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REVIEWS AND ABSTRACTS

LANE, B.A. 1987. *Shorebirds in Australia.* Nelson, Melbourne. 187pp, with 19 plates by Jeff N. Davies. Price: Aust.\$49.95.

At first sight this large-format book with its attractive cover photograph made me believe I had been sent one of those "coffee-table" books that are long on brightly colour pictures, but very short on useful information. If *Shorebirds in Australia* is a "coffee-table" book, then Australian coffee-tables must support far meatier fare than their British counterparts. Once you open the book, all but one resemblance disappears, since the book is crammed with fascinating information. The only similarity is that it is intended for a much wider audience than just dedicated wader-workers.

Shorebirds in Australia presents the results of the major survey carried out between 1981 and 1985, organised by the Royal Australian Ornithologists Union, as their Wader Studies Programme. This aimed at determining the distribution, abundance and migration routes of shorebirds in Australia. Over 700 amateur and professional bird-watchers and ornithologists took part. It was undertaken as part of Australia's obligations under the Japan-Australia Migratory Birds agreement, signed in 1984, which obliges these countries to research and conserve their shared bird populations.

For those of us more used to the wealth of information gathered in the last 50 years on shorebirds in western Europe, it is important to remember that almost nothing was known of the distribution and migrations of shorebirds in Australia until very recently. Only in the mid 1970s did large-scale ringing of waders begin, coincident with the migration to Australia of an ex-Chairman of WSG, Clive Minton. Co-ordinated wader counts began only in the late 1970s. The history of wader studies in Australia is reviewed by Parish *et al.* in *Wader Study Group Bull.* 49, Suppl.. The burgeoning of studies only recently, coupled with the low human population density and remoteness of many parts of Australia, makes *Shorebirds in Australia* an even more impressive achievement.

The book begins rather unusually, with a chapter entitled The Distribution of Shorebirds in Australia. This begins with a summary of the overall findings of the study, and is followed by a brief introduction to some of the factors that influence the distribution of shorebirds in coastal and inland habitats in Australia. Over 2 million migratory shorebirds visit Australia. About 80% of these occur in just 3 regions: part of the north-west coast in western Australia, part of the Gulf of Carpentaria in northern Queensland, and the south-east coast and lakes of South Australia. Two further general chapters follow this summary, and both are interestingly written for

a wide audience. The first, contributed by Peter Dann, covers the feeding ecology and behaviour of shorebirds in Australia. This is necessarily rather fragmentary, but amply demonstrates how much basic information remains to be discovered about shorebird feeding biology in Australia.

The next chapter is a fascinating review of shorebird migration and movements. This focuses on what has recently been discovered about Australian shorebird migration, but sets this into the wider context of shorebird migration worldwide. It is split into 4 sections, the first covering where Australia's migrant shorebirds breed. Although most migrants that reach Australia breed in northern Asia, from the Gobi Desert northwards, there is one intriguing exception. The Double-banded Plover *Charadrius bicinctus* breeds in New Zealand and is the only east-west migrant to reach Australia, where it overwinters in the south-east. A second section describes the ways in which shorebird migration is studied, focussing on how counts, ringing and morphometrics, and radar studies, have been used. Radar studies in western Australia have been particularly effective in determining northwards migration routes and strategies. Australia is a very large country, and so how shorebirds move around once they have reached the country is just as important as how they get there. Counts suggest that many shorebirds usually associated with coastal habitats move through inland habitats in autumn, crossing the continent to overwinter on the southern coasts. In contrast, few birds seem to stop in inland Australia when migrating northwards in spring. The changing and sometimes unpredictable availability of inland wetlands is a major feature affecting the annual cycle of many Australian shorebirds. Its effects are particularly fascinating on another group of Australian shorebirds, those that breed there. Several species, notably the Red-necked Dotterel *Erythrogonys cinctus*, the Black-fronted Plover *Charadrius melanotus*, the Banded Stilt *Cladorhynchus leucocephalus* and the Red-necked Avocet *Recurvirostra novaehollandiae*, breed abundantly in inland wetlands. Most breed in the regularly occurring wetlands around the edge of the continent, but also make large-scale movements to take advantage of inland peripheral wetlands when they periodically fill. This behaviour is especially marked in the Banded Stilt.

The main bulk of the book is the species accounts, and these are preceded by a brief outline of the ways in which the massive amount of information was collected. National co-ordinated counts achieved much coverage of the more (human) populous south and east, but aerial surveys and expeditions were needed to the more remote parts of the north and west coasts. Most counts in the north had to be made

at a different time of year to those in the south, so despite the extensive coverage achieved in these impressive surveys, it is not yet possible to estimate the population size for most migratory species. This would seem to be an important future target, especially since there is serious concern about the enormous human pressure on these wader populations as they pass through South-east Asia.

The treatment for each species follows a standard format. This starts with a brief field description. For migratory species this is followed by sections on the breeding range, range in Asia, status and distribution in Australia, movements in Australia, and feeding, and concludes with a brief comment on conservation status and priorities. For commonly occurring species these accounts are illustrated with maps of the breeding and non-breeding ranges, and the distribution in Australia. The latter is accompanied by a listing of the 20 most important sites known for the species. Australian breeding species have a similar treatment, with sections on their status, distribution, breeding, and movements in Australia. These species accounts are crammed full of intriguing information and interpretation, and they make fascinating reading. For instance, it seems that many Red Knots *Calidris canutus rogersi* pass through Western Australia and the Gulf of Carpentaria in autumn, en route for New Zealand where they overwinter. In spring, many probably originating from New Zealand move back through the Gulf in April, but rather few pass through Western Australia. Those that do are likely to come from the small wintering population in south-eastern Australia. In contrast to this considerable movement through and beyond Australia, the Great Knot *Calidris tenuirostris* stays to overwinter in very large numbers along the north coasts of Australia. This fact alone illustrates the importance of the studies reported in this volume: until the 1970s, Great Knots were considered rare in Australia. Now they are known to be one of the most abundant shorebirds in Australia, especially in the north. The book is full of such information.

The final two chapters are of particular value to those trying to conserve shorebirds in Australia (and elsewhere). One summarises the location of the important shorebird habitats and abundant species in Australia divided into 10 regions. The chapter comments on the impact of man on these places and populations. Finally there is a chapter entitled "Shorebirds and the Future": a comment on the major threats to shorebirds. Sadly these are very similar to those faced by shorebirds elsewhere in the world: a potent mix of hunting, human disturbance, habitat destruction and alteration, and pollution. In addition, many of Australia's migrant shorebirds run the gauntlet of immense hunting pressure in south-east Asia.

Shorebirds in Australia is well produced and is illustrated throughout with good-quality black-and-white photographs of habitats and research activities such as cannon-netting. At the centre of the book are 19 plates, 16 of them in colour, by Jeff Davies of the shorebirds described in the book. Whilst undoubtedly helping to make the book more attractive to a wide market, these do not add greatly to the value of the book as a reference source on shorebirds. The book is too large a format to act as a field guide, yet all the birds in the plates are drawn in that uniform side-view style so characteristic of field-guides. There are other recent guides that are much better for this purpose, and more

profusely illustrated. Furthermore the illustrations are rather stylised and two-dimensional, and give the birds a very smoothed appearance. In the copy I have many of the plumages appear much too pale. This is particularly apparent in some of the plates covering *Tringa* sandpipers, and in the *Calidris* sandpipers of plate 14, where, for example, the chestnut colouring on the cap and mantle of the juvenile White-rumped Sandpiper *Calidris fuscicollis* is not apparent. Conversely, the godwits and dowitcher in plate 10 are a particularly brilliant shade of orange. One other minor irritation to a user of the book is that the plates are neither named nor are the birds on a plate numbered. To discover the identity of a bird, one must turn to a set of keys hidden between plates 16 and 17.

However this is really minor carping, since the book is a major contribution to the knowledge of shorebirds worldwide. Brett Lane is to be congratulated for bringing together a wealth of information, and producing a book that is both a valuable source of reference, and one that is very readable. No wader enthusiast's bookshelf (or coffee-table) should be without a copy.

Nick Davidson

NIKOLAUS, G. 1987. Distribution Atlas of Sudan's Birds with Notes on Habitat and Status. *Bonner Zoologische Monographien* No. 25. 322pp. Price DM 64, available from Zoologisches Forschungsinstitut und Museum Alexander Koenig, Adenauerallee 150-164, D-5300 Bonn 1, FRG.

Sudan is the largest country in Africa, yet since Cave and Macdonald published their comprehensive *The Birds of Sudan* in 1955, there has been little study of the birds there, and no more recent summary of their distribution and status. This volume remedies that gap most impressively. This is an even more impressive work when one discovers that almost all the recent survey work was carried out by the author and his wife, who conducted almost continuous fieldwork from 1976 to 1984. Their aim was to visit every 1° (120 x 120 km) square in the country, and they managed to survey the great majority of these squares. As the author explains in the introduction, this "proved to be a nearly impossible task in a country such as Sudan which has very few roads, a long rainy season, a very limited fuel supply and many other problems."

After brief chapters on topography and climate, habitats, sources of data, the major part of the volume is a systematic list of all bird species recorded, with a distribution map for all but the most infrequently recorded species. The maps distinguish breeding and sight records, and show also the locations of distinctive migrations. For each species there is a brief set of accompanying notes. These give status, breeding dates, general abundance in the preferred habitat, and brief comment on additional points of interest such as seasonal movements, and ringing recoveries.

There has been increasing interest recently in elucidating the poorly-known migration routes of waders through East Africa, the Middle East and western Asia (see for example the review by Summers et al. in *Wader Study Group Bull.* 49, Suppl.), so this atlas provides valuable information on waders. In total 53 species of waders (excluding Glareolidae) have been recorded in Sudan, of which 38 are Palearctic migrants. Many of these, such as Curlew,

Redshank, Terek Sandpiper and Turnstone occur commonly only on the Red Sea coast. For many others, the Nile valley, especially around Khartoum, is the most important wintering area and staging site. Species preferring these habitats include Ruff, which is the commonest wader in Sudan, and Black-tailed Godwit. Others, especially the *Tringa* sandpipers are widespread throughout the south and east of the country wherever there is marshy vegetation. Interestingly, both Dunlins *Calidris alpina* and Curlew Sandpipers *C. ferruginea* commonly overwinter in the Nile valley, and many first-year Curlew Sandpipers overwinter at Khartoum.

The author expresses the hope that this volume will serve as a guide to focus attention on the gaps in the knowledge of the birds of Sudan, and there is much scope for this. Wader conservationists are concerned at the threats from the progressive loss of habitat on estuaries and other wetlands. It is salutary to be reminded that many other species face habitat threats. For example, numbers of the Black Wood-hoopoe *Phoeniculus aterrimus* have decreased recently, possibly due to a reduction in the numbers of larger trees in their preferred habitat. In all, this is a most valuable contribution to African ornithology, and a tribute to fieldwork in arduous conditions.

Nick Davidson

MELTOFTE, HANS., 1981. The occurrence of staging waders *Charadrii* at the Tipperne Reserve, Western Denmark, 1928-1982. *Dansk Orn. Foren. Tidsskr.* 81: 1-108.

How often, as you ponder on a set of five years' incomplete count data, does it occur to the hapless analyst what joy 50 years of detailed counts would bring? Now imagine a site which regularly clocks up 700 000 wader-days per annum and you will appreciate this astonishing review paper by the tireless Hans Meltofte is just such joy.

Tipperne is the tip of a peninsula projecting northwards into the Ringkøbing Fjord of West Jutland, Denmark. The fjord was originally a brackish lagoon open to the North Sea, but since 1931, water levels have been manipulated via a sluice which has had considerable consequences for the water regime and salinity of the water body. From the mid-1960's, regulation of the largest of the rivers flowing into the lagoon has greatly enhanced sedimentation and consequently vegetation has developed on previously unstable substrates. However, to the present day, Tipperne remains a superb mix of brackish meadows, reed-beds and dune systems surrounded by shallow water and mud-flats and is an important staging area for tens of thousands of waders in spring and autumn as well as an important breeding area for many species. Since 1928, the site has been a nature reserve, with a detailed programme of regular counting, often on a daily basis! In the early years, counts were made from the top of a precarious 10 m mast, but since 1947 observers have suffered the indignity and luxury of tower hides used to this day. Improvements in counting techniques since 1972 have rationalised recent census data using counts from the hides, line transects through the meadows and other extensive methods to give a very detailed picture of all aspects of the waders on the reserve. The review paper (which

takes up two whole parts of DOFT) concentrates largely on the phenology of migration and breeding waders at the site and attempts to explain changes in occurrence over the 54 year span of count data.

The English summary, which runs to ten ample pages, is fascinating on its own. It documents the environmental changes such as decline in salinity, reduction of flooding and changes in grazing regimes which have all had their effect on invertebrate populations and the consequent use of different parts of the reserve by waders. The species accounts are clear and well-written and are of great interest to all with the faintest interest in wader migration in western Europe.

The bare bones of the count story are woven well with autecological, feeding and invertebrate studies, but the work does highlight the need to set observations on patterns of wader utilisation in the context of the precise environmental conditions prevailing on and around count sites. Unfortunately, it is the very lack of such data which makes interpretation of early changes in count totals so difficult. For example, densities of *Nereis* and *Corophium* have apparently increased during the study period, although increased wader numbers have not been noted, possibly because increases in food density have off-set habitat loss. Intriguingly, Meltofte considers that with the exception of Curlew (the subject of another paper: Meltofte, H. 1986. Hunting as a possible factor in the decline of Fenno-Scandian populations of Curlew. *Var Fagelvarld*, suppl. nr. 11), general population changes amongst visiting species have not been manifest at the Tipperne reserve.

Although a knowledge of Danish is essential to enjoy the complete *magnum opus*, the English summary alone is a must for all students of western European wader movements. It will surely stand as a classic long-term monitoring case study of a man-manipulated wetland.

Tony Fox

