

the Cornell University Laboratory of Ornithology is as yet too meager to afford positive conclusions; but of thirteen songs studied, taken at six different times and from six different birds, but one contained eight notes. The number of notes in thirteen songs was as follows: 35, 52, 20, 35, 44, 22, 19, 20, 16, 15, 12, 19, 11. The result is less than the one-in-eight average which would be expected if the song were given at haphazard.

The senior writer finds himself unable to count accurately the notes of most Chipping Sparrow songs even if they are given rather slowly. Occasionally, if the song is delivered with exceptional slowness, he can count them; but on these rare occasions he has not found anything to suggest that the song is delivered in multiples of eight notes. However, in counting notes in the field, errors seem to be extremely easy to make. A series of laboratory tests was made with the film by playing some of the less rapidly delivered songs, and asking listeners to count the number of notes. Most of the subjects were unable to do so, and rarely counted the number correctly the first time. One member of the staff of the Engineering School, who is an accomplished musician, made the following guesses on a normal song containing twenty notes. He guessed eighteen on the first playing; eighteen or nineteen on the second; he could not estimate the third; and estimated correctly only on the fourth playing. This is offered to show how liable to inaccuracies counting by ear can be. The junior writer, a professional musician, has trained his ear so that he believes he is able to count many Chipping Sparrow songs accurately. Of one hundred and sixty-five songs from six different birds heard in New York, Vermont and New Hampshire, there were but nineteen where the notes were in multiples of eight. On the theory of probabilities there should have been twenty plus.

Taking both pieces of evidence together,—the comparatively few film recordings studied under the microscope, and the more numerous songs counted by the admittedly less-accurate field method,—it does not seem that the Chipping Sparrow's song is delivered in series of eights; or as far as can be gathered, that the song is mathematical or orderly. It would appear to be delivered more or less at haphazard, stopping on any note without particular relation to number. It is not impossible, however, that in the section of Connecticut where Mr. Saunders does much of his field work, the Chipping Sparrow may sing its notes in multiples of eight. There is little doubt that types of singing within a species are often restricted to certain localities, and that these localities can be of very limited area; but these observations indicate that the Chipping Sparrow's song, in most localities, is not usually made up of notes in multiples of eight.—ALBERT R. BRAND AND HAROLD AXTELL, *Laboratory of Ornithology, Cornell University, Ithaca, New York.*

Shorebirds at a Western Maryland Lake.—In Garrett County, the most mountainous and most western of Maryland's counties, is located a large reservoir created for power purposes, Deep Creek Lake. During the very dry summer of 1936, large quantities of water were diverted from this lake, leaving extensive mud flats that were very attractive to shorebirds. Since the lake is located on top of the Alleghany Plateau, it was a matter of unusual interest to see so many species and individuals in a mountain setting. Following are the species noted:

SEMIPALMATED PLOVER, *Charadrius semipalmatus*.—Very common on September 20, and for several days following; last noted on October 24.

KILLDEER, *Oxyechus vociferus vociferus*.—As might be expected, these birds were present in great numbers, both during the breeding season and during migration. They were still present in good numbers on November 25, although parts of the lake were then covered with ice.

WILSON'S SNIBE, *Capella delicata*.—Common throughout the fall around the arms of the lake, where they may possibly breed sparingly; still present on November 25.

SPOTTED SANDPIPER, *Actitis macularia*.—Abundant breeding species; still common in October. Last noted on October 24.

SOLITARY SANDPIPER, *Tringa solitaria*.—Very common throughout the fall until late in October. For a discussion of this as a possible breeding species at Deep Creek Lake, see 'The Auk', vol. 53, p. 444, Oct. 1936.

GREATER YELLOW-LEGS, *Totanus melanoleucus*.—Common during September and early October; last noted on October 25.

LESSER YELLOW-LEGS, *Totanus flavipes*.—For some reason not so common as the last during the time of our observations. A few were seen in September and October.

PECTORAL SANDPIPER, *Pisobia melanotos*.—Common during September and October; last noted on November 5.

WHITE-RUMPED SANDPIPER, *Pisobia fuscicollis*.—A few individuals were seen on several dates in October.

BAIRD'S SANDPIPER, *Pisobia bairdi*.—One individual noted and carefully observed by John Handlan, Lloyd Poland, the writer, and others on October 18; and another seen by A. S. Margolin, Poland, and the writer on October 24.

LEAST SANDPIPER, *Pisobia minutilla*.—Seen on September 20, and on a few dates thereafter until October 18.

RED-BACKED SANDPIPER, *Pelidna alpina sakhalina*.—Two individuals were seen by Handlan, Margolin, Poland, the writer, and others on October 18.

STILT SANDPIPER, *Micropalama himantopus*.—Just previous to September 20, a severe storm swept up the Atlantic Coast; its effects were felt far inland. With an unusually large flock of shorebirds at Deep Creek Lake on the above date was a single individual of this species. It was carefully identified with good glasses at short range.

SEMI-PALMATED SANDPIPER, *Ereunetes pusillus*.—Several seen during late September and early October; last noted on October 18.

WESTERN SANDPIPER, *Ereunetes maurii*.—Despite the supposed difficulty of identifying this species in the field, the writer wishes to record two Western Sandpipers from Deep Creek Lake in the large flock of shorebirds seen on September 20. Mrs. Brooks, Dorothy Brooks, and the writer were able to approach to within fifteen feet of these two birds, and they were in company with a single Least Sandpiper. The much heavier and longer bills, with a noticeable down-turn, were very evident in these two birds, and the suffusion of color on the breast made a continuous band instead of being broken as in the Semipalmated Sandpiper. We felt that conditions for observation could not have been much more favorable.

It should be noted that regular observations were not begun until September 13, and it seems reasonable to assume that the heaviest part of the shorebird flight may already have passed at that time. We expect to begin observations at an earlier date next season.—MAURICE BROOKS, *West Virginia University, Morgantown, W. Va.*

Waterbirds at Leetown, West Virginia.—At Leetown, Jefferson County, West Virginia, is located a federal fish hatchery. There are nine bass-rearing ponds and a reservoir, which together supply approximately thirty acres of open water. Besides these, there are many springs and small streams bordered with marshland. Although these ponds were not built until the summer of 1933, there is already a remarkable aquatic habitat established. The reservoir was made by damming a small ravine without cutting out the trees that grew there. As a result, the upper end is an elm-sycamore grove, standing in two feet of water. From July 30 until