

In an attractive little 3½ by 6 inch booklet entitled "How to Make Friends With Birds" Mr. Ladd tells of the various methods which are in current use for attracting and helping to increase the number of birds about our homes. The principal field of application of the book is eastern North America, but persons living on the Pacific Coast will find much of use to them as well.

The author gives specific information for making many different styles of bird houses in sizes adapted to the needs of different species of birds, and also tells how and where they should be put up in order to get the best results. The use of tin cans, gourds, and nest shelves is discussed, and some pages are devoted to the matter of bird baths. Next, the problem of important bird enemies receives attention, and specific instructions are given for dealing with the domestic cat and English Sparrow, including plans for constructing cat and sparrow traps. Then comes the matter of food plants useful to attract birds and protect cultivated crops, and the kinds of "table" food to be offered different species during the winter months and the methods to be employed in placing it. Means of extending the protection afforded birds, a brief mention of the possibilities in artificial propagation, the relation of certain birds to important insect pests, and the methods to be used in organizing clubs for bird protection form the final chapters. A "brief bibliography" completes the book.

The book as a whole is cleverly conceived and executed; only the references at the end are a disappointment. The reader may search in vain to discover whether A. K. Fisher's "Hawks and Owls of the United States" is a government publication, and will have no clue to the fact that the work is an economic treatise.—TRACY I. STORER.

RECENT PUBLICATIONS BY EDWARD HOWE FORBUSH.—Three very interesting papers have come to us from the pen of Mr. Edward Howe Forbush, State Ornithologist of Massachusetts, during the year which has just passed. Two of these have a direct appeal to ornithologists, namely those on the cat and the natural enemies of birds, while the third shows something of the work and the possibilities in a public office devoted to the interests of birds.

"Bird Killer, Mouser and Destroyer of Wild Life" are the words which Mr. Forbush uses to characterize the domestic cat, and no one with an open mind who reads his pamphlet on the subject can fail to be

convinced of the truth of this description. After giving in some detail the history of the cat, the author dwells on the habits of the animal, and compares her with man's other household companion, the dog. Then he goes on to speak of the numbers of cats and of their food habits in considerable detail, of their destruction of various kinds of birds and mammals, both wild and domesticated, of the economic value of the animals killed by cats, and of the cat as a disseminator of disease. Finally he mentions the various means which have been tried for controlling cats, and of the success or failure of these methods. Altogether the pamphlet is an admirable summing up of the case of the cat, pro and con, and even the most ardent cat enthusiast cannot fail to be convinced of the evidence against the animal. A copy of the paper should be in the hands of every bird student.

In his paper on The Natural Enemies of Birds² Mr. Forbush begins by stating in a succinct manner the general relations which exist between birds and their natural enemies, particularly of the regulative function which the latter exercise. The elimination of the unfit and the control of total numbers are both useful works of these "enemies". Then he discusses the effect of man's "satellites", the introduced domestic animals, and following these the feral, wild, or natural, enemies. Finally he calls attention to some of the attempts which have been made to "control" these natural enemies, by bounties and other means, and in conclusion lays down certain general principles which need to be observed in dealing with the matter of control.

In Mr. Forbush's ninth annual report³ one gets a very good idea of the multifarious tasks and duties which a State Ornithologist is called upon to perform in the course of a single year. Preparation of five papers for publication, revision of his book on the game birds of the state, giving numerous lectures and attending to a considerable correspondence comprise the general activities of his

¹The Domestic Cat. By Edward Howe Forbush. Massachusetts State Board of Agriculture, Economic Biology—Bulletin no. 2, 112 pp., frontispiece, 20 pls., many figs. in text. 1916.

²The Natural Enemies of Birds. By Edward Howe Forbush. Massachusetts State Board of Agriculture, Economic Biology—Bulletin 3, 58 pp., 7 pls., 5 figs. in text. 1916.

³Ninth Annual Report of the State Ornithologist [of Massachusetts]. By Edward Howe Forbush. Boston, Mass. 26 pp., frontispiece, 6 pls. 1917.

office during 1916. The need of more assistance in the performance of his duties is keenly felt and an appeal for additional trained help is made. It is to be hoped that the Commonwealth which Mr. Forbush has so faithfully served for these many years will see fit to give him the necessary increase in his staff, so that in the future he may carry on in increased measure the work of education which he has done so well in the past.—TRACY I. STORER.

A LIST OF AVIAN SPECIES FOR WHICH THE TYPE LOCALITY IS SOUTH CAROLINA. By ARTHUR TREZEVANT WAYNE. (=Contributions from the Charleston Museum, III, Charleston, South Carolina, 1917 (our copy received April 25), pp. i-vi, 1-8.

No less than seventy-six names are here catalogued of species of birds first discovered in South Carolina, affording good basis for the author's claim of his state's pre-eminence in this regard. Fifty-seven names are founded upon descriptions in Catesby's *Natural History of Carolina, Florida, and the Bahama Islands* (1731—1748), seven are discoveries of Audubon's, and the rest are divided among several other authors.

Manner of treatment is as follows: First the current name of the species as it appears in the A. O. U. *Check-List*, Latin and English, with the authority; this is followed by the citation of the original account. Catesby's long, descriptive names are given in full, but not those applied by Linnaeus to Catesby's species. Similarly, with other authors, while the descriptions are cited, there are no entries of the names used by the describers.

Such papers as this are, of course, of great value in many ways, and of intense interest from the historical side. South Carolina offers a peculiarly rich field in the latter regard, with Catesby's early work in the region, and Audubon and Bachman in later years. The extent of their activities within the state are outlined in the introduction, but too briefly to be satisfactory. It is to be regretted that the author did not go more into detail in this regard, for his conclusions in many instances differ from those of previously accepted authorities, and a fuller account might be explanatory of his reasons. For many of the species which he ascribes unequivocally to South Carolina, the A. O. U. *Check-List* gives type localities as possibly Carolina, but with an alternative of some other region, there having evidently been doubt in the matter; in some few cases there is flat disagreement between the *Check-List*

and Mr. Wayne. In all these instances it would have added much to the value of the paper to have given the steps by which the author's conclusions were reached.

"More birds have been made known to science from South Carolina than from any other state except California. Indeed, of valid species South Carolina has nearly twice as many as California, the great majority credited to the latter state being merely subspecies." Without wishing in any way to dim the glory of South Carolina's claim, we cannot help commenting upon the curious implication as regards the relative "importance" of species and subspecies.

Typographically the paper is excellent, showing in every detail the results of skilled and careful editorial work.—H. S. SWARTH.

PETS | THEIR HISTORY AND CARE | by LEE S. CRANDALL | | with illustrations from life | [Vignette] | New York | Henry Holt and Company; 372 pp., illustrated. Price \$2.00. Our copy received May 8, 1917.

The book here reviewed is dedicated by the author "To my parents who endured much from a pet-loving son." All parents of pet-loving sons should find solace in the carefully written pages in this book. Mr. Crandall, the author, is assistant curator of birds in the New York Zoological Park and every one who has seen the many healthy and contented birds living under his charge will accept his recommendations as authoritative.

The book is divided into four sections, the first dealing with the care of the domesticated mammals which are usually kept as pets, with descriptions of the different breeds, and with suggestions for the care of such small wild animals as are apt to find their way into the custody of the small boy. The second section includes the birds. Their general care is considered, foods, diseases, and types of cages or aviaries. Brief descriptions are given of the many foreign and native song birds which are most frequently kept as pets, as well as the domesticated pigeons, parrots and bantams.

Snakes, lizards, alligators, turtles, frogs and toads are so kindly dealt with in the third section that one almost believes that the youngster who yearns for their companionship shows much better judgment than does the adult who spurns them.

The last section is devoted to the care and maintenance of the home aquarium; and a list of desirable tenants is given, to-