

RECENT LITERATURE.

Millais' 'British Diving Ducks.'¹—The literature of ornithology more than that of any other branch of zoölogy is noteworthy for the splendidly illustrated folios and quartos which combine in such a pleasing way the labors of the artist and naturalist. It is gratifying to know that the day of such works is not yet passed — indeed the latest addition to this class of literature, Mr. Millais' 'British Diving Ducks,' has few equals in point of beauty of illustration, while the text is far ahead of the older illustrated works in its comprehensive and scientific treatment of the subject.

There are charming colored plates of the adult birds by Thorburn, figures of the 'eclipse plumages' by O. Murray Dixon, and of the young by Grönvold, while reproductions in monochrome of paintings, mainly by the author, illustrate flocks of ducks in action, especially, in courting displays which are extremely attractive and instructive. Photographic reproductions taken direct from skins illustrate changes of plumage with great detail.

The habits of the several species are described quite fully and with abundant quotations from the works of European and British authors. We notice here and there however a tendency to carelessness in matters of quotation, mis-spelling of names of authorities, etc., while the literature of the subject especially as regards American writers has not been so exhaustively covered as one would desire in a work such as Millais has brought out.

In nomenclature he follows the latest list of British birds except that he includes Steller's Eider in the genus *Somateria* and groups together the Golden-eyes, Bufflehead, Old-squaw and Harlequin under *Clangula*,—being thus an extremist among generic 'lumpers.' No less than six races of the Eider are mentioned, one being the very distinct *S. dresseri* usually regarded as a species, while others are so slightly differentiated as to be indistinguishable — at least from the data presented. For example a new form, *S. mollissima britannica*, is described as smaller than *mollissima* or *borealis* and larger than *feroensis* with the bill dull olive green above, shading into French blue-gray below, and again into pale yellowish near the nail. The bill of *mollissima* is given as olive green. No subspecies are discussed under other species and no other new names are proposed.

¹ British | Diving Ducks. | By | J. G. Millais, F. Z. S., M. B. O. U., Etc. | Author of "The Mammals of Great Britain and Ireland," "Newfoundland | and its Untrodden Ways," "The Natural History of British Surface-| Feeding Ducks," "The Wild Fowls in Scotland," "The Natural | History of British Game-Birds" etc. | Vol. I. With thirty-two plates (twenty-two of which are coloured) | by Archibald Thorburn, O. Murray Dixon, H. Grönvold | and the Author | Longmans, Green and Co. | 39 Paternoster Row, London | New York, Bombay, and Calcutta | 1913 | all rights reserved. Large 4°. pp. 1-141.

Vol. II | with forty-two plates (seventeen of which are coloured) pp. 1-164. £12 12s. for the two volumes.

It is Mr. Millais's discussion of plumage changes in the diving ducks that naturally attracts most attention. He was formerly a strong adherent of the theory of 'aptosochromatism' — color change without molt — and the reviewer¹ some years ago had occasion to challenge his views on the plumage change of the Sanderling,² showing that the feathers that were supposed by Mr. Millais to undergo change of pigment remained unchanged from their emergence from the pin feather sheath until lost in the next molt.

While Mr. Millais has now in a great measure abandoned his earlier views, he is still loath to relinquish entirely the possibility of direct color change. He speaks of the wearing away of the surface of a feather so as to disclose underlying pigment of a different color as a possible explanation of certain changes, "but," he adds, "it does not explain the remarkable 'rise' of colour that comes with the curly feathers of the tail [of the Mallard] in August. These feathers (which are only renewed once in the year) come in rich brown with a black center. So they remain for a short period, but late in September as they elongate and curl, they begin to turn black until by the end of the month they are jet black. A rise of colour must therefore be in course of movement the whole period as the feather elongates and must prove that there is a means of transmission either through veins or pigment [sic] cells of infinitesimal size." While our author quotes Mr. Pycraft in opposition to his views, he makes the rather weak contention that Mr. Pycraft did not use a very high power microscope in his investigations, and possibly failed to see the "infinitesimal cells" to which he alludes. He however makes no reference to Dr. R. M. Strong's able paper on 'The Development of Color in the Definitive Feather'³ which to our mind dismisses the possibility of any change of pigmentation such as Mr. Millais claims and we are inclined to think that the changes which he still attributes to 'aptosochromatism' will eventually be fully explained in the same manner as were those of the Sanderling. It is in discussing plumage change especially that Mr. Millais shows his lack of familiarity with the publications of American ornithologists; at least he makes no allusion to them.

The long series of photographs of Eider skins illustrating the molt of this species could we think have been made far more useful if they had been differently arranged. Mr. Millais' method of judging the progress of molt by the date is not satisfactory as the individual variation in plumage on a given date is very great, and few series if any will show a regular gradation if arranged chronologically.

Apart however from his explanation of some of the color changes that he describes, there is little that calls for criticism in Mr. Millais' beautiful volumes. They form a charming addition to ornithological literature and

¹ Stone, Witmer. *Ibis*. April, 1901, p. 464.

² Millais, J. G. *Ibis*. October, 1896, p. 451.

³ Bull. Mus. Comp. Zool., XL, pp. 147-186, 1902.

a work of reference which will be in much demand but which on account of its costliness will be available to but few who have not access to the larger scientific libraries.—W. S.

Reichenow's 'Die Vögel.'¹—The subtitle 'Handbook of Systematic Ornithology' well defines this important work. We have had numerous works on birds in which the families and some of the leading genera and species are described but which make no pretence of completeness beyond the higher groups. There are also Hand-Lists of species which are merely lists with the briefest possible statement of geographical distribution. Here, however, is a work which presents the bird life of the world in systematic order and attempts to mention all the more distinct species by name with a brief description and statement of geographic range, presented in the case of the larger genera in the form of a 'key.' There are full diagnoses of families, subfamilies and genera accompanied frequently by keys while numerous text figures and references to other works add to the utility of the text.

The author has had to use his own judgment as to how many species deserve mention under each genus, and as this is purely a matter of personal opinion, others will of course differ with him in some cases. Under *Buteo* the North American species mentioned are *borealis*, *swainsoni*, *brachyurus* and *albicaudatus*, but *lineatus* and *platypterus* are omitted. This is perhaps an oversight as such closely related forms as *Archibuteo lagopus* and *sancti-johannis* both appear.

On the whole however Dr. Reichenow has, we think, been very successful in his difficult undertaking. With the constantly increasing number of geographic races that are being named — many of them binomially — it is becoming more and more necessary, for practical purposes, to have the more obviously distinct forms picked out in some way or other, and the present attempt is therefore particularly welcome. As an indication of how complete Dr. Reichenow's treatment is I have compared the number of species mentioned by him under several families with those given in Sharpe's Hand-List. The latter, of course, includes numerous slightly differentiated subspecies which naturally have no place in a work such as 'Die Vögel.'

Platycercidæ	Reichenow	73,	Sharpe	84
Carpophagidæ	"	75	"	81
Ibididæ	"	28	"	34
Colymbidæ	"	18	"	25

In the matter of genera the author is decidedly conservative while in his nomenclature he fails to follow the International Code. We find *Vultur*

¹Die Vögel. Handbuch der systematischen Ornithologie von Anton Reichenow. Zwei Bände.—Erster Band, mit einer Karte und 185 Textbildern nach der Natur gezeichnet von G. Krause. Stuttgart. Verlag von Ferdinand Enke. 1913. Roy. 8vo. pp. 1-529. Price, 15 marks. The Second Volume to appear in the summer of 1914.