

Report of the Spring Migration of 1906

COMPILED BY WITMER STONE

The work of the "Migration Corps" who coöperate with the Club in collecting data upon the arrival and departure of birds in the Delaware Valley and elsewhere in Pennsylvania and New Jersey cannot be too highly praised. It is doubtful if such an accurate and comprehensive series of data has ever been collected over such a limited area anywhere in America, and the ultimate results of the work will prove of great scientific value. We can only congratulate our observers and urge their continuance in the work as well as the solicitation of aid from others competent to keep the necessary records.* Schedules covering the 1906 migration were received from the following:

New Jersey.

Cape May, H. Walker Hand.
Downtown (near Newfield), W. W. Fair.
Yardville, Rachel E. Allison.
Trenton, C. C. and R. M. Abbott.
Bordentown, Minnie V. Flynn.
Beverly, J. Fletcher Street.
Burlington, Helen F. Carter.
Moorestown, Anna A. Mickle.
Moorestown, Wm. B. Evans and Dr. S. S. Haines.
Pensauken, C. J. Hunt.
Haddonfield, Mrs. E. Tomlinson Gill.

Pennsylvania.

Kennett Square, Charles J. Pennock.
Concordville, Mrs. K. R. Styer.
Westtown, Edith Smedley, Emily T. Webster, etc.

* Applications for blank schedules and for information should be addressed to Mr. Samuel C. Palmer, Swarthmore, Delaware Co., Pa., who superintends this branch of the Club's work.

Swarthmore, Samuel C. Palmer.
Swarthmore, George S. Roberts.
Swarthmore, N. W. Swayne.
Swarthmore, Jos. S. Webb.
Lansdowne, John D. Carter.
Lansdowne, Louisa M. Jacob.
Lansdowne, Aldrich J. Pennock.
Lansdowne, Anna D. White.
Lansdowne, Friends' School.
Lansdowne, W. R. White.
Lansdowne, J. Harold Austin and Ethel A. Shrigley.
Collingdale, Paul L. Lorrilliere.
Morton, Dr. J. F. Prendergast.
Media, Lydia G. Allen.
Media, Philip H. Moore.
Media, Alice Fussell.
Media, Ellen Fussell.
Media, Edith L. Palmer.
Ardmore, Wm. L. Baily.
Haverford, W. J. Serrill.
Haverford, M. Albert Linton.
Haverford, Thos. C. Desmond.
Haverford, R. A. Spaeth.
Wayne, A. C. Redfield.
Bryn Mawr, Miss Emily H. Thomas.
Wissahickon, John R. Pickering.
Olney, George S. Morris.
Oak Lane, Richard C. Harlow.
Frankford, Richard F. Miller.
Bristol, Thomas D. Keim.
Woodbourne, Edward Pickering, Jr.
George School, Students.
George School, Wm. E. Roberts.
George School, Jesse Packer.
Marietta, W. H. Buller.
Lopez, Otto Behr.
Summaries of observations on four prominent species show
the following results:

Chimney Swift.

April 8. Media.
 April 11. Kennett Square.
 April 12. Haverford and Rad-
 nor.
 April 14. Moorestown and Pen-
 sauken.
 April 15. Tacony.
 April 17. Frankford.
 April 18. Four stations.
 April 19. Four stations.
 April 20. Six stations.
 April 21. Six stations.

Ovenbird.

April 28. Four stations.
 April 29. Eleven stations.
 April 30. Four stations.
 May 1. Four stations.
 May 2. Six stations.

Scarlet Tanager.

April 25. Oak Lane.
 May 1. Five stations.
 May 2. One station.
 May 3. Eight stations.
 May 4. Two stations.
 May 5. Eight stations.

Wood Thrush.

April 25. Frankford.
 April 28. Four stations.
 April 29. Eleven stations.
 April 30. Five stations.
 May 1. Eight stations.

Making comparisons for the past four years on this plan, we get the following interesting results; the dates in parentheses indicating the arrival of the earliest straggler, the other dates the time of bulk arrival.

Chimney Swift.

1903 (April 12), April 19-20.
 1904 (April 15), April 24-25.
 1905 (April 13), April 20-21.
 1906 (April 8), April 18-21.

Ovenbird.

1903 (April 27), April 29-30.
 1904 (April 22), April 30-
 May 1.
 1905 (April 25), April 29-30.
 1906 (April 28), April 29-
 May 2.

Scarlet Tanager.

1903 (April 25), May 6.
 1904 (April 30), May 6.
 1905 (April 21), May 3-7.
 1906 (April 25), May 1-5.

Wood Thrush.

1903 (April 23), April 30-
 May 2.
 1904 (April 22), April 29-
 May 1.
 1905 (April 23), April 28-30.
 1906 (April 25), April 28-
 May 1.

The tables of spring arrivals follow.

NAME.	Moorestown, N. J.	N. J.; E. 12 ¹	Pensauken, N. J. N. 0; E. 8.	Haddonfield, N. J.	Media, Pa. S. 2; W. 12.	Swarthmore, Pa. S. 3; W. 10.	Collingdale, Pa. S. 3; W. 6.	Lansdowne, Pa. S. 1; W. 6.	Morton, Pa. S. 2; W. 8.	Ardmore, Pa. N. 3; W. 7.	Haverford, Pa. N. 4; W. 8.	Bryn Mawr, Pa. N. 4; W. 9.	Radnor, Pa. N. 6; W. 11.	Germanstown, Phila.	Oak Lane, Phila. N. 7; E. 2.	Frankford, Phila. N. 5; E. 5.	Oney, Phila. N. 6; E. 3.
Canada Goose	Apr. 14																
Green Heron	May 1	May 5															
Night Heron	Apr. 8	Apr. 22															
Spotted Sandpiper	Apr. 16	Apr. 23															
Solitary Sandpiper	Mar. 25	Mar. 11	Mar. 5	Mar. 5	May 8	Mar. 9											
Killdeer	Mar. 25	Mar. 11	Mar. 5	Mar. 5	Mar. 9	Mar. 9											
Dove	Apr. 13	Apr. 15	Apr. 25	Apr. 25	Mar. 18	Apr. 17											
Osprey	Apr. 13	Apr. 14	Apr. 14	Apr. 14	Apr. 26	Apr. 17											
Turkey Vulture	Mar. 25	Apr. 29	Jan. 1	Feb. 3	Mar. 10	Apr. 29											
Yellow-billed Cuckoo	May 20	May 4	May 23	May 5	May 13	May 4											
Black-billed Cuckoo	Feb. 11	Res.			May 17	May 4											
Kingsfisher					Apr. 7	Apr. 17											
Yellow-bellied Sapsucker					Apr. 12	May 4											
Red-headed Woodpecker					May 19	May 13											
Flicker					Apr. 1	Mr. 11 ²											
Whip-poor-will					Mar. 18	Mar. 29											
Nighthawk					Apr. 1	Mr. 11 ²											
Chimney Swift					Apr. 29	May 13											
Hummingbird					Apr. 14	Apr. 8											
Kingbird					May 3	Apr. 29											
Crested Flycatcher					Apr. 29	Apr. 29											
Phoebe					Apr. 8	Apr. 14											

¹ The relative positions of the stations are indicated by the number of miles, N. or S. and E. or W., that each one is distant from Philadelphia—
i. e., its latitude and longitude with reference to the City Hall.

² Resident.

NAME.	Moorestown, N. J.	Pensauken, N. J.	Haddonfield, N. J.	Media, Pa.	Swarthmore, Pa.	Collingdale, Pa.	Lansdowne, Pa.	Morton, Pa.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Radnor, Pa.	Germantown, Phila.	Oak Lane, Phila.	Frankford, Phila.	Olney, Phila.
Wood Pewee	May 6	May 5	May 25	May 5	May 5	May 6	May 6	.....	May 1	Apr. 30	.....	May 19	.....	May 8	May 15	.....
Acadian Flycatcher	.....	.....	May 16	May 16	.....	.....	May 3	.....	May 6	May 6	.....	May 30	.....	May 12	May 10	.....
Least Flycatcher	.....	.....	.....	May 6	May 16	.....	May 3	.....	Apr. 28	.....	.....	May 6	.....	May 16	May 17	.....
Bobolink	May 3	.....	.....	Apr. 14	.....	.....	.....	May 3	May 6	May 2	.....	May 12	.....	May 1	May 16	.....
Cowbird	.....	.....	.....	Mar. 29	Mar. 28	.....	Apr. 10	.....	Apr. 18	Mar. 25	.....	Mar. 30	.....	Mar. 27	Apr. 4	.....
Red-winged Blackbird	Feb. 4	Feb. 24	Mar. 12	Mar. 7	Feb. 23	Jan. 20	Mar. 28	Mar. 1	Mar. 4	Mar. 10	.....	Feb. 23	.....	Feb. 23	Mar. 27	.....
Meadow Lark	.....	.....	.....	Res.	Feb. 10	Jan. 7	Mar. 4	Feb. 24	Feb. 21	Mar. 12	Apr. 7	Feb. 4	.....	Jan. 1	Jan. 16	.....
Orchard Oriole	May 2	May 5	May 5	Apr. 30	May 6	May 6	May 5	May 4	May 4	May 1	.....	May 19	.....	May 3	May 3	.....
Baltimore Oriole	May 3	May 5	.....	Apr. 25	Jan. 6	Jan. 6	May 5	May 3	May 6	May 3	Mar. 14	May 2	.....	May 1	May 1	.....
Rusty Blackbird	Apr. 29	.....	.....	Apr. 25	Jan. 6	Jan. 6	May 5	May 3	Apr. 29	.....	.....	.....	.....	Mar. 19	Apr. 4	.....
Purple Grackle	Feb. 15	Feb. 24	Jan. 23	Jan. 22	Feb. 20	Feb. 21	Feb. 22	Feb. 22	Feb. 21	Feb. 21	Feb. 23	Jan. 23	.....	Feb. 19	Feb. 23	Feb. 24
Vesper Sparrow	Apr. 8	Feb. 25	May 8	Apr. 8	.....	Apr. 8	.....	.....	Apr. 11	Apr. 7	.....	Apr. 22	.....	Apr. 7	Apr. 1	.....
Savanna Sparrow	.....	.....	.....	Apr. 29	May 13	.....	.....	.....	May 6	May 6	.....	Mar. 29	.....	Mar. 18	May 10	.....
Grasshopper Sparrow	Apr. 30	.....	.....	Apr. 29	May 13	.....	.....	.....	May 6	Apr. 24	.....	Apr. 22	.....	Apr. 25	Apr. 30	.....
Chipping Sparrow	Apr. 6	Mar. 25	Apr. 27	Apr. 5	Apr. 8	Apr. 1	Mar. 25	Apr. 6	Apr. 5	Apr. 5	Apr. 10	Apr. 13	.....	Apr. 18	Mar. 24	Apr. 10
Field Sparrow	Apr. 8	Feb. 25	Apr. 29	Mar. 11	Apr. 7	Feb. 12	Feb. 26	Feb. 23	Mar. 22	Mar. 31	Mar. 30	Apr. 1	.....	Mar. 31	Jan. 2	Feb. 20
Swamp Sparrow	May 1	Apr. 22	.....	Apr. 13	.....	Jan. 6	.....	.....	Apr. 14	Apr. 13	.....	.....	.....	Apr. 1	Jan. 2	.....
Fox Sparrow	Mar. 25	Mar. 18	.....	Mar. 7	Feb. 22	.....	Feb. 22	.....	Mar. 11	Feb. 23	Feb. 23	.....	.....	Apr. 1	Apr. 23	.....
Chewink	Apr. 21	Apr. 15	May 8	Apr. 15	Apr. 21	Apr. 21	Apr. 15	Apr. 25	Apr. 22	Apr. 19	Mar. 6	Apr. 12	.....	Feb. 20	Mar. 1	.....
Rose-breasted Grosbeak	.....	.....	.....	May 4	May 3	.....	Apr. 30	.....	May 4	May 3	May 10	May 5	.....	May 6	May 7	.....
Indigobird	May 10	May 19	.....	May 4	May 3	.....	May 5	.....	May 6	May 2	May 3	May 5	.....	May 5	May 5	.....
Scarlet Tanager	May 10	May 12	.....	May 1	May 1	.....	May 1	.....	May 3	May 1	May 7	May 5	.....	Apr. 25	May 5	.....
Purple Martin	Apr. 9	.....	.....	Apr. 30	Apr. 23	.....	.....	.....	.....	Jun. 1	.....	.....	.....	Apr. 19	Apr. 13	.....

T = Tinicum, Delaware Co., Pa.

NAMES.	1 Res.															
	Moorestown, N. J.	Pensauken, N. J.	Haddonfield, N. J.	Media, Pa.	Swarthmore, Pa.	Collingsdale, Pa.	Lansdowne, Pa.	Morton, Pa.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Radnor, Pa.	Germantown, Phila.	Oak Lane, Phila.	Frankford, Phila.	Olney, Pa.
Cliff Swallow	Apr. 21	Apr. 14	Apr. 25	Apr. 21	Apr. 25	.....	May 8	Apr. 17	Apr. 22	Apr. 19	.....	Apr. 22	.....	Apr. 29	May 10	
Barn Swallow	.....	.....	.....	Apr. 19	Apr. 25	.....	Apr. 28	Apr. 17	Apr. 22	Apr. 19	.....	Apr. 22	.....	Apr. 12	Apr. 11	
Tree Swallow	May 1	Apr. 14	.....	Apr. 16	Apr. 22	Apr. 13	May 5	.....	Apr. 11	Apr. 11	.....	Apr. 22	.....	Apr. 20	May 3	
Bank Swallow	.....	.....	.....	Apr. 15	Apr. 13	Apr. 13	.....	.....	.....	.....	.....	.....	.....	Apr. 28	Apr. 11	
Rough-winged Swallow	.....	.....	.....	Mar. 24	Apr. 13	Apr. 13	.....	.....	.....	.....	.....	.....	.....	Apr. 28	Apr. 13	
Cedar Bird	.....	.....	.....	Apr. 15	Apr. 13	Apr. 13	.....	.....	.....	.....	.....	.....	.....	Apr. 28	Apr. 13	
Red-eyed Vireo	.....	.....	.....	Apr. 15	Apr. 13	Apr. 13	.....	.....	.....	.....	.....	.....	.....	Apr. 28	Apr. 13	
Warbling Vireo	May 3	May 5	May 2	Apr. 29	May 4	May 9	May 3	May 4	May 5	May 5	May 7	May 5	May 4	May 1	May 5	
Yellow-throated Vireo	May 3	.....	.....	May 4	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 4	May 5	
Solitary Vireo	Apr. 30	.....	.....	May 13	May 5	.....	Apr. 29	.....	May 1	Apr. 25	.....	May 2	.....	May 5	May 10	
White-eyed Vireo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 29	Apr. 28	
Black and White Warbler	May 1	Apr. 29	.....	May 2	May 11	May 4	May 3	.....	May 6	Apr. 25	.....	May 5	.....	May 10	May 4	
Worm-eating Warbler	Apr. 21	Apr. 29	.....	Apr. 19	Apr. 19	.....	Apr. 20	May 1	Apr. 22	Apr. 22	Apr. 27	Apr. 27	May 11	Apr. 29	Apr. 30	
Blue-winged Warbler	.....	.....	.....	May 6	May 6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Parula Warbler	.....	.....	.....	May 1	May 4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yellow Warbler	May 6	May 5	.....	May 5	May 13	.....	May 1	.....	.....	.....	.....	.....	.....	.....	.....
Black-throated Blue Warbler	Apr. 29	Apr. 22	May 2	Apr. 28	May 4	May 2	Apr. 30	May 3	May 6	Apr. 29	May 7	May 6	.....	May 2	Apr. 30	
Myrtle Warbler	May 6	.....	.....	May 3	Apr. 29	.....	May 3	.....	.....	.....	.....	.....	.....	.....	.....
Magnolia Warbler	Apr. 29	Apr. 29	.....	Apr. 8 ²	Apr. 28	.....	Apr. 25	.....	.....	.....	.....	.....	.....	.....	.....
Chestnut-sided Warbler	May 15	.....	.....	May 13	May 13	.....	May 2	.....	.....	.....	.....	.....	.....	.....	.....
Black-poll Warbler	May 6	.....	.....	May 1	May 13	.....	May 3	.....	.....	.....	.....	.....	.....	.....	.....
Blackburnian Warbler	May 6	.....	.....	May 4	.....	.....	May 12	.....	.....	.....	.....	.....	.....	.....	.....
Black-throated Green Warbler	May 10	.....	.....	May 3	May 13	.....	May 14	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	Apr. 30	May 13	.....	Apr. 29	.....	.....	.....	.....	.....	.....	.....	.....

2 Jan. 28.

1 Res.

NAME.	Moorestown, N. J.	Pensauken, N. J.	Haddonfield, N. J.	Media, Pa.	Swarthmore, Pa.	Collingdale, Pa.	Lansdowne, Pa.	Morton, Pa.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Radnor, Pa.	Germantown, Phila.	Oak Lane, Phila.	Frankford, Phila.	Olney, Phila.
Pine Warbler	Apr. 21	.....	May 8	Apr. 8	May 6	Apr. 13	Apr. 13	.....	Apr. 14	Apr. 14	Apr. 24	Apr. 14	Apr. 13	Apr. 13	Apr. 13	.....
Yellow Palm Warbler	May 5	May 20	.....	Apr. 29	Apr. 28	Apr. 30	Apr. 30	.....	Apr. 29	Apr. 29	May 3	May 3	Apr. 29	Apr. 28	May 17	.....
Prairie Warbler	Apr. 29	Apr. 29	May 8	Apr. 29	May 10	Apr. 30	Apr. 30	.....	Apr. 29	Apr. 29	Apr. 30	May 2	Apr. 29	Apr. 28	May 1	.....
Ovenbird	May 3	.....	.....	Apr. 26	May 10	.....	Apr. 29	.....	May 6	Apr. 6	Apr. 30	May 5	May 5	May 8	May 3	.....
Water Thrush	.....	.....	.....	May 5	May 2	.....	Apr. 30	.....	May 6	May 6	.....	May 5	May 11	May 3	May 15	.....
Kentucky Warbler	.....	.....	.....	Apr. 21	May 1	Apr. 30	Apr. 27	.....	May 5	Apr. 5	May 3	Apr. 29	Apr. 27	Apr. 27	May 3	.....
Maryland Yellow-throat	Apr. 22	May 5	.....	Apr. 21	Apr. 22	May 4	May 5	.....	May 6	May 6	May 5	May 5	May 13	May 3	May 3	.....
Chat	.....	.....	.....	May 4	Apr. 22	.....	May 5	.....	May 12	May 13	May 15	May 12	May 18	May 3	.....	.....
Canada Warbler	.....	.....	.....	May 6	May 9	.....	May 12	.....	May 13	May 13	May 15	May 12	May 18	May 3	.....	.....
Redstart	Apr. 29	.....	.....	Apr. 29	May 4	.....	Apr. 29	.....	Apr. 29	Apr. 29	May 3	May 6	.....	Apr. 29	May 3	.....
Catbird	May 1	May 4	.....	Apr. 29	Apr. 27	May 3	Apr. 29	.....	May 1	Apr. 28	Apr. 27	Apr. 29	Apr. 29	Apr. 24	May 3	.....
Brown Thrasher	Apr. 21	Apr. 22	May 8	Apr. 16	Apr. 21	Apr. 21	Apr. 22	Apr. 28	Apr. 19	Apr. 19	Apr. 10	Apr. 19	.....	Mar. 9	Apr. 20	.....
House Wren	Apr. 22	May 4	.....	Apr. 22	May 4	Apr. 21	Apr. 25	Apr. 29	Apr. 29	Apr. 29	Apr. 27	Apr. 22	.....	Apr. 18	May 3	.....
Long-bill'd Marsh Wren	.....	May 4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 6	.....
Ruby-crowned Kinglet	Apr. 19	.....	.....	Apr. 8	Apr. 19	.....	Apr. 15	.....	Apr. 14	Apr. 14	Apr. 7	Apr. 13	.....	Apr. 7	Apr. 10	.....
Wood Thrush	Apr. 29	Apr. 29	.....	Apr. 28	Apr. 29	Apr. 29	Apr. 29	May 1	Apr. 29	Apr. 29	Apr. 30	May 3	May 1	Apr. 28	Apr. 25	.....
Wilson's Thrush	May 6	May 5	.....	May 6	Apr. 29	.....	Mar. 3	.....	May 4	Apr. 4	May 3	Apr. 30	.....	Apr. 28	Apr. 27	.....
Gray-cheeked Thrush	.....	.....	.....	.....	.....	.....	May 17	.....	May 16	May 16	.....	.....	.....	May 15	May 15	.....
Olive-back Thrush	May 3	.....	.....	May 6	.....	.....	May 8	.....	May 16	May 16	May 11	Mar. 19	.....	May 16	May 4	.....
Hermit Thrush	Apr. 13	Apr. 29	.....	Apr. 19	Apr. 19	Apr. 12	Apr. 12	.....	Apr. 14	Apr. 14	Apr. 7	Apr. 11	.....	Apr. 10	Apr. 13	.....
Robin	Jan. 21	Feb. 4	Feb. 17	Feb. 20	Feb. 22	Jan. 21	Feb. 20	Feb. 23	Feb. 21	Feb. 21	Feb. 23	Jan. 25	Mar. 12	Jan. 17	Jan. 22	.....
Bluebird	Feb. 23	Feb. 24	Mar. 7	Feb. 22	Feb. 22	Feb. 23	Feb. 19	Feb. 23	Feb. 20	Feb. 20	Feb. 23	Res.	.....	Feb. 1	Feb. 23	.....

1 Also on Feb. 22.

NAMES.	Cape May, N. J. E. 13; S. 72.	Downtown, N. J. E. 11; S. 28.	Kennett Square, Pa. W. 30; S. 8.	Concordville, Pa. W. 20; S. 5.	Westtown, Pa. W. 21; S. 2.	Beverly, N. J. E. 13; N. 8.	Burlington, N. J. E. 17; N. 9.	Bristol, Pa. E. 17; N. 10.	Bordentown, N. J. E. 25; N. 13.	Yardville, N. J. E. 25; N. 15.	Trenton, ¹ N. J. E. 23; N. 16.	Woodbourne, Pa. E. 15; N. 17.	George School, Pa. E. 11; N. 18.	Marietta, Pa. W. 74; N. 7.	Lopez, Pa. W. 60; N. 103
Flicker	Res.	Apr. 5	Apr. 1	Feb. 11		Apr. 6	Feb. 25	Mar. 4	Mar. 29	Jan. 19	R	R	Mar. 3	R	Apr. 14
Whip-poor-will	Apr. 21	Apr. 18								Apr. 20	Apr. 20		Apr. 29	Apr. 15	Apr. 29
Nighthawk		May 6								May 10	May 18		May 20	Apr. 24	
Chimney Swift		Apr. 26	Apr. 11	Apr. 20	Apr. 21	Apr. 18	Apr. 24	Apr. 21	Apr. 19	Apr. 29	Apr. 22	Apr. 22	Apr. 18	Apr. 18	May 3
Hummingbird		May 16	May 13				May 13	May 18	Apr. 29	Apr. 20	Apr. 22	May 7	May 1	Apr. 30	May 10
Kingbird	May 5	May 1	Apr. 30	Apr. 27			May 13	May 18	Apr. 29	Apr. 20	Apr. 22	May 7	May 1	Apr. 30	May 10
Crested Flycatcher	May 5	May 1	May 2	May 5	May 1		May 1	May 6	May 5	May 3	May 2	May 6	May 2	May 10	May 6
Phoebe	Apr. 5	Apr. 3	Apr. 3	Apr. 4		Apr. 6	Apr. 10	Apr. 8	Apr. 5	Apr. 7	Apr. 7	Apr. 4	Apr. 2	Apr. 30	Apr. 4
Bobolink			May 11	May 4				May 1		May 18			May 1	May 2	
Cowbird						Apr. 14			Apr. 29	Apr. 7		Apr. 22	Apr. 3	May 10	
Red-winged Blackbird	Feb. 22	Mar. 18	Feb. 24	Feb. 22	Feb. 25	Mar. 18	May 4	Feb. 25	Mar. 29	Apr. 14	Feb. 24		Feb. 24	Apr. 12	Mar. 4
Baltimore Oriole	May 5	May 1	Apr. 30	May 3		Apr. 30	Apr. 27	May 6		May 17	May 5	May 6	May 3	May 1	May 11
Purple Grackle	Feb. 22	Feb. 9	Feb. 20	Feb. 20	Feb. 21	Feb. 25	Feb. 24	Feb. 25	Mar. 2	Feb. 21	Feb. 9	Jan. 31	Feb. 10	Feb. 24	
Chipping Sparrow	Mar. 21	Apr. 4	Apr. 5	Apr. 5		Apr. 6	Apr. 6	Apr. 1	Apr. 3	Apr. 5	Apr. 14	Apr. 8	Apr. 5	Mar. 30	Apr. 30
Chewink	Apr. 3	Mar. 25		Apr. 19	Apr. 18	Apr. 20	Apr. 22	Apr. 29	Apr. 19	Apr. 29	Apr. 29	Apr. 21	Apr. 21	Apr. 25	
Indigobird			May 4	May 1	May 4	May 13				May 6	May 11	May 12	May 6	May 5	May 12
Scarlet Tanager		May 14	May 12	May 3	May 2		May 6	May 13	May 6	May 14	May 14		May 4		May 17
Purple Martin	Apr. 4	Apr. 17	Apr. 18						Apr. 8	Apr. 22	Apr. 22		Apr. 21		
Barn Swallow	Apr. 20	May 10	Apr. 12			May 1	Apr. 29	Apr. 20	Apr. 28	Apr. 22	Apr. 27	Apr. 11	May 15		
Red-eyed Vireo		May 6		May 5		May 1	May 3	May 6	May 2	May 11	May 1		May 2	May 12	
Black and White Warbler		Apr. 22	Apr. 29	May 4	Apr. 25	Apr. 22	Apr. 29	Apr. 25	May 3	Apr. 29			Apr. 21		
Chestnut-sided Warbler			May 12	May 3	May 1		May 4	May 10		May 10	May 22		May 3		May 5
Ovenbird		May 2	May 2	Apr. 28	Apr. 29		May 4	Apr. 29		May 3	Apr. 29	Apr. 27	Apr. 26		May 4
Maryland Yellow-throat		Apr. 27	May 2	Apr. 28	Apr. 29	Apr. 29	May 10	Apr. 29	Apr. 29	Apr. 30	Apr. 30	May 6	Apr. 28		May 6
Chat	May 5	May 13		May 6			May 6	May 13	May 1	May 17	May 4	May 11	May 6	May 4	
Catbird	Apr. 21	May 3	Apr. 29	Apr. 29	Apr. 29	Apr. 29	May 3	May 13	Apr. 30	May 2	Apr. 30	May 3	Apr. 29	Apr. 24	May 4
Brown Thrasher	Apr. 21	Apr. 22	Apr. 15	Apr. 19	Apr. 25	Apr. 22	Apr. 27	Apr. 29	Apr. 21	Apr. 30	Apr. 16	Apr. 20	Apr. 16		
House Wren	May 5	Apr. 22	Apr. 20	Apr. 21			May 11	May 6	Apr. 29	May 4	Apr. 30		Apr. 29	Apr. 15	May 13
Wood Thrush		May 4	May 2	May 4	Apr. 29	May 4	May 2	May 13	Apr. 28	May 6	May 1	May 6	Apr. 30		
Hermit Thrush			Apr. 13	Apr. 10	Apr. 13	Apr. 22	Apr. 19		Apr. 13		May 4	Apr. 8	Apr. 13		Apr. 13
Robin	Feb. 20	Feb. 13	Feb. 10	Jan. 19		Feb. 15	Feb. 23	Feb. 18	R	Jan. 18	R	Feb. 12	Feb. 17	Feb. 26	Feb. 23
Bluebird	R	Feb. 13	R	Feb. 14	Feb. 25	Feb. 25	Feb. 22	Feb. 18	R	R	R	Feb. 11	Feb. 23	Feb. 23	Feb. 23

¹ Midway between Trenton and Bordentown.

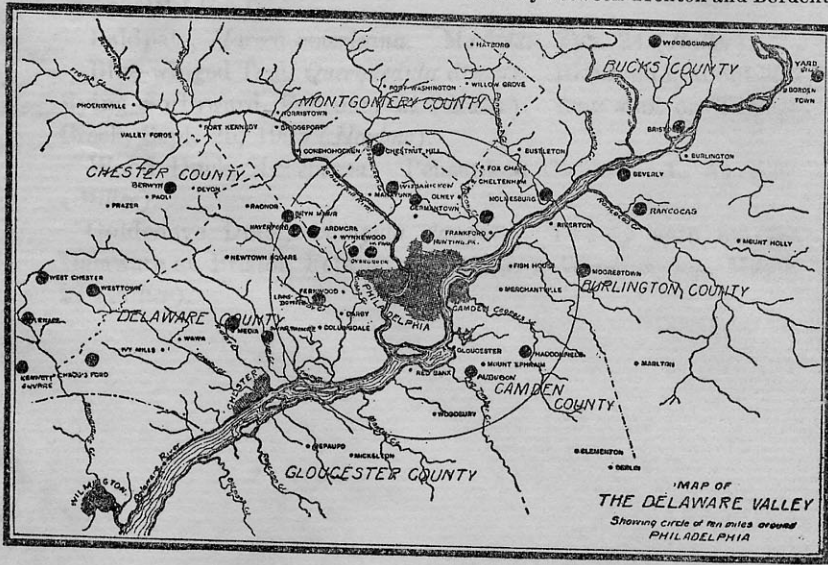


TABLE II.
SPRING MIGRATION, 1906.
EARLIEST DATES OF ARRIVAL OF THIRTY-TWO SPECIES AT FIFTEEN STATIONS OUTSIDE THE PHILADELPHIA CIRCLE.

*List of Other Species Reported by Observers During 1906, and
Additional Notes. Winter Notes Relate to Winter of
1905-6. Localities are in Pennsylvania
Unless Otherwise Indicated.*

Pied-billed Grebe, *Podilymbus podiceps*. Two seen at Beverly, N. J., April 9 to 16 (*Street*). A pair off Petty's Island April 16 (*Miller*).

Herring Gull, *Larus argentatus*. Wintered on the coast and on the Delaware. Last seen at Bridesburg, April 30 (*Miller*), Bristol, March 4 (*Keim*).

Ring-billed Gull, *Larus delawarensis*. Two seen at Bridesburg, January 22 (*Miller*).

Black-headed Gull, *Larus atricilla*. Arrived Cape May, N. J., April 20 (*Hand*).

Gannet, *Sula bassana*. Cape May, N. J., Feb. 25 (*Hand*).

Cormorant, *Phalacrocorax dilophus*. Cape May, N. J., April 10 (*Hand*).

American Merganser, *Merganser americanus*. Wintered on East Park Reservoir, reported at Bridesburg, Jan. 27 (*Miller*), Cape May, N. J., April 4 (*Hand*). Three seen on Tacony Creek near Oak Lane, Feb. 10, and one shot, Oct. 17, 1905 (*Harlow*).

Red-breasted Merganser, *Merganser serrator*. Bridesburg, March 6 (*Miller*).

Hooded Merganser, *Lophodytes cucullatus*. Marietta, Feb. 24 (*Buller*), Bridesburg, March 2 (*Miller*).

Mallard, *Anas boschas*. One at Pensauken Creek, N. J., March 10 (*Hunt*).

Baldpate, *Mareca americana*. Marietta, Feb. 24 (*Buller*).

Blue-winged Teal, *Querquedula discors*. Richmond, about 200 flying northward, February 21 (*Miller*). One shot on Tacony Creek, Sept. 25, 1905 (*Harlow*).

Wood Duck, *Aix sponsa*. Pensauken Creek, N. J., April 27 (*Miller*).

Goldeneye Duck, *Clangula clangula*. Twenty seen on the Delaware at Bristol, February 18 (*Keim*), Wissinoming, March 27 (*Miller*).

Bufflehead, *Charitonetta albeola*. Bridesburg, January 27 (Miller).

Ruddy Duck, *Erismatura jamaicensis*. One shot April 10, Kennett Square (Pennock).

Canada Goose, *Branta canadensis*. Large flock passed over Cape May, N. J., going north, Feb. 19 (Hand). Several flocks passed over Zieglersville, Montgomery Co., Oct. 26, 1905. Last seen at Oak Lane, Dec. 13, 1905 (Harlow).

Brant, *Branta bernicla*. Very abundant during winter, 1905-06, at Beach Haven, N. J. (Harlow), Bridesburg, February 25 (Miller).

American Bittern, *Botaurus lentiginosus*. Media, April 22 (Moore), Trenton, N. J., April 19 (Abbott), Holmesburg, April 25 (Miller).

Least Bittern, *Ardetta exilis*. Richmond, May 2 (Miller).

Great Blue Heron, *Ardea herodias*. Wintered on Pensauken Creek, N. J. (Hunt), Tinicum, February 11 and April 19 (Carter), Moorestown, N. J., April 2 (Evans), Bristol, April 4 (Keim), Trenton, N. J., April 5 (Abbott), Haverford, April 26 (Spaeth), Wayne, April 29 (Redfield).

White Egret, *Herodias egretta*. Daily at Cape May, N. J., during Sept., 1905 (Hand).

Green Heron, *Butorides virescens*. Cape May, N. J., Nov. 11, 1905 (Hand).

Night Heron, *Nycticorax n. naevius*. Common at Zieglersville, Montgomery Co., up to Nov. 1, 1905 (Harlow).

King Rail, *Rallus elegans*. One caught at Kennett Square, April 14 (Pennock).

Clapper Rail, *Rallus crepitans*. Two nests with eggs, Stone Harbor, N. J., May 27 (Carter).

Virginia Rail, *Rallus virginianus*. Media, April 21 (E. Fussell), Pensauken, N. J., May 20 (Harlow), Richmond, May 5 (Miller).

Florida Gallinule, *Gallinula galeata*. Richmond, May 13, nest and 12 eggs, May 22 (Miller).

Coot, *Fulica americana*. Richmond, May 7 (Miller).

Woodcock, *Philohela minor*. Three seen at Cape May, N. J., Feb. 28, and abundant from that date until March 21, seen

daily all over town, saw six in flight at one time. Two men who were out feeding quail saw "upwards of two hundred" in one afternoon. We have no record of such numbers at this time, though they are plentiful during fall migration (*Hand*). May 5, Winslow, N. J. (*Street*). Two on Pensauken Creek, May 27 (*Miller*). One March 18 and five April 1, Downstown, N. J. (*Fair*). Two near Tuckerton, March 17 (*Stone and Rehn*). Haverford, April 1 (*Serrill*), Lopez, April 7 (*Behr*). Seen at Oak Lane, August 7 and 14, 1905, and two November 4, 1905 (*Harlow*).

Wilson's Snipe, *Gallinago delicata*. Woodbourne, April 11 (*Pickering*), Richmond, April 23 (*Miller*).

Semipalmated Sandpiper, *Ereunetes pusillus*. Cape May, N. J., March 28, (*Hand*). Still numerous at Stone Harbor, N. J., May 27 (*Carter*), Pensauken, N. J., May 2 and 23, Richmond, May 22 (*Miller*).

Sanderling, *Calidris arenaria*. Cape May, N. J., March 28 (*Hand*).

Greater Yellowlegs, *Totanus melanoleucus*. One shot at Oak Lane, Oct. 18, 1905, and two Oct. 19 (*Harlow*).

Solitary Sandpiper, *Helodromus solitarius*. Last seen at Wayne, May 12 (*Redfield*), Frankford, May 22 (*Miller*).

Bartramian Sandpiper, *Bartramia longicauda*. George School, April 21, Moorestown, N. J., April 16 (*Evans*), Sandford, April 13 (*Miller*).

Hudsonian Curlew, *Numenius hudsonicus*. Cape May, N. J., April 29 (*Hand*). Flock at Stone Harbor, N. J., May 27 (*Carter*).

Black-bellied Plover, *Squatarola squatarola*. Cape May, N. J., April 29 (*Hand*). Flock at Stone Harbor, N. J., May 27 (*Carter*).

Killdeer Plover, *Oxyechus vociferus*. Atlantic City, N. J., Feb. 22 (*Morris*).

Semipalmated Plover, *Aegialitis semipalmata*. Pensauken Creek, N. J., May 13 (*Miller*). One at Stone Harbor, N. J., May 27 (*Carter*).

Turnstone, *Arenaria interpres*. Numerous at Stone Harbor, N. J., May 27 (*Carter*).

Bobwhite, *Colinus virginianus*. Holmesburg, May 25 (*Miller*), all winter at Downstown, N. J., but scarce (*Fair*).

Mourning Dove, *Zenaidura macroura*. Getting more plentiful, saw seventeen at one time during spring at Downstown, N. J. (*Fair*). All winter at Concordville (*Styer*), Olney, February 25 (*Morris*). Two nests with eggs, Pensauken, N. J. (*Hunt*).

Marsh Hawk, *Circus hudsonius*. Wintered plentifully on the Delaware Meadows, Tinicum (*Harlow*), Bridesburg, November 20 to March 8 (*Miller*). Seen at George School, April 21.

Sharp-shinned Hawk, *Accipiter velox*. Reported in winter at Bridesburg, Oak Lane and Tinicum.

Cooper's Hawk, *Accipiter cooperi*. Reported in winter at Oak Lane, Tinicum, Media and Bridesburg. Nest with eggs near Swarthmore, April 29 (*Swayne*).

Red-tailed Hawk, *Buteo borealis*. Winter resident at most stations. Last seen at Oak Lane, April 1 (*Harlow*). A pair nested on the Pennypack Creek above Foxchase in spring of 1905 (*Harlow*).

Red-shouldered Hawk, *Buteo lineatus*. Pretty generally reported in winter. Last seen at Oak Lane, April 8 (*Harlow*).

Broad-winged Hawk, *Buteo platypterus*. Oak Lane several times in September, 1905 (*Harlow*), Holmesburg, May 17 (*Miller*). Nest with eggs at Swarthmore, April 22 (*Swayne*); and at Kennett, May 20 (*C. J. Pennock*).

Bald Eagle, *Haliaeetus leucocephalus*. Lansdowne, April 8 (*W. R. White*).

Rough-legged Hawk, *Archibuteo lagopus sanctijohannis*. Bridesburg, Jan. 19 and 27 (*Miller*). Very scarce at Tinicum winter of 1905-6.

Sparrow Hawk, *Falco sparverius*. Generally resident.

Long-eared Owl, *Asio wilsonianus*. One shot at Oak Lane Nov. 18, 1905, and at Dreshertown, Mont. Co., Jan. 15 (*Harlow*). Jan. 17 two at Yardville, N. J., and remained all winter, one seen as late as May 26 (*Allinson*). Nest and eggs, Kennett Square, April 7 (*C. J. Pennock*).

Short-eared Owl, *Asio accipitrinus*. Several seen March 11 at Kennett Square (*Pennock*). Wintered on meadows at Bridesburg, November 20 to March 8, and one was shot at Harrow-

gate as early as October 9 (*Miller*). Wintered at Tinicum, and was heard calling on night of February 3 (*Harlow*).

Saw-whet Owl, *Cryptoglaux acadicus*. One captured at Oak Lane, Oct. 28, 1905.

Screech Owl, *Megascops asio*. Generally resident, had eggs at Crescentville, April 10 (*Miller*).

Snowy Owl, *Nyctea nyctea*. A pair seen at Cape May, N. J., and one of them captured November 26, 1905 (*Hand*). Two shot at Richmond, November 20, 1905, two at Magnolia, Camden Co., N. J., and one at Tinicum, November, 1905 (*Miller*).

Kingfisher, *Ceryle alcyon*. All winter on Pensauken Creek, N. J. (*Hunt*), and near Trenton, N. J. (*Abbott*), Moorestown, N. J., February 11 (*Evans*).

Downy Woodpecker, *Dryobates pubescens medianus*. Generally resident. Had eggs at Haverford, May 6 (*Desmond*), and at Pensauken, N. J., April 29 (*Miller*).

Hairy Woodpecker, *Dryobates villosus*. Common in winter at Oak Lane, one pair nested (*Harlow*), also reported in winter at Frankford and Media, at George School, March 10, Beverly, N. J., March 1. (*Street*), Haverford, April 27 and May 21.

Yellow-bellied Sapsucker, *Sphyrapicus varius*. One at Mt. Airy, Phila., March 11, which was probably there all winter (*Spaeth*). Wintered at Kennett Square (*C. J. Pennock*).

Red-headed Woodpecker, *Melanerpes erythrocephalus*. Very abundant about Oak Lane during 1905, several pairs nested (*Harlow*). Wintered at Wayne (*Redfield*) and Trenton (*Abbott*). One seen in Logan Square, Phila., during December, 1906 (*Stone*).

Flicker, *Colaptes auratus luteus*. Reported as wintering generally in small numbers at Cape May, N. J., Trenton, N. J., Swarthmore, Haverford, Frankford, Olney, Oak Lane, Wayne and Woodburne, and seen once during winter at Concordville, Yardville, N. J., Burlington, N. J. A single bird wintered at Marietta.

Yellow-bellied Flycatcher, *Empidonax flaviventris*. George School, May 10 (*Roberts*), Haverford, May 4 (*Desmond*).

Olive-sided Flycatcher, *Nuttallornis borealis*. Arrived at Lopez, June 3 (*Behr*).

Horned Lark, *Otocoris alpestris*. Flock of twelve near Princeton Junction, N. J., Feb. 15 (*Allinson*).

Blue Jay, *Cyanocitta cristata*. Reported during the winter at Haverford and sparingly at Oak Lane. Not seen at Frankford until March 2; Downtown, March 19; George School, March 3; Lansdowne, May 2. A pair were about Lansdowne after this date regularly (*A. J. Pennock*).

Crow, *Corvus brachyrhynchos*. Abundantly resident throughout the Delaware Valley. Had eggs, Frankford, April 11 (*Miller*), nest and young at Haverford, May 2 (*Spaeth*).

Fish Crow, *Corvus ossifragus*. Wintered sparingly at Oak Lane, also at Tinicum and Frankford.

Bobolink, *Dolichonyx oryzivorus*. Has become very scarce at Lopez, saw only one this year (*Behr*). One at Bridesburg, June 1, probably breeding near by (*Miller*). Male at Morton, June 12 but not seen later (*Prendergast*).

Cowbird, *Molothrus ater*. Three males at Frankford, Dec. 14, 1905 (*Miller*), and one seen during Dec., 1905, at Yardville, N. J. (*Allinson*).

Red-winged Blackbird, *Agelaius phoeniceus*. One at Tinicum, January 20 (*Lorrilliere*), and one at Moorestown, N. J., February 4 (*Evans*).

Meadowlark, *Sturnella magna*. Reported as resident at almost all stations near the Delaware river and at Kennett Square, sparingly so at Woodbourne, George School and Haverford. A few also wintered at Marietta.

Rusty Blackbird, *Euphagus carolinensis*. Saw small flocks at Tinicum throughout the winter until February 1 (*Lorrilliere* and *Harlow*). Two males at Ardmore all day April 29 (*Baily*).

Purple Grackle, *Quiscalus quiscula*. Several seen about Oak Lane until Jan. 1, seen also at Media on that date. A general flight occurred with the warm wave of January 23, and they were reported from Media, January 22, Haddonfield, N. J., Kennett, George School and Media, January 23, and at Yardville, N. J., and Woodbourne, January 31, and then none till the flight of February 21.

Purple Finch, *Carpodacus purpureus*. Arrived at Lopez, April 7 (*Behr*). Much scarcer than usual at Oak Lane (*Harlow*).

Goldfinch, *Astragalinus tristis*. Resident throughout the Delaware Valley and Southern New Jersey.

Snowflake, *Passerina nivalis*. Two on the Dyke, November 20, and a flock of 15, Richmond, March 17 (*Miller*). Feb. 11 flock at Yardville, N. J. (*Allinson*).

Vesper Sparrow, *Poocetes gramineus*. Nest and four eggs, Pensauken, N. J., April 29 (*Hunt*).

Henslow's Sparrow, *Ammodramus henslowi*. Holmesburg, April 20 (*Miller*).

White-throated Sparrow, *Zonotrichia albicollis*. Last seen at Frankford, May 17 (*Miller*). Arrived at Media, Sept. 26, 1905 (*Allen*), last seen May 17 (*Moore*), Concordville, May 6 (*Styer*), Bristol, May 13 (*Keim*), Lansdowne, May 20 (*A. Pennock*), Haverford, May 18 (*Spaeth*), Oak Lane, May 20 (*Harlow*).

White-crowned Sparrow, *Zonotrichia leucophrys*. Frankford, May 14 (*Miller*).

Tree Sparrow, *Spizella monticola*. Last seen at Haverford, April 12 (*Desmond*), Wayne, April 10 (*Redfield*), Oak Lane, April 10 (*Harlow*), Downstown, N. J., April 9 (*Fair*), Frankford, April 18 (*Miller*).

Field Sparrow, *Spizella pusilla*. Nest and four eggs, Pensauken, N. J. (*Hunt*), Several at Oak Lane, December 25, 1905 (*Harlow*), and twelve at Tinicum, Feb. 12.

Junco, *Junco hyemalis*. Last seen at Wayne, April 22 (*Redfield*), Oak Lane, May 2 (*Harlow*), Downstown, N. J., April 15 (*Fair*), Burlington, N. J., April 20 (*H. F. Carter*), Frankford, April 25 and Pensauken, N. J., April 29 (*Miller*).

Song Sparrow, *Melospiza cinerea melodia*. Generally resident. Two nests, four and five eggs, April 29, Pensauken, N. J. (*Hunt*).

Swamp Sparrow, *Melospiza georgiana*. Common all winter at Tinicum (*Harlow*).

Fox Sparrow, *Passerella iliaca*. The great abundance of these birds during late February and March was a feature of the year's migration. Hundreds seen at Tuckerton, N. J., March 17 (*Stone and Rehn*). Last seen at Haverford, April 13 (*Desmond*), Wayne, April 14 (*Redfield*), Oak Lane, April 5 (*Harlow*).

Chewink, *Pipilo erythrophthalmus*. One at Trenton, N. J., all

winter (*Abbott*), seen at Tinicum, December 18, 1905, and January 20 (*Harlow*). Nest and four eggs, Lansdowne, May 19 (*Carter*).

Cardinal, *Cardinalis cardinalis*. Reported in winter at Frankford, Media, Haddonfield, Haverford and Lansdowne, reached George School, March 13. Had eggs at Torresdale, April 25, nest with three eggs Haverford, May 3, nest with three eggs Pensauken, N. J., April 22, hatched April 29 (*Hunt*).

Rose-breasted Grosbeak, *Zamelodia ludoviciana*. Unusually abundant migrant at Beverly, N. J. (*Street*).

Scarlet Tanager, *Piranga erythromelas*. Nested near Ithan, Pa.

Cedarbird, *Ampelis cedrorum*. Abundant at Cape May, N. J., March 19 to 24. They were all over town feeding on the berries of the honeysuckle on porches, fences, etc., and were very tame. Counted 52 in one flock (*Hand*). Flock of eight all winter at Haverford (*Spaeth*), and reported during the winter from Cape May, Haddonfield, N. J., Oak Lane, Kennett Square and Trenton, N. J.

Northern Shrike, *Lanius borealis*. Kennett Square, February 28 (*Pennock*), Ithan, Del. Co., Pa., February 18 (*Redfield*).

White-eyed Vireo, *Vireo noveboracensis*. Young three days old, Torresdale, June 5 (*Miller*).

Philadelphia Vireo, *Vireo philadelphicus*. Media, May 16 (*Moore*) bird watched for some time and compared with Chapman's Handbook in the field.

Black-and-White Warbler, *Mniotilta varia*. Several pairs nested at Clementon, N. J., one pair at Glenside, Pa. (*Harlow*).

Gold-winged Warbler, *Helminthophila chrysoptera*. Concordville, May 6 (*Styer*), Burlington, N. J., May 9 (*Carter*), Sandiford, May 3 (*Miller*).

Nashville Warbler, *Helminthophila rubricapilla*. Westtown, April 13 and earlier, Trenton, N. J., May 11 (*Abbott*).

Myrtle Warbler, *Dendroica coronata*. A flock Dec. 15, 1905, at Burlington, N. J. (*H. F. Carter*). A pair at Media, January 28 (*Fussell*).

Bay-breasted Warbler, *Dendroica castanea*. Moorestown, N. J., May 10 (*Mickle*), Media, May 16 (*Moore*), Lansdowne, May 14 (*A. Pennock*), Haverford, May 14, unusually abundant.

this spring (*Linton*), Oak Lane, May 16 (*Harlow*), Moorestown, N. J., May 10 (*Mickle*), Bryn Mawr, May 15 and 23 (*Thomas*), about a dozen. Westtown, May 13.

Ovenbird, *Seiurus aurocapillus*. Eggs at Frankford, May 12, and young left nest at Torresdale, June 5 (*Miller*).

Kentucky Warbler, *Oporornis formosa*. Nest and five eggs at Oak Lane, May 26 (*Harlow*).

Connecticut Warbler, *Oporornis agilis*. One seen near Ardmore, May 13, by Baily and Serrill. "I had several good looks at it with binoculars at 25 feet. Could distinctly see the white eye-ring. Watched it for fifteen minutes in good light" (*Baily*).

Mourning Warbler, *Geothlypis philadelphia*. May 30, one male at Ardmore singing, "came to within ten feet of me" (*Baily*), Trenton, N. J., May 20 (*Abbott*).

Hooded Warbler, *Wilsonia mitrata*. Media, May 6 (*Moore*), Haverford, May 3 (*Spaeth* and *Linton*), Lansdowne, April 30, one singing (*Carter*). Three in full song May 20 at Clementon, N. J. (*Harlow*), Weymouth, N. J., May 7 (*Street*), George School, May 7 (*Roberts*), Frankford, May 15 (*Miller*).

Wilson's Warbler, *Wilsonia pusilla*. Haverford, May 13 (*Serrill*), Media, May 20 (*Allen*), May 13, Ardmore (*Baily*), Wayne, May 6-12 (*Redfield*).

Titlark, *Anthus pensilvanicus*. About 100 over the fields at Concordville for four successive days, May 4-7 (*Styer*).

Catbird, *Galeoscoptes carolinensis*. Eggs May 12 at Frankford (*Miller*).

Carolina Wren, *Thryothorus ludovicianus*. Reported as resident at Tinicum, Media, Lansdowne and Moorestown, N. J.

Long-billed Marsh Wren, *Telmatodytes palustris*. Numerous nests at Tinicum Island, June 2, only one with eggs (*J. D. Carter*). Eggs at Richmond, May 22 (*Miller*).

Winter Wren, *Olbiorchilus hiemalis*. Last seen at Media, April 13 (*Moore*), Wayne, April 14 (*Redfield*), Oak Lane, May 8 (*Harlow*). None seen about North Philadelphia, Frankford, etc., after December (*Miller*).

Brown Creeper, *Certhia f. americana*. Last seen at Wayne, April 6 (*Redfield*), Oak Lane, April 7 (*Harlow*), Burlington,

N. J., April 22 (*H. F. Carter*), Bristol, April 8 (*Keim*), Frankford, April 25 (*Miller*).

White-breasted Nuthatch, *Sitta carolinensis*. Generally resident, most plentiful in winter.

Chickadee, *Parus atricapillus*. None seen during winter of 1905-6 at Lansdowne, very abundant the previous season (*A. D. White*), none seen 1905-6 winter, at Haverford (*Desmond*). Rather scarce this winter, 1905-6, at Oak Lane (*Harlow*), also at Downstown, N. J. (*Fair*), none till March 7 at Frankford (*Miller*).

Tufted Titmouse, *Bæolophus bicolor*. Resident at Frankford, Westtown, Tincum, Media, Haverford and George School, February 23. Nest with 7 eggs and one young, Oak Lane, March 24 (*Harlow*),

Golden-crowned Kinglet, *Regulus satrapa*. Last seen at Haverford, April 29 (*Spaeth*), Media, April 8 (*Allen*), Wayne, April 13 (*Redfield*), Oak Lane, April 24 (*Harlow*), Frankford, April 18 (*Miller*).

Hermit Thrush, *Hylocichla g. pallasii*. Princeton, N. J., Feb. 24 (*M. S. Farr*).

Bicknell's Thrush, *Hylocichla a. bicknelli*. Media, May 7. "Markings of the Gray-checked Thrush but the smallest Thrush I ever saw" (*E. Fussell*).

Robin, *Merula migratoria*. A few all winter at Mt. Airy, Phila., Trenton, N. J., Bordentown, N. J., and George School. Other winter records: Tincum, December 18, 1905, Yardville, N. J., January 18, Concordville, January 19, Moorestown, N. J., and Wayne, January 21, Frankford, January 22, and Oak Lane, January 27. Had eggs at Frankford, April 28 (*Miller*).

Bluebird, *Sialia sialis*. Wintered 1905-6 at Mt. Airy, Phila., Haverford, Media, Wayne, Olney, Kennett Square, George School, and in New Jersey at Cape May, Bordentown, Yardville, Trenton, but none this winter at Downstown. Great increase at Cape May, March 4 (*Hand*). Had eggs at Frankford, May 6 (*Miller*). Nest with pure white eggs, Swarthmore, May 16 (*Swayne*).