, the observations herein do indicate that much more observation is necessary in order to more fully understand the curious behavior of this species.

Further, what may be of significant value is the effect of loss of prime habitat. The intrusion in many wetland areas of the giant reed grass *Phragmites communis*, effectively replacing such valuable wild-life plants as cattail and *Spartina alterniflora*, can have at this point only unknown long-term consequences for the red-wings as well as all other organisms which depend upon the native vegetation directly or indirectly for their niche requirements. Continued study for long periods will tell what the effect will be.

The relationship of prime to secondary habitat as related to this intrusion is an interesting point. If it can be effectively established as to the influence on natality and vitality of the species, it may be possible to comment on the future of this species in a time when our wetland areas are diminishing rapidly in extent and quality.

What will be attempted from this point will be a correlation of natality rates for the two habitats. This may indicate to a small extent where the species is at this point and give inferences as to the effect of deteriorating habitat.

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