

In this case the birds appear at first to use their wings which often come in violent contact with the glass; this apparently soon teaches them that the use of the wings is both superfluous and painful.

I have not so far observed a Harlequin in the Beaver Dam, though they are not very uncommon on the Arrow Lakes.—J. E. H. KELSO, M. D., Edgewood, Lower Arrow Lake, B. C.

Bird Catastrophe at Gordon, Nebraska.—The morning papers of February 20, 1922, carried the news that on the previous night thousands of birds were killed at Gordon, Nebraska, during the blizzard and that no one in the town was able to identify them. I immediately wrote the mayor, Mr. Frank Coates, and asked him to mail me a specimen for identification along with full particulars concerning the storm. He very kindly sent me two specimens. I found them to be Lapland Longspurs (*Calcarius lapponicus lapponicus*). To confirm my verdict I mailed one bird to the Bureau of Biological Survey, and from it received word that my identification was correct. The following information was furnished by the mayor of Gordon.

At six o'clock on the evening of February 19, the temperature was 34 degrees above zero. During the night it stood at 16 degrees above. Early in the evening (Sunday) a sleet fell, followed by a fall of one inch of snow. There was no wind and the snow was evenly distributed. At 10 P. M. the birds were flying against the cluster lights in such numbers that the lights were turned off. Next morning before one store having dim lights fifty-five birds, dead or nearly so, were counted. A conservative estimate as to the number killed was twenty-five to a city block. Thousands were killed in the surrounding country, the morality extending over a territory ranging 200 miles both east and west of Gordon.

'The Auk', volume XXIV, for October 1907 gives an account of a similar tragedy which occurred in Minnesota in 1904.—BESSIE PRICE REED, Lawrence, Kansas.

Flight Songs and Mating Songs.—The interesting paper by Mr. Aretas A. Saunders on 'Flight Songs and Mating Songs' in the April number of 'The Auk' brings up several questions. Of the birds that are in the habit of singing from perches, a certain number—possibly more than we know—indulge at times in flight songs which generally differ more or less from the ordinary song. The fact that many birds continue their songs, both ordinary and flight, long after the courtship season, does not, it seems to me, prevent these being true courtship songs. The Robin sings even into August and the Song Sparrow has been known to sing every month of the year. The songs of most birds deteriorate as the season advances.

The full song of the Black and White Warbler, to which Mr. Saunders refers, is in my experiences common during the courtship season, but may

be continued afterwards. Nearly all birds sing again in the fall,—the well known “autumnal recrudescence of the amatory instinct”—and the full flight song is often to be heard at this season.

Mr. Saunders has shown clearly that the Bobolink-like flight song of the Meadowlark is more ancient than the ordinary song. In some cases, it seems to me, the flight song is plainly an elaboration of the ordinary courtship song, while in others it is a return to a more primitive and passionate, but less evolved utterance. Some ecstatic flight songs fall under both these heads, and by this I mean that parts of the flight songs are elaborations and variations of the common songs, but that numerous inarticulate and sometimes unmusical notes of a primitive nature are intruded.—CHARLES W. TOWNSEND, *98 Pinckney St., Boston, Mass.*

Aeolian and Percussion Bird Music.—The non-vocal forms of bird music, though not so widely distributed as those produced in the throat, are sufficiently positive to be deserving of separate recognition and special terms.

There are two types: those sounds produced by any kind of tapping or beating, which may be termed percussion music; and those induced by the action of extraneous air currents on the outstretched wing feathers, a type perhaps best designated as aeolian. Like song, both are probably expressions of sex pressures in the male, and both are primarily seasonal.

Percussion music may be subdivided into that made with the bill and that with the wings. The best example of the former is the resonant roll of the Flicker, which in mating season is sure to find some hollow tree or tin roof that will megaphone the returns of his “riveting hammer” equipment.

The second kind of percussion music has its clearest exposition in the Ruffed Grouse, which produces his gallant staccato accelerando, as instantaneous photography shows, by beating his wings together above his back. It is the tympani roll of the timberland symphony. Drumming is so prominently a part of the cock Grouse that it is not limited to his mating season.

Aeolian music is the most picturesque form of avian expression. Who that has seen the Nighthawk mounting in the soft May twilight to his spectacular swoop and aeolian boom can have watched the act without a thrill?

But the master aeolian artist is a bird of a widely different order. A sketch from the migration course in the lower Susquehanna valley will illustrate.

After a whirling, piling February blizzard there is a thaw and a warm drizzle. With upland bare and soggy and meadow flooded March comes at misty midnight. And with it, out of the gloom above, comes the mysterious winnow of the Wilson’s Snipe. It is the first nocturnal announcement