

A COMPARISON OF MIGRATION BETWEEN BLACKBIRDS AND STARLINGS

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BECAUSE of the close association between the introduced Starling (*Sturnus vulgaris*) and three native blackbird species, Brown-headed Cowbird (*Molothrus ater*); Common Grackle (*Quiscalus quiscula*); and Red-winged Blackbird (*Agelaius phoeniceus*), a study was made to compare their migrations. These four species often roost and feed together, and they have fairly similar breeding and wintering ranges in the United States and Canada east of the Rocky Mountains.

PROCEDURES

Records for the four species, of birds banded during the period 15 April through 30 November in states and provinces north of and including Maryland, District of Columbia, West Virginia, Kentucky, Missouri, Kansas, and Montana, were obtained from the Bird Banding Laboratory on all interceptions of banded birds from 1920 through July 1962. (The term "interception" is used in this paper to designate banded birds retaken in any way, alive or dead.)

Table 1 was constructed from the interception data to show, by species, for each of nine time-period categories that collectively covered the entire year: (1) the number of interceptions, and (2) the percentage of interceptions, both in the state or province where banded and in the southern states (south of and including Virginia, Tennessee, Arkansas, and Oklahoma). Migration, including the direction and the degree of movement, was determined by analysis of the tabulations.

RESULTS

Data from interceptions of northern cowbirds, grackles, and redwings indicated that the onset of migration and the percentages that migrate to the South are very similar for all three species. High percentages of northern birds were taken in the North during the spring, summer, and fall—until the period 1 November through 14 December, when the percentages taken in the South showed an increase while those in the North decreased.

During the winter period of 15 December through 31 January the proportions of northern-banded cowbirds, grackles, and redwings taken in the southern states were high and comparable (80 per cent, 79 per cent, and 91 per cent). Nine per cent, 11 per cent, and five per cent, respectively, were taken in the state or province where banded indicating that small

TABLE I
INTERCEPTIONS (1920-JULY 1962) OF BIRDS BANDED IN NORTHERN STATES AND PROVINCES DURING THE PERIOD 15 APRIL-30 NOVEMBER.

Interception period	Brown-headed Cowbird			Common Grackle			Red-winged Blackbird			Starling		
	Sample size	% taken in state or province where banded	% taken in southern states	Sample size	% taken in state or province where banded	% taken in southern states	Sample size	% taken in state or province where banded	% taken in southern states	Sample size	% taken in state or province where banded	% taken in southern states
1 July-14 Aug.	149	89	4	1,660	96	0	277	95	0	270	94	0
15 Aug.-31 Oct.	150	75	10	1,722	91	0	159	69	2	308	93	0
1 Nov.-14 Dec.	104	21	50	646	33	45	115	13	70	442	85	3
15 Dec.-31 Jan.	116	9	80	633	11	79	180	5	91	539	81	7
1-14 Feb.	38	16	66	219	9	80	47	19	79	172	83	4
15-29 Feb.	34	15	71	177	8	83	33	42	54	180	86	2
March	308	82	10	861	58	27	392	90	8	475	88	1
April	1,359	98	0	2,354	92	2	681	99	1	426	91	0
1 May-30 June	1,230	97	0	5,217	96	0	1,216	99	0	998	94	0

numbers either did not migrate or migrated only for short distances. A few records were of birds that moved to a state south of where banded, but not as far as the southern states.

The data suggest slight differences by blackbird species in the onset of northward migration from the southern wintering grounds. Considerable northward migration by redwings occurred in February, but no grackle movement was detected until March. During March, 90 per cent of the redwings were taken back on the northern breeding grounds contrasted with only 58 per cent of the grackles and 82 per cent of the cowbirds.

The percentage of northern Starlings that migrates to southern states appears much smaller than for the blackbirds. In the winter period of 15 December through 31 January only 38 of 539 intercepted starlings (7 per cent) were taken in the southern states, compared with over 80 per cent of the blackbirds, and only 102 of 539 (19 per cent) of the Starlings were taken outside the state or province where banded.

DISCUSSION AND CONCLUSION

Because of continuing efforts made by most banders to recapture birds at the stations where they were banded, these data probably are biased in favor of the birds being intercepted in the state where banded. Therefore, the actual percentages that migrate may be larger than the interception records indicate. The magnitude of this bias may vary among the four species, but it should at least be in the same direction for each. This bias could not be expected to account for the large differences in percentages of migrating individuals of Starlings and the three blackbird species. Thus, it seems safe to conclude that the percentage of northern Starlings that migrate to the southern states is very small compared with the percentage of any of the three blackbird species.

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