

stituting the respective numbers for the colors (Figure 4), we see that this is bird 1242 and, since the Biological Survey band is in 2d position, the bird is 1242—Series II. A shorter form of writing this is 2-1242. This is recommended as it makes for neatness and simplicity in keeping data. This number can be easily and quickly located in the proper schedule and any necessary data recorded.

The advantages of this system lie in its simplicity and the consequent facility in keeping and looking up data, and the fact that all birds have the same number of bands. No bird can possibly be confused with another due to the loss of one or more bands.

For smaller number of birds or for economic reasons it may be desirable to use a smaller number of bands. A similar system could be evolved using two or three colored bands.

Four digit numbers would be used with a zero denoting the blank space. A table is given below showing the various possibilities as to total number of combinations possible from a given number of bands and colors.

Number of Bands Including Biological Survey Band	Number of Colors						
	1	2	3	4	5	6	7
1.....							
2.....	6	12	18	24	30	36	42
3.....	12	48	108	192	300	432	588
4.....	10	80	270	640	1250	2160	3430
5.....	6	96	486	1536	3750	7776	14406

Linnaean Society, New York, N. Y.

RETURNS AND RECOVERIES OF BIRDS BANDED AT NORRISTOWN, PENNSYLVANIA

By RAYMOND J. MIDDLETON

THE following detailed listing of some returns at my banding station at Norristown, Pennsylvania is given to emphasize particularly the persistency of birds returning year after year to place of birth, summer residence or winter residence. In the case of the Catbirds, the details given supplement the age-records of this species published by May Thacher Cooke appearing in *Bird-Banding* Volume VIII, pages 52-65.

The recoveries in southern states give additional information as to the wintering grounds of summer residents. All of the species listed have been recovered in the same states during previous years and reported in former issues of *Bird-Banding*.

RECOVERIES

Eastern Robin (*Turdus m. migratorius*)

This species is an abundant summer resident, but in winter just a few scattered individuals are present. Many of these birds, have been found dead within five miles of the place of banding during the summer season but never has a single one been reported during the winter period. With many recoveries along the Gulf States during winter, the evidence seems to be rather conclusive of a definite migration southward of the summer residents. In all we have banded 2300 Robins but have not had a record of one as a permanent resident.

- B385793—immature, banded June 28, 1933, was shot in a strawberry patch at Opa Locka, Florida, on March 2, 1937, by Leon W. Burns.
 C301768—adult, banded July 23, 1934, was killed near Groveland, Florida, on March 7, 1937, by C. A. Rutledge.
 C301670—immature, banded June 3, 1934, was killed at Mulberry, Florida, on February 26, 1937, by J. D. Spooner.
 35-327051—immature, banded September 23, 1935, was caught alive at Chula, Georgia, on March 1, 1937, by H. C. Harris.
 36-324623—immature, banded August 23, 1936, was found dead at Jesup, Georgia, on February 15, 1937, by E. H. Harper.
 B337664—immature, banded August 1, 1932, was found dead at Fair Bluffs, North Carolina, on December 26, 1935, by Dr. Maurice A. Waddell.
 C301651—adult male, banded March 24, 1934, was caught at Magnolia, Pike County, Mississippi, by Fay Smith of Progress School on February 24, 1936.
 35-327088—adult, banded May 18, 1936, was found injured at Tupelo, Mississippi, by J. A. Pierce on May 5, 1937, and later died. Possibly this bird had been injured for some time and was unable to attempt its northward migration. Otherwise the bird would not have been in Mississippi at a time when the year previous it had been breeding in Pennsylvania.

Eastern Song Sparrow (*Melospiza m. melodia*)

- 36-147875—banded October 23, 1936 was killed at Stevens Potter, Georgia, on February 23, 1937, by O. O. Kitchens.

PURPLE GRACKLE

- 651404—adult, banded May 27, 1928, returned on May 22, 1935, and on October 21, 1935, and was found dead at Merion, Pennsylvania (12 miles from place of banding) by I. W. Keller.

White-throated Sparrow (*Zonotrichia albicollis*)

- B119247—banded October 4, 1930, was trapped at South Milwaukee, Wisconsin, on April 26, 1937, by Mrs. Fred L. Hook, a bird bander.
 34-158625—banded October 18, 1934, was killed at Bethel, North Carolina, on February 1, 1936, by Otis Alexander.
 35-132259—immature female, banded October 9, 1935, was captured at Camden, South Carolina, on March 15, 1936, by J. W. Trotter.

RETURNS

Northern Flicker (*Colaptes auratus luteus*)

- A458706—adult male, banded June 19, 1933, was a return-1 on June 16, 1935, and a return-2 on June 12, 1937. During 1935 and 1937 he nested in the same nest-box.

Eastern Robin (*Turdus m. migratorius*)

- B394247—immature, banded July 21, 1933, was taken as a return-1 on July 28, 1935, and a return-2 on August 3, 1936.

Eastern House Wren (*Troglodytes ædon ædon*)

L73089—adult, banded May 9, 1934, was a return-1 on May 4, 1935, a return-2 on April 30, 1936, and a return-3 on May 22, 1937.

Catbird (*Dumetella carolinensis*)

B231681—immature, banded August 6, 1933, was a return-1 on May 11, 1934, a return-2 on August 16, 1936, and a return-3 on May 8, 1937.

B231682—immature, banded August 6, 1933, was a return-1 on May 8, 1934, a return-2 on May 1, 1935, a return-3 on April 30, 1936, and a return-4 on June 27, 1937.

Wood Thrush (*Hylocichla mustelina*)

A267164—adult, banded June 28, 1931, was a return-1 on September 13, 1932, and a return-2 on May 29, 1936.

A293725—adult, banded June 10, 1932, was a return-1 on May 20, 1935.

34-105245—adult, banded May 9, 1934, was a return-1 on June 20, 1935, and a return-2 on May 9, 1936.

A267165—adult, banded June 29, 1931, was a return-1 on May 19, 1932, and a return-2 on May 3, 1933.

A293704—adult, banded May 9, 1932, was a return-1 on May 5, 1933, and a return-2 on May 20, 1934.

B231631—immature, banded July 2, 1933, was a return-1 on April 29, 1935.

B231699—nestling, banded July 7, 1933, was a return-1 on May 8, 1934.

34-105276—nestling, banded June 14, 1934, was a return-1 on September 11, 1935.

34-158925—adult, banded May 26, 1935, was a return-1 on May 8, 1936, and a return-2 on June 24, 1937.

Ovenbird (*Seiurus aurocapillus*)

A161565—adult, banded August 8, 1930, was a return-1 on May 20, 1934.

Maryland Yellowthroat (*Geothlypis t. trichas*)

F28048—immature male, banded August 14, 1931, was a return-1 on May 15, 1932.

L22869—adult male, banded September 4, 1934, was a return-1 on May 30, 1935

34-78960—adult male, banded June 26, 1935, was a return-1 on May 11, 1936.

34-79091—adult male, banded June 7, 1936, was a return-1 on May 8, 1937.

Eastern Song Sparrow (*Melospiza m. melodia*)

This species is resident here throughout the entire year, but during the winter there are possibly not more than one tenth the number present in summer.

During fifteen years of trapping we have had less than half a dozen remain all year. In winter the seed-eaters are easily trapped during severe weather and I feel certain that if any summer residents were present they would enter the traps then. Each fall, as the sparrow migration ends, there are few if any of this race of Song Sparrow to be found for several weeks, but in early December a few appear and then the number remain nearly stationary until March, when flocks of them are abundant in this section, and at this time the returns start to come in. With two recoveries taken in Georgia and the shift in the population from winter to summer we are certain that the returns listed below are not repeats but are actual returns after being absent over the winter.

B117947—banded October 18, 1930, was a return-1 on July 15, 1932, a return-2 on May 22, 1934, and a return-3 on October 28, 1935.

- C142110—immature, banded August 4, 1932, was a return-1 on April 27, 1933, a return-2 on March 17, 1934, a return-3 on March 13, 1935, and a return-4 on March 6, 1936.
- C146454—adult, banded July 14, 1933, was a return-1 on April 2, 1934, a return-2 on March 21, 1935, a return-3 on March 22, 1936, and a return-4 on May 30, 1937.
- 34-105337—immature, banded August 6, 1934, was a return-1 on March 11, 1935, and a return-2 on March 24, 1936.

Eastern Tree Sparrow (*Spizella a. arborea*)

- A161367—banded January 11, 1930, was a return-1 on December 15, 1930, a return-2 on December 5, 1931, a return-3 on December 21, 1932, a return-4 on December 10, 1933, a return-5 on December 22, 1934, and a return-6 on December 20, 1935. This bird was nearly 7 years old in 1936, it has been a consistent repeater in the traps each winter and in 1936 it repeated as late as March 1st.
- A161384—band number changed to 35-67574, banded January 26, 1930, was a return-1 on January 25, 1936.
- B170305—banded February 19, 1932, was a return-1 on January 10, 1933, a return-2 on February 6, 1934, a return-3 on January 25, 1935, and a return-4 on December 23, 1935.
- B170312—banded February 21, 1932, was a return-1 on February 6, 1933, a return-2 on March 23, 1934, a return-3 on January 23, 1935, and a return-4 on February 18, 1937.
- B170375—banded March 29, 1932, was a return-1 on November 28, 1932, a return-2 on December 12, 1933, a return-3 on January 24, 1935, and a return-4 on December 23, 1935.
- H67934—banded January 15, 1933, was a return-1 on December 10, 1933, a return-2 on December 5, 1934, a return-3 on January 6, 1936, and a return-4 on February 5, 1937.

The Eastern Tree Sparrow returns to its wintering place with great persistence. It is evidently a rather long-lived species as shown by the records given above and by numerous records published in *Bird-Banding*.

Slate-Colored Junco (*Junco h. hyemalis*)

- C35309—banded December 1, 1929, was a return-1 on January 25, 1932, a return-2 on February 5, 1933, a return-3 on February 9, 1934, a return-4 on February 22, 1935, and a return-5 on January 21, 1936. This bird was at least seven years old in 1936.
- B170266—banded January 5, 1932, was a return-1 on March 11, 1933, a return-2 on January 23, 1935, and a return-3 on January 26, 1936.
- B170269—adult, banded January 7, 1932, was a return-1 on December 26, 1932, a return-2 on November 28, 1933, a return-3 on January 14, 1935, and a return-4 on December 25, 1935.
- B170300—banded January 25, 1932, was a return-1 on January 14, 1933, a return-2 on March 13, 1934, and a return-3 on January 8, 1936.
- L53963—banded December 28, 1933, was a return-1 on December 11, 1934, a return-2 on December 27, 1935, and a return-3 on March 11, 1937.
- L73047—adult male, banded February 16, 1934, was a return-1 on February 5, 1935, a return-2 on December 27, 1935, and a return-3 on February 16, 1937.
- H67936—adult male, banded January 25, 1933, was a return-1 on December 14, 1933, a return-2 on January 23, 1935, and a return-3 on March 17, 1937.

This species also returns to its wintering ground year after year with great regularity, and age-records of four or five years are common.