

useful current hand-book on the West Indies, but a contribution of permanent value to the literature of that part of the western hemisphere. It is admirably printed, artistically bound, amply illustrated, satisfactorily indexed, and well arranged for reference, as well as for consecutive reading.

W J M.

The Birds of Indiana. By AMOS W. BUTLER. 22d Report of the Department of Geology and Natural Resources of Indiana. 1897. 8vo. Pp. 515-1187. 5 plates and numerous cuts in the text.

Commissions for the preparation of State Natural History Reports so often fall into incompetent hands that all ornithologists, and particularly those students of birds residing in the State of Indiana, may congratulate themselves that a person so well qualified as Mr. Butler was selected to write the work under consideration.

The matter relating to the birds known to occur in Indiana is preceded by sections on the 'Indiana Bird Law,' the physiography of the State (from Dryer's 'Studies in Indiana Geography'), 'Peculiarities affecting Bird Distribution,' 'Changes in Bird-Life,' 'Destruction of Birds,' 'Zoological Areas' and 'Bird Migration.' There is also a bibliography giving some 212 titles.

This is followed by keys to the orders, families, genera and species, and biographies of the 321 species recorded from Indiana, including descriptions of their plumages, general and local ranges, nests, eggs, times and manner of occurrences and habits. The report, in fact, is a complete ornithology of Indiana.

Mr. Butler has followed the excellent plan of securing the best available material, for the use of which he makes ample acknowledgment. Thus his keys are taken from Ridgway's and Jordan's 'Manuals,' his illustrations from the publications of the U. S. Biological Survey and Coues's 'Key,' while the number of local observers quoted assures us that the work contains all existing and desired information and that it will long remain the standard authority on Indiana birds. We trust, therefore, that a sufficiently large edition has been printed to

prevent its early classification with other State lists, which become 'out-of-print' before those who could make the best use of them learn of their existence.

F. M. C.

The Butterfly Book. A Popular Guide to a Knowledge of the Butterflies of North America. By W. J. HOLLAND. New York, Doubleday & McClure Co. 1898. Imp. 8vo. Pp. xx + 382. 48 colored plates. 183 figures in the text. Price, \$3.00.

As the secondary title indicates, this work was prepared to meet a popular need. The preface says: "It is essentially popular in its character. Those who seek a more technical treatment must resort to the writings of others." Nevertheless, it will 'have utility also for the scientific student,' since 'the successful development in recent months of the process of reproducing in colors photographic representations of objects has been, to a certain degree, the argument for the publication' of the work. The forty-eight plates have been reproduced by the new process known popularly as 'three-color printing,' and this is its first application so far as we know—certainly on such a scale—to butterflies. It is, however, an unquestionable and surprising success, destined—if the extraordinarily low price at which the book is sold be any guide—to come into very general use. The representation of the colors as well as of the pattern outstrips all that can be done by chromolithography, and has the added value of an accuracy unattainable except at the high cost of the very best workmanship. As the photographic method employed requires the use of a screen, as in so-called 'half-tone' work, there is a certain loss of vividness, but it appears to be even less than is ordinarily the case with half-tones from a photographic print. This may be seen by an examination of the five plates of caterpillars and chrysalids copied from my 'Butterflies of the Eastern United States,' where direct comparison is available. There are, it is true, a few, but very few, unaccountable and generally very slight changes in tint (as in Pl. 2, Fig. 20; Pl. 3, Fig. 18, and Pl. 5, Fig. 3), and occasionally a blurring, or at least a loss of sharpness, due to imperfect registering, but such mishaps would