

Such are some of the varying incidents which present themselves each year as I continue this Bluebird experiment.

At the present time I am building a cluster of fifty smaller, chubbier boxes for a similar experiment with Prothonotary Warblers. These I shall add to others which I have erected and I am hoping within a year to have detailed information about the nesting of these beautiful golden swamp warblers which are so numerous in the Illinois lowlands along the Mississippi and Illinois Rivers.

SECOND PROGRESS REPORT ON THE DISEASE STUDY PROJECT

By C. BROOKE WORTH

FOLLOWING the announcement of plans for a study of diseases of wild birds by the Eastern Bird-Banding Association in the July, 1937, issue of *Bird-Banding*, a progress report was published (*idem*, April, 1938) indicating a gratifying response on the part of bird-banding coöperators in submitting dead birds for study.

Since that time the work has progressed at a rapidly increasing pace. Information has accumulated so fast that it seems advisable at this time to present a short abstract of it to readers of *Bird-Banding*.

Strange to say, contributions in the form of dead birds have been received chiefly at three pathology centers, namely, at New York, New Brunswick, and Swarthmore, Pennsylvania, but since a large volume of work has been received at these stations, there is no reason why banders in other States cannot become equally active in shipping their dead birds to their regional pathologist for post mortem examinations. The coöperating pathologists at all laboratories are unanimous in stating their eagerness to further this investigation.

It seems worthwhile to present once more the names and addresses of the men to whom dead birds should be sent. Since our last report we have secured the services of three additional pathologists. The present list of investigators thus becomes:

Boston Region

Dr. E. E. Tyzzer, Harvard Medical School, Department of Comparative Pathology, Boston, Mass.

New Hampshire Region

Dr. C. A. Bottoroff, University of New Hampshire, Durham, N. H.

Connecticut Region

Dr. Irwin Jungherr, Storr's Experiment Station, Storrs, Connecticut.

New York Region

Laboratory and Hospital, New York Zoological Park, 185th St. and Southern Blvd., New York, N. Y. Drs. Charles R. Schroeder and Carlton M. Herman.

New Jersey Region

Dr. F. R. Beaudette, New Jersey Agricultural Experiment Station, New Brunswick, N. J.

Philadelphia Region

Dr. C. Brooke Worth, Swarthmore College, Swarthmore, Pa. or Penrose Research Laboratory, The Zoological Gardens, 34th St. and Girard Ave., Philadelphia, Pa. Drs. Herbert Fox and H. L. Ratcliffe.

Washington Region

Dr. J. E. Shillinger, Biological Survey, U. S. Dept. of Agriculture, Washington, D. C.

Southern Region

Dr. Donald C. Boughton, University of Georgia, Athens, Georgia.

Numerous inquiries have been received by the Chairman of the project as to what birds are desired and how they should be shipped.

Any native species found sick, dying, or dead is eligible for study. The fresher the specimen, of course, the more can be learned from it, but a moderate degree of decomposition does not render the specimen entirely valueless; a number of diseased conditions can still be detected in this state.

It is preferable not to ship birds over the week-end, if the co-operator can arrange to have the bird kept on ice in his home during that interval. A roll of corrugated cardboard, wrapped in ordinary heavy wrapping paper and tied with string, makes a suitable container and requires little postage. Paper napkins, or better still absorbent cotton, may be used to wrap the bird in first: this is desirable to prevent the escape of ectoparasites into the outside wrappings.

During hot summer weather it is impractical to ship birds for long distances, but during at least nine months of the year results have been satisfactory even in specimens shipped as far as two hundred miles.

1. New York Zoological Park Division (To November 10, 1938). The number of specimens submitted is 14, divided among 12 species, namely, Pied-billed Grebe, Black Duck, Coot, Herring Gull, 2 Mourning Doves, Starling, Robin, Hermit Thrush, 2 Olive-backed Thrushes, Veery, Purple Grackle, and English Sparrow.

The various conditions found have been: Physical injury (9 cases), Nematodes in intestine (2), "Pox" disease (2; both Mourning Doves), Malaria (1), Intestinal fly larvae (1), Mallophaga (1), Botulism (1; Black Duck), Enteritis (1), Tape worms (1), Peritonitis (1; Grebe, gunshot wound), Ticks (1), and Septicemia (1).

It will be noted in this and in the following reports that the number of conditions found exceeds the total number of specimens. This is because many birds presented multiple lesions. The com-

monest of these was a physical injury as the termination of systemic disease.

2. Swarthmore College Division (To December 7, 1938). The following bird-banders have submitted specimens for study: Mrs. Marie V. Beals, Beecher S. Bowdish, Albert E. Conway, John A. Gillespie, Horace Groskin, Dr. Walter Keighton, Edwin A. Mason, Horace McCann, Wm. Pepper, Jr., Julian K. Potter, James N. Rice, Dr. Robert M. Stabler, and Dr. Harold B. Wood. In addition many specimens have been received from local amateur ornithologists.

The total number of specimens examined has been 133, distributed among 51 species as follows: Wood Duck (1), Virginia Rail (1), Mourning Dove (4), Cooper's Hawk (1), Eastern Red-tailed Hawk (1), Northern Red-shouldered Hawk (2), Broad-winged Hawk (1), Duck Hawk (2), Prairie Falcon (1), Woodcock (2), Dovekie (1), Snowy Owl (1), Screech Owl (5), Downy Woodpecker (2), Hairy Woodpecker (1), Yellow-bellied Sapsucker (2), Northern Flicker (6), Chimney Swift (2), Kingbird (4), Black-capped Chickadee (2), Carolina Chickadee (1), Brown Creeper (1), House Wren (3), Catbird (5), Hermit Thrush (2), Eastern Robin (11), Bluebird (1), European Starling (8), Barn Swallow (1), Blue Jay (1), American Crow (3), Baltimore Oriole (1), Scarlet Tanager (1), Red-eyed Vireo (1), Myrtle Warbler (4), Black-poll Warbler (5), Cape May Warbler (1), English Sparrow (10), Rosebreasted Grosbeak (1), Towhee (3), Cardinal (1), Sharp-tailed Sparrow (1), Savannah Sparrow (1), White-throated Sparrow (2), Slate-colored Junco (6), Chipping Sparrow (2), Tree Sparrow (2), Field Sparrow (2), Song Sparrow (5), Fox Sparrow (4), and Swamp Sparrow (1).

The various conditions found have been: Physical Injury (74), Enteritis (35), Pneumonia (31), Intestinal Worms (17), Malaria (15), Nematodes in body cavities (9), "Malnutrition" (7), Ectoparasites (5), Starvation (4), Unrecognized lesions (4), Tumors (1), Skin lesions (1), Ruptured heart the principal finding (1), Healed Fractures (1), Gall bladder parasitism (1), "Canker" (1), and Aspergillus infection of lungs (1).

3. Baltimore Division, no longer active (To June, 1938). The number of specimens submitted was 8, divided among 3 species thus: Herring Gull (4), Laughing Gull (2), and Crow (2). The conditions found were: Physical injury (8; all shot), Trematodes (5), and Malaria (2).

4. New Brunswick, New Jersey, Division. 30 specimens have been submitted since July 21, 1937. Mr. Bowdish has submitted five-sixths of these. The species represented are: Blue Heron (1), Kildeer (1), Nighthawk (1), Blue Jay (2), Catbird (4), Brown Thrasher (1), Robin (3), Hermit Thrush (2), Wood Thrush (2), Tufted Titmouse (1), Chickadee (3), Starling (2), Oven-bird (1), Baltimore Oriole (1), Orchard Oriole (1), English Sparrow (1),

Rose-breasted Grosbeak (1), Towhee (1), and White-throated Sparrow (1).

The various conditions noted by Dr. Beaudette and his assistant, Mr. Hudson, were: Physical injuries (12), No diagnosis due to decomposition (11), Malaria (5), Parasitic worms (4), Microfilaria (2), Subcutaneous emphysema (1), and Abscess of kidney (1).

5. Washington, D. C., Division. Dr. Shillinger reports that W. Bryant Tyrrell has sent in several birds, physical injury having been the cause of death in each case.

The above summaries of the work being done at the various stations, although containing many interesting disclosures, are purposely made very brief and non-committal. The reason for this is that in no single species has a sufficient number of specimens been examined during all months of the year and over a sufficient period of years to give a comprehensive view of the struggles with disease which a given species must wage. In a long-term project such as this one the most significant results are achieved only through prolonged and persistent research.

It is to be hoped that continued enthusiasm and coöperation of bird-banders will eventually lead us to a knowledge of the diseases of all the common birds of the North American Continent.—C. Brooke Worth, Chairman, Disease Study Project, Swarthmore College, Swarthmore, Pa.

PACIFIC GULL, COLOR-BANDING PROJECT

By MRS. M. C. SARGENT

A LETTER started the Pacific Project—the letter written March 20, 1937 by Mr. Whittle, Editor of *Bird-Banding*, to Mr. E. L. Sumner, at that time President of the Western Bird Banding Association, telling of the newly organized Herring Gull Project in the East and suggesting that Western banders start a similar study.

The idea caught on rapidly. Very little is known about the migration and life history of the numerous western species of gulls. The time was too short to obtain colored bands for the summer of 1937, but by 1938 the following project heads had been chosen: Mr. G. D. Sprot, Cobble Hill, British Columbia, for British Columbia; Mr. Henry B. Loeff, Oak Harbor, Washington for Washington; Mr. Reed Ferris, Beaver, Oregon, for Oregon, and Mrs. M. C. Sargent, Scripps Institute of Oceanography, La Jolla, California, General Chairman of the Project.

During the summer of 1938, 1800 young gulls of three species were color-banded at seven colonies ranging from Vancouver Island, B.C., to the Coronado Islands just over the Mexican Border.