

home. During seven recent seasons I have found them in this locality in numbers between 2000 and 3000 annually.

Other places where the swallows occur regularly in late August and early September are: near Oakland, Garrett County, Maryland; near Daily, Randolph County, West Virginia; at Red Creek, Randolph County, West Virginia; and near Greenbank and Marlinton, Pocahontas County, West Virginia. Despite the fact that there are hundreds of miles of telephone and power lines through this region, the cliff swallows are to be found in almost exactly the same locations year after year.

Sections of wire selected for these migration roosts are usually along public highways. There are always broad mountain meadows near by, and usually there is a stream in the vicinity. Flocks number between 2000 and 5000 birds, many actual counts having been made.

In eight such aggregations examined carefully in the autumns of 1947 and 1948, I was unable to find a single individual of any other species of swallow. Gross, in one of the Bent bulletins (U. S. Nat. Mus. Bull. 179: 466, 1942) states, "The Cliff Swallow migrates in flocks, and practically all the reports of the large numbers seen throughout the migration route mention the association of the Cliff Swallow with Barn and Tree Swallows as well as other members of the family." Mixed flocks are certainly the rule during spring migration in West Virginia and western Maryland, but they seldom occur in autumn.

On the evening of September 3, 1947, I saw a striking variation in roosting behavior of cliff swallows. The large aggregation which appears annually near Bartow, West Virginia, usually roosts on wires on either side of the highway. On this evening, however, all members of the flock forsook the wires and settled to roost in a near by cornfield. The birds used both tassels and the axes of corn leaves as roosting perches.

That cliff swallows which occur in autumn in the Allegheny region may assemble from a vast breeding area is evidenced by a single banding record. Gross (*op. cit.*) tells of a bird of this species banded on June 14, 1937, at Dell Rapids, South Dakota, and recovered on July 16, 1937, at Ghent, West Virginia, a distance of some 1200 miles.—MAURICE BROOKS, *West Virginia University, Morgantown, W. Va.*

**January singing in the black-capped chickadee and other species.**—Francis H. Allen's observations on the January singing in the black-capped chickadee, *Parus atricapillus*, in *The Auk* (64: 616, 1947) coincide with my own, and it is upon his suggestion that these notes have been written. I wish to point out, however, that my records only date back to the winter of 1944–45. My observations are based mainly on a special study during January, 1948, after my interest was aroused by Saunders' article 'Beginning of song in the spring' (*Auk*, 64: 97, 1947) and Allen's comments thereupon in the October, 1947, issue of *The Auk*.

At our home, which is located in the woods halfway between North Bay and Mattawa in central Ontario, some black-capped chickadees are resident all year, as shown by banding. During January, 1945 and 1946, my records note January singing, and in 1947, the first "phoebe"-song was noted on January 7. About 20 black-capped chickadees were regular visitors at my feeding station during January, 1948. No observations were made on January 10 and 24. During the remaining 29 days the blackcaps were heard singing every day except January 2, 3, 15, 18 and 19. The time preferred for singing was apparently just before sunup when one or several birds would begin to sing; sometimes they continued singing for 10 to 15 minutes. At this time they could often be heard from all parts of the

woods, as they emerged in the morning twilight from sheltered places where the evergreens stood thick and the birds apparently had their nightly roosts. Apart from the singing before sunup, birds were also heard later in the day on nine occasions: six times during the forenoon and three times during the afternoon; once, on January 29, as late as 4:42 p. m. or just before sunset. On January 1, two black-capped chickadees sat on song perches and gave three minutes of competitive singing. On January 2, the first chasing was observed; chasing was also observed three or four times later in the month.

In connection with weather conditions, I took the following notes. During four of the five non-singing days, the temperature was below zero Fahrenheit, once reaching 43 degrees below zero. On two days, the weather was clear, on two overcast and on one snowing. On 13 of the 24 days during which the birds were heard singing, the temperature at the time of song was below zero. On January 31, one bird was heard singing twice at 43 degrees below zero. The birds sang on eight days when the weather was clear and cold, on nine days when it was overcast and milder, and on seven days during moderate to heavy snow. From this, it may be concluded that weather conditions had little influence on their singing, especially towards the end of the month.

Of other birds heard singing during January, 1948, I may mention the purple finch, *Carpodacus purpureus*. It is the first time I have observed this species wintering in this region. On January 5, a mild and sunshiny day, I saw an immature male sitting in the top of a tree, giving the "vireo song" (Saunders, 'A guide to bird songs,' 1935: 246) continuously for about 10 minutes. Again on January 21, a mild and overcast day, and on January 29, a clear day with below zero temperature, I heard this finch sing the same song. Mr. Saunders gave as his first date of the "common song," January 30, 1926 (Auk, 64: 103, 1947), while the earliest record I have of this song is February 20, 1948. On January 20, I heard the Red crossbill, *Loxia curvirostra*, singing; the white-winged crossbill, *Loxia leucoptera*, sang on January 2, 9 and 13; and the pine siskin, *Spinus pinus*, was heard singing on January 29, 30 and 31. With regard to the two last species, it may be of interest to mention that the pine siskins were seen chasing before they were first heard singing, and a white-winged crossbill was observed in a magnificent flight display on January 2. In the red crossbill, courtship feeding was observed on February 3.

In 1946, four brown-headed chickadees, *Parus hudsonicus*, spent part of the winter in this area, and I had the opportunity several times of hearing their song which I believe to be the counterpart of the blackcap's "phoebe" song. The birds, according to my notes, began singing on January 29, but it was not until March 13 that I realized the significance of the song and made comparative notes on the singing of the two species. I described the song as a half whistled, half warbled "eet-tulu" with variations of "eet-tulululu" or "eepit-tulululu," given at about the same pitch as the blackcap's song. The accent was always on the first or second note with the ending trill, quite musical and of a liquid quality, uttered rather like an afterthought. Like the blackcap, the brown-headed chickadee generally took up position on a singing perch and would give song after song.

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LOUISE DE KIRLINE LAWRENCE, *Rutherfordlen, Ontario, Canada.*

**Courtship feeding by the Carolina chickadee and tufted titmouse.**—Neither Lack's review of courtship feeding in birds (Auk, 57: 169-178, 1940) nor Bent's volume on the Paridae (U. S. Nat. Mus. Bull. 191, 1946) records courtship