

REVIEWS

Waders

by W.G.Hale. 1980. Pp 320, 73 text-figures, 24 black and white plates. London: Collins (New Naturalist Series No.65) £9.50

It is a daunting task to review this book adequately for the specialist readership formed by members of the Wader Study Group! Perhaps this explains in part why a review has not appeared earlier, for the task fell to me only in December 1981; who had chickened out?! Several reviews have appeared in other journals, some praising the book, some criticizing it for not being what it was not meant to be. So let us be clear of the stated aims of the 'New Naturalist' series: "to interest the general reader in the wild life of Britain by recapturing the inquiring spirit of the old naturalists..... by maintaining a high standard of accuracy combined with clarity of exposition in presenting the results of modern scientific research". Against this background, the book must be judged a considerable success. Although Bill Hale described some research studies from the New World and continental Europe, he is clearly correct in having placed greatest emphasis on studies of those species occurring regularly in Britain. Also, although he has used currently unfashionable scientific names for a few of the species included in his world list of waders, this should not upset readers (or reviewers), since the book is not intended to be a detailed taxonomic treatise, and (who knows?) the older names may come back into fashion before long. Scientific names seem less stable than vernacular names these days! I enjoyed one of the few misprints that I found in the book, in the same world systematic list, in which a species of stone curlew was described as the "Senegal Tick-knee".

The book opens with a quick look at the general biology of the commoner species seen in Britain, and their evolutionary relationships. Then comes a survey of wader habitats and the range of adaptations shown by the families and super-families (within the sub-order Charadrii) that occupy these habitats. A long third chapter on geographical distribution and variation (within species) includes much hitherto unpublished information from several of Bill Hale's present and former students at Liverpool. There follow reviews of breeding biology and migration, based largely on published sources, and a chapter on wintering populations, which includes an explanation of Hale's method of deducing wintering locations of various breeding populations of a species, by comparing measurements of birds collected at known wintering localities with those from the breeding areas. The section on communal roosting includes unpublished observations by the Liverpool research workers on coastal and inland roost sites in Lancashire, particularly of Curlew. Molt and feeding ecology are described in further chapters, the latter including some of Malcolm Greenhalgh's studies from the Ribble estuary, hitherto available only in Ph.D. thesis form. His work also forms the backbone of a section on energy balance, which precedes chapters on mortality and evolution, carrying capacities and the Oystercatcher-cockle debate. The book ends with a short section on conservation problems, clearly written before the Ribble estuary hit the limelight a few years ago.

It is difficult to assess a book fairly that, to judge by the preface, was completed before July 1978. The delay in publication was not the author's fault, but inevitably conclusions based on the pre-1978 literature look a bit thin and dated in the light of the explosion of interest and scientific publications on waders that have appeared since then. One of the most important functions of the book for wader specialists must be to have made available the salient findings of several unpublished M.Sc. and Ph.D. theses, not only from Liverpool but also from Canada and Alaska, set in appropriate contexts.

The style of writing is straightforward, concise and confident, as one might expect from its author. The content is balanced not so much according to the amount of published material relevant to each topic but to the interests of the author, with particular stress and valuable discussion on the origins of present-day geographical variation within species, on breeding biology and on the timing, during the annual cycle, of selection for size. Chapter 4 ends with the comment "A great deal of attention has been paid to the feeding biology of wading birds in winter; some of this attention should be transferred to similar studies on the breeding grounds, when it is possible that this period of the life cycle might be shown to be of over-riding importance". Again, at the end of chapter 6 "...probably the most important and relatively neglected area of research is the breeding biology and breeding season feeding ecology of wading birds"; or at the end of chapter 9 "..... work on feeding ecology during the breeding season, to date a neglected area of study, may well prove to be a rewarding area for future research...." One begins to get the message!

There are many small points with which it is possible to quibble. For example, I was disappointed that not more measurements from live birds were quoted in the chapter on geographical variation; these could have been helpful to wader specialists who handle birds caught during migration. Also, a chance was missed to update the information on visible migration of waders at Ottenby by referring to Edelstam's recent compilation of 10 years data and his excellent commentary upon findings; instead, Svardson's earlier (1952) and less extensive data were quoted. I could find no mention of the importance of shelter in reducing rates of heat loss from birds in a common roost (at least those on the inside). In relation to clutch size, although Hale concludes that this is adaptive, he does not discuss in what ways, and I was disappointed not to see a mention of work suggesting that predation may effectively prevent more than four chicks per brood being reared successfully. And, of course, there have been many recent publications on moult, migration, and winter feeding ecology that came too late to be summarized in this book.

All told, Hale's book has more than satisfied most of the criteria set by the New Naturalist editors, and it provides, for wader specialists, a most useful basis from which to identify future research priorities, even if not everyone would agree with the author's choice of the top priority topic!

P.R.Evans

Estuary Birds of Britain and Ireland

by A.J.Prater 1981. 440pp. 23 x 15 cm. T. & A. Poyser Ltd., Calton, England. ISBN 0 85661 029 1 £14.00.

In 1969 we knew virtually nothing about the numbers and distribution of our estuarine waders. The gathering threats to estuaries (reclamation, industrial development, barrage schemes) were all too apparent. These two facts led to a major effort aimed at documenting the birds of our estuaries - especially waders. The Birds of Estuaries Enquiry (BoEE) was born as joint project organised by the British Trust for Ornithology (BTO) and the Royal Society for the Protection of Birds (RSPB). It soon received active support and backing from all major conservation bodies in Britain, and was joined by the Irish Wildlife Conservancy. (A separate book has been published on Irish wetlands - see WSG Bulletin 29, page 37 for a review.) A.J.Prater was appointed National Organiser in 1970 and he has written this important book describing the results of the BoEE from 1970-1975. These years were some of the most important in the history of our growing understanding of waders. Parallel to studies of numbers and distribution of non-breeding birds, studies based on ringing reached a peak and important work was also being done on wader ecology and biology. A.J.Prater was a driving force behind many initiatives and schemes in those days. His enthusiasm led to the formation of the Wader Study Group.

The book opens with two chapters written by BTO Director, Dr. R.J. O'Connor, on the nature of estuaries and the patterns of shorebird feeding. These give a useful introduction to the estuarine ecology of waders and their requirements from an estuary. Then follows a general account of the migrations and distributions of estuarine birds, containing summaries of wader migration patterns and of the distributions and densities of waders at British and Irish estuaries. Next is a sombre account of the actual developments proposed for all major estuaries, their likely effects, and implications related to conservation.

Next, the organisation and methods of counting are described, followed by an account of each estuary, containing information on its size, importance for birds, and followed by the counts. This section is packed with facts - the results of the whole enquiry.

Then follow the species accounts. Species covered are divers, grebes, Cormorant, swans, geese, ducks and waders. For each wader, there is a general introductory account of international distribution, followed by information on status, migrations and monthly numbers at the more important estuaries. Lists are given of the relative importance of each estuary for each species, and the national and international importance of each is gauged.

The appendix lists the highest average winter counts of the main species, for each estuary. The book concludes with a reference list citing about 250 sources, some as recent as 1979.

In all this is a fine book attractively produced. Our knowledge of waders increased immensely between 1969 and the late 1970's. We now know where waders are found, in what numbers and at what times. This is a good framework on which to base estuarine conservation policies.

Shortcomings? Well, the survey could not accomplish everything and some of the shortcomings are now subjects of research. Monthly counts can easily miss peaks of migration (especially in spring), so the average counts obviously do not include every individual wader which uses an estuary. More recent studies are aimed at understanding 'turnover'; for example, the WSG spring migration project in 1979 attempted to obtain data on the numbers of waders involved in rapid passage movements. Also the BoEE was concerned mainly with estuaries, so counts from other coasts (and indeed estuaries in west Scotland and Ireland) were not made. Hence, for some species, many more individuals are tucked away in odd corners - here is a problem for the future. The author recognises these aspects of the BoEE and they should stimulate further research.

Both the summaries of wader migration and the species accounts are very sparsely referenced. Published material (including one important paper on Dunlin) is used without acknowledgement. Obviously it would be easy to over-reference a book of this sort, but I find it hard to accept without comment the almost complete lack of reference to any of the material published from the 'wader expedition era' in the early 1970's. During that period, expeditions visited Greenland, Iceland, Morocco and Mauritania on several occasions. None of the material arising from these expeditions is referenced, despite the fact that important results from them are used in the text. I may be carping - but it hurts! Otherwise it is a splendid book and the success of the enquiry is an excellent example of what can be achieved by harnessing the efforts of many people, amateur and professional, and organising them well. Anyone interested in waders and the conservation of our estuaries must read this book.

G.H.Green

Danske Rastepladser for Vadefugle. Vadefugle - Taellinger, Danmark 1974 - 1978. (Wader counts in Denmark 1974 - 1978)

by H. Meltofte, 1981. pp 194. Miljøministeriet, Fredningsstyresen, Amaliegade 13, DK-1256 København K, Denmark. Price 85 kr.

This very detailed report provides data for the counts of shorebirds (but not waterfowl) made between 1974 and 1978 on almost all Danish wetlands, excluding the Danish part of the Wadden Sea, results for which have been already published (Meltofte 1980). The report takes the form of some general introductory sections describing the areas counted, their importance to shorebirds, their state of protection and shooting intensity. This last includes the interesting finding that Curlews *Numenius arquata* are particularly seriously affected by shooting disturbance in autumn. The figures and tables in these sections are provided with English captions, and there is an English summary which also explains the following maps and tables, so even those who share my very limited knowledge of Danish can easily follow the report. The remaining 151 pages give, for each wetland, a large-scale (1:25000 or 1:50000) map showing the main areas used by shorebirds, a table of counting results, and additional information on the importance of the site to shorebirds, its protection, general shooting intensity, extent of reclamation, and any other causes

of disturbance. For each species the tables give a maximum monthly count, and a mid-month (10th. - 20th.) mean count per month. Counting intensity varied between months and years, most comprehensive coverage being in 1978. It seems a pity that, given the size and detail of the report, counts are not given for separate years, even for the most intensively covered sites. This would yield valuable information on year-to-year consistency of use to add to the site importance indicated by the averages and maxima. Inclusion of more numerical data could have been achieved, without any overall increase in the size of the report, by reducing the scale of some or all of the maps. Some maps, for example those on pages 172 and 191, could be much reduced, given the very general nature of the shorebird distributions that they show. This criticism apart, the report is very well produced, and it is good to see useful and detailed information on national shorebird counts being made widely available. Perhaps other countries should follow suit.

Reference

Meltofte, H. 1980. Fugle i Vadehavet. Vadefugletaellinger i Vadehavet 1974-1978. Fredningsstyrelsen, Miljøministeriet. pp 50.

N.C.Davidson

Birds of the Wadden Sea

Edited by Smit, C.J. & Wolff, W.J. 1981. ISBN 90 6191 056 0. (308 pp.) Published by A.A. Balkema, Postbus 1675, 3000 BR Rotterdam, Netherlands. (£6-50 plus £1-20 postage and packing).

This is the sixth report of the Wadden Sea Working Group and in common with the others so far published (which are listed at the end of this review), is in paperback format. A clothbound edition of all eleven reports (grouped in three volumes) will eventually be available (ISBN 90 6191 062 5) and it is certainly advisable for institutional libraries to await the latter, since it is likely to receive a lot more use. Printing is by offset litho from typewritten masters and is remarkably stylish considering how disappointing this method of reproduction often is. This high standard is achieved by a careful choice of type face, sensible layout and neatly executed figures. My only criticism of the presentation is the unnecessarily complex numbering system employed for some of the subheadings.

The major part of the report (over 250 pp.) consists of a review of the distribution, annual cycle, numbers and food of the 32 most important species of shorebirds which utilise the Wadden Sea (Spoonbill *Platalea leucorodia*, 2 species of geese, Shelduck *Tadorna tadorna*, 7 species of ducks, 15 species of waders, 3 species of gulls and 3 species of terns). The text for each of these is entirely self-contained and has its own list of references. Maps are included of the breeding distribution of these birds within the Wadden Sea (where applicable), and/or their Holarctic breeding range - with the probable source of passage migrants indicated. The distribution of each species within the area at the time of peak numbers (usually autumn) is also shown. None of these maps allow very fine details of distribution to be appreciated, but they present the overall pattern clearly enough. Histograms are presented of monthly changes in abundance, and in some cases maps of ringing recoveries are included. Where further information is available, this too is included - for example seasonal changes in body weight based on trapped birds, and annual changes in abundance.

The species accounts are followed by short chapters on interspecific competition, the relative importance of the Wadden Sea in relation to other sites in Europe and North Africa, and the estimated consumption of invertebrate biomass by various bird species. With regard to the latter, it emerges that the Eider *Somateria mollissima* is the major subtidal predator, while the Oystercatcher *Haematopus ostralegus* and Curlew *Numenius arquata* are the major intertidal ones. All these chapters contain information of interest and the report ends with a summary of the various threats to the Wadden Sea. These threats are to be considered in more detail in Report No. 11, and turn out to be the familiar range of embankments, reclamations, pollution, fisheries and disturbance by hunting, aeroplanes, tourists and accidentally introduced ground predators.

The most important achievement of the book is in bringing together information from the whole of the Wadden Sea from the Dutch Balgzand in the south, through the German sections on either side of the Heligoland Bight, and northwards to Esbjerg on the Danish coast. Since there are some 4000 km² of intertidal mud and sand flats in these areas, it is not surprising to learn that there have been very few coordinated counts of shorebirds there. Coverage of some quite important sections, such as the German Niedersachsen coast between the Dollard and the Elbe, has been rather incomplete. However, the available information indicates a peak population of 1.5 million shorebirds in winter, 1.9 million in spring and 3.4 million in autumn. About half of these are wading birds, with the most abundant species being the Oystercatcher in winter and the Dunlin *Calidris alpina* in spring and autumn. Other species with more than 100,000 individuals regularly present are the Bar-tailed Godwit *Limosa lapponica* in spring and the Knot *Calidris canutus* and Curlew in autumn.

It would be churlish to criticise occasional lapses in the English, since the overall standard is good and we should count ourselves fortunate that all the Wadden Sea reports have so far been published in English. However, I was charmed to read that the characteristic feeding behaviour of the Sanderling consists of "...fast running and preening close to the waterline".

The Wadden Sea is the most important area for waders in the whole of Europe and this excellent volume more than does it justice. No one with a serious interest in waders should be without it.

Other Wadden Sea Working Group Reports already published

Report 1. 1980. Geomorphology of the Wadden Sea area. Dijkema, K.S., Reineck, H. - E. & Wolff, W.J. (Eds). 135 pp. ISBN 90 6191 051 x

Report 3. 1979. Flora and vegetation of the Wadden Sea. Wolff, W.J. (Ed.). 206 pp. ISBN 90 6191 053 6

Report 5. 1979. Fishes and fisheries of the Wadden Sea. Dankers, N., Wolff, W.J. & Zijlstra, J.J. (Eds). 157 pp. ISBN 90 6191 055 2

Report 8. 1978. Pollution of the Wadden Sea area. Essink, K. & Wolff, W.J. (Eds). 61 pp. ISBN 90 6191 058 7

Report 4. 1981. Invertebrates of the Wadden Sea. Dankers, N., Kühl, H. & Wolff, W.J. (Eds). 221 pp. ISBN 90 6191 054 4

P.N.Ferns.

Die Rieselfelder Münster: Europareservat für Wat- und Wasservögel

Biologische Station "Rieselfelder Münster". 1981. 216pp; 24 x 17cm; numerous maps, diagrams and monochrome and colour photographs. Available from Biologische Station Rieselfelder e.V., Coermühle 181, D-4400 Münster, W.Germany. Price 36 DM plus 2 DM postage, payable in advance.

Readers of this Bulletin will already know of Rieselfelder Münster and its remarkable achievements. Few amateur groups can claim to have convinced government authorities sufficiently of the importance of their work to attract funding of a modern research station, complete with tractor, earth moving equipment, controls for the flooding and draining of the lagoons for the station, and their own computer. We should not be surprised then by their most impressive move into book publishing.

This book, written by the members of the station, describes the area, its flora and fauna, especially the birds, the establishment of the biological station, studies on the area, its establishment as a reserve, and its management. Throughout, the book is lavishly illustrated with superb photographs, both monochrome and colour. But this book has much more than photographs; it also has data in it: from graphs (in four colours) of water acidity and tables of nutrient levels, through lists of status of insects, to maps of ringing recoveries and charts of bird counts.

All these clear illustrations make the book well worth obtaining for anyone interested in waders and wetlands and/or their study or conservation, whether or not they can read German (and this book is yet another incentive to me to maintain my struggling efforts to learn the language!). The book is well worth obtaining for another reason: it is an all-too-rare example showing the way that research, public education and practical management are necessary components of a conservation programme. Far too often researchers (professional and amateur) fail to make their work widely understandable, and so too do conservation bodies ignore the importance of proper scientific study to their aims. This book rebuts this. The methods of study are essential components in the story - and colour-ringed birds occur in many of the photographs, including the cover picture. The book shows many aspects of the working methods in a clear way, and stresses the importance of all aspects. The members of the Biologische Station have published this book themselves and are to be congratulated. Would that commercial publishers in several countries were prepared to believe that the public are not scared away by a few graphs, if these are well explained!

M.W. Pienkowski

Wader Migration along the southern coast of the Baltic

WSG members may not be aware of the extent to which shorebirds use the Baltic coast of Germany (DDR) during spring and autumn migration, since many of the data have been published in journals that do not receive wide circulation. Dietrich Sellin of Greifswald has kindly sent me several papers recently from which I have extracted information on one of the two important wader sites. He has also promised to write an article for the WSG Bulletin on the other main wader study area - the large nature reserve of Peenemünder Haken, Struck and Ruden.

The length of the northern coast of the DDR is approximately 200 miles (320 km), from the eastern boundary of Schleswig-Holstein (W.Germany) near Lübeck to the Polish border north of Szczecin. Most of this coastline is low-lying and heavily indented. There are extensive sand-dune systems, mudflats and offshore sandbanks and islets, as well as the large island of Rugen, famous as one of the main staging posts for Cranes Grus grus on their migration to Sweden across the Baltic.

The large nature reserve of Bock, 16 km (10 miles) NW of Stralsund and just west of the islet of Hiddensee (where there is a bird observatory), covers nearly 2000 ha (5000 acres) of dunes, intertidal flats and saltmarsh. Formerly it was an important breeding area for coastal birds, but dune afforestation and use as a bombing range by the "faschistische Luftwaffe" have destroyed this importance. It remains, however, an important staging post and roosting area for wildfowl and waders, as documented by Gert Graumann, Dieter Jäkel, Siegmund Müller & Hans Zöllick in 'Natur und Naturschutz in Mecklenburg' Vol 16(1980) pp 5-79. This paper gives detailed counts covering most months of 1972-78, and the following refer to waders: Oystercatcher Haematopus ostralegus numbers are low, never more than a few hundred, with highest counts in March and July. Lapwing Vanellus vanellus are present in large numbers in autumn, between 5000 and 6000 in mid-September to mid-November, using the area chiefly as a roost. Ringed Plover Charadrius hiaticula are present on both spring and (in smaller numbers) autumn passage, with peak counts of up to 700 in mid-March, and up to 400 in late August; only a few pairs breed, and none winter. Very few Grey Plover Pluvialis squatarola use the area on spring passage, but large numbers are present in autumn, with peaks of over 1000 in late September, October and early November. In some autumns two distinct waves of passage occur. A few birds have stayed through some winters. Golden Plover Pluvialis apricaria also stop at Bock chiefly in autumn. Peak numbers vary from year to year, and were exceptionally high in 1978, when 13,000 arrived in early October and 19,000 were present in mid-November. Curlew Numenius phaeopus pass through in spring during late March and early April (numbers up to 250), but autumn passage is more protracted, from late June to September (and later in some years), with smaller numbers present on any one date than in spring. Redshank Tringa totanus occur regularly in autumn, with a peak of a few hundred birds, usually in early August. Knot Calidris canutus also are seen chiefly in autumn, with peak counts of 200-300 in late August. Of the smaller shore waders, by far the most commonest is the Dunlin Calidris alpina, of which between one and two thousand return by mid-March in most years. Numbers then fall but a second wave of passage occurs briefly in mid-May, with a highest count (in 1973) of over 3500 birds. Autumn passage begins in late July. Large numbers (up to 10,000) are present in early August and numbers remain high into September. After an exodus, a second wave of migration is shown by the high late October and early November counts (up to 8,000). A few hundred stay in the area in mild winters. Associated with Dunlin in late August of most years are Curlew Sandpipers Calidris ferruginea, usually in peak numbers of several hundred, but in 1978, 667 were counted. Few Sanderling Calidris alba occur, but large numbers of Avocets Recurvirostra avocetta pass through in late July and August, with up to 500 present on some days.

These data establish the importance of the nature reserve at Bock as a stopover site of particular importance for Grey Plover. We look forward to information on the use of the reserve at Peenemünder Haken from Dietrich Sellin in a future edition of the Bulletin.

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