

rily proved to inhabit Cheshire during the present and last centuries. The common and scientific names of each species are given, and also the various local names in use. Many of the latter are very curious, and all are of interest. The status in the county of each species is given in brief, in a single sentence at the head of each one treated.

The classification and nomenclature adopted is that used in Saunders' "List of British Birds", 1907 edition, binomials being used except when a British race is distinguishable from Continental birds of the same species. "In these cases we have thought it advisable to adopt the trinomial system of nomenclature, which in addition to other advantages shows plainly the real affinities of the local races or sub-species." Why, after such a concession, it was not thought advisable to use the system uniformly thruout the work, it is hard to understand.

The manner of occurrence together with the life histories of the various species are treated at length while the food of some of the birds is discuss in detail. There are numerous excellent illustrations, mostly general views showing the habitats of various species of birds.—H. S. S.

A FEW NOTES ON THE HABITS, LIFE HISTORY AND ECONOMIC VALUE OF DOVES. The Raising of Young Waxwings, *Ampelis* [sic] *cedrorum*. By William H. Gates. Bulletin 14, Gulf Biologic Station, Cameron, La.; pp. 1-32; 1909.

In this paper Gates gives many interesting details of the life history of doves about Cameron, La. It is noteworthy that nesting begins no earlier there than it does much farther north, for instance in southern Indiana, that is, about April 1. The writer notes a high proportion of nests destroyed, namely 80 out of 111. The most important natural enemies are the black king snake and the brown rat.

Incubation consumes from 19 to 21 days. The first egg is hatcht from 24 to 36 hours before the second, resulting in a markt difference in the size of the young which is notisable up to the third week. Gates says: "The crop capacity of young doves is enormous; up to the time they are three or four weeks old it is possible for them to hold over one-half of their weight of food in the crop. It is likely that in the state of nature the young are not fed more than three times a day, generally but twice, and often not more than once, especially after the young get to be a week or so old and do not need to be brooded." "The average of 78 weighings taken before and after feeding showed an increase of 36 percent of their own weight. The maximum amount of food given, among those that were observed, was in the case of a squab that weighed 53 grams at 5 o'clock, before feeding, and at 6:15 swung the

balance at 88 grams, showing that 35 grams of food had been taken, or a crop capacity of over 66 percent of its own weight." It is not surprising therefore that the young birds gain weight very rapidly. "Birds kept in the house gained, respectively, from 31 and 34 grams to 65 and 67 grams during the third week, and up to 95.5 and 96 grams during the next."

"Doves raised by the writer have been found to eat between 75 percent and 120 percent of their own weight of food per day, from the time they are hatched up to the time they are three weeks old. From then on the amount lessens rapidly till they become adult, when they will eat but 7 percent to 10 percent of their own weight." The actual weight of food consumed during the first 3 weeks is from 8 to 28 grams per day, from the third week on from 10 to 18 grams. In the wild state doves probably consume from 15 to 20 percent of their own weight of food. On the basis of 15 percent "it would take 33 grams a day to maintain a pair of doves, which allowing an average of 30 grams a day for food fed to the young during six weeks of the summer, amounts to over 30 pounds a year; at which rate it would take but 66 pairs to consume a ton of feed a year."

Gates finds that only a small proportion of the food is grain and that wholly waste. Most of the subsistence is obtained from the seeds of weeds. He mentions the shooting of doves on account of the alleged scattering by them of the seeds of indigo weed, a pest in rice. The doves eat the seeds for the nourishment contained in them and it certainly is an unusual happening for one to pass thru the strong gizzard entire. This unjust persecution of the doves should stop.

The writer presents the first evidence we have seen that doves ever voluntarily take living insects; he says birds in captivity were seen eating ants. Notes are given also on the nesting and food habits, and the rearing of the young of the nonpareil, bluebird and cedar-bird.—W. L. M.

AN ORNITHOLOGICAL RECONNAISSANCE OF NORTHEASTERN VENEZUELA BY C. WILLIAM BEEBE (=Zoologica, vol. 1, no. 3, Dec., 1909, pp. 67-114, figs. 21-37). The main body of the paper is taken up with the list of birds observed, with more or less extensive annotations pertaining to the life histories, habits, color variations, etc. Parts one, two, and three are devoted to the itinerary and accounts of the character of the country explored, while part five is a general summing up of ecological conditions, together with a comparison of conditions in Venezuela and New York State.

Descriptions of nesting habits of many of the species are of interest, especially so from the standpoint of such considerations as those presented in the paper by Peck on the same sub-