

DO BIRDS USUALLY CHANGE MATES FOR THE  
SECOND BROOD?

By MARGARET MORSE NICE

WE used to think that most birds mated for life; now we read in a recent book that "probably the majority of passerine birds change mates for the second brood." My experience did not support this statement; so I was moved to a survey of recent literature to find what bird-banding has to say on the subject. The results follow; in every case the birds were banded.

CHANGED MATES FOR SECOND BROOD		
Brown Thrasher	1 pair	Perkins, S. E. 1928. <i>Bull. Northeastern Bird-banding Assoc.</i> , IV, pp. 153-154.
House Wren	3 pairs	Baldwin, S. P., 1921. <i>Auk</i> , XXXVIII, pp. 237-244.
	1 pair, 2 seasons	Baldwin, S. P., and Bowen, H. B., 1928. <i>Auk</i> , XLV, p. 194.
Bluebird	Male had different mate for 2d brood, but returned to 1st mate for 3d brood.	Pontius, F. D. 1928. <i>Ohio State Mus. Sci. Bull.</i> I, p. 75.
SAME MATES THROUGHOUT SEASON		
Phoebe	1 pair, 2 seasons	Higgins, A. W., 1926. <i>Bull. Northeastern Bird-banding Assoc.</i> , II, pp. 81-82.
Chipping Sparrow	1 pair	Whittle, C.L., 1925. <i>Auk</i> , XLII, p. 136.
Field Sparrow	1 pair	Pontius, F. D., 1928. <i>Loc. cit.</i>
Junco	1 pair	Smith, W. P., 1928. <i>Bull. Northeastern Bird-banding Assoc.</i> , IV, pp. 137-141.
Song-Sparrow	2 pairs, 2 seasons	Hamil, Mrs. L. C., 1926. <i>Bull. Northeastern Bird-banding Assoc.</i> , II, pp. 7-10.
	1 pair, 2 seasons	Higgins, A. W., 1926. <i>Bull. Northeastern Bird-banding Assoc.</i> , II, p. 39.
	2 pairs	Nice, M. M., 1929. In <i>Columbus, Ohio</i> .
Towhee	1 pair	Boggs, M. A., 1926. <i>Auk</i> , XLIII, pp. 242-244.
Cardinal	1 pair	Nice, M. M., 1927. In <i>Norman, Okla.</i>
Catbird	1 pair	Whittle, H. G., 1925. <i>Bull. Northeastern Bird-banding Assoc.</i> , I, pp. 48-49.
	1 pair	Perkins, S. E., 1928. <i>Loc. cit.</i>
House Wren	1 pair	Baldwin, S. P., 1921. <i>Loc. cit.</i>
Robin	1 pair	Nice, M. M., 1929. In <i>Columbus, Ohio</i> .
Bluebird	1 pair	Higgins, A. W., 1925. <i>Bull. Northeastern Bird-banding Assoc.</i> , I, pp. 2-4.

Thus in the case of seven pairs of three species there was a shifting of mates in one season, while in twenty pairs of eleven species there was no change.

Both House Wrens and Bluebirds leave the nesting-site for a time after one brood makes its first flight. In Oklahoma our pair of Bluebirds disappeared with their young from our grounds for periods of 9, 10, 14, and 16 days before returning to start the second brood; on one occasion a battle was staged between two females at the beginning of the second nesting. It will be noted that both these species at times keep the same mates. Possibly there is some correlation here with the stage of development at which birds leave the nest: House Wrens do so at the age of about 14 days. Bluebirds at 16 to 18 days, while Field and Song Sparrows, Juncos, Towhees, and Cardinals remain only 9 to 11 days, and Robins 13 to 15 days. The first two species are doubtless better able to fly when they leave home than the others.

Brown Thrashers seem rather definitely to make a new start for the second brood, for the male resumes singing for a few days at this time. In the instance where a pair changed mates, there was a long interval between the dates given for the first and second broods—May 19th and July 14th and 20th—while the broods of the faithful Catbirds were banded June 6th and July 11th.

With the three species of banded birds I watched there was a different situation, for the nesting cycles overlapped. The Robin started her second nest six days after the young had left the first, and the male was still feeding them eleven days later. In three and a half months this pair raised three broods successfully. The female Cardinal built her second nest while the first brood were still in the first nest; her mate fed his elder daughters two days after the younger birds had hatched. In both pairs of Song Sparrows the females turned their attention to nest-building a few days after the young had left the previous nest: one, three days later, the other six, and the last time only two days after this event. The females fed the young to some extent while building, but the males took the major part of their care, feeding them nearly up to the time the next broods hatched. In these cases where a new cycle is begun while both parents are actively engaged in caring for their young, seeking of new mates is out of the question.

Other instances of the overlapping of nesting cycles have come to my attention. A striking example is that of the double nest of a Bell's Vireo (G. W. Morse, 1927. *Oölogist*, XLIV,

pp. 23-24.) in which the second nest was built two thirds of the way around the first and contained two eggs when the young of the first brood were nearly ready to fly. I have seen a Migrant Shrike alternately feeding her fluffy brood recently out in the world and carrying bits of her old nest to a new site seventy-five feet distant, and I have watched a Magnolia Warbler, a Blue-gray Gnatcatcher, and a Yellow-crowned Night Heron each courting his mate before the young of the first brood were out of the nest.

The other factor that makes for stability is the matter of the territory. After the birds have thoroughly established their habits of confining their activities within certain limits which mean home to them, of following certain routes and avoiding others, and of considering their neighbors their enemies, it seems unnatural for them to change all these reactions and wander to a new territory to find a new mate. Although one of my Song Sparrows built her fourth nest in the territory of the neighboring pair, there was never the slightest indication of change of relationship between the pairs, each of the four birds showing constant hostility to both male and female of the other pair.

To sum up, I do not believe that birds ordinarily change mates within a season unless each nesting-cycle is more or less of a closed circle, probably involving a desertion of the territory near the end and subsequently a definite new beginning.

156 West Patterson Avenue, Columbus, Ohio.

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## OBSERVATIONS OF THE NESTING ACTIVITIES OF THE HERMIT THRUSH

By OLIN S. PETTINGILL, JR.

(With three photographs by Alfred O. Gross)

NOT long ago a part of the shore and vicinity of Douglas Lake in northern Michigan was swept by fire, resulting in the loss of a well-timbered forest. Among the avian settlers to the devastated area were a surprising number of Hermit Thrushes (*Hylocichla guttata pallasii*). Here, unprotected by a heavily wooded territory, where many people believe their habitat to be, these birds made their home. Of the six nests found in an area of a square mile, one was located not a hundred feet from the shore of the lake itself. Few trees grew in the neighborhood of this nest. A quaking aspen partially shaded it;