

worth observing." The work is divided into four parts, entitled: Part I, 'Water-birds in their Homes: Little Studies in Environment' (pp. 3-64); Part II, 'Structure and Comparison: Little Stories in Differentiation' (p. 67-118); Part III, 'Problems in Bird Life: Little Studies in Zoölogical Theory' (pp. 121-172); Part IV, 'Some Common Land-Birds; Little Studies in the Art of Observation' (pp. 175-259); and an Appendix (pp. 263-276). Each part consists of a number of topics, to mention a few of which under each will suffice to give an idea of the scope and mode of treatment. Thus, in Part I, we have 'Among the Reeds and Rushes,' treating of the Grebe and Loon; 'An Alaskan Island—The Ancient Murrelet,' and eight or ten other sketches. In Part II, such matters as 'Comparing Bones,' 'The foot of a Swimming Bird,' 'A Feather,' 'Comparing Feet,' 'Comparing Bills,' etc.; in Part III, 'The Basis of Classification,' 'How Birds are named,' 'A Subspecies,' 'Protection by Color,' 'Distribution,' 'Migration,' etc.; in Part IV, 'About Birds' Drinking,' 'How a Hawk eats his Food,' 'How the Shrike hunts,' 'A Dead Beat—the Cowbird,' etc. The Appendix gives 'Zoögeographical Divisions of the World' (with a map of those of North America), 'Hints on observing Birds,' etc., including, finally, a list of books on North American ornithology, consisting of about 70 well selected titles. While there is a very full table of contents, there is unfortunately no index, which, in such a work, is an important and surprising omission.

The book as a whole is well planned for its purpose, and fills a new rôle in the list of popular bird books; the topics are well chosen and the whys and wherefores of many points in bird philosophy are attractively and intelligently presented. A lapsus here and there will not escape the critical reader, as on p. 134, where there seems to be a little confusion as to east and west in reference to the races of Crow Blackbirds; but the few slips of a semi-technical character really detract little from the usefulness of this very excellent little book.—J. A. A.

Mrs. Eckstorm's 'The Woodpeckers.'¹—This little book treats of the family of Woodpeckers as represented in North America, dealing with their habits and structure in an intelligent and orderly way, in a series of sixteen short chapters, the character of which may be gathered from such headings as 'How to know a Woodpecker,' 'How the Woodpecker catches a Grub,' how he 'courts his mate,' 'makes a house,' etc., with four chapters on his 'tools'—his bill, foot, tail, and tongue, etc. A special chapter is also devoted to each of several leading species, as the Flicker, the Downy Woodpecker, the Yellow-bellied Sapsucker, the Red-headed Woodpecker, and the Californian Woodpecker. Then there is a

¹The Woodpeckers | By | Fannie Hardy Eckstorm | With Illustrations | [Vignette] Boston and New York | Houghton Mifflin and Company | The Riverside Press, Cambridge | 1901—Square 12mo. pp. viii + 132, 5 col. pll. and 22 text cuts. Price, \$ 1.00.

chapter on 'acquired habits,' and on the 'argument from design,' and finally an Appendix (pp. 114-127) comprising a 'Key to the Woodpeckers of North America,' and 'Descriptions of North American Woodpeckers.' There is also a good index. The book evinces a thorough familiarity with woodpecker life and structure, gained through personal observation and study, and ability to impart such knowledge clearly and in an attractive way without any sacrifice of scientific accuracy. The book is thus well adapted to instruct and inspire amateurs, whether youthful or of more advanced years. Of the illustrations it is enough to say that the five colored plates are by Fuertes, and the text illustrations from drawings by J. L. Ridgway.—J. A. A.

Shufeldt's Recent Contributions to our Knowledge of the Osteology of Birds.¹—In the first of these papers Dr. Shufeldt briefly reviews the osteological characters of the Sand Grouse, concluding that they belong where they are usually placed, between the Pigeons and Gallinaceous Birds, and form a suborder, the Pterocles.

In the Osteology of the Woodpeckers we are given a somewhat detailed and comparative account of the osteology of the North American Woodpeckers, which though somewhat uneven in its method of treating the various portions of the skeleton, forms a good work of reference. It is to be regretted that a single species was not selected for description and the various parts described in detail, the points wherein other species differed from this being noted. This would have condensed the paper and not only have saved much repetition, but enabled the user of this paper to at once find the information of which he is in search. This method is practically followed in discussing the sternum, and it is very convenient; when we wish to know the condition of the cranium in respect to the extent to which it is pitted by the roots of the feathers we are obliged to turn over page after page. Still it is most welcome to have the information in one paper, and the summary of characters towards the end of the paper condenses the general characters of the group into two pages. The question of the vomer is gone over and most will agree with Dr. Shufeldt that when this bone is present it is in its proper place, that the irregular ossifications are neither vomers nor palatines, but adventitious ossicles. Among other points well brought out is the great difference in the length and disposition of the hyoid. It may be noted that the first

¹On the Systematic Position of the Sand Grouse (Pterocles; Syrrhaptes). By R. W. Shufeldt. *American Naturalist*, XXXV, No. 409, January, 1901, pp. 11-16.

On the Osteology of the Woodpeckers. By R. W. Shufeldt, M. D. *Proc. Am. Phil. Soc. Phila.*, XXXIX, No. 164, pp. 578-622, pl. ix.

On the Osteology of the Striges. (Strigidæ and Bubonidæ). By R. W. Shufeldt, M. D. *Proc. Am. Phil. Soc.*, XXXIX, No. 164, pp. 665-722, pll. x-xvii.