

Report of the Spring Migration of 1917.

COMPILED BY WITMER STONE.

FORTY-SEVEN schedules were returned by D. V. O. C. Migration Corps for the year 1917 as may be seen from the appended list of observers. Additional recruits are particularly desired especially from stations within the ten-mile radius in order to keep this valuable piece of investigation fully up to the standard of past years. Names of competent observers may be sent to Dr. Witmer Stone, Academy of Natural Sciences, Logan Square, Philadelphia, and schedules and instructions will be forwarded at once.

We should again urge all observers to study more carefully the suggestions contained in the 1914 Report, a copy of which is enclosed with each blank schedule for 1918, in order that they may familiarize themselves with the normal time of arrival of the various species. An unusually early record always suggests a possible error in identification and should be accompanied by notes as to the circumstances of the observation and the methods employed to insure accuracy. Unless such circumstantial evidence accompanies the record it may be omitted from the printed list. The same conditions apply also to rare and unusual species.

New Jersey.

Cape May, H. W. Hand.	Moorestown, Miss A. A.
Atlantic City, Mrs. N. S. Cromie.	Mickle, S. S. Haines, M. A. Linton and Miss L. M. Jacob.
Vineland, Mrs. A. K. Prince.	Moorestown, Mrs. V. Wier- man.
Downstown, W. W. Fair.	Rancocas, Miss E. Haines.
Camden, J. K. Potter.	
Audubon, J. W. Tatum.	

Mt. Holly, N. D. W. Pumyea. Bordentown, Miss M. V.
 Beverly, D. G. Baird. Flynn.
 Beverly, J. F. Street.

Pennsylvania.

Concordville, Miss E. P. and J. F. Styer.	Haverford, W. J. Serrill.
Media, S. Omensetter.	Haverford, S. Scoville Jr.
Media, J. P. Moore.	Wayne, Mrs. M. V. Alexander.
Media, Miss L. G. Allen.	Wayne, Miss. Mildred Cor- nelius.
Media, Miss M. E. Yarnall.	Westtown, W. B. Evans, C. W. Palmer, etc.
Moylan, Miss J. H. Binney.	West Chester, R. P. Sharples.
Swarthmore, Samuel C. Palmer.	West Chester, I. G. Roberts.
Swarthmore, P. E. Howard.	West Chester, Mrs. S. C. DeHaven.
Swarthmore, J. M. Ellis.	Newtown, Rev. A. Patman.
Ridley Park, R. L. Lloyd.	Doylestown, G. MacReynolds.
Lansdowne, J. D. Carter.	Forest Grove, Miss A. K. Bewley.
Lansdowne, W. E. Roberts.	Buckingham, Miss E. C. Cox.
Lansdowne, G. H. Hallett, Jr.	Collegeville, W. A. Kline.
Chestnut Hill, W. H. Trotter.	Reading, E. L. Poole.
Germantown, Stewardson Brown.	Perkasie, A. C. Rutter.
Frankford, R. F. Miller.	Lopez, Otto Behr.
Mt. Airy, S. H. Barker.	
Ardmore, W. L. Baily.	

The most striking feature of this year's migration was the visit of the Evening Grosbeaks and Hudsonian Chickadees, entirely new birds so far south. Equally unprecedented was the lateness of the May migrants. The March and April arrivals did not differ materially from normal, some being earlier and others later by from one to five days, but species normally arriving in bulk from May 4 to 12, were from seven to twelve days late. Upon examining the weather report for May we find a temperature of from 11 to 14 degrees below normal from May 4 to 8, remaining 7 degrees below normal until the 13th. This unquestionably affected the late migrants which had probably

reached our southern shores just in time to meet the cold spell which was accompanied at many points by rain, making migration impossible.

A sudden rise in temperature from May 18 to 20, witnessed a tremendous arrival of migrants while subsequent low temperature delayed the departure of the last stragglers well into June. Altogether it was a remarkable year and the greatest departure from normal dates of arrival in May migrants that we have seen in our seventeen years of continuous cooperative observation.

NAME.	Rancocas, N. J. N. 4; E. 16.	Moorestown, N. J. N. 1; E. 12.	Camden, N. J. N. 0; E. 2.	Andubon, N. J. S. 4; E. 5.	Media, Pa. S. 2; W. 12.	Swarthmore, Pa. S. 3; W. 10.	Ridley Park, Pa. S. 5; W. 9.	Lansdowne, Pa. S. 1; W. 6.	Haverford and Ardmore, Pa. N. 4; W. 8.	Wayne, Pa. N. 6; W. 11.	Germanstown, Phila. N. 6; W. 1.	Mr. Atry and Chestnut Hill, N. 8; W. 1.	Frankford, Phila. N. 5; E. 5.	Bulk Arrival 1917
Canada Goose	May 3	Feb. 27	May 23	Apr. 29	Mar. 10	Mar. 24	May 26	May 7	Apr. 22	May 25	Apr. 21	Apr. 14	Apr. 21	Apr. 23
Green Heron	May 12	Apr. 28	Res.	Apr. 29	Apr. 24	Apr. 23	May 12	May 7	May 9	May 9	Apr. 14	Apr. 14	Apr. 14	Apr. 14
Night Heron	May 12	Apr. 29	Apr. 21	Apr. 29	Apr. 21	May 12	May 13	May 7	May 9	May 12	Apr. 28	Apr. 28	Apr. 28	Apr. 23
Spotted Sandpiper	Feb. 21	Apr. 28	May 3	Apr. 29	Apr. 27	Apr. 22	May 6	May 7	May 12	May 15	May 8	May 8	May 8	May 3
Solitary Sandpiper	May 12	Mar. 12	Mar. 11	Apr. 1	May 2	May 12	May 6	Mar. 24	Mar. 18	Feb. 27	Mar. 11	Feb. 24	Feb. 24	Mar. 11
Killdeer	May 12	Mar. 3	Mar. 21	Apr. 1	Mar. 20	Feb. 20	Apr. 1	Apr. 1	Apr. 15	Mar. 10	Mar. 30	Mar. 30	Mar. 26	Mar. 22
Dove	Res.	Apr. 15	Mar. 22	Apr. 1	Mar. 29	Mar. 29	Apr. 1	Apr. 1	Apr. 15	Apr. 15	Mar. 11	Mar. 11	Apr. 14	Apr. 14
Osprey	Res.	Res.	Mar. 22	Jan. 7	Mar. 18	Res.	Apr. 22	Feb. 16	Feb. 17	Apr. 27	Mar. 11	Mar. 11	Apr. 14	Apr. 14
Turkey Vulture	May 30	May 2	May 27	May 20	May 20	May 19	May 12	May 24	May 20	May 20	May 21	May 21	May 21	May 19
Yellow-billed Cuckoo	May 13	May 13	May 13	May 20	May 20	May 19	May 12	May 24	May 20	May 18	May 21	May 21	May 21	May 19
Black-billed Cuckoo	Mar. 25	Mar. 25	Mar. 22	Apr. 1	Apr. 8	Mar. 25	Apr. 1	Apr. 17	Mar. 25	Mar. 31	Mar. 11	Mar. 11	Mar. 24	Mar. 25
Kingfisher	Mar. 18	Mar. 18	Apr. 16	Apr. 1	Apr. 5	Apr. 16	Apr. 16	Apr. 17	Apr. 12	Apr. 12	Mar. 11	Mar. 11	Apr. 29	Apr. 12
Yellow-bellied Sapsucker	May 20	May 20	May 23	May 17	May 22	May 3	May 3	May 4	May 4	May 4	May 20	May 20	Apr. 29	Apr. 12
Red-headed Woodpecker	Mar. 31	Mar. 25	Mar. 31	Mar. 27	Feb. 25	Feb. 20	Mar. 25	May 8	May 11	Mar. 14	Mar. 4	Mar. 4	May 10	Apr. 12
Flicker	Apr. 17	Apr. 21	Apr. 21	Apr. 21	Apr. 22	Apr. 29	Apr. 29	Mar. 25	Mar. 11	Mar. 14	Mar. 4	Mar. 4	Mar. 23	Mar. 18
Whip-poor-will	June 2	June 2	May 25	Apr. 21	Apr. 22	Apr. 29	Apr. 29	Mar. 25	May 17	Mar. 14	Apr. 21	Apr. 21	Apr. 21	Mar. 18
Nighthawk	Apr. 18	Apr. 20	Apr. 21	Apr. 21	Apr. 19	Apr. 19	Apr. 19	May 19	May 26	May 27	Apr. 28	Apr. 28	Apr. 21	Apr. 21
Chimney Swift	May 19	May 15	May 26	Apr. 21	Apr. 19	Apr. 19	Apr. 19	May 19	Apr. 21	Apr. 20	Apr. 28	Apr. 22	Apr. 20	May 20
Hummingbird	May 14	May 4	May 16	May 17	May 18	May 27	May 20	May 11	May 16	May 20	May 20	May 6	Apr. 21	May 19
Kingbird	May 18	May 4	May 16	May 13	May 9	May 23	May 20	May 11	May 11	May 22	May 6	May 6	May 12	May 19
Crested Flycatcher	May 18	May 4	May 16	May 13	May 9	May 23	May 20	May 11	May 11	May 22	May 6	May 6	May 12	May 16
Phoebe	Mar. 25	Mar. 25	Apr. 1	Apr. 29	Mar. 22	Mar. 25	Apr. 1	Mar. 26	Mar. 25	Mar. 31	Mar. 31	Mar. 31	Mar. 23	Mar. 25

NAME.	Ranocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media, Pa.	Swarthmore, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Armore and Haverford, Pa.	Wayne, Pa.	Germtown, Phila.	Mr. Aity and Chestnut Hill, Phila.	Frankford, Phila.	Bulk Arrival 1917
Wood Pewee	May 26	May 11	May 23	May 13	May 12	May 12	May 23	May 21	May 12	May 20	May 30	May 20	May 19	May 19
Acadian Flycatcher	May 22	May 22	May 16	May 20	May 6	May 20	May 27	May 27	May 5	May 24	May 21	May 20	May 20	May 20
Least Flycatcher	May 7	May 7	May 16	May 20	May 6	May 4	May 19	May 19	May 6	May 12	May 12	May 11	May 12	May 12
Bobolink	May 25	May 25	May 20	May 27	May 18	May 18	May 13	May 13	May 9	May 12	May 12	May 11	May 11	May 11
Cowbird	Feb. 25	Mar. 10	Mar. 11	Jan. 10	Mar. 15	Mar. 16	Apr. 22	Apr. 14	Apr. 1	Mar. 31	May 20	May 20	Mar. 22	Mar. 31
Red-winged Blackbird	Res.	Res.	Res.	Feb. 25	Mar. 4	Feb. 27	Mar. 18	Mar. 8	Feb. 17	Feb. 27	May 16	Mar. 11	Mar. 10	Mar. 10
Meadowlark	May 4	May 11	May 12	May 31	May 22	May 4	May 18	May 6	May 13	May 12	May 16	May 16	May 16	May 12
Orchard Oriole	May 11	May 3	May 3	May 20	May 4	May 5	May 12	May 3	May 12	May 9	May 16	May 16	May 6	May 11
Baltimore Oriole	May 11	May 3	May 3	May 20	May 4	May 5	May 12	May 3	May 12	May 9	May 16	May 16	May 6	May 11
Rusty Blackbird	Feb. 24	Feb. 24	Mar. 18	Apr. 1	Feb. 24	Feb. 20	Mar. 9	Feb. 20	Feb. 23	Feb. 25	Feb. 25	Feb. 18	Feb. 23	Feb. 24
Purple Grackle	Apr. 28	Apr. 1	Apr. 8	Apr. 1	Apr. 5	Mar. 30	Apr. 1	Apr. 1	Mar. 26	Mar. 14	Apr. 1	Apr. 1	Apr. 1	Apr. 1
Vesper Sparrow	Apr. 28	Apr. 1	Apr. 4	Apr. 1	Apr. 5	Mar. 30	Apr. 1	Apr. 1	Apr. 15	Mar. 14	Apr. 1	Apr. 1	Apr. 1	Apr. 1
Savannah Sparrow	May 19	May 17	Apr. 4	Apr. 1	May 17	May 19	Apr. 1	Apr. 18	Apr. 18	May 11	May 11	Apr. 20	Apr. 20	May 11
Grasshopper Sparrow	Mar. 31	Mar. 31	Apr. 6	Apr. 1	Mar. 31	Apr. 1	Apr. 6	Mar. 31	Apr. 2	Apr. 1	Apr. 1	Apr. 1	Apr. 1	Apr. 1
Chipping Sparrow	Mar. 31	Mar. 31	Res.	Jan. 15	Mar. 15	Feb. 24	Apr. 22	Mar. 30	Mar. 25	Mar. 10	Apr. 19	Apr. 19	Apr. 19	Mar. 25
Field Sparrow	May 3	Apr. 29	Res.	Jan. 14	Apr. 14	Apr. 14	Apr. 1	Apr. 1	Apr. 22	Apr. 27	Apr. 27	Apr. 21	Apr. 21	Mar. 25
Swamp Sparrow	Mar. 7	Mar. 3	Mar. 4	Mar. 4	Mar. 11	Feb. 20	Apr. 1	May 11	Mar. 17	Mar. 1	Mar. 18	Mar. 18	Mar. 3	Mar. 7
Fox Sparrow	May 3	Apr. 21	Apr. 21	Apr. 1	Apr. 4	Apr. 4	Apr. 1	Apr. 15	Apr. 21	Apr. 19	Apr. 19	Apr. 22	Apr. 21	Apr. 21
Chewink	May 12	May 12	May 13	May 13	May 12	May 12	Apr. 15	Apr. 15	Apr. 15	Apr. 13	Apr. 19	Apr. 22	Apr. 21	Apr. 21
Rose-breasted Grosbeak	May 18	May 7	May 23	May 20	May 6	May 3	May 19	May 14	May 2	May 13	May 14	May 11	May 11	May 18
Indigobird	May 23	May 17	May 24	May 21	May 15	May 7	May 12	May 19	May 11	May 14	May 19	May 20	May 11	May 18
Scarlet Tanager	May 23	May 17	May 24	May 21	May 15	May 7	May 12	May 19	May 11	May 14	May 19	May 20	May 11	May 18
Purple Martin	Apr. 4	Apr. 4	Apr. 29	Apr. 29	May 11	May 11	May 11	May 11	May 11	May 11	May 19	May 19	Apr. 30	Apr. 30

NAME.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media, Pa.	Swarthmore, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Haverford and Ardmore, Pa.	Wayne, Pa.	Germanstown, Phila.	Mr. Atty and Chestnut Hill Phila.	Frankford, Phila.	Bulk Arrival 1917
Cliff Swallow	May 6			May 13					May 26					
Barn Swallow	Apr. 19	Apr. 15	Apr. 24	Apr. 21	Apr. 21	Apr. 20		Apr. 21	Apr. 22	Apr. 14			Apr. 17	Apr. 21
Tree Swallow		Apr. 23	Apr. 14	May 13				Mar. 30	Apr. 28	Apr. 22			May 13	Apr. 23
Bank Swallow			Apr. 28	Apr. 29	Apr. 21	Apr. 28	May 20						Apr. 22	Apr. 27
Rough-winged Swallow			Apr. 25	Apr. 21	Apr. 21	Apr. 21			Apr. 22				Apr. 18	Apr. 22
Cedarbird	May 25	Mar. 14	May 27	May 17		May 22	Jun. 4	Jun. 2	May 26	May 27			Apr. 28	
Red-eyed Vireo	May 18	May 12	May 23	Apr. 29	May 16	May 5		May 18	May 9	May 17			May 19	May 17
Warbling Vireo	May 9	May 2				May 6		May 3	May 14	Apr. 27	May 31			May 3
Yellow-throated Vireo	May 16	May 10	May 16	May 27		May 12		May 16	May 15				May 19	May 16
Solitary Vireo		May 10	Apr. 29	Apr. 29		May 19	Apr. 22	May 3	Apr. 21	May 12			May 1	Apr. 29
White-eyed Vireo	May 19	May 12		May 20		May 19		May 19	May 19				May 16	May 19
Black and White Warbler	Apr. 27	Apr. 28	Apr. 30	Apr. 29	Apr. 22	Apr. 21	May 6	May 2	Apr. 29	Apr. 27	Apr. 19		Apr. 22	Apr. 29
Worm-eating Warbler		May 17				May 12		May 27	May 27	May 12			May 16	May 19
Blue-winged Warbler		May 11	May 14		May 1	May 18		May 12	May 15	May 17			May 19	May 16
Parula Warbler	May 12	May 7	May 13	May 20		May 14		May 14	May 11	May 9	May 5		May 19	May 13
Yellow Warbler	Apr. 21	Apr. 26	May 3	Apr. 21	May 5	May 7	Apr. 22	Apr. 21	May 2	May 19	May 16		Apr. 28	May 2
Black-throated Blue Warbler	May 12	May 12	May 13	May 13	May 11	May 12	May 13	May 4	May 6	May 12	May 16		May 16	May 12
Myrtle Warbler	May 3	Apr. 25	Apr. 19	Apr. 21	Apr. 20	Apr. 21	Apr. 22	Apr. 22	Apr. 21	Apr. 25			Apr. 22	Apr. 22
Magnolia Warbler	May 15	May 12	May 14	Apr. 29	May 8	May 12		May 15	May 11	May 17	May 16		May 6	May 14
Chestnut-sided Warbler	May 12	May 11	May 16	May 20	May 11	May 12	May 12	May 11	May 11	May 15	May 16		May 6	May 12
Black-poll Warbler	May 23	May 17	May 23	May 20	May 7	May 20		May 21	May 19	May 31	May 27		May 19	May 20
Blackburnian Warbler		May 4	May 23	May 20		May 19	May 13	May 19	May 19	May 15			May 19	May 19
Black-throated Green Warbler	May 19	May 10	May 11	May 13	May 13	May 4	May 12	May 3	May 6	May 12			May 13	May 11

NAME.	Ranocosa, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media, Pa.	Swarthmore, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Haverford and Ardmore, Pa.	Wayne, Pa.	Germanstown, Phila.	Mr. Ahy and Chestnut Hill, Phila.	Frankford, Phila.	Bulk Arrival 1917
Pine Warbler	May 12	. . . . .	Apr. 17	Apr. 15	. . . . .	Apr. 30	. . . . .	. . . . .	Apr. 17	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Yellow Palm Warbler . . . . .	. . . . .	. . . . .	Apr. 12	Apr. 1	Apr. 6	Apr. 1	Apr. 22	Apr. 13	Apr. 7	Apr. 19	. . . . .	. . . . .	Apr. 15	Apr. 13
Prairie Warbler . . . . .	. . . . .	May 15	. . . . .	May 26	. . . . .	Apr. 30	Apr. 22	May 1	May 2	Apr. 23	Apr. 29	May 5	May 6	May 1
Ovenbird	May 12	Apr. 29	Apr. 30	Apr. 29	Apr. 19	Apr. 19	May 6	May 15	May 4	May 9	May 16	May 6	May 6	May 7
Water Thrush	May 12	May 17	May 11	May 20	May 20	May 6	. . . . .	May 19	May 19	May 19	May 20	. . . . .	. . . . .	May 19
Kentucky Warbler	May 12	Apr. 26	May 3	Apr. 21	Apr. 24	Apr. 21	. . . . .	May 1	May 3	May 9	May 19	May 18	Apr. 27	May 1
Maryland Yellow-throat	May 21	May 18	May 29	May 29	. . . . .	May 18	. . . . .	May 17	May 17	May 17	May 20	May 20	May 16	May 19
Chant	May 19	May 17	May 23	May 20	. . . . .	May 14	May 26	May 17	May 17	May 19	May 27	. . . . .	May 19	May 19
Canada Warbler	May 5	May 11	May 9	May 6	May 11	May 12	May 26	May 4	May 11	May 13	May 12	May 5	May 5	May 11
Redstart	May 7	May 3	May 3	Apr. 21	May 3	Apr. 22	May 6	May 1	Apr. 26	Apr. 23	May 16	May 6	Apr. 27	May 2
Catbird	Apr. 28	Apr. 21	Apr. 21	Apr. 21	Apr. 4	Apr. 22	Apr. 22	Apr. 31	Apr. 18	Apr. 22	. . . . .	Apr. 22	Apr. 22	Apr. 21
Brown Thrasher	Apr. 23	Apr. 19	Apr. 20	Apr. 22	Apr. 18	Apr. 18	Apr. 22	Apr. 20	Apr. 22	Apr. 20	Apr. 23	Apr. 21	Apr. 21	Apr. 21
House Wren . . . . .	. . . . .	. . . . .	May 22	. . . . .	. . . . .	Apr. 14	Apr. 17	Apr. 14	Apr. 12	Apr. 10	Apr. 19	Apr. 22	Apr. 19	Apr. 14
Long-bill'd Marsh Wren	Apr. 19	Apr. 15	Apr. 12	Apr. 1	Mar. 29	Apr. 14	Apr. 17	Apr. 14	Apr. 14	Apr. 12	Apr. 19	Apr. 22	Apr. 19	Apr. 14
Ruby-crowned Kinglet	May 18	May 10	May 1	May 6	Apr. 30	Apr. 30	Apr. 29	Apr. 27	Apr. 27	May 9	May 17	May 5	May 2	Apr. 30
Wood Thrush . . . . .	. . . . .	May 11	May 15	May 21	May 6	May 3	. . . . .	May 19	May 8	May 12	May 19	May 6	Apr. 27	May 11
Wilson's Thrush . . . . .	. . . . .	May 27	May 27	May 20	. . . . .	May 19	. . . . .	May 13	May 13	. . . . .	May 20	. . . . .	May 19	May 20
Gray-checked Thrush . . . . .	. . . . .	May 11	May 13	May 21	May 22	May 19	. . . . .	May 24	May 13	. . . . .	May 20	. . . . .	May 19	May 17
Olive-backed Thrush . . . . .	. . . . .	Apr. 14	Apr. 2	Apr. 15	Apr. 12	Apr. 21	Apr. 8	Apr. 17	Apr. 1	Apr. 12	Apr. 1	Apr. 12	Apr. 16	Apr. 10
Hermit Thrush	Feb. 21	Feb. 10	Mar. 4	Feb. 25	Feb. 3	Feb. 21	Feb. 27	Feb. 17	Feb. 23	Feb. 27	. . . . .	Feb. 24	Feb. 24	Feb. 24
Robin	Feb. 10	Feb. 25	Mar. 4	Feb. 25	Res.	Res.	Mar. 10	Feb. 19	Feb. 17	Feb. 24	. . . . .	Mar. 11	Feb. 27	Feb. 26
Bluebird	Feb. 10	Feb. 25	Mar. 4	Feb. 25	Res.	Res.	Mar. 10	Feb. 19	Feb. 17	Feb. 24	. . . . .	Mar. 11	Feb. 27	Feb. 26

NAMES.	Cape May, N. J. E. 13; S. 72.	Atlantic City, N. J. E. 42; S. 42.	Vineland, N. J. E. 7; S. 32.	Downtown, N. J. E. 11; S. 28.	Mt. Holly, N. J. E. 19; N. 3.	Concordville, Pa. W. 20; S. 5.	West Chester, Pa. W. 24; N. 0.	Westtown, Pa. W. 21; S. 2.	Newtown, Pa. N. 19; E. 10.	Beverly, N. J. E. 13; N. 8.	Bordentown, N. J. E. 25; N. 13.	Doyltestown, Pa. E. 1; N. 26.	Buckingham, Pa. E. 4; N. 26.	Forestgrove, Pa. E. 2; N. 28.	Collegeville, Pa. W. 16; N. 18.	Reading, Pa. W. 40; N. 16.	Perkasie, Pa. W. 7; N. 31.	Lopez, Pa. W. 60; N. 103.
Flicker.....	.....	Apr. 1	Res.	Mar. 27	Jan. 7	Feb. 1	Mar. 16	Mar. 18	.....	Mar. 25	Mar. 20	Mar. 25	Mar. 9	Mar. 19	Apr. 1	Mar. 23	Feb. 26	Apr. 1
Whip-poor-will.....	.....	.....	Apr. 28	Apr. 24	May 30	Apr. 22	.....	.....	.....	.....	.....	.....	.....	.....	May 19	.....	May 2	Apr. 29
Nighthawk.....	.....	.....	.....	.....	.....	Jun. 3	May 19	May 27	.....	.....	.....	.....	.....	.....	May 25	May 17	May 21	May 30
Chimney Swift.....	Apr. 19	.....	Apr. 16	May 14	Apr. 18	Apr. 19	Apr. 18	Apr. 19	.....	Apr. 21	Apr. 19	Apr. 22	Apr. 21	Apr. 22	Apr. 15	Apr. 18	Apr. 20	May 16
Hummingbird.....	May 6	May 11	May 21	May 13	May 27	May 17	May 19	May 15	.....	May 11	.....	May 31	May 21	May 21	.....	.....	.....	May 31
Kingbird.....	May 20	May 7	May 1	Apr. 30	Apr. 29	May 19	May 16	Apr. 29	May 10	May 18	May 10	May 20	May 23	May 23	May 19	May 18	May 1	May 16
Crested Flycatcher.....	.....	May 19	May 10	May 6	May 6	Apr. 30	May 16	May 3	.....	May 6	.....	May 19	May 18	May 19	May 17	May 19	May 18	.....
Phoebe.....	.....	Apr. 1	Mar. 31	.....	Apr. 1	Mar. 20	Mar. 13	Mar. 18	Apr. 6	Apr. 1	.....	Mar. 20	Mar. 12	Mar. 23	Mar. 24	Mar. 17	Mar. 26	Mar. 26
Bobolink.....	May 2	.....	.....	.....	.....	May 16	May 12	May 4	May 4	.....	.....	May 12	May 24	May 10	.....	May 6	May 13	.....
Cowbird.....	.....	.....	.....	.....	Apr. 8	Mar. 15	Apr. 3	Mar. 18	Mar. 10	Apr. 21	.....	May 9	.....	.....	.....	Mar. 25	Mar. 25	.....
Red-winged Blackbird.....	Feb. 22	Mar. 14	Res.	Mar. 6	Mar. 7	Mar. 10	Mar. 15	Mar. 11	Mar. 10	Mar. 11	Mar. 26	Mar. 16	Apr. 10	Feb. 29	Apr. 12	Mar. 15	Mar. 16	Mar. 13
Baltimore Oriole.....	.....	May 11	May 7	.....	May 11	May 12	May 3	May 11	May 16	May 11	May 10	May 11	May 3	May 2	May 11	May 12	May 13	May 18
Purple Grackle.....	Feb. 22	.....	Res.	.....	Jan. 4	Feb. 26	Feb. 25	Feb. 26	Feb. 18	Mar. 10	Mar. 10	Res.	Mar. 8	Feb. 27	Feb. 27	Mar. 9	Mar. 13	Mar. 21
Chipping Sparrow.....	.....	Apr. 1	Mar. 25	Apr. 2	Apr. 1	Apr. 1	Apr. 4	Apr. 4	Apr. 6	Apr. 8	Apr. 8	Apr. 4	Apr. 13	Apr. 8	Apr. 18	Mar. 25	Apr. 14	Apr. 30
Chewink.....	.....	May 3	Mar. 11	Apr. 25	Apr. 8	Apr. 21	Apr. 2	Apr. 21	Apr. 29	Apr. 8	Apr. 10	Apr. 20	Apr. 19	Apr. 22	Apr. 14	Apr. 22	Apr. 23	Apr. 30
Indigobird.....	.....	.....	May 15	.....	May 13	May 16	May 17	May 15	May 20	May 13	May 14	May 20	May 25	May 25	May 20	May 19	May 17	May 30
Scarlet Tanager.....	May 22	May 15	May 15	May 27	May 20	May 19	May 21	May 15	May 20	May 26	May 5	May 19	May 21	May 27	May 17	May 19	May 20	Jun. 1
Purple Martin.....	.....	Mar. 18	Apr. 13	Apr. 2	Apr. 2	.....	Mar. 24	Apr. 4	Apr. 21	Apr. 29	Apr. 25	Apr. 17	.....	Apr. 20	Mar. 20	Apr. 15	Apr. 10	.....
Barn Swallow.....	Apr. 19	May 1	May 2	.....	Apr. 20	Apr. 18	Apr. 17	Apr. 19	May 3	Apr. 28	.....	Apr. 22	Apr. 18	May 1	Apr. 15	Apr. 22	Apr. 24	Apr. 23
Red-eyed Vireo.....	.....	May 21	May 14	May 19	May 20	May 19	May 16	May 17	.....	May 11	May 12	May 27	May 20	May 10	May 12	May 19	May 19	May 19
Black and White Warbler.....	Apr. 24	May 2	Apr. 13	May 7	Apr. 22	Apr. 21	Apr. 30	Apr. 29	.....	May 2	May 9	Apr. 29	Apr. 30	May 3	May 1	Apr. 22	May 1	May 14
Chestnut-sided Warbler.....	.....	May 15	May 15	.....	May 13	May 5	May 11	May 5	.....	May 18	.....	May 13	May 8	May 14	May 16	May 15	May 17	May 19
Ovenbird.....	.....	May 11	May 12	May 1	Apr. 29	Apr. 22	May 1	Apr. 29	May 3	Apr. 29	Apr. 29	May 8	May 11	May 3	May 16	May 6	May 6	May 14
Maryland Yellow-throat.....	Apr. 23	May 11	Apr. 28	May 6	Apr. 22	Apr. 22	Apr. 30	Apr. 29	May 17	Apr. 29	Apr. 29	May 6	Apr. 21	May 3	May 26	May 1	May 6	May 27
Chat.....	.....	.....	May 16	May 27	.....	May 16	May 19	May 18	May 3	May 26	.....	.....	May 17	May 8	.....	May 19	.....	.....
Catbird.....	Apr. 23	May 7	Apr. 29	.....	Apr. 29	Apr. 30	Apr. 22	May 3	May 14	May 6	May 5	May 6	May 2	May 3	May 1	May 1	May 6	May 19
Brown Thrasher.....	Apr. 19	May 1	Mar. 31	Apr. 23	Apr. 19	Apr. 19	Apr. 22	Apr. 19	May 17	Apr. 21	Apr. 15	Apr. 22	Apr. 20	Apr. 21	Apr. 23	Apr. 22	Apr. 30	Apr. 19
House Wren.....	Apr. 24	Apr. 17	Apr. 4	May 6	Apr. 19	Apr. 20	Apr. 17	Apr. 18	.....	Apr. 21	May 2	Apr. 29	May 7	Apr. 23	Apr. 23	Apr. 22	Apr. 20	Apr. 30
Wood Thrush.....	.....	.....	.....	.....	Apr. 30	May 15	May 6	Apr. 30	May 10	May 2	May 6	May 12	Apr. 18	May 16	May 16	May 6	May 3	.....
Hermitt Thrush.....	.....	Feb. 9	.....	May 13	Mar. 7	Apr. 15	Apr. 1	Apr. 11	Apr. 6	Apr. 4	.....	Apr. 4	Apr. 16	Apr. 8	Apr. 14	Apr. 2	Apr. 5	Apr. 4
Robin.....	.....	Jan. 26	Res.	Mar. 7	Mar. 7	Feb. 24	Feb. 22	Feb. 26	Feb. 18	Feb. 25	Feb. 24	Feb. 25	Mar. 10	Feb. 25	Feb. 27	Feb. 24	Mar. 3	Feb. 27
Bluebird.....	.....	Apr. 1	Res.	Feb. 26	Feb. 21	Feb. 17	Mar. 6	Feb. 27	Mar. 10	Feb. 25	Res.	Feb. 25	Jan. 15	Feb. 27	Feb. 25	Mar. 8	Mar. 3	Feb. 28

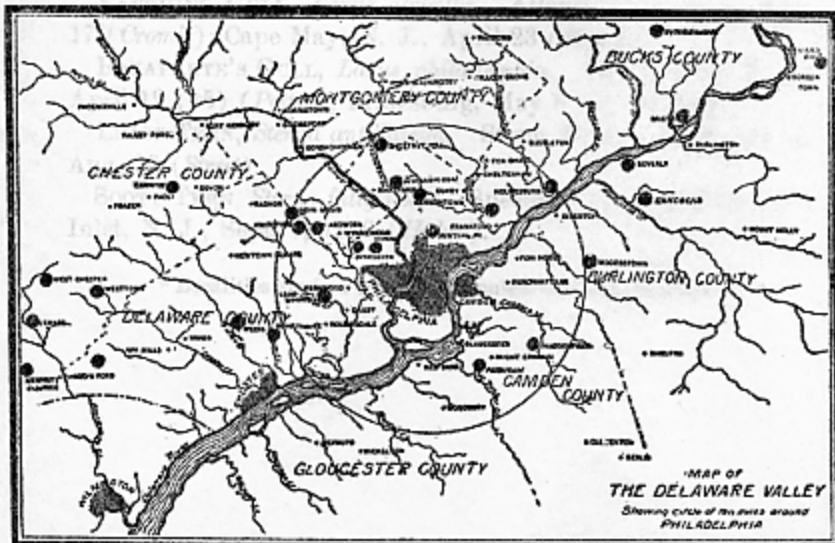


TABLE II.

SPRING MIGRATION, 1917.

EARLIEST DATES OF ARRIVAL OF THIRTY-TWO SPECIES AT EIGHTEEN STATIONS OUTSIDE THE PHILADELPHIA CIRCLE.

*List of Other Species Reported by Observers during 1917, and
Additional Notes on Species Contained in the Schedule.
Autumn Dates Refer to Autumn of 1916 Unless
Otherwise Stated.**

HOLBOELL'S GREBE, *Colymbus holboelli*. Atlantic City, N. J., April 2 (Carter); Beverly, N. J., March 11 (Baird).

HORNED GREBE, *Colymbus auritus*. Fish House, N. J., April 21 (Miller); Concordville, April 12 (Styer); Westtown, April 19 (1) April 26 (2) (Evans); Mohnton, Berks Co., Pa., Nov. 10 (Poole).

PIED-BILLED GREBE, *Podilymbus podiceps*. Westtown, Oct. 21 and Nov. 12 (Evans); West Chester, April 6 (Sharpless); Cheyney, adult male found dead by a calamus marsh; June 13 apparently breeding (S. Trotter); Muhlenberg, Berks Co., Nov. 18 (2) (Poole); Doylestown, (Tuck Dam) April 3 (1) and April 14 (2) (MacReynolds).

LOON, *Gavia immer*. Swarthmore, April 14, two flying over, (Ellis); Reading, one seen, May 6, 8 and 11 (Poole).

BLACK SKIMMER, *Rynchops nigra*. Stone Harbor, N. J., Aug. 13 (2) (Street).

GANNET, *Sula bassana*. Cape May, N. J., Nov. 3 (Hand).

HERRING GULL, *Larus argentatus*. Atlantic City, N. J., Aug. 28-May 17 (Cromie); Frankford, Oct. 12-April 28 (Miller); Camden, N. J., last seen, May 30 (Potter); Stone Harbor, N. J., arrived, Aug. 6, 1916, common, Sept. 10 (Street); Beverly, N. J., Oct. 19-May 18 (Baird).

RING-BILLED GULL, *Larus delawarensis*. Stone Harbor, N. J., Aug. 6, 20, 26 and Sept. 2 (Street).

LAUGHING GULL, *Larus atricilla*. Atlantic City, N. J., May 17 (Cromie); Cape May, N. J., April 23 (Hand).

BONAPARTE'S GULL, *Larus philadelphia*. Fish House, N. J., April 19 (15) (Potter); Bridesburg, May 8 (4) (Miller).

LEAST TERN, *Sterna antillarum*. Stone Harbor, N. J., six on Aug. 26 (Street).

SOOTY TERN, *Sterna fuliginosa*. Specimen secured at Corson's Inlet, N. J., Sept. 7, 1916 (Huber).

* Localities are in Pennsylvania unless otherwise marked.

BLACK TERN, *Hydrochelidon nigra surinamensis*. Stone Harbor, N. J., two on July 30 (*Street*).

MERGANSER, *Mergus americanus*. Cape May, N. J., April 8 (*Hand*); Camden, N. J., Feb. 27-April 14 (*Potter*); Beverly, N. J., May 1 (*Street*); Darby Creek, Lansdowne, Jan. 7 (*Hallett*); Westtown, March 18 (*Evans*); Doylestown, on Neshaminy Creek, March 25 and April 1 (*MacReynolds*); Reading, Feb. 17-April 27 (*Poole*).

BLACK DUCK, *Anas rubripes*. Salem, N. J., April 1 (1) apparently nesting (*Street*); Retreat, N. J., April 3 (*Pumyea*); Crum Creek, Swarthmore, March 28 (*Ellis* and *Howard*); Tinicum, Feb. 15 (*Miller*); Doylestown, Neshaminy Creek, March 25 (3) (*MacReynolds*); Reading, April 22 (4) (*Poole*).

MALLARD, *Anas brachyrhynchos*. Concordville, May 19 (*Styer*); Pochack Creek, N. J., April 21 and 27 (*Miller*); Doylestown, March 25 (2) (*MacReynolds*); Retreat, N. J., April 3 (*Pumyea*).

PINTAIL, *Dafila acuta*. Manoa, on Darby Creek, a pair, April 1 (*Miller*), Haverford, April 1 (*Serrill*); abundant at Beverly, N. J., Feb. 26 (*Street*).

WOOD DUCK, *Aix sponsa*. All summer apparently breeding, Mt. Holly, N. J. (*Pumyea*); Salem, N. J., April 15, apparently breeding (*Street*); Forest Grove, April 17 (2) (*Bewley*); Delaware River at Lambertville, June 2, a female (*MacReynolds*).

LESSER SCAUP, *Marila affinis*. East Park Reservoir, Dec. 5 (40) and Bridesburg, Dec. 25 (5) (*Miller*); Reading, April 27 and May 6 (*Poole*).

BUFFLEHEAD, *Charitonetta albeola*. Haverford, March 17, a pair (*Serrill*); Westtown, Nov. 11, flock of 10 (*Evans*).

OLD-SQUAW, *Harelda hyemalis*. Reading, Feb. 14 (*Poole*).

CANADA GOOSE, *Branta canadensis canadensis*. Westtown, Nov. 30, 1916, flock (*Evans*); Chester, Feb. 26 (3) (*Carter*).

GREATER SNOW GOOSE, *Chen hyperboreus nivalis*. Ardmore, May 17, several flying over (*Baily*).

WHISTLING SWAN, *Olor columbianus*. Cape May, N. J., one shot by a gunner, Feb. 1 (*Hand*).

BITTERN, *Botaurus lentiginosus*. Cape May, N. J., Dec. 5, two caught in a trap (*Hand*); Moorestown, N. J., April 15 (*Mickle*); Haverford, May 5 and 20 (*Serrill* and *Scoville*); Pensauken Creek,

N. J., April 21 (*Miller*); Reading, May 19 (*Poole*); Newton, N. J., nest and 4 fresh eggs, June 3 (*Scoville*).

LEAST BITTERN, *Ixobrychus exilis*. Bridgewater on the Delaware, one shot.

GREAT BLUE HERON, *Ardea herodias herodias*. Salem, N. J., nests and eggs, April 15 (*Street*); Fish House, N. J., Jan. 6 (*Potter*); Retreat, N. J., April 3 (*Pumyea*); Audubon, N. J., April 29 (*Tatum*); Moorestown, N. J., April 15 (*Mickle*); Concordville, April 2 (*Styer*); Haverford, April 15 (*Serrill*); Perkasie, April 27 (*Rutter*); Reading, May 19 (*Poole*).

LITTLE BLUE HERON, *Florida coerulea*. Stone Harbor, N. J., Aug. 24 (*Street*).

GREEN HERON, *Butorides virescens virescens*. Cape May, N. J., Nov. 21 (2) (*Hand*).

BLACK-CROWNED NIGHT HERON, *Nycticorax nycticorax naevius*. Peermont, N. J., eggs, May 11 (*Street*).

VIRGINIA RAIL, *Rallus virginianus*. Mt. Holly, N. J., May 29 (*Pumyea*); Germantown, one on a lawn, April 20 (*W. H. Trotter*).

SORA, *Porzana carolina*. Carversville, May 25, one found dead, reported to have nested there (*MacReynolds*).

FLORIDA GALLINULE, *Gallinula galeata*. Bridesburg, arrived late in April, increasing (*Miller*); Clifton Heights, Oct. 14, 1917 (*Culver*); West Chester, Aug. 14, 1917 (*Ehinger*); one found dead at Haddonfield, N. J. May, 1917 (*Rhoads*).

PURPLE GALLINULE, *Ionornis martinica*. Cape May, N. J., May 22, two killed (*Hand*).

NORTHERN PHALAROPE, *Lobipes lobatus*. Camden, N. J., Aug. 13, two watched for half an hour, at from 15 to 50 yards (*Potter*).

WOODCOCK, *Philohela minor*. Mt. Holly, N. J., March 11 and May 14 (*Pumyea*); Beverly, N. J., April 1 (*Street*); Frankford, May 7 (*Miller*); Haverford, May 8 (*Serrill*); Westtown, March 16 (*Evans*); Forest Grove, April 2 (*Bewley*); Doylestown, March 31 (*MacReynolds*).

WILSON'S SNIFE, *Gallinago delicata*. Cape May, N. J., Dec. 5, March 16 and abundant on April 8 (*Hand*); Aramingo, December 23 (4), Jan 1 and 13 and Mar. 1 (*Miller*); Brides-

burg, May 8 (*Miller*); Westtown, April 22 (*Evans*); Reading, May 6 (*Poole*).

RED-BACKED SANDPIPER, *Pelidna alpina sakhalina*. Several found dead at Villa Nova, Oct. 27, 1917, perfectly fresh (*Stone*).

LEAST SANDPIPER, *Pisobia minutilla*. Cape May, N. J., April 19 (*Hand*); Atlantic City, N. J., May 30 (*Cromie*); Concordville, April 16 (*Styer*); Bridesburg, May 8-22 (*Miller*); Peermont, N. J., Aug. 20 (*Street*).

SEMIPALMATED SANDPIPER, *Ereunetes pusillus*. Atlantic City, N. J., May 30 (*Cromie*); Stone Harbor, N. J., Aug. 26-Sept. 10 (*Street*); Bridesburg, May 8-22 (*Miller*).

SANDERLING, *Calidris leucophaea*. Wildwood Crest, N. J., Aug. 10-26 (*Prince*); Stone Harbor, N. J., July 23-Sept. 10 (*Street*).

GREATER YELLOWLEGS, *Totanus melanoleucus*. Cape May, N. J., March 16 (*Hand*); Atlantic City, N. J., May 16 (*Cromie*); Camden, N. J., April 27 (7) (*Miller*), April 28 (*Street*); Bridesburg, May 8-22 (*Miller*); Moorestown, N. J., May 8-12 (*Mickle*); Concordville, April 1 and May 7 (*Styer*); Doylestown, May 20-22 (*MacReynolds*); Reading, May 6-12 (*Poole*).

WILLET, *Catoptrophorus semipalmatus semipalmatus*. Stone Harbor, N. J., Aug. 20 (26) (*Potter*).

UPLAND PLOVER, *Bartramia longicauda*. Forest Grove, April 17 (*Bewley*); Perkasio, April 19 (*Rutter*); Doylestown, April 22 (3) (*MacReynolds*); Reading, April 27-28 (*Poole*).

HUDSONIAN CURLEW, *Numenius hudsonicus*. Cape May, N. J., April 23 (*Hand*); Stone Harbor, N. J., Aug. 20 (16) (*Potter*).

BLACK-BELLIED PLOVER, *Squatarola squatarola*. Cape May, N. J., April 23 (*Hand*); Stone Harbor, N. J., Aug. 20 (5) (*Potter*); Aug. 26 and Sept. 2 (*Street*).

KILLDEER, *Oxyechus vociferus*. Westtown, Dec. 3 (*Evans*); Salem, N. J., eggs April 14 (*Street*).

SEMIPALMATED PLOVER, *Aegialitis semipalmata*. Atlantic City, N. J., May 26; Moorestown, N. J., May 26 a pair (*Linton*); Peermont, N. J., July 30, common Aug. 6 (*Street*).

PIPING PLOVER, *Aegialitis meloda*. Stone Harbor, N. J., Aug. 6 and 26, 1916 (*Street*).

RUDDY TURNSTONE, *Arenaria interpres*. Cape May, N. J., May

2 (*Hand*); Sept. 4 (*Potter*); Wildwood Crest, N. J., Aug. 10-28 (*Prince*); Peermont, N. J., Aug. 26 (*Street*).

BOBWHITE, *Colinus virginianus virginianus*. Numerous at Audubon and Downstown, N. J.; first seen at Reading, April 14 (*Poole*).

DOVE, *Zenaidura macroura carolinensis*. Ridley Park, eggs, April 29 (*Lloyd*); Lansdowne, last seen Oct. 18 (*Hallett*).

TURKEY VULTURE, *Cathartes aura septentrionalis*. Salem, N. J., eggs, April 14 (*Street*).

MARSH HAWK, *Circus hudsonius*. Newton, N. J., nest and 5 eggs well incubated, June 2 (*Scoville*).

COOPER'S HAWK, *Accipiter cooperi*. Willow Grove, nest and eggs, June 11 (*Street*).

GOSHAWK, *Astur atricapillus atricapillus*. Reading, Feb. 15 (*Poole*).

RED-SHOULDERED HAWK, *Buteo lineatus lineatus*. Salem, N. J., eggs, April 28 (*Street*).

BROAD-WINGED HAWK, *Buteo platypterus*. Haverford, (3) on April 22 (*Serrill*); Westtown, April 22 (*Evans*); West Chester, April 21 (*Sharples*); Reading, April 22 (*Poole*); Lansdowne, Oct. 14 (*Hallett*), Haddonfield, N. J., nest and one egg, May 16 (*Miller*).

ROUGH-LEGGED HAWK, *Archibuteo lagopus sancti-johannis*. Bridesburg, Dec. 4, Jan. 18 and 20, Feb. 3 and 14 (*Miller*); Norristown, March 10 (*Poole*); one shot at Lima, Oct. 29, 1917 (*Culver*).

BALD EAGLE, *Haliaeetus leucocephalus leucocephalus*. Atlantic City, N. J., Feb. 21 (*Cromie*); Buckshutem, N. J., March 2 (*Prince*); Tinicum, May 11 (*Miller*); West Chester, May 12 (*Sharples*); Schuylkill River, near Gibraltar, March 16 (*Poole*).

DUCK HAWK, *Falco peregrinus anatum*. Delaware River, below Kintnersville (*MacReynolds*).

OSPREY, *Pandion haliaetus carolinensis*. Cape May, N. J., Nov. 17 (2) (*Hand*); Westtown, and one remained April 2-22 (*Evans*); Peermont, N. J., eggs, May 11 (*Street*).

BARN OWL, *Aluco pratincola*. Gloucester, N. J., Dec. 25 to Feb. 25 (*Potter*); Salem, N. J., nest and 7 eggs, April 7, nest and 5 eggs, April 15 (*Street*).

LONG-EARED OWL, *Asio wilsonianus*. Gloucester, N. J., Feb. 17 (7) (Potter); Concordville, Dec. 29 (Styer); West Chester, a pair, Feb. 25 (Roberts); March 13, also nested, (De Haven).

SHORT-EARED OWL, *Asio flammeus*. Bridesburg, Dec. 23 (3), Jan. 22 (2) (Miller).

SCREECH OWL, *Otus asio asio*. Elmwood, eggs, March 24 (Miller).

SAW-WHET OWL, *Nyctala acadica*. Camden, Nov. 2, 1917 (Potter).

GREAT HORNED OWL, *Bubo virginianus virginianus*. Concordville, March 21 (Styer).

KINGFISHER, *Ceryle alcyon alcyon*. Moorestown, N. J., Dec. 26 (Hallett); Westtown, last seen, Nov. 12 (Evans); Doylestown, all winter (MacReynolds).

RED-HEADED WOODPECKER, *Melanerpes erythrocephalus*. Bred at Haddonfield, N. J. (Rhoads), and at Audubon, N. J. (Tatum).

HAIRY WOODPECKER, *Dryobates villosus villosus*. Vereesville, eggs, April 23 (Miller); Reading, nesting, May 26 (Poole); Beverly, N. J., April 21, eggs, (Street).

WHIP-POOR-WILL, *Antrostomus vociferus vociferus*. Frankford, Sept. 30 (Miller).

OLIVE-SIDED FLYCATCHER, *Nuttallornis borealis*. Haverford, May 26 (Serrill).

HORNED LARK, *Otocoris alpestris alpestris*. Mt. Holly, N. J., March 6 (Pumyea); Beverly, N. J., Dec. 23, 1917 (Street); Moorestown, N. J., 50 on Dec. 25 and 110 in 3 flocks on Dec. 26 (Hallett); Olney, Nov. 11-14, 1917 (Morris); Westtown, Jan. 28 and March 7 (Evans); West Chester, March 9 (3 pairs) (Roberts); Reading, March 9 (40), March 15 (10) (Poole).

STARLING, *Sturnus vulgaris*. Lansdowne, easily the commonest winter bird; large increase in four years; March 11 the air full of them, flying singly like swallows (Hallett); Cresco, Monroe Co., May 23 and Newfoundland, Wayne Co., May 25 (Miller); Wayne, in a large flock feeding on Ampelopsis berries, Dec. 23 (Alexander); Westtown, abundant all winter feeding on Ampelopsis (Evans); Reading, increasing (Poole).

BOBOLINK, *Dolichonyx oryzivorus*. Westtown, remained May 4-25 (Evans); Peermont, N. J., Aug. 26 (7) (Street).

RED-WINGED BLACKBIRD, *Agelaius phoeniceus phoeniceus*. Haverford, May 26 eggs (*Scoville*).

RUSTY BLACKBIRD, *Euphagus carolinus*. Bridesburg, Dec. 20 and 23 (*Miller*); Westtown, last seen Oct. 22 (*Evans*); Reading, last in spring, May 14 (*Poole*).

MEADOW LARK, *Sturnella magna magna*. Haverford, eggs, May 26 (*Scoville*).

PURPLE GRACKLE, *Quiscalus quiscula quiscula*. Mt. Holly, N. J., fed in the yard, Dec. to Feb. (*Pumyea*); Lansdowne, last seen Oct. 31 and 2 on Dec. 25 (*Hallett*); Swarthmore, Dec. 24 (*Hallett*); Bridesburg, Nov. 30 (2) (*Miller*); Westtown, last seen. Nov. 12 (*Evans*).

EVENING GROSBEEK, *Hesperiphona vespertina vespertina*. Cinnaminson, N. J., Dec. 3 (*Chas. Evans*); Westville, N. J., Dec. 25 (6) (*Potter*); Rancocas, N. J., April 11-12 one male, (*Haines*); Mt. Holly, N. J., Dec. 24 (2), April 8 (6), April 26 (8) (*Pumyea*); Swarthmore, April 21, a pair (*Palmer*); Ardmore, Dec. 31 (1) (*Serrill*); York Co., March (22) (*Sharples*); Lopez, May 12 (20) (*Behr*); Birdsboro, April 15 (2) and April 22 (1) (*G. H. Mengel*); New Lisbon, N. J., Jan. 29 (74), Feb. 11 (40), Feb. 17 (30), Feb. 22 (4), Mar. 11 (15) (*Scoville*); Mar. 2 (50), Mar. 12 (30), Mar. 20 (6) (*Huber*); Birmingham, N. J., Mar. 2 (5), Mar. 6 (4) (*Huber*); Browns' Mills in the Pines, N. J., Jan. 10 (65) (*E. P. Darlington, M. D.*); Beverly, N. J., Mar. 11 (*Street*); Wenonah, N. J., April 2 (*Erskine and Morris*); Haverford, March 25 (6), 26 (4), April 1 (1), 15 (4) (*Scoville*); Gwynedd Valley, May 24 (1 male) (*Huber*); Hammon-ton, N. J., February 22 and most of the winter previously and to March 26, (*Basset*); Lumberton, N. J., March 14 (1) (*B. F. Clayberger*).

PURPLE FINCH, *Carpodacus purpureus purpureus*. Vineland, N. J., last, April 30 (*Prince*); Moorestown, N. J., April 29-May 20 (*Mickle*); also Jan. 30 (*Wierman*); Mt. Holly, N. J., Oct. 7 and May 17 (*Pumyea*); Concordville, April 11 (*Styer*); Swarthmore, abundant May 8-9 (*Palmer*); Lansdowne, Oct. 18 and Nov. 7; and last in spring, May 3 (*Hallett*); Frankford, Sept. 25 and late May (*Miller*); Ardmore, March 11 and April 27 (*Baily and Howard*); Westtown, Oct. 22 and May 20 but not in the

depth of the winter (*Evans*); West Chester first in spring, April 9 (*Roberts*); Doylestown, Feb. 18 and May 20 (*MacReynolds*); Reading, March 25 and May 19 (*Poole*).

RED CROSSBILL, *Loxia curvirostra minor*. Atlantic City, N. J., Feb. 21 (*Cromie*); Mt. Holly, N. J., Nov. 17 and Feb. 22 (*Pumyea*); New Lisbon, N. J., Feb. 22 (*Hallett*); Westtown, Feb. 18 and May 11-12 (*Evans*).

WHITE-WINGED CROSSBILL, *Loxia leucoptera*. Moorestown, N. J., 36 during the day, Dec. 26 (*Mickle*); Lansdowne, Jan. 7 and March 12 (*Hallett*); New Lisbon, N. J., Feb. 22 (*Hallett*); May's Landing, N. J., Christmas week (*Morris*); Ardmore, Jan. 7 (*Baily*); Beverly, N. J., Dec. 10 (*Street*), and Dec. 25 (*Baird*).

SNOW BUNTING, *Plectrophenax nivalis nivalis*. Corson's Inlet, N. J., Dec. 28-29, 1916 and Nov. 11, 1917 (*Huber*).

REDFOLL, *Acanthis linaria linaria*. Corson's Inlet, N. J., Dec. 29, 1916 (*Huber*); Mt. Holly, N. J., March 25 (*Pumyea*); Beverly, N. J., Mar. 11 (*Street*); Wayne, Jan. 15 (*Alexander*); West Chester, Jan. 16 (2) and Feb. 25 (3) (*Roberts*); New Lisbon, N. J., Feb. 22 (*Street*); Haverford, Feb. 25 (*Scoville*); Doylestown, Dec. 17 (sev.) and 25 (50) (*MacReynolds*); Reading, Jan. 6 (25), March 8 (1) and 16 (2) (*Poole*); Gwynedd Valley, Jan. 27, 1917 (*Huber*).

GOLDFINCH, *Astragalinus tristis tristis*. Swarthmore, very abundant, May 9 (*Palmer*); Ridley Park, abundant after April 29 (*Lloyd*); Lansdowne, Oct. 18 to Nov. 24 then scarce until May 2 (*Hallett*); Ardmore, none till April 22 (*Baily*); West Chester, very abundant April 12-May (*Roberts*); Doylestown, last seen Dec. 15 then none until April 22 (*MacReynolds*).

PINE SISKIN, *Spinus pinus*. Corson's Inlet, N. J., Dec. 28-30, 1916 (*Huber*); Moorestown, N. J., Feb. 27 to March 20 (*Mickle*); Mt. Holly, N. J., Nov. 18 to March 11 (*Pumyea*); Gwynedd Valley, Nov. 1, 1917 (*Huber*); Concordville, May 4 (*Styer*); Swarthmore, May 12 (*Ellis*); Lansdowne, Oct. 23 to Nov. 1 flock of 13 also Nov. 10-19 and Jan. 7 (*Hallett*); West Chester, May 13 (*Roberts*); and May 17 (*Ehinger*); Haverford, May 10 and 14 (*Scoville*).

IPSWICH SPARROW, *Passerculus princeps*. Corson's Inlet, N. J., Dec. 28-29, 1916 (*Huber*).

WHITE-CROWNED SPARROW, *Zonotrichia leucophrys leucophrys*. Camden, N. J., May 16 (3) (*Potter*); Rancocas, N. J., May 17 (*Haines*); Moorestown, N. J., May 17 (*Mickle*) Audubon, N. J., May 20 (1) (*Tatum*); Concordville, May 12-24 (4) (*Styer*); Haverford, May 20 (pair) (*Serrill*); Westtown, May 6, 14, and 17 (*Evans*); West Chester, numerous May 14 and 17 (*Roberts*); Chester, Oct. 25, 1917 (*Carter*); Forest Grove, May 16 (*Bewley*); Buckingham, May 16 and 29 (*Cox*); Reading, May 6 (1), 17 (25), 18, lawns alive with them, 2 collected, 19 (3) (*Poole*); Beverly, N. J., May 19 (*Baird*); Haverford, May 20 (*Scoville*); Swarthmore, May 12 (*Harrower*); Cheyney, May 12 (1 taken) (*S. Trotter*).

WHITE-THROATED SPARROW, *Zonotrichia albicollis*. Last seen Atlantic City, N. J., May 25 (*Cromie*); Downstown, N. J., May 18 (*Fair*); Haverford, May 29 (*Howard*); West Chester, May 21 (*Roberts*); Forest Grove, May 10 (*Bewley*); Perkasie, May 8 (*Rutter*); Vineland, N. J., Oct. 11-May 19 (*Prince*); Moorestown, N. J., Sept. 23-May 26 (*Wierman* and *Linton*); Mt. Holly, N. J., Sept. 25-May 17 (*Pumyea*); Lansdowne, Oct. 9-Nov. 13 and April 15-May 10, occasional in winter (*Hallett*); Westtown, Oct. 19-May 23 (*Evans*); Buckingham, Sept. 24-May 27 (*Cox*); Doylestown, Oct. 1-Nov. 5 and April 18-May (*MacReynolds*); Reading, Feb. 17-May 22 (*Poole*); Beverly, N. J., Oct. 1-May 20 (*Baird*).

TREE SPARROW, *Spizella monticola monticola*. Mt. Holly, N. J., Oct. 17-Apr. 22 (*Pumyea*); Westtown, Dec. 10-Mar. 7 (*Evans*); West Chester, Jan. 19-April 10 (*Roberts*); Doylestown, Nov. 19-March 18 (*MacReynolds*); Beverly, N. J., Nov. 19-April 15 (*Baird*); last seen, Swarthmore, April 1 (*Ellis*); Haverford, April 11 (*Howard*); Perkasie, April 13 (*Rutter*); Reading, March 24 (*Poole*).

FIELD SPARROW, *Spizella pusilla pusilla*. Lansdowne, Jan. 7 (*Hallett*).

JUNCO, *Junco hyemalis hyemalis*. Oct. 30-April 6 (*Prince*); Doylestown, N. J., Oct. 22-April 20 (*Fair*); Moorestown, N. J., Sept. 23-May 15 (*Wierman* and *Linton*); Mt. Holly, N. J., Oct. 1-April 22 (*Pumyea*); Lansdowne, Oct. 15-April 20 (*Hallett*); Frankford, Sept. 24-May 7 (*Miller*); Wayne, Sept.

24-May 15 (*Cornelius*); Westtown, Nov. 7-May 6 (*Evans*); West Chester, Oct. 1-May 17 (*Sharples* and *Roberts*); Doylestown, Oct. 4-May 6 (*MacReynolds*); Bordentown, N. J., Sept. 10-April 14 (*Flynn*); Beverly, N. J., Oct. 12-April 29 (*Baird*); last seen Concordville, May 16 (*Styer*); Ridley Park, April 22 (*Lloyd*); Haverford, May 15 (*Serrill*); Swarthmore, April 30 (*Howard*); Perkasio, May 6 (*Rutter*); Reading, April 28 (*Poole*).

FOX SPARROW, *Passerella iliaca iliaca*. Frankford, Dec. 25 (*Müller*); Westtown, until March 18 (*Evans*).

TOWHEE, *Pipilo erythrophthalmus erythrophthalmus*. New Lisbon, N. J., Jan. 29, 1917 (*Scoville*).

CARDINAL, *Cardinalis cardinalis cardinalis*. Haverford, eggs May 20 (*Scoville*).

TREE SWALLOW, *Iridoprocne bicolor*. Stone Harbor, N. J., Aug. 26 (1000), Sept. 2 (3000), Sept. 10 (3000) (*Street*).

NORTHERN SHRIKE, *Lanius borealis*. Center Square, Nov. 24, 1917 (*W. E. Roberts*); Moorestown, N. J., Oct. 28 (*Mickle*).

BLUE-WINGED WARBLER, *Vermivora pinus*. Vineland, N. J., Sept. 5 (*Prince*).

GOLDEN-WINGED WARBLER, *Vermivora chrysoptera*. Camden, N. J., Sept. 2 (*Potter*); Audubon, N. J., May 27 (*Tatum*); Moorestown, N. J., May 15, 17 and 18 (*Linton* and *Mickle*); Haverford, May 4 (*Serrill*); Swarthmore, May 20 (*Howard*); Devon, May 18 (*Cornelius*); Westtown, May 6 (*Evans*); West Chester, May 17 (*DeHaven*).

NASHVILLE WARBLER, *Vermivora rubricapilla rubricapilla*. Audubon, N. J., May 20 (*Tatum*); Moorestown, N. J., May 7 and 17 (*Linton* and *Mickle*); Swarthmore, May 5 (*Harrower*), May 28 (*Ellis*); New Lisbon, N. J., May 20 (*Hallett*); Ardmore, May 8 (*Baily*); Mt. Pocono, May 20 (*Baily*); Haverford, May 4 (*Serrill*); West Chester, May 21 (*Roberts*) and May 20 (*Sharples*); Doylestown, May 16 (*MacReynolds*).

TENNESSEE WARBLER, *Vermivora peregrina*. Camden, N. J., May 27 (*Potter*); Moorestown, N. J., May 17-June 2 (*Linton* and *Mickle*); Concordville, May 14-June 2 (*Styer*); Swarthmore, May 21-26 (*Palmer*); Lansdowne, May 21-June 2 (*Car-*

ter and Hallett); Mt. Pocono, May 20 (Baily); Ardmore, May 27 (Baily); Haverford, May 20-31 (Serrill); Westtown, May 15-20 (Evans); West Chester, May 21 (Roberts) and 25 (DeHaven); and May 20 (Sharples); Telford, May 13 (Rutter); Reading, May 22 (Poole); Beverly, N. J., May 29 (Baird); New Lisbon, N. J., May 27 (Scoville); Riverton, N. J., May 30 (Street).

CAPE MAY WARBLER, *Dendroica tigrina*. Atlantic City, N. J., May 15 (Cromie); Vineland, N. J., Sept. 14 (Prince); Downtown, N. J., May 24 (Fair); Moorestown, N. J., May 16-17 (Linton and Mickle), and frequent the end of Sept., 1916 (Mickle); Mt. Holly, N. J., May 17 (Pumyea); Concordville, May 12-31 (Styer); Haverford, May 26 (Baily), May 19 (6) (Serrill), May 17 and 20 (Scoville), and May 24 (Howard); Swarthmore, May 5 (Harrower); Devon, May 15 (Cornelius); Westtown, May 25 (Evans); West Chester, May 16-25 (Roberts); Germantown, May 20 (Brown); Collegeville, May 16 (Kline); Telford, May 20 (Rutter); Doylestown, May 16 (MacReynolds); Reading, May 19, and Monocacy, May 26 (Poole).

MYRTLE WARBLER, *Dendroica coronata*. Vineland, N. J., Oct. 17 (Prince); Mt. Holly, N. J., all winter (Pumyea); Lansdowne, Nov. 1 (Hallett); Wayne, Dec. 12-14 (Cornelius); Westtown, Oct. 22 (Evans); West Chester, Jan. 16, a pair feeding on ivy berries (Roberts); Beverly, N. J., Dec. 16 (Street).

CHESTNUT-SIDED WARBLER, *Dendroica pensylvanica*. West Chester, until June 8 (Roberts).

BAY-BREADED WARBLER, *Dendroica castanea*. Atlantic City, N. J., May 28 (Cromie); Vineland, N. J., May 25 (Prince); Camden, N. J., May 27-June 2 (Potter); Audubon, N. J., May 21, common for several days (Tatum); Moorestown, N. J., May 20-June 2 (Mickle); Rancocas, N. J., May 27 (Haines); Mt. Holly, N. J., May 27 (Pumyea); Concordville, May 25-31 (Styer); Swarthmore, May 22 (Ellis); Lansdowne, May 26-27 (Carter); Haverford, May 19-31 (Serrill); Westtown, May 19 (Evans); West Chester, May 21 (Roberts); Germantown, May 21 (Brown); Collegeville, May 21 (Kline); Telford, May 20 (Rutter); Lopez, June 2 (Behr).

PINE WARBLER, *Dendroica vigorsii*. Clementon, N. J., March 26 (*Miller*); full song at May's Landing, N. J., March 24-25 (*Morris*).

PALM WARBLER, *Dendroica palmarum palmarum*. Reading, May 13(1) and May 14(2), studied within 10 feet (*Poole*).

LOUISIANA WATER THRUSH, *Seiurus motacilla*. Haverford, May 3 and 5 (*Serrill*); Reading, May 30 (*Poole*); Chestnut Hill, April 19 (*W. H. Trotter*); Doylestown, April 13-May 31 (breeding?) (*MacReynolds*).

MOURNING WARBLER, *Oporornis philadelphia*. Moorestown, N. J., May 30 (*Mickle*).

HOODED WARBLER, *Wilsonia citrina*. Moorestown, N. J., May 17 (*Linton*); Haverford, April 22 (*Serrill*); Westtown, May 6 (*Evans*); West Chester, May 12 (*Sharples*); Collegeville, May 16 (*Kline*); Chestnut Hill, May 19 (*W. H. Trotter*).

WILSON'S WARBLER, *Wilsonia pusilla pusilla*. Atlantic City, N. J., May 30 (*Cromie*); Camden, N. J., May 15 (*Potter*); Audubon, N. J., May 25 (*Tatum*); Moorestown, N. J., May 17 (*Linton*); Concordville, May 16 (*Styer*); Swarthmore, May 25 (*Palmer*); New Lisbon, N. J., May 19 (*Hallett*); Haverford, May 20 (*Serrill*) and 26 (*Howard*); Westtown, May 21 (*Evans*); West Chester, May 15 (*DeHaven*); Buckingham, May 15 (*Cox*); Reading, May 22, 26 and 27 (*Poole*); Beverly, N. J., May 26 (*Baird*); Chestnut Hill, May 19 (*W. H. Trotter*).

TITLARK, *Anthus rubescens*. State College, late October abundant (*Morris*); Camden, N. J., Nov. 2, 1917 (*Potter*); Westtown, Apr. 22 and 29 (large flock) (*Evans*); West Chester, May 17 (*Sharples*); Forest Grove, Apr. 8 (*Bewley*); Doylestown, Oct. 1-24 and Mar. 25-Apr. 8, abundant (*MacReynolds*); Lopez, May 18 (*Behr*), first time.

CATBIRD, *Dumetella carolinensis*. Upper Pensauken Creek, N. J., Dec. 25, 1916 (*Linton*).

MOCKINGBIRD, *Mimus polyglottos polyglottos*. Ardmore, May 27(2) (*Baily* and *Serrill*); West Chester, one bird present continuously Dec. 25-May 10 (*Sharples*); Westgrove, one seen Aug. 19 and 21, 1917, two and a half miles from site of former nest (*Roberts*).

CAROLINA WREN, *Thryothorus ludovicianus ludovicianus*. Swarthmore, eggs May 3 (*Palmer*); Westtown, seen but once, on May 6 (*Evans*); West Chester, only one seen, March 19 (*Roberts*).

HOUSE WREN, *Troglodytes aedon aedon*. West Chester, last seen Oct. 20 (*Roberts*).

WINTER WREN, *Nannus hiemalis hiemalis*. Downstown, N. J., Oct. 7 (*Fair*); Mt. Holly, N. J., Oct. 7 (*Pumyea*); Concordville, April 29 (*Styer*); Swarthmore, April 11 (*Ellis*); Lansdowne, Jan. 7 only record (*Hallett*); Frankford, Sept. 23-May 8 (*Miller*); Westtown, Nov. 2 and April 17 (*Evans*); Doylestown, Feb. 25-April 16 (*MacReynolds*); Buckingham, Dec. 24-March 10 (*Cox*); Perkasio, April 22 (*Rutter*); Reading, March 25-April 14 (*Poole*).

BROWN CREEPER, *Certhia familiaris americana*. Vineland, N. J., Oct. 15-April 16 (*Prince*); Moorestown, N. J., Oct. 8 and all winter (*Mickle*); Mt. Holly, N. J., Oct. 1-April 25 (*Pumyea*); Wayne, Sept. 25-May 17 (*Cornelius*); Westtown, Dec. 10-May 20 (*Evans*); West Chester, Oct. 8-April 16 (*DeHaven*); Buckingham, Oct. 20-May 22 (*Cox*); Doylestown, March 18-April 22 (*MacReynolds*); Beverly, N. J., Oct. 13-April 29 (*Baird*); first seen Lansdowne, Oct. 21 (*Hallett*); Frankford, Sept. 30 (*Miller*); last seen, Swarthmore, May 14 (*Ellis*); Reading, April 28 (*Poole*).

WHITE-BREASTED NUTHATCHER, *Sitta carolinensis carolinensis*. Mt. Holly, N. J., Sept. 9-April 22 (*Pumyea*); Beverly, N. J., Oct. 12-April 1 (*Baird*).

RED-BREASTED NUTHATCH, *Sitta canadensis*. Atlantic City, N. J., Feb. 21 (*Cromie*); Vineland, N. J., Oct. 16-19 (*Prince*); Downstown, N. J., Jan. 23 (*Fair*); Audubon, N. J., May 25 (*Tatum*); Concordville, May 11 (*Styer*); Swarthmore, Feb. 20 (*Ellis*), May 12 (*Harrower*); Moorestown, N. J., Dec. 26 (*Hallett*); Lansdowne, May 3 (*Hallett*); Wayne, Oct. 20 (*Alexander*); Westtown, Oct. 15 and May 20 (*Evans*); West Chester, May 8 (*Roberts*); Buckingham, Dec. 21-Feb. 13 (*Cox*); Doylestown, Sept. 3 (*MacReynolds*); Reading, Feb. 24 and May 22 (*Poole*); Permont, N. J., Sept. 2 and 3 (*Street*); New Lisbon, N. J., Oct. 22 (*Scoville*).

TUFTED TITMOUSE, *Baeolophus bicolor*. Swarthmore, nest and young, June 6 (*Palmer*).

BLACK-CAPPED CHICKADEE, *Penthestes atricapillus atricapillus*. Concordville, March 23 (*Styer*); Ridley Park, March 23 (*Lloyd*); Lansdowne, March 16, common Oct.-Nov. 6 (*Hallett*); Haverford, May 3 (*Howard*); Reading, April 14 (*Poole*); Wayne, Sept. 24-April 20 (*Cornelius*); Westtown, Nov. 13-April 16 (*Evans*); West Chester, Oct. 11-April 10 (*Roberts and DeHaven*); Doylestown, Nov. 5-April 8 (*MacReynolds*).

CAROLINA CHICKADEE, *Penthestes carolinensis carolinensis*. Haddonfield, N. J., nest and eggs May 16 (*Miller*).

HUDSONIAN CHICKADEE, *Penthestes hudsonicus subsp.?* Pocono Lake, June 23 (*Street*); La Anna, Pike Co., June 3 (*Harlow and Burleigh*).

BLUE-GRAY GNATCATCHER, *Poliophtila caerulea caerulea*. Cape May, N. J., April 8 (*Hand*); Atlantic City, N. J., April 2 (*Carter*); Wenonah, N. J., April 2 (*Morris and Erskine*); Camden, N. J., October 7, 1917 (*Potter*).

GOLDEN-CROWNED KINGLET, *Regulus satrapa satrapa*. Moorestown, N. J., Oct. 12-April 13 (*Mickle*); Mt. Holly, N. J., Oct. 1-April 17 (*Pumyea*); Lansdowne, Oct. 12-Nov. 6, occasional to Jan. 3 (*Hallett*); Westtown, Feb. 7-April 18 (*Evans*); West Chester, Oct. 3-April 24 (*Roberts*); Doylestown, Nov. 5-April 22 (*MacReynolds*); Beverly, N. J., Oct. 1-April 15 (*Baird*); last seen, Swarthmore, March 24 (*Ellis*); Media, March 18 (*Moore*); Forest Grove, April 18 (*Bewley*); Perkasié, April 22 (*Rutter*); Reading, April 14 (*Poole*); first seen, Frankford, Sept. 22 (*Miller*).

RUBY-CROWNED KINGLET, *Regulus calendula calendula*. Lansdowne, Oct. 22 (*Hallett*); Cheltenham, one seen Dec. 14 (*Miller*); last seen, Westtown, May 8 (*Evans*).

VEERY, *Hylocichla fuscescens fuscescens*. Vineland, N. J., remained to May 30 (*Prince*); Newton, N. J., eggs June 3 (*Scoville*).

HERMIT THRUSH, *Hylocichla guttata pallasi*. Westtown, last seen, Nov. 2 (*Evans*).

ROBIN, *Planesticus migratorius migratorius*. Lansdowne, Nov. 6, and Moorestown, N. J., Nov. 5 (*Hallett*); last seen, Westtown, Oct. 19 (*Evans*).