

The 1932 Fall Migration at Cleveland's Public Square.—In my searches at the Public Square in Cleveland in the fall of 1932, I was successful in finding nineteen species of native birds. From August 29, when the first warbler appeared, a little greenish fellow of undetermined species, until December 17, when the one remaining White-throated Sparrow was last seen, I made eighty-nine visits and found birds on all but fifteen days. The season was somewhat warmer than normal. My records are as follows:

Species	First Record	Last Record	No. of Days Seen	Largest No. in one Day
Sparrow Hawk	Nov. 18	.....	1	1
Bob-white	Oct. 13	Oct. 15	3	1
Herring Gull	Nov. 1	Nov. 17	3	5
Northern Flicker	Oct. 7	.....	1	1
Yellow-bellied Sapsucker	Sept. 28	Oct. 1	2	1
Blue Jay	Oct. 1	.....	1	1
Winter Wren	Oct. 14	.....	1	1
Catbird	Oct. 1	Oct. 21	13	2
Hermit Thrush	Oct. 14	.....	1	1
Ruby-crowned Kinglet	Sept. 26	.....	1	1
Palm Warbler	Sept. 16	Oct. 13	12	3
Northern Yellow-throat	Sept. 24	Oct. 15	12	2
Savannah Sparrow	Oct. 4	.....	1	2
Tree Sparrow	Oct. 19	Nov. 23	3	2
White-crowned Sparrow	Sept. 23	Nov. 22	32	6
White-throated Sparrow	Sept. 23	Dec. 17	67	19
Lincoln's Sparrow	Sept. 23	Oct. 29	16	2
Swamp Sparrow	Oct. 7	Dec. 5	22	1
Song Sparrow	Sept. 26	Nov. 10	23	6

The most unexpected migrant of the season was the Bob-white which spent three active days about the one large bush in the Square, not particularly fearful of the many passersby. It arrived on a raw, windy day, probably forced down in a flight across the city. The Blue Jay flew about among the plane trees, screaming merrily, and followed by a dozen chattering English Sparrows. This must have been the first jay these city-bred sparrows had ever seen.

An idea of the length of time which individual birds may spend at the Square is indicated by the following. A tailless palm warbler showed up first on September 19 and was seen at intervals until October 3 when it had acquired a fair start at a new tail. This example, of course, might be considered a cripple, but the bird seemed to fly well. Incidentally this bird wagged its taillessness just as energetically as any completely equipped palm warbler.

The Starling population of the Square amounted to some 15,000 again this season and persisted in greater numbers than usual through the mild winter.—
WILLIAM H. WATTERSON, *Cleveland, Ohio.*

A Heavy Case of Internal Parasitism of the Belted Kingfisher.—

A Belted Kingfisher (*Megaceryle alcyon alcyon*) brought to me on December 24, 1931, by Alden Risser, proved to be rather heavily parasitized. Mr. Risser reported that the bird was unable to fly more than a few rods, and it was easily taken in the hand after a few such flights. Since no external injuries were apparent it was thought at first that starvation may have caused the weakness of the bird, for most of the fishing grounds of the kingfisher are frozen in this region at the season indicated. However, the stream near which the bird was taken was open in many places, and an examination of the stomach contents of the bird disclosed the remains of two small fishes, only one of which could be identified, a stickleback (*Eucalia inconstans*).

It was then found that the body cavity of the bird was nearly filled, especially about the liver, with nineteen filariid roundworms. These worms have since been identified by E. E. Wehr of the U. S. Bureau of Animal Industry, as *Monopetalonema physalurum* (Bremser) Diesing. Since this species has thus far been reported only from Brazilian kingfishers (*Alcedo* spp.) it does not seem unlikely that the present species may, on closer study, prove to be distinct. The female worms were about twelve to thirteen inches in length and the males about



FIG. 3. Aerial view of the Public Square, Cleveland, Ohio. The Square is located slightly below the center of the picture. The view shows, to some extent, the isolation of the Public Square from other open territory which might afford food or shelter to wild birds. There are a few small trees and shrubs in the fore quarters of the Square, where many of the birds were found; others were observed on the lawn and flower beds. Mr. Watterson's note in this issue is the fourth successive, annual census of the birds of the Cleveland Public Square published in the June numbers of the WILSON BULLETIN.

six or seven inches, and nineteen such worms constitute a rather heavy infestation. Undoubtedly the blood of the bird must have been teeming with the microfilariae, but the bird had been dead so long when examined by me that a blood examination could not be made. In the particular group of roundworms to which this species belongs the larval worms are passed into the blood stream, from whence they are transferred to another bird usually through the agency of a blood sucking insect. Such a heavy infestation of the worms as the one here recorded was probably enough to account for the weakened condition of the bird. Another species of internal parasite, a fluke of the genus *Crassiphiala*, was pres-

ent in the intestines in large numbers, but there is no evidence that this worm has any pathogenic effect on the host.

In midwinter the Belted Kingfisher is not ordinarily present in Minnesota, except in very mild winters, and even then it is found only rarely. Certainly a bird with the filariid infection of the one here reported would not be able to migrate any great distance, and it seems entirely possible that others of the birds which do remain over winter may have been prevented from migrating by such parasitic infections, or other factors, tending to weaken them. It is true, however, that only a very small percentage of worm parasites have such serious effects on their hosts.—GUSTAV SWANSON, *Minneapolis, Minn.*

The Snowy Owl in Iowa.—The recent papers by Gross (*Auk*, XLIV and XLVIII) and Hicks (*antea*, XLIV) very ably supplement the investigations investigated by Ruthven Deane relative to the periodic invasions of the Snowy Owl (*Nyctea nyctea*) into the United States and southern Canada. These invasions were found to have been most pronounced during the winters of 1876-77, 1882-83, 1889-90, 1892-93, 1896-97, 1901-02, 1905-06, 1917-18, 1926-27, and 1930-31.

In the summaries treating of these occurrences there appears to be a lack of Iowa records, from which one might conclude that the birds had not been present. Such has not been the case. Anderson (*Birds of Iowa*, 1907) cites records of one in Kossuth County in 1900; nine in Mitchell County during the winter of 1883-84; and many in Woodbury County during February, 1883. Widmann (*Birds of Missouri*, 1907) lists records of this owl at Keokuk, Lee County, on November 20, 1895, and December 6, 1886. Bailey (*Bull.* 6, *Iowa Geol. Survey*, 1918) indicates the occurrence (without dates) of this species in the following Iowa counties: Lee, Des Moines, Van Buren, Lucas, Decatur, Madison, Mills, Boone, Johnson, Cedar, Linn, Benton, Winneshiek, Floyd, Winnebago, Palo Alto, Clay, Buena Vista, and Woodbury. Stephens (*Proc. Iowa Acad. Sci.*, XXV, 1918) gave a useful summary of the Snowy Owl in the Missouri Valley, near Sioux City, from 1900. He states that, "In going over Mr. Anderson's records I find that he has mounted forty-six specimens of Snowy Owls between 1900 and 1917. While he has never had so many in one season as in this year, yet in the winter of 1905-06 he received thirteen specimens." A list of forty specimens taken or seen during the winter of 1917-18, is contained in this paper, of which twenty-three were from Iowa. Recently Youngworth (*antea*, pp. 32-33) recorded four occurrences of the Snowy Owl during December, 1929, January and February, 1931, in southwestern Minnesota and southeastern South Dakota.

Probably the most important records that we have of the Snowy Owl in Iowa, South Dakota, and Nebraska are contained in the material secured by D. H. Talbot and his collectors between the years 1884 and 1887. The forty-nine specimens in this collection, now in the Museum of Natural History, University of Iowa, are from the following localities: Twenty-three are from northwest Iowa; eight are from (South) Dakota; one from Nebraska; and seventeen without locality. Most of these specimens were sent to Talbot by hunters, but some few were secured on his farm in Woodbury County. The fact that Talbot could accumulate such a number of these birds, during seasons which were not generally recognized as invasion years, leads to the conclusion that the Snowy Owl formerly, at least, was a more or less regular winter visitor into the northwestern corner of the state.