

Report on the Spring Migration of 1914

COMPILED BY WITMER STONE

The efforts of the committee to secure additional observers for the season of 1914 met with gratifying success and reports were returned by 80 persons. It is to be hoped that both old and new members of the migration corps will be stimulated to continue with the work. Information and blank schedules may be obtained at any time from Dr. Witmer Stone, Academy of Natural Sciences, Logan Square.

SUGGESTIONS FOR OBSERVERS

The following suggestions are made for the guidance of observers. The value of all records depends upon their accuracy, and any recommendations that make for increased accuracy, are of the utmost importance both to the observers and to the users of the report.

1. Every observer should familiarize himself with the *usual time* of arrival of each species in his neighborhood (see appended list). With the exception of the February and March migrants, the time of arrival of most species varies only a few days, so that a remarkably early occurrence demands very careful and positive identification as it is always suggestive of an error on the part of the observer.

2. The record of a very rare or unusual species should be accompanied by some statement of: (1) how the identification was made; *i. e.* distinctive markings noted, or peculiarities of song or action; (2) the length and character of the observation; (3) whether the observer was previously acquainted with the species. The committee always reserves the privilege of publishing only such records as it feels absolutely sure of, since the real benefit or detriment to science lies in the act of publication. We do not wish to advocate the killing of every rare bird in order to make identification sure, and must therefore take the greatest care to publish only such sight records as will occasion no question of accuracy.

3. Observers should take care to familiarize themselves with the differences between closely related species which are often confused, i. e., White-crowned and adult White-throated Sparrows (which have white crowns); Least and Acadian Flycatchers; the two Water-Thrushes; Olive-backed and Gray-cheeked Thrushes which are equally abundant here; Rusty Blackbirds and female Purple Grackles, etc. Specimens of all these may be seen in Dr. Stone's room at the Academy.

4. Please follow exactly the instructions on the schedule and *do not* write in additional species between the lines, as this causes great annoyance to the compiler and is likely to result in the omission of such records altogether.

5. Following are the average dates of first arrival and "bulk arrival" for the species on the schedule, arranged in order of "bulk arrival." In all cases "bulk arrival" is intended to denote the date upon which the species reached half of the stations within the Philadelphia ten-mile radius, the *last* quarter of the arrival records for each species being rejected in the computation as being probably not the real dates of first arrival at those localities.

NAME.	Average Date of First Ar- rival.	Average Date of Bulk Ar- rival.
Purple Grackle	Feb. 22	Feb. 28
Bluebird	Feb. 17	Mar. 2
Robin	Feb. 14	Mar. 2
Fox Sparrow	Mar. 1	Mar. 7
Meadowlark	Feb. 6	Mar. 8
Red-winged Blackbird	Mar. 3	Mar. 10
Killdeer.	Mar. 2	Mar. 11
Flicker	Feb. 17	Mar. 15
Rusty Blackbird	Mar. 15	Mar. 20
Phoebe	Mar. 13	Mar. 21
Field Sparrow	Mar. 4	Mar. 22
Dove	Mar. 7	Mar. 22
Cowbird	Mar. 15	Mar. 25

NAME.	Average Date of First Ar- rival.	Average Date of Bulk Ar- rival.
Kingfisher	Mar. 14	Mar. 29
Vesper Sparrow	Mar. 16	Mar. 30
Canada Goose.	Mar. 4	
Cedarbird	Mar. 7	
Turkey Vulture	Mar. 9	
Savannah Sparrow	Mar. 16	
Night Heron	Mar. 29	
Swamp Sparrow	Mar. 29	
Osprey	Mar. 30	
Chipping Sparrow	Mar. 22	April 1
Purple Martin	Mar. 29	April 5
Yellow-bellied Sapsucker	Mar. 29	April 7
Hermit Thrush	April 1	April 11
Ruby-crowned Kinglet	April 2	April 14
Yellow Palm Warbler	April 10	April 16
Chewink	Mar. 21	April 19
Brown Thrasher	April 1	April 22
Tree Swallow	April 8	April 22
Barn Swallow.	April 10	April 22
Bank Swallow	April 14	April 22
Cliff Swallow	April 29	
Rough-winged Swallow	April 13	April 23
Chimney Swift	April 17	April 23
Pine Warbler	April 20	
Myrtle Warbler	Mar. 29	April 24
Solitary Vireo.	April 24	April 26
House Wren	April 21	April 26
Black and White Warbler	April 18	April 26
Spotted Sandpiper	April 12	April 27
Maryland Yellow-throat	April 21	April 28
Green Heron	April 21	April 29
Wood Thrush.	April 24	April 30
Catbird	April 21	April 30
Oven-bird	April 26	April 30
Yellow Warbler	April 24	April 30
Grasshopper Sparrow	April 21	April 30
Prairie Warbler	May 1	
Wilson's Thrush (Veery)	April 26	May 2

NAME.	Average Date of First Ar- rival.	Average Date of Bulk Ar- rival.	
Whip-poor-will.	April 27	May	3
White-eyed Vireo	April 27	May	4
Least Flycatcher	April 28	May	4
Black-throated Green Warbler.	April 28	May	4
Parula Warbler	April 28	May	4
Redstart.	April 25	May	4
Water-Thrush	April 25	May	4
Crested Flycatcher	April 29	May	4
Kingbird	April 29	May	5
Red-headed Woodpecker.	April 16	May	5
Black-throated Blue Warbler	April 27	May	5
Yellow-throated Vireo	April 29	May	5
Baltimore Oriole	May 1	May	5
Solitary Sandpiper	April 22	May	5
Orchard Oriole	May 1	May	6
Chestnut-sided Warbler	May 1	May	6
Blue-winged Warbler	May 1	May	6
Kentucky Warbler	April 30	May	6
Scarlet Tanager	April 28	May	6
Acadian Flycatcher	May 5	May	6
Red-eyed Vireo	April 30	May	7
Indigobird	May 1	May	8
Worm-eating Warbler	April 29	May	8
Rose-breasted Grosbeak	April 30	May	8
Chat	April 29	May	8
Warbling Vireo	May 2	May	8
Magnolia Warbler	May 1	May	9
Bobolink	May 2	May	9
Olive-backed Thrush	April 30	May	10
Blackburnian Warbler	May 4	May	10
Black-poll Warbler.	May 6	May	11
Hummingbird	May 3	May	11
Wood Pewee	May 3	May	11
Gray-cheeked Thrush	May 3	May	12
Yellow-billed Cuckoo	May 3	May	12
Black-billed Cuckoo	May 6		
Long-billed Marsh Wren	May 10		
Canada Warbler	May 5	May	12
Nighthawk	May 4	May	13

Observers for the Spring of 1914 were as follows :

New Jersey

Cape May, H. Walker Hand.
Atlantic City, Mrs. Norma S. Cromie.
Salem, Benjamin A. Carpenter.
Salem, Mrs. Horace S. Foster.
Salem, Mrs. William Johnson.
Pennsgrove, Garnett Summerill.
Woodstown, Helen C. Woodruff.
Vineland, Mrs. Alice K. Prince.
Donnstown, William W. Fair.
Atco, Harry L. Pyle.
Laurel Springs, Miss Cora E. Tomlinson.
Camden, Julian K. Potter.
Audubon, Joseph W. Tatum.
Haddonfield, Samuel N. Rhoads.
Haddonfield, Robert T. Moore.
Moorestown, Anna A. Mickle.
Moorestown, Dr. S. S. Haines.
Moorestown, Margaret S. Roberts.
Moorestown, M. Albert Linton.
Moorestown, Mrs. Victor Wierman.
Rancocas, Emily Haines.
Beverly, David G. Baird.
Bordentown, Minnie V. Flynn.
Yardville, Rachel E. Allinson.
Allentown, Miss Mary Emma Gordon.
Trenton (3 miles s.), Richard M. Abbott.
Bernardsville, John Dryden Kuser.

Pennsylvania

Kennett Square, C. Aubrey Thomas.
Concordville, Mrs. K. R. and Miss E. P. Styer.
Media, Sanford Omensetter.
Media, J. Percy Moore.
Media, S. Earl Riddle.
Media, Lydia G. Allen.

Media, Francis C. Beekley.
Moylan, Benjamin F. Whitson.
Swarthmore, Dr. Samuel C. Palmer.
Swarthmore, Frances B. Stokes.
Swarthmore, H. M. Harrower.
Swarthmore, Philip E. Howard, Jr.
Addingham, Delos E. Culver.
Lansdowne, Louisa M. Jacob.
Lansdowne, John D. Carter.
Aldan, Christine C. Morley.
West Philadelphia, Thos. R. Hill.
Germantown, Arthur C. Emlen.
Chestnut Hill, Wm. H. Trotter.
Chestnut Hill, Chas. Platt, 3rd.
Olney, Joseph C. Sudders.
Melrose, Samuel H. Barber.
Frankford, Richard T. Miller.
Holmesburg, Henry W. Fowler.
Ardmore, William L. Baily.
Haverford, William J. Serrill.
Haverford, George H. Hallett, Jr.
Bryn Mawr, Miss Emily H. Thomas.
Rosemont, Samuel Scoville Jr.
Wayne, Leonard S. Pearson.
Wayne, Miss Edith B. Emerson.
Wayne, Mrs. M. V. Alexander.
Wayne, Miss Mary K. Baker.
Wayne, Miss Helen Morris.
Wayne, Miss Mary B. Morrison.
Wayne, Mrs. J. Dutton Steele.
Newtown Square, Miss Josephine A. Morris.
Westtown, Wm. B. Evans, Clifford Jones and Turner Moon.
West Chester, Robert P. Sharples.
West Chester, Isaac G. Roberts.
West Chester, Miss S. C. De Haven.
West Chester, Dr. C. E. Ehinger.
West Chester, Mrs. Hugh P. Brinton.
Newtown, Alexander Patman.

Newtown, Nancy Emhardt.
 Doylestown, Mrs. Irvin M. James.
 Doylestown, George MacReynolds.
 Forest Grove, Miss Anna K. Bewley.
 Buckingham, Miss Elizabeth C. Cox.
 Mechanicsville, William E. Wilson.
 Easton, Edward J. F. Marx.
 State College, C. Russell Mason.
 Lopez, Otto Behr.

The spring of 1914 was distinctly a late one: both February and March were cold, and there was more or less snow on the ground from February 11 to March 13, although the early winter had been open.

A sudden rise in temperature on March 15 with clear weather brought the advance of the migrants—Grackles, Robins, Fox Sparrows, Redwings and Killdeers.

Another marked rise on the 26th and 27th brought Phoebes, Cowbirds and Kingfishers. Later the coincidence between temperature changes and migratory movements is less marked, and the dates of bulk arrival of species arriving at the same time does not show as uniform a departure from the normal as has been the case in some years, viz. (—, late; +, early):

Purple Grackle	— 12 days.
Robin	— 13 “
Fox Sparrow	— 9 “
Red-winged Blackbird	— 7 “
Kildeer	— 4 “
Flicker	— 12 “
Phoebe	— 7 “
Field Sparrow	— 7 “
Cowbird	— 2 “
Kingfisher.	+ 1 “
Vesper Sparrow.	— 6 “
Chipping Sparrow	— 8 “
Yellow-bellied Sapsucker	+ 12 “
Hermit Thrush	— 3 “
Ruby-crowned Kinglet	— 4 “

Yellow Palm Warbler	—	2 days.
Chewink	0	
Barn Swallow	+	3 “
Brown Thrasher.	+	1 “
Chimney Swift	+	1 “
House Wren	—	1 “
Black and White Warbler	—	3 “
Spotted Sandpiper	—	2 “
Maryland Yellow-throat	—	4 “
Grasshopper Sparrow.	—	6 “
Yellow Warbler.	+	1 “
Catbird	—	2 “
Oven-bird	—	2 “
Wood Thrush	+	1 “
Redstart	0	
Parula Warbler.	—	2 “
Crested Flycatcher	0	
Kingbird	+	1 “
Baltimore Oriole	+	1 “
Black-throated Blue Warbler	—	2 “
Scarlet Tanager	0	
Blue-winged Warbler.	0	
Chestnut-sided Warbler	—	1 “
Red-eyed Vireo	+	1 “
Rose-breasted Grosbeak	—	2 “
Yellow-breasted Chat.	—	3 “
Indigobird	—	1 “
Magnolia Warbler	—	1 “
Bobolink	+	2 “
Olive-backed Thrush.	—	3 “
Hummingbird	—	2 “
Wood Pewee	—	1 “
Black-poll Warbler	—	1 “
Yellow-billed Cuckoo.	—	5 “
Gray-cheeked Thrush.	—	5 “
Canada Warbler.	—	2 “
Night Hawk	+	3 “

NAME.	Rancocas, N. J. N. 4; E. 16.	Moorestown, N. J. E. 12.	Camden, N. J. N. 0; E. 2.	Audubon, N. J. S. 4; E. 5.	Haddonfield, N. J. E. 7.	Laurel Spr., N. J. S. 10; E. 8.	Media and Moylan, Pa. S. 2; W. 12.	Swarthmore, Pa. S. 3; W. 10.	Lansdowne and Aldan, Pa. S. 1; W. 6.	Addingham, Pa. S. 1; W. 8.	Haverford and Ardmore, Pa. N. 4; W. 8.	Bryn Mawr and Rosemont, Pa. N. 4; W. 9.	Wayne, Pa. N. 6; W. 11.	Frankford, Phila. N. 5; E. 5.	Germanstown, Phila. N. 6; W. 1.	Chestnut Hill, Phila. N. 8; W. 1.	Oak Lane, Phila. N. 7; E. 2.
Canada Goose	Apr. 26	May 3	Apr. 19	May 4	May 4	Mar. 17	Mar. 17	Apr. 27	Apr. 27	Apr. 27	May 10	May 10	Apr. 5	Mar. 30	Apr. 13	Apr. 13	Apr. 4
Green Heron	May 3	Apr. 21	Mar. 21	Apr. 26	May 10	May 11	May 11	May 27	May 27	May 27	May 10	May 10	Apr. 13	Apr. 13	Apr. 13	Apr. 13	Apr. 4
Night Heron	May 3	Apr. 29	Apr. 29	May 20	May 10	Apr. 17	Apr. 17	Apr. 25	Apr. 25	Apr. 25	May 10	May 10	May 24	Apr. 26	Apr. 26	Apr. 26	Apr. 4
Spotted Sandpiper	May 3	Apr. 28	Apr. 28	May 10	May 10	Apr. 19	Apr. 19	May 2	May 2	May 2	May 10	May 10	May 12	Apr. 27	Apr. 27	Apr. 27	Apr. 4
Solitary Sandpiper	Feb. 5	Mar. 29	Jan. 18	Mar. 8	Mar. 8	May 3	May 3	Mar. 16	Mar. 16	Mar. 16	May 10	May 10	May 7	Apr. 29	Apr. 29	Apr. 29	Apr. 4
Killdeer	May 26	Mar. 29	Feb. 15	Apr. 26	Apr. 3	Apr. 10	Apr. 10	Mar. 19	Mar. 19	Mar. 19	Mar. 29	Mar. 29	Mar. 20	Mar. 26	Mar. 26	Mar. 26	May 10
Dove	Apr. 19	Apr. 19	Apr. 12	Apr. 18	Apr. 3	Apr. 22	Apr. 22	Apr. 10	Apr. 10	Apr. 10	Mar. 13	Mar. 13	Apr. 10	Apr. 13	Apr. 13	Apr. 13	May 10
Osprey	Mar. 4	Apr. 19	Apr. 12	Apr. 18	Mar. 29	Mar. 7	Mar. 7	Apr. 10	Apr. 10	Apr. 10	Apr. 4	Mar. 13	Mar. 24	Apr. 20	Apr. 20	Apr. 20	Mar. 21
Turkey Vulture	May 26	Apr. 19	Apr. 12	Apr. 18	Mar. 29	May 10	May 10	May 11	May 11	May 11	May 17	Mar. 18	May 7	May 14	May 14	May 14	Mar. 21
Yellow-billed Cuckoo	Apr. 19	Apr. 19	Feb. 28	May 20	Apr. 3	Mar. 15	Mar. 15	Mar. 28	Mar. 28	Mar. 31	Apr. 18	May 3	Apr. 5	Mar. 24	Mar. 24	Mar. 24	Apr. 26
Kingfisher	Apr. 19	Apr. 19	Feb. 28	May 20	Apr. 3	Mar. 15	Mar. 15	Mar. 28	Mar. 28	Mar. 31	Apr. 18	May 3	Apr. 5	Mar. 24	Mar. 24	Mar. 24	Apr. 26
Yellow-bellied Sapsucker	Apr. 19	Apr. 19	Apr. 12	Apr. 5	July 13	Jan. 28	Jan. 28	Feb. 22	Feb. 22	Apr. 5	Apr. 14	Apr. 14	Apr. 10	Apr. 27	Apr. 27	Apr. 27	Apr. 26
Red-headed Woodpecker	Mar. 27	Mar. 25	Mar. 29	Apr. 6	Mar. 29	Mar. 5	Mar. 5	Apr. 4	Apr. 4	Res.	Mar. 16	Mar. 13	Mar. 1	Mar. 23	Mar. 23	Mar. 23	May 9
Flicker	Apr. 18	May 6	May 28	Apr. 6	Mar. 29	Apr. 27	Apr. 27	Apr. 4	Apr. 4	Res.	Mar. 16	Mar. 13	Mar. 1	Mar. 23	Mar. 23	Mar. 23	Res.
Whip-poor-will	Apr. 19	Apr. 20	Apr. 22	Apr. 26	Apr. 26	May 10	May 10	May 23	May 23	May 20	May 4	May 8	May 17	May 16	May 16	May 16	May 11
Nighthawk	Apr. 19	Apr. 20	Apr. 22	Apr. 26	Apr. 26	Apr. 19	Apr. 19	Apr. 20	Apr. 20	Apr. 18	Apr. 24	Apr. 29	Apr. 22	Apr. 21	Apr. 21	Apr. 21	Apr. 26
Chimney Swift	May 15	May 12	May 31	Apr. 29	Apr. 29	May 3	May 3	May 14	May 14	May 13	Apr. 24	Apr. 29	Apr. 22	Apr. 21	Apr. 21	Apr. 21	Apr. 26
Hummingbird	May 2	Apr. 29	May 2	Apr. 29	Apr. 29	May 3	May 3	May 14	May 14	May 13	Apr. 24	Apr. 29	Apr. 22	Apr. 21	Apr. 21	Apr. 21	Apr. 26
Kingbird	May 6	Apr. 27	May 5	Apr. 29	May 2	May 3	May 3	May 2	May 2	May 4	May 4	May 2	May 3	May 7	May 7	May 7	May 10
Crested Flycatcher	Apr. 20	Apr. 20	Apr. 5	Apr. 19	Apr. 12	Mar. 27	Mar. 27	Mar. 25	Mar. 25	Mar. 31	Apr. 5	Mar. 26	Mar. 31	Mar. 27	Mar. 27	Mar. 27	Mar. 28
Phoebe	Apr. 20	Apr. 20	Apr. 5	Apr. 19	Apr. 12	Mar. 27	Mar. 27	Mar. 25	Mar. 25	Mar. 31	Apr. 5	Mar. 26	Mar. 31	Mar. 27	Mar. 27	Mar. 27	Mar. 28

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Wood Pewee	May 15	May 10	May 15	May 3	May 14	May 4	May 12	May 15	May 12	May 11	May 11	May 11	May 12	May 20
Acadian Flycatcher . . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	May 17	May 17	May 12	. . . . .	May 10	May 14	May 14	May 3	May 20	. . . . .	May 17
Least Flycatcher . . . . .	. . . . .	May 9	May 12	May 10	. . . . .	. . . . .	May 3	. . . . .	May 3	. . . . .	May 6	May 6	May 6	. . . . .	May 6	. . . . .	. . . . .
Bobolink	May 12	May 7	. . . . .	May 6	May 6	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	May 3	May 17	May 17	May 3	. . . . .	. . . . .	. . . . .
Cowbird . . . . .	. . . . .	May 14	. . . . .	May 24	Mar. 18	. . . . .	Mar. 25	Apr. 1	Mar. 27	Mar. 27	Mar. 16	Mar. 27	Mar. 27	May 3	May 19	. . . . .	. . . . .
Red-winged Blackbird	Mar. 16	Mar. 17	Mar. 22	Mar. 15	Mar. 17	Mar. 27	Apr. 29	Mar. 16	Mar. 27	Mar. 31	Mar. 22	Mar. 27	Mar. 27	Apr. 14	Apr. 27	. . . . .	Mar. 27
Meadowlark	Res.	Res.	Feb. 15	Mar. 8	Res.	Res.	Mar. 9	Res.	Mar. 28	Res.	Feb. 22	Mar. 13	Mar. 19	Mar. 16	. . . . .	. . . . .	Res.
Orchard Oriole	May 2	May 3	May 7	. . . . .	May 4	May 2	May 10	. . . . .	Apr. 29	. . . . .	May 10	. . . . .	May 10	May 9	. . . . .	. . . . .	. . . . .
Baltimore Oriole	May 5	May 3	May 6	May 20	May 6	. . . . .	Apr. 29	May 2	May 2	May 3	May 4	May 4	May 4	May 2	May 7	May 6	May 9
Purple Blackbird . . . . .	. . . . .	. . . . .	. . . . .	. . . . .	Mar. 22	. . . . .	Mar. 15	. . . . .	Apr. 13	. . . . .	. . . . .	. . . . .	. . . . .	Mar. 31	. . . . .	. . . . .	. . . . .
Rusty Blackbird	Feb. 27	Feb. 3	Mar. 15	Mar. 16	Mar. 17	Mar. 14	Mar. 15	Mar. 15	Mar. 12	Mar. 15	Mar. 15	Mar. 1	Feb. 21	Mar. 15	. . . . .	. . . . .	Feb. 26
Vesper Sparrow	Mar. 28	Apr. 20	Apr. 4	Apr. 26	Apr. 5	Mar. 15	Apr. 10	Apr. 4	. . . . .	. . . . .	Apr. 10	Apr. 2	Apr. 11	Apr. 7	. . . . .	. . . . .	Apr. 10
Savannah Sparrow . . . . .	. . . . .	. . . . .	Feb. 15	Apr. 26	Apr. 5	. . . . .	Apr. 19	. . . . .	. . . . .	. . . . .	Apr. 11	Apr. 4	. . . . .	Mar. 16	. . . . .	. . . . .	. . . . .
Grasshopper Sparrow	May 12	May 10	. . . . .	May 10	. . . . .	Apr. 15	Apr. 28	May 9	. . . . .	. . . . .	May 10	May 6	. . . . .	Mar. 31	. . . . .	. . . . .	. . . . .
Chipping Sparrow	Mar. 28	Apr. 8	Apr. 3	Apr. 25	Apr. 5	Apr. 11	Apr. 10	Apr. 7	Apr. 8	Apr. 13	Apr. 14	Mar. 27	Apr. 12	Mar. 23	Apr. 19	Apr. 19	Apr. 12
Field Sparrow	Mar. 25	Mar. 29	Mar. 22	Jan. 17	Mar. 13	Apr. 25	Mar. 28	Apr. 12	Mar. 27	Mar. 29	Mar. 27	Apr. 11	Apr. 11	Mar. 23	. . . . .	Mar. 29	Apr. 19
Swamp Sparrow	May 2	Apr. 19	Feb. 12	Mar. 20	. . . . .	May 15	Mar. 15	. . . . .	. . . . .	. . . . .	May 3	May 3	May 7	Apr. 20	. . . . .	. . . . .	Apr. 26
Fox Sparrow	Feb. 24	Mar. 22	Mar. 18	. . . . .	Mar. 18	. . . . .	Mar. 15	. . . . .	Mar. 9	Mar. 15	Mar. 15	Mar. 14	Mar. 15	Mar. 16	Mar. 17	Mar. 16	Mar. 16
Chewink	Apr. 27	Apr. 26	Apr. 19	May 3	Apr. 26	May 1	Apr. 17	Apr. 20	Apr. 11	Apr. 8	Apr. 26	Apr. 14	Apr. 21	Apr. 20	Apr. 19	Apr. 26	May 6
Rose-breasted Grosbeak . . . . .	. . . . .	May 7	May 12	. . . . .	May 7	. . . . .	May 11	May 7	May 5	May 13	May 7	May 12	May 12	May 15	. . . . .	May 3	May 14
Indigobird	May 12	May 9	May 7	May 20	May 10	May 15	May 7	May 7	May 6	May 7	May 10	May 14	May 12	May 7	. . . . .	May 8	May 14
Scarlet Tanager	May 5	May 10	May 6	May 10	May 15	May 2	May 4	Apr. 30	May 3	May 2	May 5	May 5	May 1	May 9	May 3	May 14
Purple Martin	Apr. 6	May 3	Apr. 3	Mar. 31	May 10	Apr. 18	Apr. 11

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Cliff Swallow	Apr. 18	Apr. 19	Apr. 26	Apr. 26	Apr. 12	May 15	Apr. 17	Apr. 17	Apr. 19	Apr. 19	Apr. 19	May 3	Apr. 15	Apr. 17	Apr. 19	Apr. 19	Apr. 19
Barn Swallow	Apr. 15	Apr. 10	Apr. 12	Apr. 26	Apr. 26	Apr. 12	Apr. 17	Apr. 17	Apr. 19	Apr. 19	Apr. 19	May 3	Apr. 15	Apr. 17	Apr. 19	Apr. 19	Apr. 19
Tree Swallow	May 15	Apr. 10	Apr. 22	Apr. 26	Apr. 12	Apr. 12	Apr. 19	Apr. 19	Apr. 19	Apr. 19	Apr. 19	May 3	Apr. 15	Apr. 17	Apr. 19	Apr. 19	Apr. 19
Bank Swallow	Apr. 18	Apr. 10	Apr. 22	Apr. 26	Apr. 12	Apr. 12	Apr. 19	Apr. 19	Apr. 19	Apr. 19	Apr. 19	May 3	Apr. 15	Apr. 17	Apr. 19	Apr. 19	Apr. 19
Rough-winged Swallow	May 8	May 5	May 24	May 10	May 6	May 4	May 1	May 1	May 4	May 4	May 4	Apr. 29	Apr. 25	May 7	May 7	May 7	May 9
Cedarbird	May 18	May 5	May 15	May 10	May 6	May 4	May 1	May 1	May 4	May 4	May 4	Apr. 29	Apr. 25	May 7	May 7	May 7	May 9
Red-eyed Vireo	May 18	May 5	May 15	May 10	May 6	May 4	May 1	May 1	May 4	May 4	May 4	Apr. 29	Apr. 25	May 7	May 7	May 7	May 9
Warbling Vireo	May 18	May 5	May 15	May 10	May 6	May 4	May 1	May 1	May 4	May 4	May 4	Apr. 29	Apr. 25	May 7	May 7	May 7	May 9
Yellow-throated Vireo	May 18	May 5	May 15	May 10	May 6	May 4	May 1	May 1	May 4	May 4	May 4	Apr. 29	Apr. 25	May 7	May 7	May 7	May 9
Solitary Vireo	May 18	May 5	May 15	May 10	May 6	May 4	May 1	May 1	May 4	May 4	May 4	Apr. 29	Apr. 25	May 7	May 7	May 7	May 9
White-eyed Vireo	May 18	May 5	May 15	May 10	May 6	May 4	May 1	May 1	May 4	May 4	May 4	Apr. 29	Apr. 25	May 7	May 7	May 7	May 9
Black and White Warbler	Apr. 27	Apr. 19	Apr. 19	Apr. 26	Apr. 19	May 15	Apr. 30	Apr. 30	Apr. 26	Apr. 26	Apr. 30	Apr. 14	Apr. 30	May 1	Apr. 30	Apr. 30	Apr. 26
Worm-eating Warbler	May 6	May 9	May 10	May 10	May 3	May 2	May 2	May 2	May 4	May 4	May 4	Apr. 14	Apr. 30	May 1	Apr. 30	Apr. 30	Apr. 26
Blue-winged Warbler	May 6	May 9	May 10	May 10	May 3	May 2	May 2	May 2	May 4	May 4	May 4	Apr. 14	Apr. 30	May 1	Apr. 30	Apr. 30	Apr. 26
Parula Warbler	Apr. 27	Apr. 27	Apr. 28	Apr. 29	May 3	May 2	May 2	May 2	May 4	May 4	May 4	Apr. 14	Apr. 30	May 1	Apr. 30	Apr. 30	Apr. 26
Yellow Warbler	May 7	May 10	May 12	May 10	May 4	May 3	May 3	May 3	May 6	May 6	May 6	Apr. 14	Apr. 30	May 1	Apr. 30	Apr. 30	Apr. 26
Black-throated Blue Warbler	May 10	Apr. 19	Apr. 16	Apr. 26	Apr. 5	May 15	Apr. 13	Apr. 13	Apr. 29	Apr. 29	Apr. 29	Apr. 29	Apr. 26	May 7	May 7	May 7	May 10
Myrtle Warbler	May 11	May 12	May 7	May 20	May 11	May 15	May 10	Apr. 30	May 4	May 4	May 4	Apr. 29	Apr. 26	May 7	May 7	May 7	May 10
Magnolia Warbler	May 11	May 12	May 7	May 20	May 11	May 15	May 10	Apr. 30	May 4	May 4	May 4	Apr. 29	Apr. 26	May 7	May 7	May 7	May 10
Chestnut-sided Warbler	May 7	May 9	May 5	May 20	May 10	May 15	May 12	May 9	May 4	May 4	May 4	Apr. 29	Apr. 26	May 7	May 7	May 7	May 10
Black-poll Warbler	May 6	May 9	May 5	May 20	May 10	May 15	May 12	May 9	May 4	May 4	May 4	Apr. 29	Apr. 26	May 7	May 7	May 7	May 10
Blackburnian Warbler	May 6	May 9	May 5	May 20	May 10	May 15	May 12	May 9	May 4	May 4	May 4	Apr. 29	Apr. 26	May 7	May 7	May 7	May 10
Black-throated Green Warbler	May 6	May 9	May 5	May 20	May 10	May 15	May 12	May 9	May 4	May 4	May 4	Apr. 29	Apr. 26	May 7	May 7	May 7	May 10

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

*List of Other Species Reported by Observers during 1914, and
Additional Notes on Species Contained in the Schedule.*

Autumn Dates Refer to Autumn of 1913.

*Unless Otherwise Stated**

Horned Grebe, *Colymbus auritus*, Kennett Square, female Apr. 16 (*Thomas*); State College, May 12 (*Mason*); Doylestown, Apr. 21 (*MacReynolds*); Fish House, N. J. Apr. 19-28 (*Potter*); Addingham (probably this species) Apr. 18 (*Culver*).

Pied-billed Grebe, *Podilymbus podiceps*, Fish House, N. J., Apr. 25 (*Potter*); Audubon, N. J. two Apr. 6 (*Tatum*).

Loon, *Gavia immer*, Bridesburg, Oct 9, 1913 (*Miller*); Maurice River, N. J. Nov. 11, 1913 (*Prince*); Fish House, N. J. Apr. 19—May 24 (*Potter*); Cape May, N. J. Apr. 4 and flock on Apr. 24 (*Hand*); Atlantic City, N. J. Apr. 18 (*Cromie*); Haverford, May 3, flying north (*Serrill*).

Black-backed Gull, *Larus marinus*, Avalon, N. J. Sept. 12-17 (*Prince*).

Herring Gull, *Larus argentatus*, arrived Atlantic City, N. J. Aug. 27, 1913 (*Cromie*) mouth of Maurice River, N. J., Aug. 28 (*Prince*); Corson's Inlet, N. J., Aug. 30 (*Culver*); last seen, Atlantic City, N. J. May 16 (*Cromie*); Camden, N. J. May 5 (*Potter*). Observed inland Mar. 12 flying N. E. at Lansdowne (1), Darby (3), Sharon Hill (14), Glenolden (6), Norwood (15) and on Mar. 17 Lansdowne (9) flying N. (*Carter*).

Laughing Gull, *Larus atricilla*, Cape May, N. J. arrived April 26 (*Hand*).

Bonaparte's Gull, *Larus philadelphia*, Fish House, N. J. April 11 (1), April 22 (15) (*Potter*); Oct. 21, 1913 (7) (*Miller*); Chester, several April 13 (*Carter*).

Black Tern, *Hydrochelidon nigra surinamensis*, Fish House, N. J. May 14 one watched for half an hour at distance of 20 yds. (*Potter*).

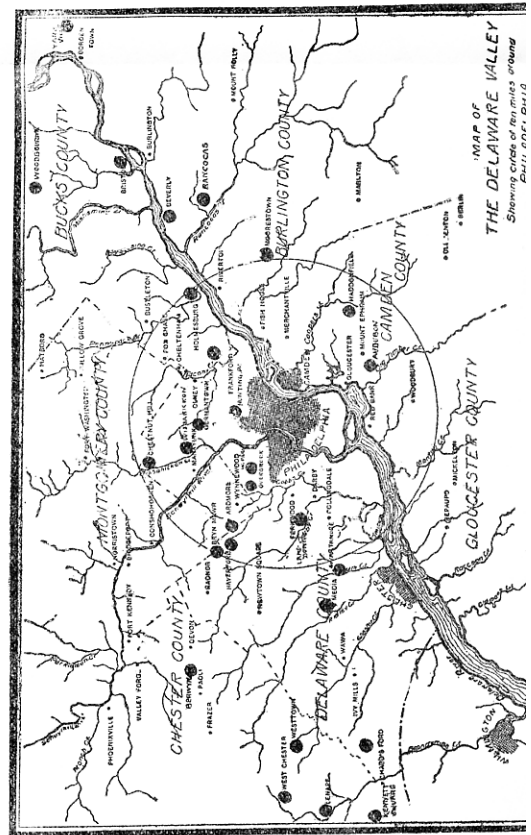
Wilson's Petrel, *Oceanites oceanicus*, Maurice River Cove, N. J., June 11 (*Prince*).

Gannet, *Sula bassana*, Cape May, N. J., April 13 (*Hand*).

* Localities are in Pennsylvania unless otherwise marked.

NAMES.	Cape May, S. N. J.	Atlantic City, N. J.	Salem, N. J.	Woodstown, N. J.	Vinland, N. J.	Downstown, N. J.	Atco, N. J.	Kennett Square, Pa.	Concordville, Pa.	West Chester, Pa.	Westtown, Pa.	Newtown, Pa.	Bordentown, N. J.	Yardville, N. J.	Allentown, N. J.	Trenton, N. J.	Doylstown, Pa.	Buckingham, Pa.	Forest Grove, Pa.	Baston, Pa.	Bernardsville, N. J.	State College, Pa.	Lopez, Pa.
Flicker.....	Mar. 16	Apr. 4	Feb. 23	Apr. 10	Res.	Apr. 7	Apr. 20	May 15	Apr. 4	Mar. 24	Mar. 15	Apr. 5	Apr. 17	Feb. 18	Mar. 25	Apr. 4	Mar. 26	Mar. 27	Mar. 18	Apr. 17	.....	Apr. 18	Apr. 13
Whip-poor-will.....	Apr. 23	.....	.....	.....	.....	Apr. 28	May 1	May 7	.....	May 12	May 24	.....	.....	May 19	.....	May 12	May 18	May 3	.....	May 6	.....	May 9	May 6
Nighthawk.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chimney Swift.....	Apr. 23	.....	Apr. 19	Apr. 26	Apr. 21	Apr. 26	Apr. 25	Apr. 18	Apr. 17	Apr. 18	Apr. 22	Apr. 19	Apr. 18	Apr. 26	Apr. 26	Apr. 18	Apr. 21	Apr. 24	Apr. 24	Apr. 19	Apr. 19	Apr. 22	Apr. 22
Hummingbird.....	May 1	.....	Apr. 29	May 7	May 12	May 17	May 8	May 10	May 10	May 18	May 8	.....	.....	May 7	May 12	May 3	May 3	May 11	May 11	May 11	May 11	May 12	May 18
Kingbird.....	Apr. 27	.....	Apr. 24	May 1	May 6	May 6	May 8	Apr. 30	Apr. 30	Apr. 28	Apr. 28	.....	.....	May 5	May 12	May 2	May 2	May 4	May 4	May 4	May 4	May 5	May 5
Crested Flycatcher.....	May 5	.....	Apr. 4	May 1	Apr. 12	Mar. 30	Apr. 15	Mar. 16	Mar. 25	Mar. 16	Mar. 19	Apr. 29	Apr. 20	Mar. 5	Mar. 29	Apr. 29	Mar. 27	Mar. 26	Mar. 25	.....	Apr. 19	Mar. 26	Apr. 7
Phoebe.....	May 6	.....	Apr. 4	May 1	Apr. 12	Mar. 30	Apr. 15	Mar. 16	Mar. 25	Mar. 16	Mar. 19	Apr. 29	Apr. 20	Mar. 5	Mar. 29	Apr. 29	Mar. 27	Mar. 26	Mar. 25	.....	Apr. 19	Mar. 26	Apr. 7
Bobolink.....	.....	.....	Apr. 2	Mar. 31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cowbird.....	Res.	.....	Apr. 2	Mar. 31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Red-winged Blackbird.....	Res.	.....	Apr. 4	Feb. 5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Baltimore Oriole.....	May 6	.....	.....	May 16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Purple Grackle.....	Res.	.....	Mar. 2	Jan. 9	Feb. 11	Mar. 21	Mar. 15	Res.	Jan. 30	Mar. 8	Mar. 15	Mar. 17	Feb. 19	Feb. 2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chipping Sparrow.....	Apr. 10	.....	Mar. 15	Apr. 10	Apr. 12	Apr. 6	Apr. 1	Apr. 1	Apr. 9	Apr. 24	Apr. 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cheewink.....	Apr. 18	.....	Apr. 18	Apr. 18	Apr. 21	Apr. 23	Apr. 16	Apr. 18	May 1	Apr. 26	May 3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indigobird.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Scarlet Tanager.....	May 13	.....	May 18	May 7	May 10	May 10	May 11	Apr. 29	.....	Apr. 30	Apr. 30	May 1	May 3	May 3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Purple Martin.....	Apr. 17	.....	Apr. 12	Apr. 10	Apr. 1	Apr. 20	May 12	Apr. 27	.....	Mar. 31	Apr. 12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barn Swallow.....	Apr. 10	.....	Apr. 18	May 1	Apr. 9	Apr. 20	May 6	Apr. 14	.....	Apr. 19	Apr. 14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Red-eyed Vireo.....	May 13	.....	.....	May 13	May 12	May 10	May 10	May 10	May 10	May 10	May 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Black and White Warbler.....	Apr. 24	.....	.....	May 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chestnut-sided Warbler.....	May 2	.....	.....	Apr. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ovenbird.....	May 9	.....	.....	May 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maryland Yellow-throat.....	Apr. 18	.....	.....	May 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chat.....	May 17	.....	.....	May 17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Catbird.....	Apr. 23	.....	Apr. 18	Apr. 18	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27
Brown Thrasher.....	Apr. 13	.....	Apr. 18	Apr. 18	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27	Apr. 27
House Wren.....	Apr. 26	.....	.....	Apr. 23	May 1	May 4	May 4	Apr. 20	Apr. 19	Apr. 20	Apr. 26	Apr. 25	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20	Apr. 20
Wood Thrush.....	May 17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hermit Thrush.....	Jan. 19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Robin.....	Res.	.....	Apr. 8	Mar. 15	Jan. 23	Mar. 7	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15	Mar. 15
Bluebird.....	Res.	.....	Feb. 20	Jan. 5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE II.
 SPRING MIGRATION, 1914.
 EARLIEST DATES OF ARRIVAL OF
 THIRTY-TWO SPECIES AT TWENTY-
 THREE STATIONS OUTSIDE THE
 PHILADELPHIA CIRCLE.



Double-crested Cormorant, *Phalacrocorax dilophus dilophus*. Cape May, N. J., April 4 and 18 (*Hand*).

Merganser, *Mergus americanus*, Wayne, May 5 (*Pearson*); near West Chester on the Brandywine, March 18 (*Brinton*); Fish House N. J., February 15—May 5 (*Potter*).

Hooded Merganser, *Lophodytes cucullatus*, Darby Creek near Marple ad. female, January 1 (*Culver*).

Mallard, *Anas platyrhynchos*, Haverford May 2, 4 flying over (*Hallett*); Buckshutem, N. J., Nov. 12 (*Prince*).

Black Duck, *Anas rubripes*, Frankford February 3, also Pensauken Creek, N. J., large numbers March 29 and one July 4 (*Miller*); Ocean City, N. J., May 30 (*Pearson*); Avalon, N. J. September 18 and Maurice River, N. J., November 8, 1913 (*Prince*); Doylestown, April 12 (*MacReynolds*).

Green-winged Teal, *Nettion carolinense*, Fish House, N. J., Mar. 25 (*Potter*).

Pintail, *Dafila acuta*, many on Delaware at Pensauken Creek, N. J., Mar. 29 (*Miller*); Fish House, N. J., May 4-15, and numerous at the mouth of Woodbury Creek, N. J., Apr. 4 (*Potter*).

Wood Duck, *Aix sponsa*, Cape May, N. J., a pair Apr. 10 (*Hand*); Woodstown, N. J., May 1 (*Woodruff*); Kennett Square, a female killed by striking wire, Nov. 14, 1913 (*Thomas*).

Redhead, *Marila americana*, Bridesburg, Oct. 17 (*Miller*); Mouth of Cooper's Creek, N. J., Feb. 27 (*Potter*).

Canvas-back, *Marila valisineria*, Mouth of Cooper's Creek, N. J., Feb. 27 (*Potter*).

Lesser Scaup, *Marila affinis*, Maurice River N. J., Oct. 29-31, 1913 (*Potter*); Fish House, N. J., Mar. 25—May 24 (*Potter*); West Chester, Apr. 5-6 (*Roberts*).

Canada Goose, *Branta canadensis canadensis*, wintered at Cape May, N. J., increasing Mar. 16; big flight Mar. 21 (*Hand*); Maurice River, N. J., flock of 150, Apr. 6 (*Prince*); Avalon, N. J., Sept. 17, 1913 (*Prince*); Concordville, 30 bewildered in heavy fog, Oct. 28, 1913, flew around barn (*Styer*); 9 came down Delaware River at Chester, May 14, alighting on the water, where they were seen the next day also (*Carter*).

Bittern, *Botaurus lentiginosus*, Salem, N. J., April 10 (*Car-*

penter); Buckshutem, N. J., July 16 and Aug. 28 (*Prince*); Ocean City, N. J., May 30 (*Pearson*); Fish House, N. J., April 19–May 2 (*Potter*); Paoli, April 25 (*Pearson*).

Least Bittern, *Ardetta exilis*, Woodstown, N. J., May (*Woodruff*); Paoli, May 11 (*Baily*).

Great Blue Heron, *Ardea herodias herodias*, Camden, N. J., Jan. 14 (*Potter*); Addingham, Mar. 29 (*Culver*); Swarthmore, Mar. 30 (*Harrower*); Maurice River, N. J., May 22–Nov. 12 (*Prince*).

Little Blue Heron, *Florida caerulea*, Stone Harbor, N. J., flock of 12, Sept. 15 (*Prince*).

Egret, *Herodias egretta*, mouth of Pensauken Creek, N. J., Aug. 11 (*Miller*).

King Rail, *Rallus elegans*, Bridesburg, one killed Christmas week, 1913; nest and 7 eggs, June 10 (*Miller*); Salem, N. J., first seen April 26 (*Carpenter*).

Clapper Rail, *Rallus crepitans*, Cape May, N. J., Mar. 27 (*Hand*); mouth of Maurice River, N. J., Sept. 25 and June 11 (*Prince*).

Sora, *Porzana carolina*, Salem, N. J., April 29 (*Carpenter*); Crum Creek near Swarthmore, Mar. 30 (*Harrower*).

Florida Gallinule, *Gallinula galeata*, Richmond, one pair, Bridesburg, two pairs, April 24 (*Miller*); Fish House, N. J., April 25–May 1 (*Potter*).

Coot, *Fulica americana*, Bridesburg, 40 on the Delaware, Oct. 17 (*Miller*); Audubon, N. J.; April 12 (*Tatum*).

Woodcock, *Philohela minor*, Frankford, Nov. 6 and 16, 1913 (*Miller*); Cape May, N. J., Mar. 21 (*Hand*); Buckshutem, N. J., Nov. 11, 1913 (*Prince*); Kennett Square, Mar. 16 (*Thomas*); Doylestown, Mar. 22 (*MacReynolds*); Easton, April 7 (*Marx*); Haverford, May 6 (*Serrill*).

Wilson's Snipe, *Gallinago delicata*, Cape May, N. J., Mar. 18 (*Hand*); Buckshutem, N. J., April 30 (*Prince*); Camden, N. J., April 4–16 (*Potter*); Audubon, N. J., April 12 (*Tatum*); Kennett Square, April 10 (*Thomas*); State College, April 5 (*Mason*); Addingham, April 8 (*Culver*).

Pectoral Sandpiper, *Pisobia maculata*, Aramingo, Phila., one dead, Sept. 14, 1913 (*Miller*).

Least Sandpiper, *Pisobia minutilla*, Cape May, N. J., April 4 (*Hand*); Camden, N. J., May 4–24 (*Potter*).

Semipalmated Sandpiper, *Ereunetes pusillus*, Atlantic City, N. J., May 23 (*Cromie*); Bridesburg, May 12 (*Miller*).

Sanderling, *Calidris alba*, Cape May, N. J., Mar. 30 (*Hand*).

Greater Yellow-legs, *Totanus melanoleucus*, Cape May, N. J., Mar. 18 (*Hand*); Atlantic City, N. J., May 9 (*Cromie*); Avalon, N. J., six, Sept. 15, 1913 (*Prince*); West Chester, one, May 17 (*Roberts*); Camden, N. J., three, May 6 (*Potter*); Audubon, N. J., May 3 (*Tatum*); Bridesburg, May 6 (*Miller*).

Lesser Yellowlegs, *Totanus flavipes*, Tinicum, one shot, Sept. 1, 1913 (*Culver*); Cape May, N. J., April 29 (*Hand*); Salem, N. J., April 29 (*Carpenter*).

Solitary Sandpiper, *Helodromas solitarius*, arrived Addingham, Aug. 6, 1913 (*Culver*).

Upland Plover, *Bartramia longicauda*, Bridesburg, Oct. 18, 1913 (*Miller*); Doylestown, Apr. 19 (*MacReynolds*).

Hudsonian Curlew, *Numenius hudsonicus*, Cape May, N. J., flock of 300, Apr. 23 (*Hand*).

Black-bellied Plover, *Squatarola squatarola*, Cape May, N. J., May 6 (*Hand*); White's Island in the upper Delaware, one on Aug. 10, 1913 (*Culver*).

Killdeer, *Oxyechus vociferus*, Buckshutem, N. J., young out of nest May 11 (*Prince*); Downstown, N. J., nest robbed by Crows, second set laid by May 31 (*Fair*); wintered at Vineland, N. J., Newtown and West Chester.

Semipalmated Plover, *Aegialitis semipalmata*, Cape May, N. J., Apr. 24 (*Hand*); Camden, N. J., May 5 (2), May 6 (3) (*Potter*); Avalon, N. J., Sept. 15, 1913 (*Prince*).

Piping Plover, *Aegialitis meloda*, Cape May, N. J., Sept. 7, 1913 (5), Sept. 13, 1913 (1) (*Culver*).

Turnstone, *Arenaria interpres*, Cape May, N. J., May 6 (*Hand*).

Bob-white, *Colinus v. virginianus*, Addingham, May 22 (*Culver*).

Ruffed Grouse, *Bonasa u. umbellus*, Lopez, nest with 13 eggs, May 17, bird incubating (*Behr*).

Ring-necked Pheasant, *Phasianus colchicus*, Buckshutem, N. J., 3 shot Nov. 10, 1913 (*Prince*).

Mourning Dove, *Zenaidura macroura carolinensis*, flock of 6

wintered at Cape May, N. J. (*Hand*); wintered also at Vine-land, N. J. (*Prince*), and one was seen at Concordville, Jan. 30 (*Styer*).

Turkey Vulture, *Cathartes aura septentrionalis*, flock of 14 observed along the upper Delaware between Manunka Chunk and Martin's Creek, July 11, 1913 (*Marx*); seen through the winter at West Chester and Media and throughout southern N. J.

Goshawk, *Astur atricapillus*, Frankford, Feb. 28 (*Miller*); Wayne, March 29 (*Pearson*).

Red-tailed Hawk, *Buteo borealis borealis*, last seen at Camden, N. J., March 29 (*Potter*).

Red-shouldered Hawk, *Buteo lineatus lineatus*, last seen at Camden, N. J., March 18 (*Potter*); Frankford, Apr. 17 (*Miller*).

Broad-winged Hawk, *Buteo platypterus*, Frankford, arrived March 23, also nest on Wissahickon Creek, June 9 (*Miller*); Addingham, Apr. 13 (*Culver*); Wayne, Apr. 22 (*Pearson*).

Bald Eagle, *Haliaeetus leucocephalus leucocephalus*, Pensauken Creek, N. J., July 8-9 (*Miller*); Easton, Apr. 18 (*Marx*); Buckshutem, N. J., Oct. 10 (*Prince*); Cape May, N. J., Mar. 18 (*Hand*).

Sparrow Hawk, *Falco sparverius sparverius*, Lopez, arrived Apr. 10 (*Behr*).

Osprey, *Pandion haliaëtus carolinensis*, four nests at Buckshutem, N. J., birds incubating, Apr. 30 (*Prince*).

Barn Owl, *Aluco pratincola*, Bridesburg, Jan. 2 and Mar. 4 (*Miller*); Audubon, N. J. one killed Apr. 5 (*Tatum*); Paoli, Apr. 25 (*Pearson*).

Long-eared Owl, *Asio wilsonianus*, Frankford, one found dead Mar. 19 (*Miller*); Swarthmore, 3, Apr. 10-15 (*Palmer*); Haverford, 4 wintered (*Hallett*); Gloucester, N. J. 3 wintered (*Potter*).

Short-eared Owl, *Asio flammeus*, Bridesburg, Nov. 18—Mar. (*Miller*).

Saw-whet Owl, *Cryptoglaux acadica*, Gloucester, N. J. one wintered in a clump of pines in company with 4 Barn and 3 Long-eared Owls; was last seen Feb. 21 (*Potter*); Kennet Square, one found dead Dec. 11, 1913 (*Thomas*).

Screech Owl, *Otus asio asio*, Camden N. J. young out of nest June 9 (*Potter*); Swarthmore, young out June 6 (*Palmer*).

Snowy Owl, *Nyctea nyctea*, shot near Bridesburg, Dec. 1913 and another taken alive at Sandiford, Nov. 1913. Both were mounted (*Miller*).

Yellow-billed Cookoo, *Coccyzus americanus americanus*, last seen Vineland, N. J., Oct. 11, 1913 (*Prince*).

Belted Kingfisher, *Ceryle alcyon alcyon*, wintered at Bordentown, (Flynn); also observed Frankford, Feb. 4 (*Miller*); Swarthmore, last of Feb. (*Palmer*); Camden, N. J., Feb. 28 (*Potter*); Holmesburg, Feb. 4 (*Miller*).

Hairy Woodpecker, *Dryobates villosus villosus*, Camden, N. J., nest with young, May 24 (*Potter*).

Yellow-bellied Sapsucker, *Sphyrapicus varius varius*, observed in winter at Swarthmore, Jan. 28 (*Howard*); Moorestown, N. J., to Jan. 20 (*Mickle*); Salem, N. J., in Feb. (*Carpenter*).

Red-headed Woodpecker, *Melanerpes erythrocephalus*, wintered at State College (*Mason*); feeding young in nest Addingham, Aug. 19 (*Culver*); one at Haddonfield, N. J., July 13 (*Moore*).

Flicker, *Colaptes auratus luteus*, some wintered at Addingham, and Vineland N. J., also seen in winter at Frankford, Jan. 30; Holmesburg, Feb. 4; Yardville, N. J., Feb. 18; Salem, N. J., Feb. 23; West Chester, Jan. 18.

Yellow-bellied Flycatcher, *Empidonax flaviventris*, Doyles-town, May 17 (*MacReynolds*).

Horned Lark, *Otocoris alpestris alpestris*, Kennett Square, 10 on Feb. 16, last seen Mar. 11 (*Thomas*); Aramingo, Phila., 10 on Feb. 22 (*Miller*); Concordville, Mar. 8 (*Styer*); Easton, Mar. 7, also during Feb. (*Marx*); Darby, 12 on Mar. 7 and 2 at Lansdowne same day (*Carter*); Ardmore, 100 on Mar. 7 (*Baily*).

Prairie Horned Lark, *Otocoris alpestris praticola*, Addingham, 8 on Mar. 8, specimens secured (*Culver*).

Crow, *Corvus brachyrhynchos brachyrhynchos*, 2000 roosted in Busby's thicket, Frankford (*Miller*).

Blue Jay, *Cyanocitta cristata cristata*, several at Wayne all winter (*Alexander*), and one pair at Addingham (*Culver*). At the following stations none were seen until date given: Kennett Square, May 1; West Chester, May 2; Easton, May 3; Media, Apr. 25 (plentiful May 2); Frankford, May 15.

Starling, *Sturnus vulgaris vulgaris*, reported from the follow-

ing stations: Vineland, Salem, Atco, Downstown and Yardville in N. J., and from Penna. at Newtown Square., Frankford, Kennett Square (first record Mar. 8, 1913), Concordville, West Chester, Newtown, Easton (first record Jan. 17, 1912, next Feb. 19, 1914), Media, Swarthmore, Ardmore, Haverford and Wayne.

Cowbird, *Molothrus ater ater*, Bordentown, Feb. 18 (*Flynn*).

Red-winged Blackbird, *Agelaius phoeniceus phoeniceus*, wintered at Vineland and Cape May, N. J., also observed in winter at Salem N. J., Feb. 5, and Bordentown, N. J., Feb. 20.

Meadowlark, *Sturnella magna magna*, wintered at Melrose, Media, Wayne, Addingham, Swarthmore, Forestgrove, Doylestown, West Chester, Concordville, Trenton, N. J., and all over southern New Jersey. Seen in winter at Easton, Jan. 1; Yardville, N. J., Feb. 22; Newtown, Jan. 25.

Purple Grackle, *Quiscalus quiscula quiscula*, wintered at Cape May, N. J., and West Chester; reported in winter from Wayne, Feb. 20; Haverford, Jan. 27; Swarthmore, Jan. 29; Yardville, N. J., Feb. 2; Bordentown, N. J., Feb. 19; Newtown, Jan. 24; Woodstown, N. J., Jan. 9; Salem, N. J., Feb. 28. At Chester six were seen flying north against a driving snowstorm following a week of intensely cold weather (*Carter*).

Purple Finch, *Corpodacus purpureus purpureus*, Holmesburg, Dec. 31 (5) (*Miller*); Laurel Springs, N. J., Mar. 2 (*Iomlinson*); Haverford, none in winter, frequent in spring (*Hallett*); Easton, none in winter after Oct. 12, 1913; occurred in spring, April 17-May 11 (*Marx*); none at Addingham until May 3 (*Culver*); Wayne, Mar. 7-May 2 (*Steele*); Kennett Square, first seen April 30 (*Thomas*).

Red Crossbill, *Loxia curvirostra minor*, Swarthmore, pair on Mar. 22 (*Palmer*).

Redpoll, *Acanthis linaria linaria*, Camden, N. J., Feb. 25 (8), 27 (5), 28 (20), Mar. 24 (2) (*Potter*); Kennett Square, Mar. 3 (1) (*Thomas*); West Chester, Mar. 5 (*Roberts*); Fairmount Park, Mar. 7 (*Culver* and *Pearson*); Addingham, Mar. 8 (2) (*Culver*).

Goldfinch, *Astragalinus tristis*, ten to twelve wintered at Addingham (*Culver*); Easton, one, Feb. 24, then none until Mar. 24 (*Marx*); Aldan, not seen until April 29 (*Morley*).

Pine Siskin, *Spinus pinus*, Marple, Nov. 2, 1913 (*Culver*); Vineland, N. J., Oct. 30 (2), Nov. 10, 1913, many with Goldfinches (*Prince*); Yardville, N. J., Nov. 11, 1913 (*Allinson*); Atco, N. J., Jan. 20, large flock (*Pyle*); Woodstown, N. J., Jan. 23 (*Woodruff*); Easton, Oct. 29, 1913 (1), May 8-18, pairs and small flocks (*Marx*); Camden, N. J., last seen Feb. 27 (*Potter*); Atlantic City, N. J., Apr. 30 (*Cromie*); Concordville, Feb. 26 (*Styer*); West Chester, Apr. 22 (*Ehinger*), Apr. 8, May 17 and 19 (*Roberts*).

Snow Bunting, *Plectrophenax nivalis nivalis*, West Chester, Mar. 2 (13) (*Ehinger*); Camden, N. J., Feb. 25-27 (1) (*Potter*); Delair, N. J., 2 late in February, one was shot and mounted. Ambler, Pa., one shot by Jas. R. Gillen Mar. 18 (*Miller*).

Grasshopper Sparrow, *Ammodramus savaanarrum australis*, Addingham, Nov. 4, 1913 two—one shot (*Culver*).

Sharp-tailed Sparrow, *Passerherbulus caudacutus* Atlantic City, N. J., May 16 (*Cromie*); Avalon, N. J., Sept. 14 (*Prince*).

Henslow's Sparrow, *Passerherbulus henslowi henslowi*, summer resident as usual along Maurice River, N. J. (*Prince*); Ocean City, N. J., May 30 (*Prince*).

White-crowned Sparrow, *Zonotrichia leucophrys leucophrys*, Moorestown, N. J., May 13 and 17 (*Mickle*).

White-throated Sparrow, *Zonotrichia albicollis*, Atlantic City, N. J., Sept. 24-May 17 (*Cromie*); Vineland, N. J., Oct. 5-May 1 (*Prince*); Downstown, N. J., Sept. 28-May 3 (*Fair*); Rancocas, N. J., Sept. 29-May 10 (*Haines*); Kennett Square, Mar. 23-May (*Thomas*); Concordville, Sept. 28-May 19 (*Styer*); West Chester, Oct. 6-May 6 (*De Haven*); Easton, Apr. 19-May 29 (*Marx*); Wayne, Sept. 28-May 17 (*Baker*). Last seen: Woodstown, N. J., Apr. 26 (*Woodruff*); Buckshutem, N. J., Apr. 12 (*Prince*); West Chester, May 19 (*Roberts*); Camden, N. J., May 17 (*Potter*); Media, May 11 (*Allen*); Swarthmore, May 10 (*Harrower*); Haverford, May 22 (*Hallett*); Addingham, May 15 (*Culver*); Rosemont, May 17 (*Scoville*).

Tree Sparrow, *Spizella monticola monticola*, last seen: Doylestown, N. J., Apr. 19 (*Fair*); Concordville, Mar. 26 (*Styer*); West Chester, Apr. 5 (*Roberts*); Camden, N. J., Apr. 5 (*Potter*).

Field Sparrow, *Spizella pusilla pusilla*, wintered at Haddonfield, N. J. (*Rhoads*); Frankford, Jan. 30 (*Miller*); Audubon, N. J., Jan. 17 (*Tatum*).

Junco, *Junco hyemalis hyemalis*, Atlantic City, N. J., Sept. 24–April 4 (*Cromie*); Downstown, N. J., Oct. 12–April 22 (*Fair*); Kennett Square, Oct. 4–May 2 (*Thomas*); West Chester, Oct. 4–May 2 (*DeHaven* and *Roberts*); Wayne, Sept. 28–April 30 (*Baker*); Easton, Sept. 15–May 3 (*Marx*); Moorestown, N. J., Oct. 4–April 12 (*Mickle*); State College, Oct. 8–April 28 (*Mason*). Last seen: Woodstown, N. J., May 1 (*Woodruff*); Trenton, N. J., April 30 (*Abbott*); Camden, N. J., April 22 (*Potter*); Swarthmore, May 10 (*Harrower*); Addingham, April 27 (*Culver*); Haverford, May 2 (*Hallett*). Arrived: Rancocas, N. J., Sept. 29, 1913 (*Haines*).

Lincoln's Sparrow, *Melospiza lincolni lincolni*. One seen in yard in West Philadelphia, May 2, studied for an hour at a distance of six feet (*Stone*).

Fox Sparrow, *Passerella iliaca iliaca*, Swarthmore, Jan. 1 (1) (*Palmer*); Oak Lane, wintered (*Barker*).

Chewink, *Pipilo erythrophthalmus erythrophthalmus*, Camden, N. J., Dec. 25, 1913 (1) (*Potter* and *Culver*); Yardville, N. J., Feb. 19–Mar. 1 (1), probably perished in blizzard of early March (*Allinson*); Juniata Park, Frankford, one female, Dec. 3 (*Miller*).

Cardinal, *Cardinalis cardinalis cardinalis*, Easton, one on March 24 (*Marx*).

Indigobird, *Passerina cyanea*, Vineland, N. J., still singing, Sept. 28, 1913 (*Prince*).

Purple Martin, *Progne subis subis*, Maurice River, N. J., full grown young July 16 (*Prince*).

Tree Swallow, *Iridopronce bicolor*, Avalon, N. J., thousands Sept. 18, (*Prince*).

Northern Shrike, *Lanius borealis*, Cape May, N. J., Jan. 10 (*Hand*); Gloucester, N. J., Feb. 21 (*Potter*); Wayne, Mar. 9 (*Steele*); Mar. 23–27 (*Thomas*); Moorestown, N. J., Apr. 5 (*Mickle*).

Prothonotary Warbler, *Protonotaria citrea*, one seen in river swamp two miles west of South Vineland, N. J., June 19, 1914.

“ Heard note resembling that of the Water-Thrush and finally the bird came to within 15 feet of me and was easily identified ” (Potter). [A very important record which certainly indicates the probable breeding of this species in New Jersey—W. S].

Golden-winged Warbler, *Vermivora chrysoptera*, Germantown Apr. 28 (Emlen); Easton, May 4 (Marx); Trenton, N. J., May 5 (Abbott); Camden, N. J., May 6-7 (Potter); Haddonfield, N. J., May 7 (Rhoads); Haverford, May 7 (Hallett); Moorestown, N. J., May 8 and 10 (Linton); Addingham Sept. 14, 1913 (Culver).

Nashville Warbler. *Vermivora rubricapilla rubricapilla*, Easton, Apr. 29 (Marx); Haverford, May 2 (Hallett); Camden, N. J., May 7 (2) (Potter).

Tennessee Warbler, *Vermivora peregrina*, West Philadelphia, Oct. 1, 1913 (Stone).

Cape May Warbler, *Dendroica tigrina*, Avalon, N. J., Sept. 15, 1913 (Prince); Kennett Square, Oct. 2, 1913 (Thomas); Addingham, Sept. 13, 1913 (Culver); West Chester, May 7 (Ehinger) and May 11 (Sharples); State College, May 7-12 (Mason); Haverford, May 11-16 (Serrill and Hallett); Swarthmore, May 11 (2), May 16, 17 (Palmer and Harrower); Moorestown, N. J., May 13, 16, 17 (Mickle); Chestnut Hill, May 14 (Platt); Concordville, May 18 (Styer); Kennett Square, May 15 common (Thomas).

Myrtle Warbler, *Dendroica coronata*, Vineland, N. J., Nov. 13, 1913 (Prince); Atlantic City, N. J., Jan. 7 (Cromie); a few wintered at Oak Lane (Barker) and at Haddonfield, N. J., (Rhoads).

Cerulean Warbler, *Dendroica caerulea*, West Chester, May 9 one carefully identified (Ehinger).

Bay-breasted Warbler, *Dendroica castanea*, Camden, N. J., May 6 (Potter); Kennett Square, May 3 (Thomas); Doylestown, May 10 (MacReynolds); Aldan, May 11 and Addingham, May 15 (Culver); Wayne, May 12 (Baker); Swarthmore, May 13 and 23 (Harrower); 22 (3) (Palmer); Woodstown, N. J., May 14 (Woodruff); Crum Creek, May 17 (Serrill); Haverford, May 19 (Serrill) and May 21 (Hallett); West Chester, May 18 (Ehinger); Atlantic City, N. J., May 23 (Cromie); Audubon, N. J., May 20 (Tatum).

Water-Thrush, *Seiurus noveboracensis noveboracensis*, Vineland, N. J., Aug. 12-30 and Oct. 3 (*Prince*).

Louisiana Water-Thrush, *Seiurus motacilla*, Addingham, Aug. 6, 2, one shot (*Culver*).

Hooded Warbler, *Wilsonia citrina*, Kennett Square, May 12 (*Thomas*); West Chester, May 14 (*Ehinger*); State College, May 17 (*Mason*); Cape May, N. J., April 27 (*Hand*).

Wilson's Warbler, *Wilsonia pusilla*, Vineland, N. J., Sept. 23 and 28 (*Prince*); Kennett Square, May 14-15 (*Thomas*); West Chester, May 14 (*Ehinger*); Laurel Springs, N. J., May 15 (*Haine*); Camden, N. J., May 15 and 17 (2) (*Potter*); Swarthmore, May 20 (*Palmer*); Addingham, May 18 (*Culver*); Haverford, May 17 and 21 (*Serrill*).

Titlark, *Anthus rubescens*, Concordville, Mar. 8 (*Styer*); Kennett Square, Apr. 2, flock of 20 (*Thomas*); West Chester, Apr. 25 (*Roberts*); Downstown, N. J., May 4 (*Fair*).

Mockingbird, *Mimus polyglottos polyglottos*, Frankford, Oct. 3, one eating pokeberries (*Miller*); Moorestown, N. J., Mar. 22 one watched for an hour (*Wierman*).

Winter Wren, *Nannus hiemalis hiemalis*, Easton, Sept. 15-Apr. 26 (*Marx*); Moorestown, N. J., Nov. 4, 1913 (*Mickle*); Addingham, last seen April 22 (*Culver*); Ardmore, May 3 (*Baily*).

Brown Creeper, *Certhia familiaris americana*, Atlantic City, N. J., Sept. 24-May 16 (*Cromie*); West Chester, Oct. 6-May 1 (*DeHaven*); Easton, Sept. 15-May 1 (*Marx*); State College, Oct. 16-April 28 (*Mason*); Rancocas, N. J., Sept. 15-May 3 (*Haines*). Last seen: Atco, N. J., April 25 (*Pyle*); Camden, N. J., May 4 (*Potter*); Swarthmore, April 25 (*Howard*); Addingham, April 27 (*Culver*). Arrived Moorestown, N. J., Sept. 29, 1913 (*Mickle*).

White-breasted Nuthatch, *Sitta carolinensis carolinensis*, Atlantic City, N. J., Sept. 24-May 2 (*Cromie*); Moorestown, N. J., Oct. 5-April 12 (*Mickle*).

Red-breasted Nuthatch, *Sitta canadensis*, arrived: Vineland, N. J., Oct. 30 (*Prince*); Easton, Sept. 15 (1) (*Marx*); Wayne, Oct. 1, 13, 26 and Nov. 2 (*Baker*). Last seen: Swarthmore, May 13 (1) (*Palmer*); Haverford, May 11 (*Serrill* and *Hallett*); Wayne, April 30 (*Baker*); Moorestown, Jan. 12 (*Wierman*); Atlantic City, April 18 (*Cromie*).

Black-capped Chickadee, *Penthestes atricapillus atricapillus*, unusually abundant, Swarthmore, until Apr. 25 (*Howard*); West Chester, Oct. 7—Apr. 22 (*DeHaven*); Easton, Oct. 4—May 15 (*Marx*); State College, Oct. 16—May 10 (*Mason*); Wayne, until Apr. 25 (*Pearson*); abundance “unprecedented” at West Chester, Camden, N. J., Media, Lansdowne, Wayne and Addingham.

Golden-crowned Kinglet, *Regulus satrapa satrapa*, West Chester, Oct. 7—Apr. 22, (*DeHaven*); Easton, Oct. 4—May 3 (*Marx*); arrived; Vineland, N. J., Oct. 30 (*Prince*); Rancocas, N. J., Sept. 29 (*Haines*); Moorestown, N. J., Sept. 29 (*Mickle*); last seen: Atlantic City, N. J., Apr. 18 (*Cromie*); Kennett Square, Apr. 19—25 (*Thomas*); Wayne, Apr. 25 (*Pearson*); Swarthmore, Apr. 23 (*Harrower*); Addingham, Apr. 26 (*Culver*); Haverford, Apr. 7 (*Hallett*).

Ruby-crowned Kinglet, *Regulus calendula calendula*, Vineland, N. J., Nov. 4. (*Prince*).

Blue-gray Gnatcatcher, *Poliophtila caerulea caerulea*, Cape May, N. J., May 17 (*Hand*); Kennett Square, saw and studied one closely Apr. 19 (*Thomas*).

Hermit Thrush, *Hylocichla guttata pallasi*, Vineland, N. J., Nov. 4 (*Prince*); Atlantic City, N. J., Jan. 19 (*Cromie*).

Robin, *Planesticus migratorius migratorius*, winter records, Media, Feb. 20; Allentown, N. J., Feb. 17; Moorestown, N. J., Jan. 15; Newtown, Jan. 22; Woodstown, N. J., Jan. 23; reported resident at Vineland and Cape May.

Bluebird, *Sialia sialis sialis*, resident in N. J. at Atco, and at Addingham and Moylan, Pa. West Chester, Jan. 4; Woodstown, N. J., Jan. 5; Moorestown, N. J., Jan. 16; Laurel Springs, N. J., Jan. 27; Moylan, Jan. 28; Ardmore, Jan. 28; Rosemont, Jan. 30; Salem, N. J., Feb. 20; Swarthmore, Feb. 23; Haverford, Feb. 27; Frankford, Feb. 28.