THE CONDOR

A Bi-monthly Magazine of Western Ornithology

Volume XXVI **May-June** **No. 3**

[Issued May 15, 1924]

"ANIMAL AGGREGATIONS": A REPLY

By ALTHEA R. SHERMAN

UNDER the title "Animal Aggregations: A Request for Information" in THE CONDOR for July-August, 1923, Dr. W. C. Allee has asked for the opinions of ornithologists and bird students on the following question: "Are fall migration flocks formed by the congregation of families or of individuals?" From long continued observations on the behavior and domestic relations of the forty-four species of breeding birds of my neighborhood I have been convinced that among these birds the family ties are not sufficiently lasting to serve as guiding impulses in flock formation.

The Cowbird is a conspicuous flocking species, yet the most vivid imagination scarcely can fancy that any family bond between Cowbird parents and offspring is instrumental in drawing the old and the young of this species into the flocks of autumn. Its next of kin, the Bobolink, has given its first hint of flock formation by the congregation of several old males still in breeding plumage. Likewise the first flocks of Goldfinches have consisted of old males. One of these contained nine individuals, eight of which were old males. One autumn in an early flock of this species was an abnormally pale male, that for a few days was followed by two begging youngsters, which he fed, but they soon disappeared. Some years ago observations were begun on the Killdeer, with the intent of finding proof that its flocks were composed of families that were summer residents of this locality, in which there usually are three or four breeding pairs to the square mile. Daily records of the numbers counted were kept, but these figures were against rather than in favor of a supposition that the Killdeers had assembled in families from adjacent territory.

The various blackbird species of my neighborhood *raise* only one brood in a season. They gather into flocks as soon as their young are self-supporting. Doubtlessly many of their flocks contain all of the members of some families, as may be true also of flocks of Prairie Horned Larks that feed within hailing distance of them; but the Larks earlier in the season have raised one or two other broods. The same is true of Mourning Doves and Song Sparrows before their flocking time comes. It is unreasonable to suppose that binding ties of family affection are stronger between parents and their last broods, than between them and their earlier broods. Crows and Blue Jays do not flock until many weeks after their family groups have disbanded.

Apparently insufficient weight can be given to observations of the various species at flocking time. It would seem that much greater value ought to attach to the diligent study of the strength and duration of the ties that bind mated birds as well as those between parents and offspring. Cases of swans and of geese, that have mated for life, are said to have been known; but in more than a score of years given to an

intensive study of the forty-four species nesting close at hand I have found the bonds between parents and their young are of very short duration, and that those between mated birds are of the most tenuous sort.

Without exception every species hereabout, that nests more than once a year, has a period of song and re-wooing before the second and third nestings. That the old mate is not always won again was proved by a House Wren which had remained a bachelor until the first days of August, when he secured for his mate a female that previously had nested forty yards away with another mate. Without a rival near to supplant him Phoebe begins calling before his first brood has left its nest. A Brown Thrasher has been seen to sing while his bill held a May beetle that he was carrying to a young one. By their behavior the birds indicate that they do not deem the marriage bond very strong or lasting.

Since 1897, Flickers have nested in our barn. For their nesting and roosting needs seven boxes have been placed within the barn and back of holes in the siding made by these woodpeckers. Through peep-holes in the tops of the boxes an observer, unseen by the birds, can watch every phase of the nest life. Thus have been studied the home life of the Flicker, Screech Owl, Sparrow Hawk and House Wren. It is against the female Flicker that the greatest number of instances of domestic desertion has been recorded. Time and time again she has been known to desert her home, her mate, and her helpless little ones, the last named left to die from starvation. In the blessed days of yore but a single pair of House Wrens nested on our place. Their second brood was a week or more old when the father eloped and was found nest-building with another mate. Trouble for the Brown Thrashers' nests containing eggs is always looked for when an unmated male Thrasher arrives, and expectations are not disappointed. Likewise anticipated trouble once came following the death of a sitting Robin. There ensued a cock Robin fight near a female with a nest nearly finished on a window ledge, which she deserted.

A little close observation reveals the exceeding frailty of the matehood bond among birds; also that the ties binding parent to offspring are often prematurely broken. Flocking is a prominent habit of the Red-winged Blackbird; nevertheless my note-book records show numerous instances of the female Redwing's desertion of her nest, sometimes with well grown young in it. This, taken with polygamous tendencies occasionally displayed by the male, does not argue forcibly for great continuity of association within the family circle.

Although the family of a Bobwhite or of a Prairie Chicken may hold together for months, the families of most of my bird neighbors are speedily dispersed; three or four weeks after nest-leaving is the duration for some, while for others it is much shorter. After Phoebe's first brood has left the nest, only eight to ten days elapse before she begins the laying of her second clutch. Whatever sins as a home-breaker the Brown Thrasher must answer for, he is praiseworthy for his strict observance of a "share and share alike" principle in the performance of home duties, from the laying of the first twig to the weaning of the last fledgling. That his family circle is divided soon after the young leave the nest seems to be established by later observations in accord with an incident of many years ago when only one pair of Brown Thrashers nested on our place, raising two young ones. One of these remained near the house with one parent, while the other was taken by the other parent to a locality a hundred yards or more away, where they were found daily for some time.

It is not easy to follow the history of individual birds throughout a summer, yet the Flicker and the Phoebe have offered opportunities for such study. The dates for spring arrivals and for fall departures for both species are nearly identical. Both

species nest in our barn, and the males of both roost in the barn for seven or eight weeks after their mates and offspring have disappeared. Although these are not flocking species the early dispersion of their families has some bearing on the duration of the family association.

With greater exactness we may now consider the breaking of the home ties in the family of the Chimney Swift. If this species can not be said to flock, it certainly congregates in vast numbers at roosting time. During six seasons of assiduous watching of their home life nothing blameworthy has been found in it, even when measured by the most critical standards for human life. Gentle and devoted to one another, they show similar amiability and courtesy to the adult stranger that comes into their home to share the work of feeding and brooding their young. Their nest (which has been used for six nestings and appears serviceable for sixty more) is built in a simulate chimney, made of boards, having peepholes, two windows, and a door in it. At night the chimney can be illuminated by a lighted lamp placed before a window, and one can see how many of the birds have come home to roost. Thereby it has been learned that the dispersion of the Chimney Swift's family is gradual.

It has been said that Chimney Swift behavior within the home is ideal even to the treatment accorded the "nurse maid" that assists in the rearing of the sextette of clamoring little ones. But their plan of home occupancy may fail to appeal to the tastes of any one except the Brooklyn man and the city commuter, for the Swifts use their chimney only to roost in at night and during the period definitely devoted to nidification. For 116 days in one season and for 113 days in another the chimney may be considered the true home of the Swifts. Very near the middle of the period the eggs are hatched. The nest is vacated by the young nineteen days after the hatching. Thereafter for about two weeks they are fed while clinging to the wall, but during the last days of the fortnight they make short excursions outside. Then for a period averaging about three weeks they occupy the chimney only at night, returning to it not as a family unit, but one or two at a time. For three or four nights before the Swifts are seen for the last time their numbers have decreased and on the last night or the last two nights only two Swifts return. These may be the parent birds.

The home ties have been broken. This eminently congregating species has left its home one by one or two of them together. No one can say if they started south at once. Most likely they did not, but joined for a time some of the vast throngs that nightly pour into the chimneys of our neighboring river towns. In such places Swifts roost for six or more weeks after those here described have left their natal chimney. However that may be, they have given positive proof that they went as individuals and not as a family group.

As already has been stated the arguments here advanced are based on the study of forty-four species of birds found nesting in my neighborhood. The Swallows and the Prairie Chicken are so near extermination that their flocking habits no longer can be studied here. It is not intended that anything herein mentioned shall imply that flocking of other species may not begin by the coming together of two or more families of the species.

In conclusion, as bearing on this question, several important quotations are given. The first is from an article by Major Allan Brooks in THE CONDOR for September-October, 1921 (p. 156), and reads: "I have a theory that many of the females of the Limicolae, especially when they are larger and handsomer than the males, do not remain on the breeding grounds after the young are hatched, but turn them over to the care of the males and start on their southbound journey at once. There is considerable evidence to corroborate this, covering a number of species." In

this magazine for January-February, 1922 (p. 26), the same author when speaking of the lack of solicitude for the young displayed by the males of all wild duck species concludes with these words: "In the case of the Buffle-head the males have totally disappeared (apparently all leaving the country entirely) before the first broods of young are seen." To this should be added an observation made in Greenland on the Northern Eider by Mr. Langdon Gibson and reported in the Auk for July, 1922 (p. 359): "By July 26, when hatching was completed, males began gathering in large flocks, and by August 5 had disappeared, leaving the females to guide the young ones south." In the July, 1916, Auk (p. 258), Professor Julian S. Huxley asks: "If the flock is the unit, does the pair persist within the flock? . . . . In some birds this is definitely not the case, since the sexes separate and the flocks are almost all of one sex: e. g. *Fringilla cœlebs,* the Chaffinch." The last quotation is taken from North American Fauna, No. 46 (p. 28), in which Mr. E. A. Preble relates the exceedingly interesting observations made by himself and by Dr. G. Dallas Hanna on the Pallas Murre, a breeding species of the Pribilof Islands. "By the end of August most of the birds have left the breeding rookeries; at this time many late-hatched young are deserted and soon perish, the desire of the mother to accompany the departing flocks evidently being stronger than the parental instincts. Hanna states that on August 31, 1913, most of the murres had gone, and that many young ones were falling from the cliffs."

National, via McGregor, Iowa, December 27, 1923.

BANDING NOTES ON THE MIGRATION OF THE PINTAIL

By FREDERICK C. LINCOLN

Contribution from The Baird Ornithological Club

THE following notes, based upon the return records of three banded Pintails *(Dafila acuta tzitzihoa)*, it is believed present features of special interest and contribute to our knowledge of the migrations of this species.

Pintails range over most of North America at some seasons of the year, the only portion of the continent where they are not regularly represented being the regions to the north and east of Hudson Bay. Their breeding grounds include practically all of those States west of the Mississippi that are north of the fortieth parallel, although by far the greater number nest in the central Provinces of Canada and in Alaska to the Alaskan Peninsula and the Arctic Coast. During migrations, the Mississippi Valley and Pacific slope flyways are followed by the great bulk of the birds, although they are plentiful at such seasons throughout all of the intervening territory. In winter they are found commonly from the southern limits of their breeding range, south to Cuba, Porto Rico, and the Pacific coast of Mexico. This vast range should be borne in mind when considerating the following notes.

Dr. Wetmore has already shown* that there appears to be a fall migration of Pintails from the Salt Lake Valley, Utah, to the valleys of California, which is further substantiated by recent information from one of the ducking marshes in the northern part of Kern County, California. Mr. Paul S. Wetmore, of Armona, Cali-

* Migration Records from Wild Ducks and other Birds Banded in the Salt Lake Valley, Utah: U. S. Department of Agriculture Bulletin No. 1145, May 10, 1923, contribution from the Bureau of Biological Survey, by Alexander Wetmore.