

## Report on the Spring Migration of 1905

COMPILED BY WITMER STONE

THROUGH the activity of Mr. Samuel C. Palmer, chairman of the Club's Migration Committee,\* thirteen additional migration reports were secured for the spring of 1905, while there were but seven of last year's corps who failed to respond. The 1905 list of sixty observers follows :

### *New Jersey.*

Cape May, H. Walker Hand.  
Downtown (near Newfield), W. W. Fair.  
Yardville, Rachel E. Allinson.  
Trenton, Laura E. Woodward.  
Trenton, halfway to Bordentown, C. C. and R. M. Abbott.  
Bordentown, William McFarland.  
Summit, LaRue K. Holmes.  
Beverly, J. Fletcher Street.  
Burlington, Helen F. Carter.  
Moorestown, Anna A. Mickle.  
Moorestown, Wm. B. Evans and others.  
Rancocas, Emily Haines.  
Haddonfield, Mrs. E. M. Hamlin.  
Haddonfield, H. E. Doughty.

### *Pennsylvania.*

Kennett Square, Charles J. Pennock.  
Concordville, Mrs. K. R. Styer.  
Concordville, Joseph H. Willits.  
Lenape, C. Carter and C. S. Carter.  
Westtown, Edith Smedley, Susanna Smedley, etc.  
West Chester, W. E. Roberts.  
West Chester, Thomas H. Jackson.

\* All requests, or blank schedules, etc., should be addressed to Mr. S. C. Palmer, Swarthmore, Delaware Co., Pa.

Knowlton, Bruce P. Tyler.  
Swarthmore, Samuel C. Palmer.  
Swarthmore, George S. Roberts.  
Lansdowne, John D. Carter.  
Lansdowne, Louisa M. Jacob.  
Lansdowne, Aldrich J. Pennock.  
Lansdowne, Anna D. White.  
Lansdowne, Friends' School.  
Lansdowne, W. R. White.  
Collingdale, Paul L. Lorrilliere.  
Secane, Edwin L. Palmer.  
Media, Lydia G. Allen.  
Media, Philip H. Moore.  
Media, Alice Fussell.  
Media, Ellen Fussell.  
Overbrook, C. J. Hunt.  
Overbrook, Elmer Onderdonk.  
West Philadelphia, J. H. Steele.  
Ardmore, Wm. L. Baily.  
Haverford, W. J. Serrill.  
Haverford, H. Albert Linton.  
Radnor, Chas. H. Rogers.  
Bryn Mawr, Miss Emily H. Thomas.  
Germantown, Stewardson Brown.  
Germantown, Arthur F. Hager.  
Germantown, Paul C. Brewer.  
Wissahickon, John R. Pickering.  
Hunting Park, Alexander Patman.  
Olney, George S. Morris.  
Oak Lane, Richard C. Harlow.  
Frankford, Richard F. Miller.  
Bristol, Thomas D. Keim.  
Woodbourne, Edward Pickering, Jr.  
George School, Students.  
Perkasie, Albert C. Rutter.  
Marietta, W. H. Buller.  
Columbia, J. Jay Wisler.  
Williamsport, August Koch.

Lopez, Otto Behr.

The records of arrival of all the species at the stations within ten miles of Philadelphia will be found in the accompanying tables, while the large schedule contains the arrivals of the more common species at the remaining stations. I am much indebted to Mr. Paul L. Lorrilliere for aid in compiling these data.

The method explained on page 48 of *Cassinia* for 1904, seems to furnish the most accurate record of the arrival of a species in a given district, that can be obtained from a combination of field observations. Instead of expecting our records to show a uniform date of arrival at all stations within a radius of say ten miles, it seems more likely that a correct statement of the progress of migration of a species will be that individuals arrived at certain stations on such and such dates and that the bulk movement occurred on a later date indicated by the simultaneous arrival at a large number of stations. Sometimes this bulk movement is not so well marked, which would seem to indicate a continuous migration of the species covering a greater period. A few examples from the 1905 records will serve to illustrate these remarks.

*Chimney Swift.*

April 13. Frankford.  
 April 18. Bryn Mawr and  
 Lansdowne.  
 April 19. Bordentown.  
 April 20. Nine stations.  
 April 21. Eighteen stations.

*Ovenbird.*

April 25. West Philadelphia,  
 Concordville.  
 April 26. Kennett.  
 April 27. Swarthmore, West-  
 town.  
 April 28. Haverford.  
 April 29. Nine stations.  
 April 30. Twelve stations.

*Scarlet Tanager.*

April 21. Collingdale.  
 May 2. Media.  
 May 3. Lansdowne, Olney,  
 Westtown, Knowlton.  
 May 5. Four stations.  
 May 6. Six stations.  
 May 7. Seven stations.

*Wood Thrush.*

April 23. Germantown.  
 April 24. Oak Lane.  
 April 25. Media, Haverford.  
 April 26. Frankford.  
 April 27. Olney, Bordentown.  
 April 28. Six stations.  
 April 29. One station.  
 April 30. Eight stations.

NAME.	Moorestown, N. J.; E. 12.1	Haddonfield, S. 4; E. 7.	Media, Pa. S. 3; W. 12.	Swarthmore, Pa. S. 3; W. 10.	Secane, Pa. S. 3; W. 8.	Collingdale, Pa. S. 3; W. 6.	Lansdowne, Pa. S. 1; W. 6.	Overbrook, Phila. N. 2; W. 4.	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. N. 6; W. 1.	Hunting Park, Phila. N. 5; E. 1.	Oak Lane, Phila. N. 7; E. 2.	Olney, Phila. N. 6; E. 3.	Frankford, Phila. N. 5; E. 5.
Canada Goose	Mar. 24	Mar. 18	Mar. 15	Mar. 15	Mar. 15	Mar. 12	Mar. 12	Mar. 12	Mar. 12	Mar. 12	Mar. 12	Mar. 12	Mar. 12	Mar. 12	Mar. 12	Mar. 12	Mar. 12
Green Heron	Apr. 10	Apr. 13	May 7	May 10	May 10	May 10	May 10	May 10	May 10	May 10	May 10	May 10	May 10	May 10	May 10	May 10	May 10
Night Heron	Apr. 23	May 26	May 22	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29
Spotted Sandpiper	May 1	Apr. 20	Apr. 15	Apr. 22	Apr. 22	Apr. 22	Apr. 22	Apr. 22	Apr. 22	Apr. 22	Apr. 22	Apr. 22	Apr. 22	Apr. 22	Apr. 22	Apr. 22	Apr. 22
Solitary Sandpiper	Apr. 28	May 7	May 16	May 3	May 3	May 3	May 3	May 3	May 3	May 3	May 3	May 3	May 3	May 3	May 3	May 3	May 3
Killdeer	Feb. 25	Mar. 26	Mar. 19	May 5	Mar. 26	Mar. 26	Mar. 26	Mar. 26	Mar. 26	Mar. 26	Mar. 26	Mar. 26	Mar. 26	Mar. 26	Mar. 26	Mar. 26	Mar. 26
Dove	Apr. 10	Mar. 25	Mar. 29	Apr. 2	Mar. 26	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9
Osprey	Apr. 10	Apr. 5	May 6	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20
Turkey Vulture	Feb. 19	Mar. 26	Mar. 11	Mar. 5	May 12	Apr. 21	Mar. 27	Mar. 5	Apr. 1	Mar. 25	Apr. 15	May 4	Apr. 4	Apr. 29	Mar. 16	Mar. 16	Mar. 16
Yellow-billed Cuckoo	May 5	May 27	May 6	May 26	May 26	May 5	May 7	May 14	May 14	May 8	May 26	May 14	May 11	Apr. 30	May 6	May 6	May 11
Black-billed Cuckoo	May 12	May 8	May 4	May 7	May 28	May 5	May 7	May 14	May 14	May 10	May 26	May 14	May 11	Apr. 30	May 6	May 6	May 11
Kingfisher	Apr. 10	Apr. 2	Mar. 11	Mar. 10	May 12	Apr. 9	Mar. 23	May 21	May 21	Apr. 15	Apr. 11	Apr. 11	Apr. 9	Apr. 1	Mar. 11	Apr. 3	Mar. 24
Yellow-bellied Saps k'r.	Apr. 18	Apr. 8	Apr. 8	Apr. 8	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29
Red-headed Woodp'k'r.	May 7	May 19	May 9	May 9	May 21	May 9	May 9	May 9	May 9	May 9	May 9	May 9	May 9	May 9	May 9	May 9	May 9
Flicker	Mar. 19	Mar. 12	Mar. 19	Mar. 10	Mar. 19	Mar. 9	Mar. 19	Mar. 19	Mar. 19	Mar. 19	Mar. 19	Mar. 19	Mar. 19	Mar. 19	Mar. 19	Mar. 19	Mar. 19
Whip-poor-will	Apr. 30	May 14	May 16	May 16	May 1	May 1	May 1	May 1	May 1	May 1	May 1	May 1	May 1	May 1	May 1	May 1	May 1
Nighthawk	May 15	May 6	May 6	May 6	May 15	May 15	May 15	May 15	May 15	May 15	May 15	May 15	May 15	May 15	May 15	May 15	May 15
Chimney Swift	Apr. 21	Apr. 23	Apr. 20	Apr. 20	Apr. 30	Apr. 21	Apr. 20	Apr. 21	Apr. 21	Apr. 24	Apr. 18	Apr. 24	Apr. 20	Apr. 22	Apr. 20	Apr. 22	Apr. 13
Hummingbird	Apr. 30	May 10	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 11	Apr. 28	May 10	May 7	May 13	May 6	May 22	May 22
Kingbird	May 8	Apr. 29	May 3	May 3	May 2	May 4	May 4	May 4	May 4	May 11	Apr. 28	May 10	May 7	May 14	May 3	May 3	May 3
Crested Flycatcher	May 1	May 7	Apr. 30	May 2	May 3	May 5	May 4	May 4	May 4	May 3	May 6	May 3	May 8	Apr. 30	Apr. 28	Apr. 28	May 3
Phoebe	Mar. 26	Mar. 26	Mar. 16	Mar. 22	Mar. 26	Mr. 18 <sup>2</sup>	Mar. 22	Mar. 19	Mar. 26	Mar. 19	Mar. 19	Mar. 22	Mar. 26	Mar. 18	Mar. 19	Mar. 29	Mar. 27

<sup>1</sup> 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—  
<sup>2</sup> Tinticum, Delaware County, Pa.

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

<sup>1</sup> Tinticum, Del. Co. Pa.

<sup>2</sup> Next seen April 13.

<sup>3</sup> Paoli, Pa.

NAME.	M.O.S.																
	Moorestown, N. J.	Haddonfield, N. J.	Media, Pa.	Swarthmore, Pa.	Secane, Pa.	Collingdale, Pa.	Lansdowne, Pa.	Overbrook, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Radnor, Pa.	Germanstown, Phila.	Hunting Park, Phila.	Oak Lane, Phila.	Olney, Pa.	Frankford, Phila.
Chiff Swallow	Apr. 23	Apr. 20	May 16	Apr. 27	Apr. 29	Apr. 21	Apr. 29	Apr. 29	May 7	Apr. 25	Apr. 24	Apr. 24	May 21	May 6	Apr. 20	Apr. 25	May 1
Barn Swallow	Apr. 30	May 8	Apr. 21	Apr. 27	Apr. 29	Apr. 21	Apr. 29	Apr. 29	May 8	Apr. 30	Apr. 24	Apr. 24	May 21	May 6	Apr. 20	Apr. 25	Apr. 20
Tree Swallow	Apr. 30	May 8	Apr. 21	Apr. 27	Apr. 29	Apr. 21	Apr. 29	Apr. 29	May 8	Apr. 30	Apr. 24	Apr. 24	May 21	May 6	Apr. 20	Apr. 25	Apr. 20
Bank Swallow	Apr. 30	May 8	Apr. 21	Apr. 27	Apr. 29	Apr. 21	Apr. 29	Apr. 29	May 8	Apr. 30	Apr. 24	Apr. 24	May 21	May 6	Apr. 20	Apr. 25	Apr. 20
Rough-winged Swallow	Apr. 30	May 8	Apr. 21	Apr. 27	Apr. 29	Apr. 21	Apr. 29	Apr. 29	May 8	Apr. 30	Apr. 24	Apr. 24	May 21	May 6	Apr. 20	Apr. 25	Apr. 20
Cedar Bird	Mar. 5	May 9	Mar. 29	Apr. 28	Apr. 30	Apr. 30	Apr. 30	Apr. 30	May 3	Apr. 30	Apr. 24	Apr. 24	May 21	May 6	Apr. 20	Apr. 25	Apr. 20
Red-eyed Vireo	May 5	May 7	May 3	May 6	May 4	May 4	May 2	May 12	May 12	Apr. 30	May 6	May 4	May 7	May 13	May 4	May 1	May 8
Warbling Vireo	May 10	May 7	May 7	May 7	May 4	May 4	May 12	May 12	May 12	Apr. 30	May 6	May 4	May 7	May 13	May 4	May 1	May 8
Yellow-throated Vireo	May 1	May 7	Apr. 30	May 6	May 4	May 4	May 1	May 1	May 7	May 7	May 7	May 4	May 7	May 6	Apr. 30	May 10	May 10
Solitary Vireo	May 1	May 7	Apr. 30	May 6	May 4	May 4	May 1	May 1	May 7	May 7	May 7	May 4	May 7	May 6	Apr. 30	May 10	May 10
White-eyed Vireo	Apr. 30	May 8	Apr. 28	May 3	May 4	May 4	May 7	May 7	May 7	May 2	May 4	May 4	May 7	May 6	Apr. 30	May 20	May 20
Black and White Warbler	Apr. 24	Apr. 27	Apr. 21	Apr. 30	Apr. 23	Apr. 21	Apr. 29	Apr. 24	Apr. 30	Apr. 25	May 6	May 1	Apr. 23	Apr. 23	Apr. 13	May 2	May 2
Worm-eating Warbler	May 7	May 3	May 1	May 3	May 3	May 3	May 3	May 3	May 14	Apr. 30	May 6	May 3	May 3	May 6	May 6	May 6	May 6
Blue-winged Warbler	May 7	May 3	May 1	May 3	May 3	May 3	May 3	May 3	May 14	Apr. 30	May 6	May 3	May 3	May 6	May 6	May 6	May 6
Parnia Warbler	May 7	May 3	May 1	May 3	May 3	May 3	May 3	May 3	May 14	Apr. 30	May 6	May 3	May 3	May 6	May 6	May 6	May 6
Yellow Warbler	Apr. 27	May 1	Apr. 25	Apr. 30	Apr. 16	Apr. 30	May 1	May 1	May 1	May 1	May 1	Apr. 29	May 8	Apr. 30	Apr. 30	Apr. 30	Apr. 27
Black-thr'd Blue W'b'r.	May 8	May 7	May 6	May 1	Apr. 30	May 2	May 2	May 2	May 7	Apr. 30	May 4	May 6	May 11	May 6	Apr. 29	May 12	May 12
Myrtle Warbler	May 5	Apr. 25	Apr. 21	Apr. 16	Apr. 23	May 7	May 1	May 1	May 3	Apr. 21	Apr. 18	Apr. 14	Apr. 22	Apr. 1	Apr. 10	Apr. 27	Apr. 27
Magnolia Warbler	May 7	May 15	May 1	May 7	May 21	May 21	May 7	May 7	May 4	Apr. 24	Apr. 18	Apr. 14	Apr. 22	Apr. 1	Apr. 10	Apr. 27	Apr. 27
Chestnut-sided Warbler	May 8	May 10	May 4	May 2	May 21	May 21	May 7	May 7	May 4	Apr. 24	Apr. 18	Apr. 14	Apr. 22	Apr. 1	Apr. 10	Apr. 27	Apr. 27
Black-poll Warbler	May 11	May 7	May 7	May 7	May 18	May 18	May 7	May 7	May 4	Apr. 24	Apr. 18	Apr. 14	Apr. 22	Apr. 1	Apr. 10	Apr. 27	Apr. 27
Blackburnian Warbler	May 12	May 7	May 7	May 7	May 18	May 18	May 7	May 7	May 4	Apr. 24	Apr. 18	Apr. 14	Apr. 22	Apr. 1	Apr. 10	Apr. 27	Apr. 27
Black-thr'd Green W'b'r.	Apr. 30	May 7	Apr. 28	May 8	May 11	May 11	May 7	May 7	May 4	Apr. 24	Apr. 18	Apr. 14	Apr. 22	Apr. 1	Apr. 10	Apr. 27	Apr. 27

NAME.	Moorestown, N. J.	Haddonfield, N. J.	Media, Pa.	Swarthmore, Pa.	Secane, Pa.	Collingdale, Pa.	Lansdowne, Pa.	Overbrook, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Radnor, Pa.	Germanstown, Phila.	Hunting Park, Phila.	Oak Lane, Phila.	Olney, Pa.	Frankford, Phila.
Pine Warbler	Apr. 14	.....	Apr. 13	Apr. 10	.....	Apr. 9	.....	Apr. 14	.....	Apr. 12	Apr. 11	.....	May 8	.....	Apr. 27	.....	Apr. 13
Yellow Palm Warbler	.....	.....	May 2	.....	.....	.....	.....	Apr. 14	.....	May 10	.....	.....	.....	.....	Apr. 18	Apr. 15	Apr. 13
Prairie Warbler	Apr. 30	May 5	Apr. 29	Apr. 27	May 7	May 7	Apr. 29	Apr. 25	Apr. 30	May 10	May 6	May 4	Apr. 29	.....	May 7	Apr. 18	May 16
Ovenbird	.....	May 1	Apr. 30	May 8	.....	Apr. 30	May 3	.....	May 7	May 4	.....	.....	Apr. 29	.....	Apr. 29	Apr. 29	May 3
Water Thrush	.....	.....	Apr. 30	Apr. 30	.....	Apr. 21	May 3	.....	May 7	May 2	.....	.....	Apr. 27	.....	May 6	May 1	May 4
Kentucky Warbler	.....	.....	Apr. 30	Apr. 30	.....	Apr. 21	May 3	.....	May 7	May 2	.....	.....	Apr. 27	.....	May 6	May 1	May 3
Maryland Yellow-throat	Apr. 23	Apr. 30	Apr. 25	Apr. 30	May 7	Apr. 21	Apr. 23	May 2	May 7	Apr. 30	May 6	Apr. 26	Apr. 29	.....	May 6	Apr. 24	May 1
Chat	May 7	May 10	Apr. 30	Apr. 24	May 7	Apr. 30	May 3	May 12	May 7	May 6	.....	.....	.....	.....	May 6	Apr. 24	May 1
Canada Warbler	May 12	May 15	May 7	May 7	.....	Apr. 30	May 2	May 12	May 7	May 8	.....	.....	.....	.....	May 5	May 2	May 10
Redstart	May 7	May 5	Apr. 29	May 2	.....	May 7	Apr. 30	Apr. 30	Apr. 30	Apr. 30	May 6	May 3	May 7	.....	May 10	May 4	May 13
Catbird	Apr. 23	Apr. 30	Apr. 24	May 1	.....	May 7	Apr. 25	May 3	Apr. 30	Apr. 30	May 6	May 3	May 7	.....	Apr. 29	Apr. 29	May 13
Brown Thrasher	Apr. 22	Apr. 22	Apr. 14	Apr. 24	Apr. 9	Apr. 21	Apr. 22	Apr. 19	Apr. 18	Apr. 14	Apr. 18	Apr. 24	Apr. 22	Apr. 29	Apr. 29	Apr. 15	Apr. 28
House Wren	Apr. 22	Apr. 30	Apr. 22	Apr. 30	.....	.....	Apr. 24	Apr. 19	Apr. 18	Apr. 14	Apr. 18	Apr. 24	Apr. 22	Apr. 29	Apr. 22	Apr. 25	Apr. 13
Long-bill'd Marsh Wren	.....	.....	Apr. 22	Apr. 30	.....	.....	Apr. 24	Apr. 24	May 1	Apr. 25	Apr. 28	Apr. 28	Apr. 25	.....	Apr. 23	Apr. 23	Apr. 22
Ruby-crowned Kinglet	Apr. 11	.....	Mar. 31	Apr. 16	.....	.....	Apr. 15	Apr. 14	Apr. 2	Apr. 25	Apr. 4	Apr. 3	Apr. 8	.....	May 12	.....	Apr. 30
Wood Thrush	May 1	Apr. 30	Apr. 25	Apr. 30	May 16	Apr. 28	Apr. 30	May 2	Apr. 30	Apr. 25	Apr. 28	Apr. 29	Apr. 23	.....	Apr. 24	Apr. 25	May 9
Wilson's Thrush	May 8	Apr. 15	Apr. 30	May 1	May 21	Apr. 10	May 2	.....	May 7	Apr. 25	May 6	May 10	May 4	.....	Apr. 24	Apr. 27	Apr. 26
Gray-cheeked Thrush	.....	.....	May 9	.....	May 28	May 9	May 9	.....	May 12	May 8	.....	.....	.....	.....	Apr. 30	Apr. 29	May 2
Olive-back Thrush	May 8	Apr. 30	May 7	.....	.....	May 9	May 9	.....	May 12	May 8	.....	.....	.....	.....	May 15	.....	May 10
Hermit Thrush	Apr. 10	Apr. 18	Mar. 26	Apr. 12	May 7	Mar. 31	Apr. 4	May 4	May 12	May 8	May 6	May 7	Apr. 19	.....	May 2	Apr. 30	May 11
Robin	Mar. 6	Mar. 8	Mar. 8	Mar. 10	Mar. 10	Mar. 4	Mar. 5	Apr. 14	Apr. 1	Mar. 28	Apr. 11	Apr. 1	Apr. 8	.....	Apr. 16	Apr. 9	Apr. 11
Bluebird	Feb. 28	Mar. 6	Feb. 24	.....	Mar. 9	Mar. 1	Mar. 1	Mar. 12	Mar. 11	Mar. 11	Mar. 7	Mar. 10	Mar. 12	Mar. 11	Feb. 26	Mar. 5	Mar. 8
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.....	.....															

NAMES.	Cape May, N. J.	Downstown, N. J.	Kennett Square, Pa.	Concordville, Pa.	West Chester, Pa.	Westtown, Pa.	Lenape, Pa.	Knowlton, Pa.	Kanocas, N. J.	Beverly, N. J.	Burlington, N. J.	Bristol, Pa.	Bordentown, N. J.	Yardville, N. J.	Trenton, N. J.	Woodbourne, Pa.	George School, Pa.	Perkasie, Pa.	Martletta, Pa.	Columbia, Pa.	Summit, N. J.	Williamsport, Pa.	Lopez, Pa.
Flicker	Mar. 21	Mar. 19	Feb. 28	Mar. 19	Mar. 15	Apr. 21	Mar. 19	Mar. 19	Mar. 19	Mar. 19	Mar. 27	Mar. 18	Mar. 18	Mar. 14	Mar. 9	Mar. 23	Mar. 18	Mar. 25	Mar. 2	Mar. 26	Mar. 28	Mar. 31	Mar. 29
Whip-poor-will	Apr. 26	Apr. 12	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21	Apr. 21
Nighthawk	May 4	May 4	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7
Chimney Swift	May 4	May 4	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7
Hummingbird	May 4	May 4	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7
Kingbird	May 4	May 4	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7
Crested Flycatcher	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7
Phoebe	Mar. 23	Mar. 18	Mar. 18	Mar. 17	Mar. 15	Mar. 15	Mar. 17	Mar. 17	Mar. 28	Mar. 28	Mar. 28	Mar. 28	Mar. 28	Mar. 28	Mar. 28	Mar. 28	Mar. 28	Mar. 28	Mar. 28	Mar. 28	Mar. 28	Mar. 28	Mar. 28
Bobolink	May 1	May 7	May 8	May 2	May 8	May 8	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2
Cowbird	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.
Red-winged Blackbird	May 2	May 1	Apr. 29	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11
Baltimore Oriole	May 2	May 1	Apr. 29	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11	Mar. 11
Purple Grackle	Mar. 5	Mar. 4	Mar. 9	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8
Chipping Sparrow	Mar. 9	Mar. 9	Mar. 27	Mar. 27	Mar. 25	Mar. 25	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27	Mar. 27
Chewink	Apr. 9	Apr. 9	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3	Apr. 3
Indigobird	May 9	May 6	May 9	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7
Scarlet Tanager	May 14	May 14	May 6	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7
Purple Martin	Mar. 27	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30	Mar. 30
Barn Swallow	Apr. 14	Apr. 30	Apr. 25	Apr. 25	Apr. 15	Apr. 15	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25	Apr. 25
Red-eyed Vireo	May 6	May 7	May 2	May 2	May 3	May 3	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2	May 2
Black and White Warbler	Apr. 29	May 2	May 7	May 7	May 2	May 2	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7
Chestnut-sided Warbler	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7	May 7
Ovenbird	Apr. 29	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26
Maryland Yellow-throat	May 7	Apr. 30	May 2	Apr. 26	May 7	May 7	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26
Chat	May 8	May 7	May 8	May 4	May 3	May 3	May 4	May 4	May 4	May 4	May 4	May 4	May 4	May 4	May 4	May 4	May 4	May 4	May 4	May 4	May 4	May 4	May 4
Brown Thrasher	Apr. 23	Apr. 30	Apr. 30	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 29
House Wren	May 8	Apr. 14	Apr. 26	Apr. 26	Apr. 11	Apr. 11	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26	Apr. 26
Wood Thrush	May 7	May 6	May 6	May 6	May 5	May 5	May 6	May 6	May 6	May 6	May 6	May 6	May 6	May 6	May 6	May 6	May 6	May 6	May 6	May 6	May 6	May 6	May 6
Hermit Thrush	Apr. 2	Apr. 2	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9	Apr. 9
Robin	Mar. 5	Mar. 17	Mar. 5	Feb. 26	Mar. 7	Mar. 7	Mar. 10	Mar. 10	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8	Mar. 8
Bluebird	Mar. 1	Mar. 2	Res.	Mar. 5	Mar. 10	Mar. 5	Res.	Mar. 1	Mar. 6	Mar. 6	Mar. 6	Mar. 6	Mar. 6	Mar. 6	Mar. 6	Mar. 6	Mar. 6	Mar. 6	Mar. 6	Mar. 6	Mar. 6	Mar. 6	Mar. 6

Midway between Trenton and Bordentown.

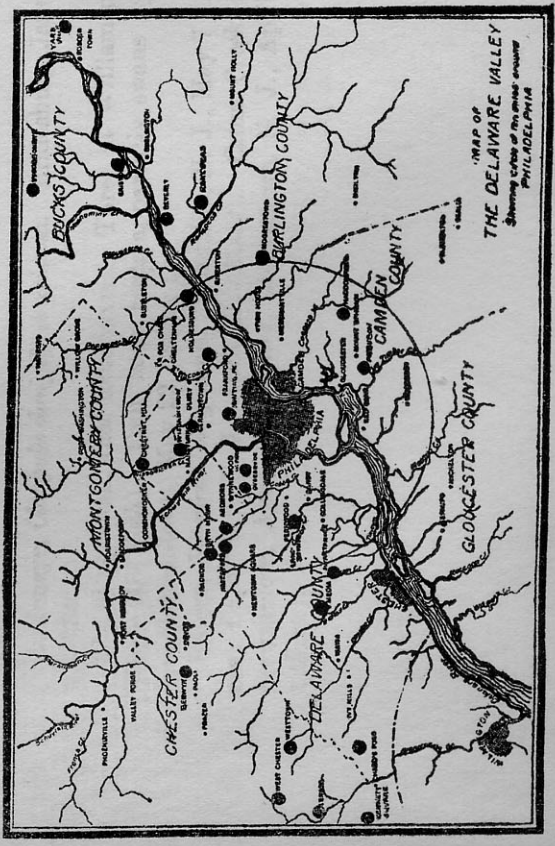


TABLE II.

EARLIEST DATES OF ARRIVAL OF THIRTY-TWO SPECIES AT TWENTY-THREE STATIONS OUTSIDE THE PHILADELPHIA CIRCLE.  
 SPRING MIGRATION, 1905.

*List of Other Species Reported by Observers during 1905 and Additional Notes. Winter Notes relate to Winter of 1904-5. Localities are in Pennsylvania Unless Otherwise Indicated.*

Pied-billed Grebe, *Podilymbus podiceps*. Two at Beverly, N. J., April 6-16 (*Street*), Bridesburg, March 1 (*Miller*), Wayne, April 24 (*Rogers*).

Horned Grebe, *Colymbus auritus*. Bridesburg, March 13 (2), April 12 (*Miller*).

Dovekie, *Alle alle*. One shot in Grassy Sound, Cape May, N. J., November, 1904 (*Hand*).

Herring Gull, *Larus argentatus*. A flock of 50 to 200 birds fed daily through winter 1904-5 on the fill at Cape May, N. J., where the dredge is at work. Last seen, May 16 (*Hand*). Last seen on Delaware at Bridesburg, April 27 (*Miller*).

Black-headed Gull, *Larus atricilla*. Cape May, N. J., April 30 (*Hand*).

Cormorant, *Phalacrocorax dilophus*. Cape May, N. J., March 23 (*Hand*).

American Merganser, *Merganser americanus*. Fairmount Park, December 29, 1904, and Darby Creek, Radnor township, April 1 (*Rogers*), Cape May, N. J., March 23 (*Hand*), Bridesburg, January 5, March 10 (*Miller*).

Red-breasted Merganser, *Merganser serrator*. Numbers killed on the Delaware in March and April near Richmond (*Miller*).

Blue-winged Teal, *Querquedula discors*. Two shot on Cedar Grove Dam, Phila., April 18 (*Morris*).

Bufflehead, *Charitonetta albeola*. Richmond, March 18 (5), (*Miller*).

Goldeneye, *Clangula clangula americana*. Bridesburg, January 5 (*Miller*).

Whistling Swan, *Olor columbianus*. Three at Williamsport, March 20 (*Koch*). Four large birds apparently swans flying over Germantown, May 22 (*Brown*).

Bittern, *Botaurus lentiginosus*. Yardville, N. J., May 7 (*Allison*), Cape May, N. J., April 17 (*Hand*). Crum Creek near Swarthmore, April 15 (*Carter*), Moorestown, N. J., April 22 (*Mickle*).

Least Bittern, *Ardetta exilis*. Arrived at Richmond, April 27 (Miller).

Great Blue Heron, *Ardea herodias*. George School, April 15, Bristol, April 9 (Keim), Concordville, April 15 (Styer), St. Davids, April 25 (Rogers) Haverford, June 11 (Rogers).

White Egret, *Herodias egretta*. Cape May, N. J., August 2 and 5 (Hand).

Night Heron, *Nycticorax n. naevius*. An occupied colony in Upper Merion township, Montgomery county (Rogers).

King Rail, *Rallus elegans*. Richmond, May 31, nest with 12 eggs (Miller), Bristol, May 14 (Keim).

Woodcock, *Philohela minor*. Cape May, N. J., March 12 (Hand), Haverford, a pair, March 11 (Serrill), George School, June 4, Torresdale, March 17 (Miller).

Wilson's Snipe, *Gallinago delicata*. Woodbourne, April 12 (Pickering), Crosswicks, N. J., May 9 (Abbott and Fowler), Bristol, April 16 (Keim), West Chester, May 11 (Roberts), Concordville, March 18 (Willits), Kennett Square, March 25 (Pennoch), Cape May, N. J., March 10 (Hand), Medford, N. J., April 16 (Morris), Richmond, March 30 (Miller).

Knot, *Tringa canutus*. Cape May, N. J., May 1 (Hand).

Semipalmated Sandpiper, *Ereunetes pusillus*. Cape May, N. J., April 9 (Hand).

Yellow-legs, *Totanus melanoleucus*. Cape May, N. J., March 19, large flocks, April 4 (Hand), Bridesburg, two, May 19 (Miller).

Solitary Sandpiper, *Helodromas solitarius*. Radnor, last seen May 14 (Rogers).

Upland Plover, *Bartramia longicauda*. Woodbourne, April 10 (Pickering), Cupola, Chester county, Pa., May 15 (Hunt), Frankford, April 18 (Miller).

Spotted Sandpiper, *Actitis macularia*. Two in the Paoli Barrens, April 30 (Rogers).

Hudsonian Curlew, *Numenius hudsonicus*. Cape May, N. J., April 25 (Hand).

Black-bellied Plover, *Squatarola squatarola*. Cape May, N. J., May 1 (Hand).

Semipalmated Plover, *Aegialitis semipalmata*. Cape May, N. J., May 4 (Hand).

Turnstone, *Arenaria morinella*. Cape May, N. J., May 1 (*Hand*).

Bobwhite, *Colinus virginianus*. A flock was fed in our meadow, Yardville, N. J., all winter (*Allinson*).

Dove, *Zenaidura macroura*. Three about Downstown, N. J., all winter (*Fair*).

Turkey Vulture, *Cathartes aura*. Three at one time at Concordville, first week in February during deep snow—unusual in midwinter (*Styer*), until November 12 at Radnor (*Rogers*), wintered as usual near Lenape (*Carter*).

Red-tailed Hawk, *Buteo borealis*. Last seen at Radnor, March 26 (*Rogers*).

Red-shouldered Hawk, *Buteo lineatus*. Perkasio, April 21 (*Rutter*), last seen at Radnor, April 1 (*Rogers*).

Broad-winged Hawk, *Buteo platypterus*. Uncommon but breeds at Radnor, (*Rogers*).

Bald Eagle, *Haliaeetus leucocephalus*. Summit, N. J., May 8 (*Holmes*).

Sparrow Hawk, *Falco sparverius*. Perkasio, April 21 (*Rutter*).

Osprey, *Pandion haliaetus carolinensis*. A pair seen on the Brandywine near Embreeville, April 30 (*Jackson*).

Long-eared Owl, *Asio wilsonianus*. Two wintered in the yard and saw one May 29, Yardville, N. J. (*Allinson*), three wintered at Oak Lane (*Harlow*).

Short-eared Owl, *Asio accipitrinus*. Arrived on meadows at Bridesburg, November 12, 1904, a colony of 16 to 18 remained till March 1 (*Miller*).

Saw-whet Owl, *Cryptoglaux acadica*. Oak Lane, January 2, 1905 (*Harlow*), Dec. 1, Cape May, N. J. (*Hand*).

Kingfisher, *Ceryle alcyon*. Just starting nest near Chester, April 15 (*Carter*), Crum Creek near Swarthmore, middle of February (*Moore*), Lansdowne, Jan. 14 (*J. H. Austin*).

Yellow-bellied Sapsucker, *Sphyrapicus varius*. Summit, N. J., February 7 and 14 (*Holmes*), last seen April 14, Radnor (*Rogers*).

Red-bellied Woodpecker, *Melanerpes erythrocephalus*. Nested near Hunting Park (*Miller*).

Red-bellied Woodpecker, *Centurus carolinus*. Haverford, May 9, I am sure there was no mistake as the excellent view I had

of it in several positions left no room for doubt (*Linton*), Columbia, April 9 (*Wisler*).

Flicker, *Colaptes auratus luteus*. One seen at Yardville, N. J., December 31, 1904 (*Allinson*), several wintered at Oak Lane (*Harlow*).

Yellow-bellied Flycatcher, *Empidonax flaviventris*. Lansdowne, May 10 (*A. J. Pennock*), St. Davids, May 23 (*Rogers*).

Olive-sided Flycatcher, *Nuttallornis borealis*. Lopez, May 28 (*Behr*).

Phoebe, *Sayornis phoebe*. One seen Oak Lane, January 20 (*Harlow*), nest with eggs West Chester, April 9 (*Jackson*), nest nearly finished Haverford, April 1 (*Rogers*).

Horned Lark, *Otocoris alpestris*. Perkasie, January 26 (*Rutter*), Knowlton, February 11, 12, 15, March 12 to 26 (*Tyler*), Swarthmore, 15 on February 7 (*Palmer*), very large flock at Oak Lane all through February (*Harlow*).

Prairie Horned Lark, *Otocoris alpestris praticola*. Summit, N. J., February 12 (*Holmes*).

Crow, *Corvus brachyrhynchos*. Birds sitting on two nests April 2, Ardmore (*Baily*).

Bobolink, *Dolichonyx oryzivorus*. Ardmore, May 14 seen in three localities (*Baily*).

Meadow Lark, *Sturnella magna*. No noticeable migratorial increase in spring at Crosswicks, N. J. (*Abbott*).

Cowbird, *Molothrus ater*. Wintered at Cape May, N. J., (*Hand*).

Red-winged Blackbird, *Agelaius phoeniceus*. Wintered in flocks at Cape May, N. J. (*Hand*).

Rusty Blackbird, *Euphagus carolinus*. Six at Lenape, March 19 (*Carter*).

Purple Finch, *Carpodacus purpureus*. Perkasie, April 9 (*Rutter*), Haverford, April 25 and 30 (*Linton*).

Crossbill, *Loxia curvirostra minor*. Media, April 15 (*Moore*).

Goldfinch, *Astragalinus tristis*. Perkasie, April 30 (*Rutter*).

Snowflake, *Passerina nivalis*. Summit, N. J., February 10 to 17 from 200 to 300 (*Holmes*), Swarthmore, 35 on February 17 (*Palmer*), St. Davids, 5 on February 13 (*Rogers*), Germantown, February 15 (*F. M. Day*), Oak Lane, February 26, flock of twenty (*Harlow*).

Mr. Day submits the following notes on the flock of 25 to 35 observed by him. They were running rapidly about on the snow-crust feeding from the surface and flying up a foot or two to pick at a dead reed. Their tracks were long in the lightly drifted snow on the crust. On the ground they were perfectly silent but as they rose on the wing all together they uttered a musical vibrating *peent*, and circled about a moment, quickly alighting again. At last they took a final flight, disappearing through the trees, not settling on them, into the Wissahickon valley. Their chief characteristic of movement seemed to be agility. They ran about in the liveliest way and half jumped, half flew up at dried seeds a foot or so above the snow.

Vesper Sparrow, *Poocetes gramineus*. All winter at Crosswicks, N. J., (*Abbott*).

Savanna Sparrow, *Passerculus sandwichensis savanna*. Last seen Radnor, April 28 (*Rogers*).

Henslow's Bunting, *Ammodramus henslowii*. Saw and heard it singing near Cape May Court House, July, and at Bear Swamp east of Medford, July 3 (*Stone*).

White-crowned Sparrow, *Zonotrichia leucophrys*. Lopez, May 8 (*Behr*), Williamsport, May 7 (*Koch*), Summit, N. J., May 14, (*Holmes*), Columbia, April 30 (*Wisler*), Rancocas, N. J., May 8 (*Haines*), Westtown, May 6 (*Smedley*), Media, April 30 (*Allen*), Lansdowne, May 14 (*W. R. White*), Frankford, May 1 (*Miller*).

White-throated Sparrow, *Zonotrichia albicollis*. Last seen Columbia, April 23 (*Wisler*), all winter at Yardville, N. J. (*Allinson*), Bristol, April 9 (*Keim*), Burlington, N. J., April 28 (*Carter*), Beverly, N. J., May 21 (*Street*), Kennett Square, May 10 (*Pennock*), Haverford, May 21 (*Linton*), Ardmore, May 21 (*Baily*), Overbrook, May 12 (*Hunt*), Media, May 8, arrived September 22, 1904 (*Allen*), May 21, Lower Merion (*Rogers*), Oak Lane, May 21 (*Harlow*), Frankford, May 27 (*Miller*).

Tree Sparrow, *Spizella monticola*. Last seen Columbia, March 26 (*Wisler*), Perkasio, March 3 (*Rutter*), Bristol, March 19 (*Keim*), Burlington, N. J., March 14 (*Carter*), Downstown, N. J., April 2, scarce (*Fair*), Radnor, March 16 (*Rogers*), Oak Lane, April 25 (*Harlow*), Frankford, April 21 (*Miller*).

Field Sparrow, *Spizella pusilla*. Seen several times during winter, Lansdowne (*A. J. Pennock*), and near St. Davids (*Rogers*), one at Haverford, January 14 (*Rogers*).

Junco, *Junco hyemalis*. General winter resident, last seen at Summit, N. J., April 30 (*Holmes*), Columbia, April 9 (*Wisler*), Perkasio, April 21 (*Rutter*), Downstown, N. J., April 23 (*Fair*), Media, April 24 (*Moore*), Radnor, April 26 (*Rogers*), Oak Lane, May 2 (*Harlow*), arrived at Media, October 10, 1904 (*Allen*).

Song Sparrow, *Melospiza cinerea melodia*. Reached Williamsport, March 9 (*Koch*), Perkasio, February 23 (*Rutter*).

Swamp Sparrow, *Melospiza georgiana*. All winter at Crosswicks, N. J., (*Abbott*), Bristol, (*Keim*).

Fox Sparrow, *Passerella iliaca*. Wintered in West Fairmount Park, Phila. (*Hunt*), last seen Radnor, April 1 (*Rogers*).

Cardinal, *Cardinalis cardinalis*. Two nests on Pensauken Creek, N. J., each with three eggs, April 15 (*Hunt*), Columbia, April 2 (*Wisler*), at least three pairs fed all winter in the yard (*Allinson*), all winter at Westtown.

Rough-winged Swallow, *Stelgidopteryx serripennis*. At Valley Falls, April 22 (*Brown*), nesting at Mendenhall, Chester county, April 22 (*J. D. Carter*).

Cedarbird, *Ampelis cedrorum*. Flock of seven wintered at Cape May, N. J. (*Hand*).

Northern Shrike, *Lanius borealis*. Oak Lane, February 22 (*Harlow*).

Migrant Shrike, *Lanius ludovicianus migrans*. One, Haverford, March 28 (*Rogers*).

White-eyed Vireo, *Vireo noveboracensis*. Nest with young just hatched at Torresdale, May 29 (*Miller*).

Blue-winged Warbler, *Helminthophila pinus*. Brood of two with young Cowbird left nest June 11, West Chester (*Jackson*).

Golden-winged Warbler, *Helminthophila chrysoptera*. Burlington, N. J., May 14 (*Carter*), Oak Lane, May 6 (*Harlow*), Frankford, May 18 (*Miller*), Haverford, May 13 (*Linton*).

Nashville Warbler, *Helminthophila rubricapilla*. Beverly, N. J., May 27 (*Street*), Oak Lane, September 28, 1904 (*Harlow*), Frankford, May 10 (*Miller*).

Cape May Warbler, *Dendroica tigrina*. Williamsport, May 7

(*Koch*), Kennett Square, May 11 (*Pennock*), Haverford, May 12 (*Linton*).

Yellow Warbler, *Dendroica aestiva*. Eggs by May 11 at Frankford (*Miller*).

Myrtle Warbler, *Dendroica coronata*. Single birds all winter at intervals at Crosswicks, N. J. (*Abbott*).

Bay-breasted Warbler, *Dendroica castanea*. Haverford, May 14 (*Serrill*), Ardmore, May 14 and 21 (*Baily*), Media, May 16 (*E. Fussell*), Oak Lane, May 13 (*Harlow*), Kennett Square, shot, May 8 (*Pennock*).

Louisiana Water Thrush, *Seiurus motacilla*. Beverly, N. J., May 21 (*Street*), Wissahickon Creek, June 14, pair evidently with young (*Rogers*).

Hooded Warbler, *Wilsonia mitrata*. Williamsport, May 4 (*Koch*), Swarthmore, April 30 (*Roberts*), Oak Lane, May 6 (*Harlow*), Media, May 8 (*Moore*).

Wilson's Warbler, *Wilsonia pusilla*. Germantown, May 11 (*Brewer*), Haverford, May 13 (*Serrill*), May 10 (*Linton*), Ardmore, May 14 and 21 (*Baily*), Media, May 12 (*E. Fussell*), Lansdowne, May 19 and 22 (*White*), Oak Lane, May 7 (*Harlow*), Westtown, May 13 (*Smedley*).

Titlark, *Anthus pensilvanicus*. Woodbourne, May 6 (*Pickering*), Bristol, April 16 (*Keim*), Ardmore, flock of 50, March 11 and 100 March 25 (*Baily*), Frankford, March 7 (*Miller*).

Carolina Wren, *Thryothorus ludovicianus*. Columbia, May 7 (*Wisler*), all winter at Westtown.

Winter Wren, *Olbiorchilus hiemalis*. Last seen Media, May 7 (*Moore*), Oak Lane, May 5 (*Harlow*).

Long-billed Marsh Wren, *Telmatodytes palustris*. Arrived on Pensauken Creek, N. J., May 7 (*Hunt*).

Bewick's Wren, *Thryomanes bewickii*. Through the kindness of Mr. W. E. Clyde Todd, we have received the following list of occurrences of Bewick's Wren in Western Pennsylvania, based upon his own experience and that of his collectors, or those of the Carnegie Museum. As the paper on Fulton county birds (pp. 40-44) was already paged, it was impossible to use this information in that connection, so it has been inserted here with a cross reference.

Mr. W. H. Phelps found a pair of Bewick's Wrens, June 25, 1895, on the eastern side of Sideling Hill, about two and a-half miles from Needmore, Fulton Co., and on June 28-29 five were seen near Clearville, Bedford Co. All these were found along the roadside fences.

July 1-2 in the vicinity of Charlesville and Springville, Cole-rain Twp., Bedford Co., the bird was found in two spots. Two pairs frequented the fence rows of a lane and a family of seven were found among burnt and fallen timber on the summit of Tussey's Mountain.

Mr. Thaddeus Surber, June 2, 1898, found a few on the summit of the mountain ridge one mile west of Riddlesburg, Bedford Co., and it was common at the base of Tussey Mountain, near Entriiken, Huntingdon Co.

Mr. Todd found a female and four young June 7, 1899, on the summit of Sideling Hill, Fulton Co. Specimens from all these localities are in the Carnegie Museum collection.

Further north in the state, S. N. Rhoads saw two May 27, 1896, at Round Island, Clinton Co. (*Auk*, 1899, p. 313), and Thaddeus Surber took one at Tamarack Swamp, in the same county, while August Koch secured one at Williamsport (Maynard's Birds of Eastern N. A., p. 505). Mr. Rhoads also shot one at Beaver, Beaver Co., April 27, 1898.

Brown Creeper, *Certhia familiaris americana*. Last seen Columbia, April 2 (*Wisler*), Perkasio, April 1 (*Rutter*), Bristol, March 12 (*Keim*), Radnor, April 7 (*Rogers*), Oak Lane, April 10 (*Harlow*), Frankford, March 28 (*Miller*).

Red-breasted Nuthatch, *Sitta carolinensis*. One, December 17, 1904, Wayne (*Rogers*).

Tufted Titmouse, *Bæolophus bicolor*. Williamsport, April 13 (*Koch*), Columbia, April 2 (*Wisler*), Perkasio, March 24 (*Rutter*), all winter at Westtown. Several observers in the lower counties failed to see it through the severe winter, but it reappeared in April.

Black-capped Chickadee, *Parus atricapillus*. Columbia, April 2 (*Wisler*), Perkasio, December 24, 1904 (*Rutter*), Concordville, May 7 (*Willits*).

Golden-crowned Kinglet, *Regulus satrapa*. Last seen Haver-

ford, April 25 (*Linton*), Oak Lane, April 20 (*Harlow*), Perkasio, April 2 (*Rutter*), Knowlton, March 20 (*Tyler*).

Blue-gray Gnatcatcher, *Poliophtila caerulea*. Media, May 1 (*Moore*), May 2 (*Allen*), May 7 (*Fussell*). The first two records are of the same bird and probably the later record also. In each instance the identification was made with great care under favorable conditions.

Gray-cheeked Thrush, *Hylocichla aliciae*. June 4, singing at Lansdowne (*A. J. Pennock*), and at Ardmore, May 12 (*Baily*).

Hermit Thrush, *Hylocichla guttata pallasii*. Saw one singing at Lansdowne, April 17 (*A. J. Pennock*).

Robin, *Merula migratoria*. Sandiford, Phila., December 31, 1904; had eggs, April 14 (*Miller*), nest with one egg, April 9, Crum Creek (*Hunt*).

Bluebird, *Sialia sialis*. Swarthmore all winter (*Palmer*), set of four eggs, Overbrook, April 27 (*Hunt*), no noticeable migratorial increase in spring at Crosswicks, N. J., (*Abbott*), nine or ten seen early in February at Downstown, N. J. (*Fair*).