

TWO CASES OF POLYGyny IN THE HOUSE WREN

PATRICIA A. GROVE

The House Wren (*Troglodytes aedon*) is commonly a double-brooded species, each male fledging two clutches per breeding season. The male does not share in the incubation of the eggs, but may assist the female in feeding nestlings and fledglings (Kendeigh 1941, Verner and Willson 1969, Grove 1981). The pair may remate for a second brood, but more often mate-switching occurs between nestings. In cases where the male does not participate in the feeding of the young, he may be able to advertise and attract a female for a second brood before the first brood has become independent, and thus become polygynous (Wittenberger 1976). Kendeigh (1941) reports that approximately 6% of the matings are polygynous in this species. The potential for polygyny exists, especially in optimal territories with many nesting cavities and with resources sufficient to enable the female to provision the brood with minimal assistance from the male.

Two polygynous matings in which five overlapping broods were fledged are described here. Using the terminology of Martin (1971, 1974) the first mate of a male is termed the primary female, the second female of a polygynous male termed the secondary female, and so on.

The male House Wren coded as NML was first banded as an adult on 17 May 1977 at the Greenburgh Nature Center in Scarsdale, Westchester County. In 1978, he defended a territory containing several nest boxes, mated with a banded female for his first brood, and fledged four young. He then mated with a different female for the second brood, the boundaries of the territory were shifted somewhat, and a box in another part of the territory adopted. Pairing with the second female occurred within a day or two of the fledging of the first brood. Shortly thereafter, the second female was found dead in the newly-adopted nest box, and was removed. Two days later, another female was observed lining a nest in this box. Six eggs were laid, but the number of young successfully fledged from the second brood is not known.

NML was one of the first males to arrive at the Nature Center in April 1979 (see Figure 1). He defended a territory with roughly the same boundaries as the one he had established during the previous

breeding season. In early May the male was observed displaying to females near two of the nest boxes at opposite ends of the territory. By mid-May the primary female had indicated her acceptance of nest site and male by lining the nest he had prepared. She started incubation on 20 May. Her clutch of five eggs hatched 2 June and the young were fed in the nest box until 21 June, when the brood fledged.

The secondary female was first seen in the territory in early June. This female selected the nest box that had been used for the male's second brood in 1978. This box was 35 m north of the box in which the primary female was feeding nestlings. The secondary female began incubation on 15 June, and her clutch of six eggs hatched on 28 June. The young were fledged on 14 July.

Near the end of the secondary female's incubation period, a tertiary female was being courted by the male. She selected a nesting site in another area of the territory, 30 m west of the box of the primary female, and 50 m northwest of the box of the secondary female. Incubation of her clutch of six eggs began 13 July, but only two of these eggs hatched, both on 24 July.

In 1981, another polygynous mating was noted in the same territory at the Nature Center. The unbanded male singing in the area in early May was mist netted, color-banded, and coded as RK. His primary female lined a nest in the southwest of the territory and started incubation on 21 May. Her clutch of eight eggs hatched on 6 June and young were fledged on 21 June.

On 26 June, the secondary female was lining in a nest box 20 m east of that used by the primary female. The incubation of her clutch of seven eggs began on 5 July, six young hatched on 20 July, and were fledged on 2 August.

Near the middle of the secondary female's incubation period, a tertiary female was being courted by the male at a box 43 m north of that of the primary female and 48 m northwest of that of the secondary female. Incubation of her clutch of five eggs started on 21 July. The eggs and nest lining were found to have been removed from the box on 30 July.

Male House Wrens commonly feed nestlings and may feed fledglings. The amount of assistance provided by the male varies with the male, the season, and the particular circumstances. Whether or not a male feeds young may depend on the abundance of insect life on the territory during that period, and the ability of the female to feed the young unassisted. The less time a male spends foraging for food and

feeding the young, the more time and energy may be devoted to advertising for a new mate, and starting another nesting.

Since the nestling periods did not overlap, the polygynous males theoretically were able to share in the feeding of all of their broods. Staggered nestings that permit males to assist in the feeding of multiple broods also has been reported in the Long-billed Marsh Wren (*Cistothorus palustris*) (Verner 1964), and the Savannah Sparrow (*Passerculus sandwichensis*) (Welsh 1975, Weatherhead 1979).

NML was not observed to feed the nestlings of the primary female, although he did assist in the feeding of those of the secondary and tertiary females. He had assisted during both nestling periods in 1978. RK fed nestlings of both the primary and the secondary nestings. Thirty percent of the feeding visits to the first brood and 65% of the feedings of the second brood were done by the male. Brackbill (1970) similarly noted inequalities in male assistance at the nests of multiple broods. No information is available on the assistance provided by the males during the feeding of the fledglings of any of the broods.

Given adequate space and resources, the potential for polygyny in the House Wren extends to mid-summer. Males defend territories containing several potential nesting sites, and display to unpaired females that occasionally move through the area. I feel that only a scarcity of unmated females in breeding condition keeps the incidence of polygynous pairings from greatly increasing. Thus it is important for the male to maintain the integrity of his territory as far into the season as he can still attract another mate and raise another brood, and as long as exclusion of competing foragers (neighbors) is energetically advantageous. That males sing loudly and frequently, and strongly defend their territories against both neighboring and unfamiliar conspecifics throughout much of the breeding season (Grove 1981) is likely attributable to the potential for polygyny that exists in this species.

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*Department of Biology, The City College of New York
138th St. and Convent Ave., New York, New York 10031*

