



REVIEWS

Problems of Bird-Migration. By A. Landsborough Thomson, O.B.E.,
M.A., D.Sc. (Witherby) 18s.

IN this book Dr. Landsborough Thomson sets out to give us a statement of the problems of bird-migration. No one could be better fitted to undertake such a task and we may say at once that he has presented them in a well-thought-out and so admirably arranged a manner that the result will be equally welcome to biologists, ornithologists and bird-lovers, while for students of migration especially it fills a long-felt want. This is no disparagement of Dr. Eagle Clarke's invaluable *Studies in Bird-Migration*, for the scope of the present book is entirely different. It takes cognizance not only of his work and that of other British observers, but also of American and Continental authors, some of whose writings have hitherto been out of the reach of many British students and but little referred to in our literature. Facts and data have accumulated to so vast an extent during the last thirty years that the time was more than ripe for a generalized and up-to-date statement of them, together with an authoritative indication of along what channels future investigations could be most usefully directed.

As an introduction, Dr. Thomson gives a most useful summary of migratory movements as they are exhibited in all the different branches of the animal kingdom. Following this, the book is divided into three main parts. The first of these deals with the known facts. These are divided and admirably summarized under their appropriate headings, so that a general knowledge of what is known about each aspect of migration can be readily found and studied. Part two describes first of all the two chief methods, viz. observational and marking, by which the necessary data have been ascertained, their importance and limitations, and the most useful lines in each along which future work might be directed. The author then passes on in succeeding chapters to detailed studies of the movements of particular species, and terminates with one on the general results of the marking method. In part three the main problems of bird-migration are stated and discussed. The different theories and assumptions of what may be briefly termed "the why and how" of migration are set out and discussed in the light of ascertained fact, and, while from their very nature some of them must ever remain in the realm of theory, the author points out how many are capable of solution by further observations concentrated in the right direction. The subject matter of each separate problem is shortly and usefully summarized at the end of each chapter.

An Appendix contains an essay on some practical bearings of the study of bird-migration, and in this we are glad to notice that the recently suggested and potentially mischievous theory of the conveyance of foot-and-mouth disease infection by bird-migrants has been duly examined and found to be not even established as probable.

An important and particularly useful feature of the book is the excellent bibliography given at the end of each chapter. Though this arrangement necessarily leads to a certain amount of repetition of references, this is more than counterbalanced by the great saving of labour to future workers, in that there will be no need for them to look

up a number of more general papers, when further detail is required about some particular aspect. In the lists on pages 53, 114 and 136 we note the omission, no doubt by inadvertance, of Vols. 32 and 34 of the *B.O.C. Bulletin*, though the *nine* migration volumes are elsewhere referred to.

The only misprint we have noticed occurs on p. 168, where it is stated that White Storks, native to Denmark, etc. "migrate in autumn south-westwards towards the eastern Mediterranean and return by a corresponding north-westerly route in spring"—N.F.T.

Life Histories of North American Wild Fowl. Order Anseres (Part). By A. C. Bent. U.S. Nat. Museum Bulletin 130, Washington, 1925.

MR. BENT continues to make steady progress with his valuable work on the Life Histories of North American Birds. and the present volume is the fifth of this series since the first instalment was issued in 1919. In plan it closely resembles its predecessors, the whole of the material being systematically arranged under two main headings, "Habits" and "Distribution" for each species, with subdivisions for all the varied information provided. This plan has many advantages: gaps in our knowledge of the life-history are apparent at a glance, and it is no longer necessary to read the whole article to ascertain some point in the economy of any given bird.

Particular interest is attached to this part, as in addition to about a dozen genera of Ducks, the whole of the American Geese are included, and all who have studied Palæarctic or Nearctic birds are aware of the extreme difficulty in working out the life-histories of these birds. Although much still remains to be done, the present work makes a very decided forward step in this respect, and we can congratulate the author on having got together a wonderfully complete series of photographs of nesting-sites, nests and young of this elusive group. In work of this kind collaboration is absolutely necessary, and much of the author's work is necessarily compilation. As regards the American breeding species this is exceedingly well done on the whole, but apparently Mr. Bent has confined his researches to English and American sources. Thus we find no reference in the Bibliography to B. Hantzsch's papers on the Bird-world of north-eastern Labrador (*Journal f. Ornithologie*, 1908, pp. 177 and 307) from which much might have been learned as to such species as *Somateria spectabilis* in North America.

Extra-limital species, such as the Whooper Swan, if they are to be treated at all, deserve something better than the very scanty and inadequate extracts given. In this case lack of material can hardly be assigned as the cause, as much has been written of the Whooper on its breeding-ground, yet all that is given is a paragraph from Cordeaux and Mrs. Gordon's account of the nesting of a pair in the Western Highlands, an exceptional case of nesting far outside the normal breeding range.

Mr. Bent treats of the two forms of Brent Goose under the names of *Branta bernicla bernicla* (L.) and *B. bernicla nigricans* (Lowe), but appears not to have grasped the significance of recent researches. Linne's type, as shown by Lönnberg, was obviously the slate-breasted bird which breeds in Siberia and migrates westward through Scandinavia. The presence of light and dark-breasted birds in Europe is amply accounted for by this stream of migrants meeting the light-breasted birds from Spitsbergen, without resorting to the fantastic

theory that *nigricans* intergrades with typical *bernicla* and migrates westward across Siberia! East American birds evidently belong to the same race as the Spitsbergen (light-breasted) form, which, according to Lönnberg, should be called *B. bernicla hrota*, and is obviously distinct from the typical form.

We regret that "F. O. Morris" is quoted as an authority on the life-history and habits of several species. As the fifth edition of his work is referred to, all details of importance were supplied by Tegetmeier, who compiled them from other sources. When original observations are available we fail to see the advantage of quoting a second-rate compilation, under the name of another. Newton's dictum (*Dictionary of Birds*, p. 44) that "By every well-informed ornithologist the *History of British Birds* of Mr. Morris has long been known to possess no authority" is admittedly not too severe.

The real value of this work, however, lies in the fact that we have now full and carefully classified notes on the life of this group of American birds, embodying all of real interest and importance which has been published in the *New World*, together with many original notes from different sources, and a series of photographs mainly illustrating their breeding-habits, which may be fairly described as unique.

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