

Protocalliphora is proved to be present at this station in large numbers. It seems fairly safe to assume that this parasite is present in such numbers that were it not for the steps taken to minimize its effect on the hole-nesting species, almost no Bluebird or Tree Swallow youngsters would ever fly from the nest-boxes at this station. This assumption is supported by the losses sustained during the period here reviewed (for example, see case-histories No. 1 and No. 2), and the losses sustained prior to this study and before the cause of the trouble was known. It should be mentioned in passing that occasionally a factor contributing to mortality from the activities of *Protocalliphora* is encountered in the form of inclement weather. A few consecutive days of wet and cold weather reduce the available food supply, and so lower the resistance of the nestlings to a point less than normal. It is on such occasions that an unusually high mortality may be expected.

The conclusions arrived at in the preceding paragraph are discouraging. An element of hope, however, is not lacking, since the adverse conditions obtaining at this station do not appear to be general. While reports of parasitism by *Protocalliphora* do come from other stations, and while the extent of its range and the results of its depredations have not been reported with any degree of thoroughness, it is known that a great many broods of Tree Swallows and Bluebirds do successfully leave their nests, even in our general region. There is thus presented a picture of spotty range and/or intensity of the *Protocalliphora* population. What the controlling factors are as yet is unknown to us.

Groton, Massachusetts.

RETURNS OF BANDED BIRDS: SECOND PAPER¹

(Shorebirds, Waxwings, Shrikes, Vireos, Warblers, Doves, and Pigeons)

By FREDERICK C. LINCOLN

IN the first paper in this series the data presented were (with a few exceptions) of birds recaptured at points other than that of banding. This will be the primary object throughout the series, but occasionally it may be desirable to include a few station returns, as when the species involved is one for which any kind of a "retake" is more or less of an occasion of note.²

For the purpose of providing a variety of interest, the present

¹ Correction: Recoveries of Banded Birds of Prey. *Bird-Banding*, Vol. VII, p. 44, January, 1936. In the first paper of this series two unfortunate errors were made as a result of using an old atlas for the purpose of computing distances. The atlas used was the Rand McNally 1915 edition, which shows the town of La Verne in Marin County. Apparently there is another town of this same name in Los Angeles County, and this is the one that figured in the recovery records of Screech Owls Nos. 290939 and A800862. Accordingly, the distance between points of banding and recovery for the former is about three miles and for the latter about two miles.

² Recoveries of Banded Birds of Prey. *Bird-Banding*, Vol. VII, No. 1, pp. 38-45, January, 1936.

paper lists records from a miscellaneous group, including game species on which there is an open shooting-season, other game-birds that are accorded year-round protection in the United States and Canada, and still others that are not generally considered as game in any part of their ranges.

For the latter group, recovery records, that is, recaptures at points other than those of banding, probably always will be decidedly uncommon, if not actually rare, but ultimately, when it is possible to put into operation plans that are now made, it is hoped that banding stations in Latin-American countries will result in a greatly increased station-to-station recovery percentage.

It should be remembered that the data presented in the following tables do not necessarily constitute all of the records for the species that are now contained in the files of the Biological Survey. In the great majority of cases they represent but a fraction of the usable data. Selection has been made because the record indicates some hitherto unknown fact in the movements of the species or because of some other feature of unusual interest. Under the name of each species notation is made of the total number that have been banded and the number of returns now contained in the files. These figures are as of July 1, 1935.

WILSON'S PLOVER. *Pagolla wilsonia*

Banded, 24. Returns, 1.

A226261, banded at Bird Bank, Charleston Co., S. C., on July 6, 1931, by E. Milby Burton, was shot at Rose Hall Village, Carentyne Coast, Berbice, British Guiana, on September 22, 1932.

KILLDEER. *Oxyechus vociferus*

Banded, 1422. Returns, 13

254254, banded at Chickasaw, Iowa, on July 13, 1926, by Charles J. Spiker, was found dead in Fayette County, Iowa, in May, 1930.

486565, banded at Noblesville, Ind., on July 17, 1927, by Malcolm F. Bundy, was killed in Plaquemine Parish, La., on December 26, 1927.

A222471, banded at Notre Dame, Ind., on July 12, 1929, by D. K. Stephenson, was caught at Gaffney, S. C., on February 27, 1930.

A281957, banded at East Durham, N. Y., on June 7, 1932, by Vernon Haskins, was killed at Milledgeville, Ga., on January 10, 1933.

A289342, banded at Little Bow Reservoir, Carmangay, Alta., on June 17, 1933, by Dr. and Mrs. J. E. Horning, was shot at Wamego, Kan., on October 22, 1933.

RUDDY TURNSTONE. *Arenaria interpres morinella*

Banded, 20. Returns, 1.

A217098, banded at Zion, Ill., on September 4, 1929, by C. E. Holcombe, was shot at Lat. 39°, Long. 30°, Bayou Scofield, La., on October 10, 1929.

WOODCOCK. *Philohela minor*

Banded, 95. Returns, 7.

244598, banded May 8, 1932, at Fort Snelling Reservation, Minn., by Dr. T. S. Roberts, was killed at Ocean Springs, Miss., on January 7, 1933.

287099, banded July 9, 1926, at LaCrosse, Wis., by T. M. Marshall, was killed at Baton Rouge, La., in December, 1928.

A408449, banded December 16, 1932, at Fairhope, Ala., by Mrs. W. H. Edwards, was shot at Sydney, Nova Scotia, on October 31, 1933.

WILSON'S SNIPE. *Capella delicata*
Banded, 58. Returns, 3.

- 241721, banded at Colquitz, Vancouver Is., B. C., on December 23, 1924, by J. A. Munro, was killed at Sumas Lake, B. C., on October 20, 1927.
B319966, banded at North Eastham, Cape Cod, Mass., on September 4, 1932, by O. L. Austin, was shot at Buck Island, 4 miles south of Coinjock, Currituck County, N. C., on January 12, 1933.

LONG-BILLED CURLEW. *Numenius americanus*
Banded, 53. Returns, 21.

- 531112, banded at Bear River Bay, 20 miles west of Brigham, Utah, on June 11, 1929, by Archie Hull, was shot at Ensenada de Todos Santos, Mexico, on September 18, 1930.
A502303, banded at Antioch, Neb., on June 9, 1931, by F. J. Keller, was found dead at Palacios, Texas, on February 8, 1932.

SPOTTED SANDPIPER. *Actitis macularia*
Banded, 1743. Returns, 6.

- 63244, banded at Boxford, Mass., on July 1, 1923, by S. G. Emilio, was found dead under telephone wires at Babson Park, Needham, Mass., on July 5, 1927.
A134132, banded at Zion, Ill., on August 23, 1929, by C. E. Holcombe, was found and released at Raleigh, N. C., on September 27, 1929.
F117228, banded at Wantagh, N. Y., on August 19, 1933, by William Vogt, was killed at Fort de France, Martinique, French West Indies, on September 13, 1933.

WILLET. *Catoptrophorus semipalmatus*
Banded, 167. Returns, 2.

- A435411, banded 30 miles southeast of Brooks, Alta., on July 6, 1932, by Dr. J. E. Horning, was found dead at Hamilton, Mo., on September 3, 1932.

GREATER YELLOW-LEGS. *Totanus melanoleucus*
Banded, 70. Returns, 1.

- 34-347178, banded at North Eastham, Cape Cod, Mass., on October 9, 1934, by Oliver L. Austin, was shot at Plainville, Mass., on October 20, 1934.

LESSER YELLOW-LEGS. *Totanus flavipes*
Banded, 116. Returns, 1.

- B234496, banded at North Eastham, Cape Cod, Mass., on August 14, 1933, by O. L. Austin, was shot at Barbados, British West Indies, on August 23, 1934.

RED-BACKED SANDPIPER. *Pelidna alpina saskhalina*
Banded, 75. Returns, 1.

- 169170, banded at Shell Point, Wakulla Co., Fla., on October 31, 1926, by H. L. Stoddard, was found dead at Monroe Marshes, Mich., on May 25, 1927.

SEMPALMATED SANDPIPER. *Ereunetes pusillus*
Banded, 3776. Returns, 22.

- L1986, banded at North Eastham, Cape Cod, Mass., on August 29, 1933, by O. L. Austin, was caught by boys at Carupano, Venezuela, on September 24, 1933.

BAND-TAILED PIGEON. *Columba fasciata*
Banded, 85. Returns, 5.

- 536342, banded at Beaver, Ore., on May 21, 1932, by Reed W. Ferris, was killed at Callaboos Canyon, Calif., on December 8, 1932.
536368, banded at Beaver, Ore., on May 24, 1932, by Reed W. Ferris, was shot 15 miles east of Gonzales, Monterey Co., Calif., on December 10, 1933.
536415, banded at Beaver, Ore., on May 29, 1932, by Reed W. Ferris, was shot at Monterey Hills, Calif., on December 10, 1933.

MOURNING DOVE. *Zenaidura macroura*

Banded, 12,636. Returns, 697.

- 104374, banded at Fort Riley, Kans., on June 13, 1926, by Leon L. Gardner, was killed at Austin, Texas, during season of 1929-30.
- 212300, banded at Indianapolis, Ind., on June 30, 1924, by Margaret R. Knox, was shot at Tampa, Fla., on September 10, 1930.
- 217026, banded at Valparaiso, Neb., on September 20, 1929, by Harry Parker, was shot at Corpus Christi, Texas, on November 10, 1929.
- 365539, banded at San Diego, Calif., on January 3, 1929, by E. H. Glidden, was killed at Boise, Idaho, on September 7, 1929.
- 368129, banded at Lakewood, Ohio, on August 30, 1926, by E. C. Hoffman, was killed at Fullerton, La., on January 18, 1933.
- 411872, banded at Notre Dame, Ind., on June 22, 1927, by Brother Alphonsus, was killed at Ashburn, Ga., on January 29, 1931.
- 436770, banded at East San Diego, Calif., on March 11, 1929, by Frank F. Gander, was killed at Reno, Nev., on September 10, 1929.
- 439847, banded at East Lansing, Mich., on April 27, 1928, by Prof. J. W. Stack, was shot 8 miles east of Beaufort, N. C., on December 23, 1932.
- 440583, banded at Clayton, Ill., on May 29, 1928, by Russell S. Davis, was killed at Sargent, Texas, on November 27, 1932.
- 520964, banded at East Lansing, Mich., on May 24, 1928, by Prof. J. W. Stack, was shot 20 miles south of Blountstown, Calhoun Co., Fla., on December 8, 1930.
- 522300, banded at Kansas, Ill., on August 18, 1927, by W. B. Taber, Jr., was killed 4 miles northeast of Alapaha, Ga., on March 14, 1931.
- 527140, banded at Greensburg, Ind., on June 24, 1929, by Mrs. J. F. Goddard, was killed 85 miles south of Jackson, Miss., on December 14, 1930.
- 527353, banded at East Lansing, Mich., on April 22, 1930, by Prof. J. W. Stack, was caught by a cat at Redwood, Miss., in December, 1932.
- 527564, banded at Whiting, Kans., on July 9, 1933, by Homer W. Hedge, was killed 2 miles east of Davilla, Texas, on January 1, 1934.
- 593591, banded at Marietta College, Marietta, Ohio, on April 7, 1932, by H. R. Eggleston, was killed at Trenton, S. C., on November 30, 1933.
- 546301, banded at Topeka, Kans., on June 28, 1927, by Lawrence I. McFarland, was killed at Mexico City, Mexico, on April 17, 1932.
- 649990, banded at Kansas, Ill., on May 10, 1929, by W. B. Taber, Jr., was killed at Morrilton, Fla., on January 1, 1931.
- 650823, banded at North Eastham, Cape Cod, Mass., on September 2, 1931, by O. L. Austin, was killed at Laxley, Ala., on November 14, 1931.
- 650931, banded at North Eastham, Cape Cod, Mass., on July 28, 1932, by O. L. Austin, was shot at Tifton, Ga., on January 31, 1935.
- A310673, banded at Mooreland, Ind., on May 20, 1929, by L. D. Felton, was killed at York, Fla., on January 27, 1931.
- A323552, banded at Mooreland, Ind., on May 30, 1929, by L. D. Felton, was killed at Ravenden, Ark., on September 5, 1934.
- A360205, banded at Fairdale, N. D., on June 21, 1931, by Frank J. Vejtasa, was killed at Crowley, La., on December 12, 1931.
- A401942, banded at West Lafayette, Ind., on April 19, 1930, by Prof. Louis A. Test, was killed at Odessa, Fla., on November 20, 1931.
- A402617, banded at Tiffin, Ohio, on July 23, 1929, by Eugene C. Stacy, was killed at Frostproof, Fla., on November 1, 1930.
- A404145, banded at Wauwatosa, Wis., on April 24, 1929, by Mrs. Nellie B. Abraham, was killed at Bell, Fla., on November 26, 1931.
- A404551, banded at Russiaville, Ind., on June 10, 1931, by Lowell E. Carter, was killed in De Witt County, Texas, on October 14, 1933.
- A405833, banded at Hillsdale, Mich., on August 27, 1929, by Frank Smith, was killed at Statesboro, Ga., on January 23, 1933.
- A407555, banded at Kansas, Ill., on May 14, 1930, by W. B. Taber, Jr., was killed in Zapata County, Texas, on October 15, 1930.

- A413931, banded at Notre Dame, Ind., on June 16, 1931, by Brother Paul, was shot 6 miles west of Ozark, Ala., on January 28, 1932.
- A418386, banded at Crystal Bay, Minn., on June 1, 1930, by Mr. and Mrs. F. W. Commons, was shot at Victoria, Texas, on October 24, 1931.
- A422178, banded at North Eastham, Cape Cod, Mass., on August 26, 1930, by O. L. Austin, was shot at Ocala, Fla., on January 17, 1931.
- A423800, banded at Athens, Ohio, on July 10, 1931, by Mrs. Marjorie Lee Guest, was killed in Pickens County, S. C., on January 24, 1934.
- A424716, banded at Gates Mills, Ohio, on June 14, 1932, by S. Prentiss Baldwin, was shot 15 miles northwest of Gainesville, Fla., on November 30, 1933.
- A424722, banded at Gates Mills, Ohio, on July 13, 1932, by S. Prentiss Baldwin, was killed in Wayne County, N. C., on January 1, 1933.
- A426443, banded at North Eastham, Cape Cod, Mass., on June 13, 1931, by O. L. Austin, was killed at Dandridge, Tenn., on November 21, 1931.
- A426897, banded at Kansas, Ill., on June 22, 1932, by W. B. Taber, Jr., was killed at Iota, La., on November 18, 1932.
- A427701, banded at Madison, Wis., on August 2, 1931, by George Wagner, was shot at Karnes City, Texas, on October 21, 1931.
- A427706, banded at Madison, Wis., on August 3, 1931, by George Wagner, was killed at Union Springs, Ala., on December 28, 1931.
- A428186, banded at Charlotte, Mich., on May 21, 1932, by F. E. Ludwig, was killed at Crowley, La., on December 18, 1932.
- A433011, banded at Waseca, Minn., on June 15, 1933, by Constance A. Everett, was killed at Abilene, Texas, on September 15, 1934.
- A437592, banded at Fargo, N. D., on August 2, 1934, by H. Gordon Heggeness, was killed at Skidmore, Texas, on October 1, 1934.
- A439401, banded at Columbus, Ohio, on March 13, 1932, by Mrs. Margaret M. Nice, was shot at Wenona, N. C., on December 15, 1932.
- A441113, banded at Waterloo, Mich., on August 22, 1932, by F. E. Ludwig, was killed at Lyons, Ga., on November 25, 1932.
- A441762, banded at Sioux City, Iowa, on July 4, 1932, by Mrs. Marie Dales, was killed at Altus, Okla., on September 26, 1932.
- A445335, banded at Nashville, Tenn., on September 13, 1932, by Mrs. Arch Cochran, was killed in Treutlen County, Ga., on January 31, 1934.
- A431742, banded at Shelby, Mich., on June 24, 1931, by David J. Davis, was killed 5 miles south of Sugar Land, Brazos River, Texas, on October 13, 1932.
- A433269, banded at Chestnut Hill, Pa., on June 25, 1931, by Charles Platt, was killed at Four Oaks, N. C., on December 20, 1931.
- A452664, banded at North Eastham, Cape Cod, Mass., on August 23, 1934, by O. L. Austin, was killed at Echo, La., on January 12, 1935.
- A452665, banded at North Eastham, Cape Cod, Mass., on August 23, 1934, by O. L. Austin, was killed in Norfolk County, Va., on December 24, 1934.
- A507090, banded at Hewlett, L. I., N. Y., on May 12, 1932, by Carl W. Buchheister, was killed at Rockingham, Ga., on December 24, 1932.
- A518381, banded at Jamestown, N. D., on September 25, 1932, by Mrs. Marjorie Lee Guest, was killed at Elloree, S. C., in fall of 1932.
- B266580, banded at Augusta, Mich., on July 12, 1933, by Homer L. Bradley, was shot 8 miles southeast of Lake Charles, La., on January 7, 1934.
- B330872, banded at Key West, Fla., on January 4, 1932, by William W. Demeritt, was shot 3 miles south of Decatur, Ill., on September 12, 1932.
- B330873, banded at Key West, Fla., on January 4, 1932, by William W. Demeritt, was killed 5 miles north of Danville, Ky., on September 6, 1932.
- B331115, banded at Niles, Mich., on August 7, 1934, by Joseph R. Hradel, was killed in Refugio County, Texas, on October 20, 1934.
- B333215, banded at Antwerp, Ohio, on June 30, 1933, by O. E. Ehrhart, was killed at Isabel, La., on January 7, 1934.
- B342726, banded at Fairmount, N. D., on June 7, 1932, by G. C. Bierens, was killed at Cartazar, Guanajuato, Mexico, on October 19, 1932.

- B373356, banded at Racine, Wis., by B. L. von Jarchow, on August 9, 1932, was killed at La Grange, Ga., on September 20, 1932.
 B381158, banded at Key West, Fla., on October 19, 1932, by William W. Demeritt, was killed at Walton, Texas, on November 20, 1933.
 B383291, banded at Key West, Fla., on March 19, 1933, by William W. Demeritt, was killed at Iva, S. C., on September 4, 1933.
 B385345, banded at Ann Arbor, Mich., on June 18, 1933, by Harry W. Hann, was shot at Summerfield, Fla., on November 20, 1934.
 C312108, banded at Celina, Ohio, on June 18, 1933, by Paul Forsthoefel, was shot 8 miles west of Statesboro, Ga., on November 23, 1933.
 C335254, banded at Key West, Fla., on October 8, 1934, by William W. Demeritt, was killed at White Oaks, Ga., on January 25, 1935.
 34-307922, banded at Key West, Fla., on December 7, 1934, by William W. Demeritt, was killed at Merida, Yucatan, Mexico, on January 12, 1935.
 34-319808, banded at Kellogg Estate, Augusta, Mich., on May 27, 1934, by Homer L. Bradley, was killed in Liberty County, Texas, on October 16, 1934.
 34-319861, banded at Augusta, Mich., on June 7, 1934, by Homer L. Bradley, was killed at Savannah, Ga., on February 15, 1935.

BOHEMIAN WAXWING. *Bombycilla garrula*

Banded, 434. Returns, 4.

- B153849, banded at Waukegan, Ill., on March 23, 1932, by William I. Lyon, was found dying at Milwaukee, Wis., on April 11, 1932.
 B153871, banded at Waukegan, Ill., on March 25, 1932, by William I. Lyon, was captured and kept as a pet, at Craik, Sask. Bird caught on April 15, 1932, but died on May 1, 1932.

CEDAR WAXWING. *Bombycilla cedrorum*

Banded, 7739. Returns, 86.

- A227062, banded at Trumansburg, N. Y., on July 14, 1930, by J. W. Large, was found dead at Upper Black Eddy, Pa., on November 5, 1930.
 B148030, banded at North Eastham, Cape Cod, Mass., on May 12, 1931, by O. L. Austin, was killed at Girard, Ala., on January 3, 1933.
 B192846, banded at North Eastham, Cape Cod, Mass., on October 5, 1933, by O. L. Austin, was killed at Williamston, N. C., on March 23, 1934.
 34-179972, banded at Modesto, Calif., on February 24, 1935, by Charles H. Feltes, was found dead at Seattle, Wash., on July 20, 1935.
 35-101358, banded at Modesto, Calif., on March 10, 1935, by Irl Rogers, was found dead enmeshed in poultry netting, at Olympia, Wash., on June 10, 1935.
 35-108386, banded at Modesto, Calif., on May 9, 1935, by Charles H. Feltes, was found dead at Victor, Wash., on August 1, 1935.

NORTHERN SHRIKE. *Lanius borealis*

Banded, 173. Returns, 9.

- A214218, banded at Hepburn, Sask., on July 4, 1931, by Philip Siemens, was found dead at Cross Timbers, Mo., on September 23, 1931.

LOGGERHEAD SHRIKE. *Lanius ludovicianus*

Banded, 1014. Returns, 24.

- A137040, banded at Whittemore, Mich., on June 9, 1929, by Norman O. Sibley, was found injured, died soon after, at Ramer, Ala., on September 5, 1929.
 A280215, banded at Amenia, N. D., on April 7, 1932, by H. L. Chaffee, was killed at Chriesman, Texas, on November 8, 1932.

RED-EYED VIREO. *Vireo olivaceus*

Banded, 754. Returns, 8.

- C84230, banded at Lansing, Mich., on July 26, 1931, by H. S. Bartholomew, was found dead at Harbor Beach, Mich., on July 30, 1931.

YELLOW WARBLER. *Dendroica aestiva*

Banded, 3223. Returns, 121.

- A36074, banded at Sault Ste. Marie, Mich., on May 30, 1926, by M. J. Magee, was retrapped at the station of banding on May 29, 1929.
B75077, banded at Sioux City, Iowa, on May 17, 1929, by Mrs. Marie Dales, was killed by automobile at Sioux City, Iowa, on June 18, 1932.
B8834, banded at Sault Ste. Marie, Mich., on May 20, 1928, by M. J. Magee, was killed by automobile at Sault Ste. Marie, Mich., on June 28, 1934.
C7329, banded at Wolfville, Nova Scotia, on June 25, 1929, by Ronald W. Smith, was found evidently run over by automobile, at Wickwire Hill, Kentville, Nova Scotia, on July 5, 1933.

MYRTLE WARBLER. *Dendroica coronata*

Banded, 6788. Returns, 65.

- B41909, banded at Gastonia, N. C., on February 2, 1930, by John L. Beal, was shot at Kings Creek, Cherokee County, S. C., on December 25, 1930.
F80373, banded at Fargo, N. D., on October 2, 1932, by Prof. O. A. Stevens, was found dead at Clarence, La., on December 5, 1932.
H03040, banded at North Eastham, Cape Cod, Mass., on April 30, 1932, by O. L. Austin, was caught by cat at North Harpswell, Maine, on October 19, 1932.

AUDUBON'S WARBLER. *Dendroica auduboni*

Banded, 2088. Returns, 105.

- F25558, banded at Santa Cruz, Calif., on February 7, 1931, by Mrs. L. B. Payne, was found dead at Glenwood, Calif., on November 15, 1931.

BLACK-THROATED GREEN WARBLER. *Dendroica virens*

Banded, 372. Returns, 4.

- C92, banded at Hanover, N. H., on September 16, 1930, by Raymond R. Marsden, was found dead at Milledgeville, Ga., on February 25, 1935.
H91583, banded at Groton, Mass., on May 24, 1933, by William P. Wharton, was caught at West Memphis, Ark., on October 22, 1933.

CHESTNUT-SIDED WARBLER. *Dendroica pensylvanica*

Banded, 419. Returns, 1.

- A65059, banded at Holderness, N. H., on June 25, 1926, by Mrs. Katherine C. Harding, was retrapped at Station of banding on July 3, 1927.

PINE WARBLER. *Dendroica pinus*

Banded, 839. Returns, 26.

- F35800, banded at North Eastham, Cape Cod, Mass., on August 4, 1931, by O. L. Austin, was retrapped at station of banding on April 16, 1934.

PALM WARBLER. *Dendroica palmarum*

Banded, 393. Return, 9.

- H27223, banded at Elmhurst L. I., N. Y., on October 13, 1932, by Mrs. Marie V. Beals, was caught at Dunn, N. C., on January 15, 1933.
H44302, banded at North Eastham, Cape Cod, Mass., on October 9, 1932, by O. L. Austin, was caught in house in Point Verde, Placentia, Newfoundland, on November 28, 1932. Both these dates have been verified.

YELLOW-THROAT. *Geothlypis trichas*

Banded, 3267. Returns, 28.

- C2085, banded at Olivera, N. Y., on May 15, 1929, by Mrs. Florence K. Daley, was retrapped at station of banding on August 15, 1930, on May 16, 1931, and on May 10, 1932. Note that this bird returned each year for three successive years.
C98951, banded at Bowdoinham, Maine, on July 16, 1931, by Ray M. Verrill, was retrapped at station of banding on July 5, 1934.

REDSTART. *Setophaga ruticilla*
Banded, 2527. Returns, 20

B86035, banded at Groton, Mass., on May 18, 1929, by William P. Wharton, was retrapped at station of banding on May 11, 1932, also May 17, 1933.

C13865, banded at Wolfville, Nova Scotia, on July 12, 1929, by Ronald W. Smith, was retrapped at station of banding on June 30, 1930, also on June 25, 1931.

In the preparation of these papers, the author desires to acknowledge his indebtedness to Miss May T. Cooke of the Biological Survey, who has personally examined thousands of cards for the purpose of selecting the cases desirable for presentation.

Biological Survey, Washington, D. C.

GENERAL NOTES

Homing Experiments with Golden-crowned Sparrows.—I have read with interest that portion of the reviews in the January (1936) issue of *Bird-Banding* having the sub-heading, "Homing Experiments."

This article gives as the longest winter return known, that of a Gambel Sparrow released at a distance of 34 miles from where trapped. (E. L. Sumner, Jr., and J. L. Cobb, *Condor* 30:317-319.)

I have a record of a winter return from a distance of 84 miles by a Golden-crowned Sparrow (*Zonotrichia coronata*) in November, 1933. Of course, November is not usually considered a winter month, but as these sparrows breed in Alaska and British Columbia (never, so far as is known, in California) I think we may call the following a winter return. I quote as follows from my record book:

"Twenty-eight Golden-crowned Sparrows were trapped at the University of California Botanical Gardens, Strawberry Canyon, near Berkeley, California, on November 7, 8, 9, 1933; kept in small cages in the Life Sciences Building on the university campus until the morning of November 10th. Miss Mary M. Erickson of the Museum of Vertebrate Zoology and I then placed the twenty-eight birds in paper cartons covered with mosquito netting, and drove in my car to a point on the North Fork of the Calaveras River, in Calaveras County, California, about two miles south of San Andreas. This is at an elevation of about 1,000 feet and is about 84 miles a little north of east from Berkeley. At this place Miss Erickson and I released the birds which immediately flew across the river to trees on the opposite bank. There are grass-covered hills on each side of the river, dotted with oaks and pines. In the river bottom are willows, and, near by, sycamores and other trees. We left Berkeley at 8.30 A.M., and released the birds the same day at 1 P.M." Here follows a list of the results of interest:

The records show that one of these Golden-crowned Sparrows, C102090, was recaptured by me on November 27th, seventeen days later, close to where it was first trapped. The same bird repeated in the same location several times during the next few months. This record is interesting because the bird presumably flew across north and south migration routes to its chosen wintering ground. I recaptured three more of these twenty-eight Golden-crowned Sparrows at the Botanical Gardens in September and October, 1934, after which time I ceased banding in Strawberry Canyon.—E. L. SUMNER, Menlo Park, California.

The Homing Instinct of Song Sparrows.¹—Although much is known of the migratory habits of many birds, and the tendency of some species to return to the same haunts year after year is familiar, yet we are still very ignorant of the mechanism of this ability, or indeed, of the degree to which given species possess it. During the past two years the author has carried on banding operations on a

¹ From the Department of Zoology, Syracuse University, Syracuse, New York.