

## REVERSAL OF DOMINANCE IN A PAIR OF SONG SPARROWS

KEITH L. DIXON

*Department of Biology and the Ecology Center  
Utah State University  
Logan, Utah 84322 USA*

Abstract.—On 6 May 1984 a female Song Sparrow displaced and subsequently dominated her mate. Males appear dominant throughout the winter.

### REVERTIMIENTO DE LA DOMINANCIA EN UNA PAREJA DE *MELOSPIZA MELODIA*

Sinopsis.—El 6 de mayo de 1984 una hembra de *Melospiza melodia* desplazó y subsecuentemente dominó a su pareja. Los machos parecieron ser los dominantes durante el invierno.

Female domination of their mates early in the nesting season in species of several passerine families was documented by Smith (J. Field Ornithol. 51:55-64, 1980). Her criterion was denial of access to resources such as food or perches. Included in her list of monogamous birds with female dominance during the breeding season was the Song Sparrow (*Melospiza melodia*), a species in which males are dominant over females in winter (Knapton and Krebs, Condor 78:567-569, 1976). Evidence for breeding female dominance in that species appears to rest largely on the cessation of "pouncing" by the male, coinciding with the onset of egg laying (Nice, Trans. Linnaean Soc. New York 6:75, 1943). An encounter between members of a pair of Song Sparrows at noon on 6 May 1984 at my residence in Logan, Cache Co., Utah, supports Smith's inclusion of that species in the list of those in which reversal of dominance occurs.

Watching from a distance of 8 m, I saw a Song Sparrow occupying the trough (6.5 × 18.5 cm) of a seed feeder suspended in a shade tree at a height of 1.8 m. A conspecific flew north from a chokecherry (*Prunus virginiana*) thicket a distance of 4 m, circling the feeder, approaching from the north and displacing the occupant. The latter perched 1 m above the feeder and I identified it by its color band as the resident territorial male. He then flew south to perch in the thicket of *Prunus*. Within 30 s he returned to the feeder. The occupant rose on its tarsi, lunged at the attacker and retained its position. The challenging male withdrew to a perch 60 cm away at the level of the feeder. The occupant, whose bands identified her as the challenger's mate of the two previous years, continued to feed. The male dropped to the lawn beneath the tree and foraged; he flew to the feeder only after it had been vacated for half a minute. Subsequently he flew to the chokecherries and sang twice. I heard no vocalization during the encounter.

In this episode the female first displaced her mate from the feeder, then withstood his subsequent challenge. The female's first action qual-

ifies as "displacement" as used by Knapton and Krebs (op. cit.); her second accords with "stay threat" in House Sparrows (*Passer domesticus*) as described by Watson (Wilson Bull. 82:268-278, 1970). During the winter two Song Sparrows never occupied the feeder simultaneously, although occasionally it was shared by two adult House Sparrows.

It is unlikely that the male's objective was food per se since a second seed feeder was situated 2 m distant in the same tree. Both members of this pair had used these separate feeders simultaneously on 1 April 1984.

The Song Sparrows involved in this incident were paired in the two preceding years (Dixon, N. Am. Bird Bander 11:12-13, 1986), and were the only members of their species seen in my yard after the female reappeared on 17 March following an extended absence. My subsequent observations provided no clue to the stage of the nesting cycle when the encounter occurred. The male had been seen feeding a fledgling on 31 May 1980 and 29 May 1983. If the same schedule obtained in 1984 the clutch probably was near completion.

Intrapair dominance relations in Song Sparrows are difficult to discern in winter. In their most thoroughly studied hierarchy, Knapton and Krebs (op. cit.) found that the adult male won 152 contests with first-winter conspecifics at feeders within his territory, and his (adult) mate won 84. Neither lost a contest. However, no encounters between the two adults took place. In my yard 14 of 16 sightings of members of the pair from November through February (1981-1982 and 1982-1983 combined) were of single birds. Members of the pair were seen together more frequently in March and April. Established relationships appear to be maintained by subtle means, principally avoidance.

Knapton and Krebs stated that in the hierarchy cited above 12 first-winter males held the first 14 positions below the resident pair. The highest ranked (first-winter) females held the eleventh and thirteenth positions in the hierarchy. If first-winter males are dominant to females of their age group it seems unlikely that older females would be dominant over territorial males in winter.

Nice (op. cit., p. 197) stated that she "... never heard a male give a threat note to his mate ..." and (p. 198) "never noted any quarreling over food between the pair." In the episode reported here, access to resources clearly was controlled by the female. Further, it appears that more than deferring to the mate (Smith, op. cit., p. 56) was involved. More impressive than the reversal itself was the abruptness of the incident. The challenge by the male subsequent to his displacement suggests that the upset was unexpected.

I thank Susan M. Smith, Richard W. Knapton, and John R. Watson for their comments. Received 27 Sept. 1985; accepted 4 Aug. 1986.