as disseminators of the plant. The Missel Thrush, named from its association with the plant, is the most important bird vector of the mistletoe, and five other species of the genus *Turdus* and the Bohemian Waxwing are ranked next. Von Tubœuf lists only 22 species of birds as proved disseminators of the plant and notes that numerous records in ornithological literature require verification. Some connection is traced between lines of flight of Thrushes and the distribution of mistletoe in Germany. Birds which devour mistletoe seeds for their own sake, digesting and thus destroying them are separately treated. They include the Titmice, Creepers, and Nuthatches. Slightly over four pages (49–53) are devoted to the use of mistletoe in making bird lime and in several places in the book reference is made to a saying traceable to Plautus, to the effect that the Thrush propagates a plant which (as birdlime) later brings it harm. —W. L. M.

Birds feeding on the European Corn Borer.—In a recent paper[1] George W. Barber notes that birds feed on adults of this pest, though to an as yet unknown extent; under certain conditions birds take the larvae from the growing plant, most notably so the Red-wing Blackbird; and they sometimes reduce by large percentages the numbers of overwintering larvae, the Downy Woodpecker being most active in this respect (pp. 153–154). Birds are now one of the valuable checks upon the numbers of the corn borer and Mr. Barber says, "there is reason to believe that they may become increasingly important in the natural control of this insect." —W. L. M.

An Investigation of the Food of Terns in England.—More or less parallel increase in a colony of Terns at Blakeney Point, Norfolk, and decrease in fishes, especially commercial flat fishes, persuaded the fishermen that they stood in the relation of cause and effect. In response to complaints an investigation was carried on during the breeding season of 1925, and the stomach contents of 55 Terns of three species collected during the period were examined by Dr. W. E. Collinge. His report with appendices from the Committee in Charge and by an *amicus curiae*, Mr. J. W. Allen has recently been published. Dr. Collinge[2] found no flat fishes whatever in any of the stomachs examined, so inevitably concludes that the Terns have nothing to do with the decrease in the commercial catch of such fishes. Marketable fishes composed about a fifth of the food of the three species of Terns, fishes locally consumed, a sixth, crustaceans and worms a little more than half, and insects and miscellaneous animal food the remainder. Interesting data on other phases of the life history of

[1] Some Factors Responsible for the Decrease of the European Corn Borer in New England during 1923 and 1924. Ecology, Vol. VII, No. 2, April 1926, pp. 143–162.

[2] Trans. Norfolk and Norwich Nat. Soc., Vol. 12, Part 1, 1924–25 [1926], pp. 35–53, 3 pls.

Terns than the gastronomic, are also, included in the paper. Dr. Collinge's summary is:

"It seems clear that any shortage of inshore fishes at Blakeney Point can hardly be accounted for by the presence and preservation of Terns.

"If the absence of inshore fish were due to the Terns, then we should also have a scarcity of sand-eels, various crustacea, annelids, and marine molluscs, whose percentage far surpasses that of the food fishes eaten, but there are no such signs.

"We are, therefore, thoroughly convinced that the recent scarcity of flat fish at Blakeney Point is due to some other factor, and feel certain that if the whole of the Tern population of Blakeney Point were to migrate elsewhere, the result would not be marked by any increase in the fisheries.

"To those acquainted with fishery investigations, these migrations or diminutions are nothing new, and their cause or causes still remain unsolved, but of one thing we are quite certain, viz., that the feeding habits of Terns or any other sea-birds bear no relation to them."—W. L. M.

Economic Ornithology in Recent Entomological Publications.—Information on the bird enemies of certain insects has appeared in various recent entomological publications which are briefly reviewed in the subjoined paragraphs.

Grasshoppers.—These insects do great damage on range and dry farming lands. Among their natural enemies "American sparrow-hawks, crows, blackbirds, meadow larks, and Columbia sharp-tailed grouse (prairie chickens) are of some value on the cattle ranges of British Columbia. In many cases these birds, feeding on mice, beetles, and other forms of life, make grasshoppers only incidentally their diet. Nevertheless they are valuable allies when grasshoppers are in an outbreak form." [1]

Japanese beetle (*Popillia japonica*).—This introduced beetle is a destructive pest of fruit, shade, and ornamental trees in New Jersey and Pennsylvania. Among the natural enemies of the insect, says C. H. Hadley in a paper on "The Japanese Beetle in Pennsylvania," "birds are without question of considerable importance. It has been found that a number of our commoner birds do feed upon this insect, notably the Purple Grackle or Crow-blackbird (*Quiscalus quiscula*), and the Starling (*Sturnus vulgaris*). Most of our other commoner species feed more or less upon this insect, and all are of considerable value in the aggregate."[2]

In another paper[3] on this insect published by thef ederal Department of Agriculture the same author in collaboration with Loren B. Smith, states that "Among the natural enemies of the Japanese Beetle which are native to the United States, the birds are apparently the most important." These authors quote fully (pp. 41–43) from reports on two investigations

[1] Treherne, R. C. and Buckell, E. R., The Grasshoppers of British Columbia. Bull. 39, Dominion of Canada Dept. Agr., Oct. 1924, p. 33.

[2] Bull. Penn. Dept. Agr., Vol. 7, No. 11, June 1924, p. 16.

[3] Circ. 363, U. S. Dept. Agr., March 1926, p. 41.