

more fearless. On the days of heavy migration, when other birds are also numerous, this warbler seems to start up from every bunch of grass all along the five miles or more of open beach. The median dates of spring migration are: for arrival, April 29, for departure, May 17 (May 22, 1909). Fall arrival, September 16; departure, October 5. It has always been in the most numbers late in September. I did not find it on any of the islands in 1905.

216. *Dendroica palmarum hypochrysea*.—Yellow Palm Warbler.

The only record for this eastern form of the Palm is that already reported in the Auk, IX, 1892, 397. The date was April 10, 1891, near Oberlin.

217. *Dendroica discolor*.—Prairie Warbler.

My records are few. The only time I have seen it in any numbers was May 13, 1907, all along the Cedar Point sand spit, on that greatest day of migration I have ever witnessed. Other records are April 29, 1899, May 14, 1903, May 9, 1904, May 2, 1906; May 11 to 20, 1907, May 11, 15, 16, 1908; May 11, 14, 17, 1909. I have never found it in fall. It has never been seen in the summer. Where did all those which were on the sand spit in 1907 go, since they did not put in an appearance on Point Pelee? It hardly seems possible that so large a host could return southward to breed after the excitement of the migrations had died out. The typical habitat of this bird in the migrations is a low brushy border of woods. The small growth of bushes along the sandspit seems to form a congenial feeding place.

NOTES ON THE SANDHILL CRANE.

BY STEPHEN SARGENT VISHER.

The Sandhill crane (*grus mexicana* and *g. canadensis*) is one of the most conspicuous birds of the prairie region. Every farmer boy knows its call, and on fair days has seen large flocks soaring at great heights, slowly passing northward. Constantly their unsurpassed calls drift down to earth. When only a slight wind is blowing, these rich, bugle-like notes can be heard farther than the bird can be seen. Several times I have examined, for some moments in vain, the horizon before the authors sailed in view. On windy or rainy days, the flocks fly low and swiftly in a direct line, and each individual croaks in turn. Thus slowly the music moves along the undulating, curving line.

The Sandhill crane feeds upon grasshoppers, frogs, worms and other life of the open, nearly all of which is considered harmful to man. While feeding they follow certain fixed rules. They always keep on open ground, either on an elevation or on an extensive flat. At least one of the group keeps watch while the others feed. This one stands still most of the time, with its head raised high in air and doesn't try to feed. Apparently there are shifts of watchers.

The mating habits of this bird are very interesting. In Sanborn County, South Dakota, I have often watched the mating dance; each time with increasing interest. In the early spring, just after break of dawn, the groups that were separated widely, for safety, during the night, begin flying towards the chosen dancing ground. These flocks of six or eight fly low and give constantly their famous, rolling call. The dancing ground that I knew best was situated on a large, low hill in the middle of a pasture of a section in extent. From this hill the surface of the ground for half a mile or more in every direction could be seen. As soon as two or three groups had reached this hill a curious dance commenced. Several raise their heads high in the air and walk around and around slowly. Suddenly the heads are lowered to the ground and the birds become great bouncing balls. Hopping high in the air, part of the time with raised wings, and part with dropping, they cross and recross each other's paths. Slowly the speed and wildness increases, and the hopping over each other, until it becomes a blur. The croaking, which commenced only after the dancing became violent, has become a noise. The performance continues, increasing in speed, for a few minutes, and then rapidly dies completely out, only to start again upon the arrival of more recruits. By seven o'clock all have arrived, and then for an hour or so a number are constantly dancing. Occasionally the whole flock of two hundred or so break into a short spell of crazy skipping and hopping. By nine o'clock all are tired and the flock begins to break up into groups of from four to eight and these groups slowly feed to the windward, diverging slowly, or fly to some distance.

Just before nightfall the flock again convenes, but after a half hour or so of spasmodic dancing, groups fly silently away in different directions to grassy depressions, where they spend the night.

One pair nested in this vicinity and I was fortunate enough to find the simple nest. It was upon a slight rise in a large moist meadow. The two yellowish green, brown-spotted eggs were kept off the ground only by a few blades of grass.

EFFECTS OF WEATHER IN NORTH-EASTERN IOWA, SPRING, 1910.

BY ALTHEA R. SHERMAN.

The effect of weather conditions on bird movements this spring in north-eastern Iowa has been similar, no doubt, to that in other portions of the country. Here the average noon temperature for March was fifty-five degrees, which was twelve degrees above the average for the past eleven years. This unseasonably warm weather continued during the first half of April, followed by a second edition of winter, north winds and frosty nights prevailing until the middle of May. Temperature for the first half of May fell seven degrees below the average. Of the earlier migrants most of the breeding species came at their usual time, and took their places, having few attendant birds even of such abundant species as the Junco, Robin and Blackbirds. Not an individual was seen of several species that are regarded as tolerably common in most years. The warm weather brought but two birds out of season that were seen, a Ruby-crowned Kinglet, on March 28, and a Solitary Sandpiper on April 14: both of them a little more than two weeks in advance of their average dates for first arrivals. Dates for migration and nesting in this locality will have no suggestive value unless it is kept in mind that ordinarily they are from one to two weeks later than are such dates in northern Ohio, or the vicinity of New York City.

The cool weather during the second half of the migration