REVIEWS

Edited by G. W. JOHNSTONE

BOOKS

Ornithology from Aristotle to the Present by Erwin Stresemann, 1975. Cambridge, Mass.: Harvard Univ. Press. Pp xii + 432, b. & w. pl. 1. 150 x 240mm. $US20.00.

This is a translation of the book originally published in German as *Die Entwicklung der Ornithologie von Aristoteles bis zur Gegenwart* in 1951. The author (1889–1972) published his first ornithological paper at the age of sixteen and devoted his life to ornithology. Though he entered university as a medical student, he finally graduated with a degree in zoology from Munich University in 1920. From the start he took part in various expeditions, including several to the Moluccas.

At the age of thirty-one he was appointed Curator of Birds at the Zoological Museum in Berlin. For thirty-seven years he was Secretary-General of the Deutsch Ornithologische Gesellschaft and President from 1949 to 1967; he was also Editor of the Society's Journal für Ornithologie for more than thirty years. He was author of many books and papers, probably the most famous of which was his *Aves* handbook published in parts from 1927 to 1934.

Although probably not so well known in Australasia, he has written a number of papers on the birds of the south-western Pacific area. His paper on the Australian Raven *Corvus coronoides* (1916, Verh. orn. Ges. Bayern 12: 277-304) was published while he was serving as an artillery observer in the Great War.

To complete the picture, it ought to be stated that Stresemann was a leading international ornithologist being President of the VIII International Ornithological Congress held at Oxford in 1934. Westerskov (1976, Notornis 23:138-167) gives a full biography of this remarkable man.

This background is necessary to understand how it was possible for Stresemann to write such a book in the years immediately following the 1939-45 war. It was written during the hunger blockade of Berlin while Stresemann was living with his family in a two-room apartment without gas, electricity or hot water and without free access to libraries. It was the result of a lifetime of study and thought, aided by a superb memory.

In the preface he states that his object was not an exhaustive history of ornithology but rather to depict its growth. Fundamentally it is the growth of ornithology in western civilization. Starting with Aristotle, Stresemann points out that, although later scholars tried to read a classification of birds into his *The History of Animals*, his terms were descriptive rather than taxonomic.

He quickly moves on to the Renaissance when a new type of middle-class scholar developed. Among a number of books on natural history, two about birds were by Gesner and Aldrovandi. During this period Spanish and Portugese ships were beginning to voyage into the lesser known regions, bringing back exotic specimens, live and as skins, backed up by stories of which many were fictitious. Unfortunately most specimens went into private collections and were destroyed before being seen by the few contemporary specialists. With this tremendous influx of new specimens came the realization that attempts to organize the multiplicity of birds by 'philosophic principles' as used by Aldrovandi (stimulated by Aristotle and Pliny) was not good enough. It needed knowledge of the habits of birds and this was lacking, particularly for foreign species.

The balance of the book and, of course, the larger portion is the story of the growth of systematic ornithology. This began with the work of Francis Willughby's posthumously published *Ornithologiae libri tres* which finally replaced the 2000-year old classical system based on function with a system based on form. However, the growth of so-called popular ornithology is not overlooked and its particular contribution over the years is reviewed.

The theme of the book is developed in depth, not only from a theoretical viewpoint but also from the numerous small sketches of men journeying to all parts of the world collecting specimens, often under very difficult conditions. The story of the build-up of facts and theories is remarkable in the amount of information given in such a short space and in its clarity. Stresemann weaves together the various strands of theory, people and expeditions, making a fascinating pattern of the growth of knowledge and ideas.

The translation by Hans J. and C. Epstein runs smoothly and references supplied by G. W. Cottrell are a valuable addition to this English edition. The Epilogue by Ernst Mayr (one of Stresemann's pupils), 'Materials for a History of American Ornithology', is clearly included for the American market but is sketchy and is only an appendix to the main work.

I consider that the book completely fills its purpose. To cover twenty-three centuries in 364 pages is a masterpiece of condensation. It is the work of a man with a deep understanding of his subject and with the gift of expressing his thoughts in a simple yet interesting way. It fills a gap in ornithological literature and is highly recommended.

F. R. B. Denton

Fundamentals of Ornithology by Josselyn Van Tyne and Andrew J. Berger (2nd ed.), 1976. New York: John Wiley & Sons. Pp xviii + 808, b. & w. ills 528. 165 x 235mm. $US28.50. **Ornithology: An Introduction** by Austin L. Rand (revised ed.), 1974. Harmondsworth, England: Penguin. Pp xii + 368, b. & w. figs 51, 110 x 180mm. £0.70/$A2.35.

In the seventeen years since the first edition of Van Tyne and Berger's *Fundamentals of Ornithology* there have been many developments in ornithology. These are reflected in this second edition: the number of pages has increased from 624 to 808 and the number of illustrations has more than doubled from 254 to 525. However, the object remains the same, 'to present a readable and accurate text that covers the fundamentals of avian biology'. Accurate it certainly is (at least, at the time of writing) but the expression 'readable' needs qualification. The late Van Tyne intended the book for post-graduate workers 'who had at least an undergraduate degree in zoology'. It serves this purpose as well as its other intended ones: a quick reference for those interested in life histories, taxonomy and anatomy; a summary of

anatomical characters used in the classification of birds; and a guide to ornithological literature. However, the non-graduate will find parts of the book heavy going, particularly because the Glossary has been omitted; this is a pity; for, where else could one find out the difference between anticoelous, antipericoelous, isopericoelous and pericoelous (all terms used to describe the patterns of intestinal loops, criteria used in diagnosis of genera and families)?

The first edition has been abstracted with great care by Berger, at the same time preserving fundamentals and improving readability, to increase the space available for recent developments. The number of chapters is the same but the chapter on Social Relations has been omitted and its contents inserted, where appropriate, in other chapters. The chapter on Breeding Behaviour has been enlarged and is now divided between Chapter 10 (Courtship and Nest Building) and Chapter 11 (Eggs and Young). Chapter 2 (formerly Anatomy, now Structure and Function) now includes a section on physiology. The chapter on Distribution is much larger, as might have been expected, and Chapter 12 (Taxonomy and Nomenclature) now contains the section on anatomical features used in classification, formerly in Anatomy. This chapter and that on The Classification of World Birds by Families were considered by Van Tyne to be the most important part of the book (they account for 30% of it, excluding the index) and thus deserve a more detailed examination. The number of Orders remains the same (28) but the tinamous have displaced the penguins and now have the dubious distinction of being regarded as the most primitive group of birds. In the Passeriformes, five of the families in the sub-order Tyranni now make up four families (the Conopophagidae are included in the Formicariidae) in the new sub-order Furnarii. There are two new families in the sub-order Passeres, the Rhabdornithidae (Philippine creepers) and the Climacteridae (Australian creepers), both formerly in the Certhiidae (Creepers). The fundamental order of families (1-3-2) remains unchanged and thus differs from Schodde's *Interim List of Australian Songbirds* which follows the 1-2-3 of the Basel Sequence. However, there have been many changes, notably: the 'relegation' of the white-eyes (from No. 40 to 27) and the weavers (50 to 45); the 'promotion' of the drongos and crows (from 4 and 5 to 16 and 17); and the separation of the Hypositidae (Coral-billed Nuthatch) from the Sittidae and Neosittidae to next to the woodswallows (33). Following the list of families each one is described: its number of species, physical characteristics, range, habits, food, breeding, technical diagnosis, classification, references, synonyms and an illustration of a typical member of the family.

This second edition is a distinct improvement on the first (apart from the loss of the glossary); it fulfils its object as being a textbook for the post-graduate student and gives value for money.

Austin Rand will be remembered in Australasia particularly as the author (with E. T. Gilliard) of *Handbook of New Guinea Birds* (1967). *Ornithology: An Introduction* is a general work intended for the beginner and avoids technical language as much as possible. It covers all aspects of ornithology and is very readable. On the debit side it has few illustrations and is still fundamentally the book published in 1967, before it came out as a Pelican. This means that it is a bit dated and many of the references have been superseded by later editions or are no longer in print. But an essentially sound book at this price is good value for the beginner.

D. G. Robertson

The Ethology of Predation by E. Curio, 1976. Berlin: Springer Verlag (per D. A. Book Depot). Pp x + 250, b. & w. figs 70. 170 x 250mm. $A32.40.

For animals the search for food and the avoidance of being eaten include some of the most spectacular instances of evolutionary adaptations. Every naturalist is witness to the evolutionary arms race between prey and predator and the pages of natural histories teem with documentary evidence of this kind. There has been another more recent development of this interest in predation, sometimes called Optimal Foraging Theory, in which the behaviour of a predator is examined to see whether it exploits its environment for food with maximum efficiency as a good Darwinian machine would be expected to. In this book Professor Curio undertakes the Herculean task of selecting and ordering some of this voluminous information.

Predation is commonly thought part of the domain of ecology but, as every schoolboy knows or ought to know, ecology is the consequence of behaviour and this book focuses on the behavioural aspects of predation. It is organized into four main sections: Internal factors affecting predatory behaviour (e.g. hunger); Search patterns; Prey recognition and selection; and Modes of attack. No single classification of this kind of material is satisfactory and there is much cross-referencing between sections. There is some discussion also of the defences adopted by the prey against the tactics of predators but a full review of this would take the author too far from his main task.

Curio's predators range from lions and hyenas through cuttlefish and spiders to *Hydra* and single-celled animals. Birds have been the subject of some of the best studies and feature prominently throughout the book and Curio's own work contributes to these as well as to other groups. He also has an encyclopaedic knowledge of predation and the references with over 700 titles are one of the attractions of this book to the serious student. Because so much ground is covered in a couple of hundred pages, the style of writing is dense and the reader must expect to work correspondingly. But the effort is worth it. One is fascinated by the diverse and sophisticated ways that predators seek to outwit their prey and how the prey seek to outwit their predators. The field man may be disappointed by the large amount of attention given in the book to laboratory experiments; the reason is simply the difficulty of collecting the appropriate data under field conditions. Where reliable field studies exist they are quoted. Elsewhere laboratory data are the best there are (often all there are) even though their relevance to 'what goes on out there' may be doubtful. Curio is well aware of this and does not hesitate to underline this difficulty when necessary.

Are there general principles of predation? Certainly there are and they are well documented here. But, as one closes the book, a reader's mind is more occupied with the complexity and diversity of mechanisms than with the unifying common features. Perhaps this is as it ought to be at a time when Foraging Optimists too often reach for their computers rather than their binoculars to solve a problem.

The book is a remarkable *tour de force* surveying a rapidly expanding field with scholarship and a judicious balance between the contributions of the field naturalist and the laboratory worker. The editors are to be congratulated on having secured another successful monograph in this distinguished series.

J. M. Cullen

The Web of Adaptation: Bird Studies in the American Tropics by D. W. Snow, 1976. London: Collins (first published in New York: Quadrangle/NY Times Co.). Pp xiii + 176, b. & w. ills 14. 145 x 222mm. $A13.40 (£4.50).

'The forest is full of things to be discovered, and mostly they are to be found not by actively searching, but by passively waiting and watching'. Since 1956, David Snow has spent a great deal of time applying this approach to the study of birds in the American tropical forest. His main work was in Trinidad but later his studies took him to the South American mainland, including visits to the Kanuku Mountains in southern Guyana. This book is an integrated account of these studies and of some undertaken by his wife Barbara, whom he married in Trinidad in 1958. One forms the impression that they have worked closely together. Indeed, their honeymoon was spent on a peak in Tobago in very wet weather, trying to observe the courtship of the Blue-backed Manakin. Snow comments that they did not see much of the Manakins' display nor can they recommend a single hammock for two people, even on a honeymoon.

The 'web of adaptation' that forms the book's main theme is the complex of evolved responses of birds living in tropical forest to the ecological factors of their environment. The evolutionary consequences of making a choice between eating insects and fruit and the further consequences of increasing specialization on a diet of fruit are recurring themes. Snow shows how social organization, nesting behaviour and dispersion of nests can be interpreted in relation to the feeding ecology of a species. He also looks at the situation from the point of view of the fruit-bearing plants that provide food for birds and illustrates the different strategies adopted by forest trees to take advantage of seed dispersal by birds. He even suggests that the seeds of a herbaceous plant of the forest-edge, *Nepsera aquatica,* are adapted for dispersal by their suitability for lining the nests of several species of birds, an apparently unique example of such co-evolution.

A common feature of many of the species he has studied (the Cock-of-the-rock, manakins, bellbirds, hummingbirds and cotingas) is that they mate promiscuously in a lek type of organization (as do lyrebirds, bowerbirds and birds-of-paradise). Snow points out that this behaviour involves the males in spending a great deal of time at their display grounds (up to ninety per cent of the daylight hours for one Black-and-white Manakin) and that its evolution is facilitated by frugivory (so that an individual can satisfy its food requirements quickly) and emancipation of the male from nesting duties. The argument is compelling and so are the accounts of the bizarre displays of some of these birds. The reader needs to keep his wits about him, though, because some of the stories are far from straightforward. How to resolve, for example, the seeming paradox that, though in these lek species the males are intense sexual rivals, in some, for example the Blue-backed and Blue Manakins, they actually co-operate to dance in duos and trios before the admiring female? Snow offers a plausible explanation.

All this work, of course, has been written up in scientific papers, references to which are included in a series of notes at the end of the text. What the book does is to present the author's main observations and conclusions in a personal simply written account which can be read, understood and *enjoyed* by anyone sufficiently interested in the subject to want to read a book about it. It is not a popular book in the usual sense of the word (no photographs, for a start) but I hope it will be widely read. I cannot say to what extent its content is relevant to birds in forests in the Australasian region, though no doubt spiders' webs are as important a material for nests here as in the New World. Nonetheless, I kept wondering how, for example, the insectivorous lyrebirds can find enough food and still be able to spend so much time in display; and how our fruit-eating pigeons have evolved in relation to their food (and vice versa); and what of Emus and quandongs? A better informed reviewer would probably know the answers but these are the sorts of questions that the book stimulates.

Looking for points to criticize is one task of a reviewer but fortunately not always an easy one. I found four printing errors and was irritated by 'behavior', 'defense' and 'practicing' in what is supposedly a British edition. Some repetition between chapters could have been avoided. In the chapter on sexual selection, there is a bland (and unjustified) assumption at the outset that male adornments such as brilliant plumage are used to attract and impress the female, not to deter rival males. Scientists (and others) should be on their guard against generalizing from the particular but the difficulty of observation in dense forest perhaps makes it excusable when Snow does so. His justification is worth quoting: the single observation was probably typical 'since for obvious reasons one is always much more likely to see the usual than the unusual'. Unfortunately, in other contexts, one is more likely to remember the unusual than the usual.

The last chapter, 'The Future of the Cotingas', gives a depressing review of the recent and continuing destruction of the South Americn rainforests. The survival of species of birds that occur only in small tracts of forest, such as in the coastal region of south-eastern Brazil, the Colombian Andes and Central America, is seriously threatened, whereas the birds of the Amazon basin and adjoining regions to the north are, at present, reasonably safe. Like the history of so much of our ravaged planet, however, the probable future of this entire region is ecologically horrifying.

G. W. Johnstone

The Bird Man: an Autobiography by Ian Strange, 1976. London: Gordon & Cremonesi (per ANZ Book Co.). Pp 182, b. & w. photos 17, col. ills 6, endpaper maps. 180 x 267mm. $A11.95.

Ian Strange, a young artist with a strong interest in natural history, left England in 1959. Bound for the Falkland Islands, he had with him some fifty mink. The Islands' half a million sheep are raised for their wool but are unsuitable as meat producers and, as a result, the carcases of old animals are wasted. The plan was to use this surplus meat to feed carnivorous fur-bearing animals. However, there were many difficulties associated with moving the mink from the northern to the southern hemisphere and with the unnatural diet and climate and after six years the fur-farm closed down.

By then, however, Strange had become deeply involved in a campaign for the protection of the rich wildlife of the Falkland Islands and the conservation of natural habitats. It seems that what started out as virtually a one-man crusade to establish reserves for the severely depleted fur seals blossomed into a major movement to recognize the importance of the Islands' natural heritage, aided with money from international organizations such as the International Union for the Conservation of Nature (IUCN). In 1959 there were no wildlife reserves; by 1976 some thirty islands and areas of mainland had been designated as reserves or sanctuaries. Matters of long-standing controversy, such as the killing of Upland

Geese by farmers claiming substantial damage to crops and competition with sheep for grass (as with Cape Barren Geese in Bass Strait and Greylag Geese in the Scottish Hebrides), are at last being investigated by professional biologists. Solid gains indeed and it is worth reflecting that the very major progress that has been made in the last twenty years throughout the world in wildlife protection and nature conservation is as much the result of the concerted efforts of determined individuals like Ian Strange as the international fund-raising and diplomacy of bodies like IUCN.

In 1972 New Island, one of the westernmost of the group, was acquired. Strange now lives there, managing a long-established sheep-farm and at the same time striving to restore the Island's plundered populations of fur seals, penguins and albatrosses and to let the vegetation recover from a century and a half of over-grazing. It has long been his intention to demonstrate that wildlife can be exploited commercially through tourism and he seems to be having some success with this approach at New Island. Eventually, he hopes to 'establish the island as a centre for research into the bird and animal life of the Falklands'.

The book is well printed on heavy paper but the author's excellent black-and-white photographs have been reproduced with very flat results, not helped by brown and blue-black toning; and four of them are uncaptioned. On the dust-jacket appears the (publisher's?) ambitious claim, 'The modern successor to Audubon'. The six of Strange's paintings reproduced in the book are certainly accomplished bird portraits but they lack the grace and flow and sense of movement that Audubon managed to incorporate in his work. Furthermore, in the process of reproduction the colour-balance has been upset and they have all come out too blue.

To get the most out of this book, it helps to refer to Strange's earlier work *The Falkland Islands* (1972), *The Birds of the Falkland Islands* by Woods (1975) and, for the full story of the acquisition of Grand Jason and Steeple Jason Islands as wildlife reserves, Len Hill's *Penguin Millionaire* (1976). All these have been reviewed in these columns (75:94, 77:46 and 77:47 respectively). None, I think, gives one a feel for the Islands as does this book. A great variety of personalities, many well-known in the international conservation and ornithological fields, flit across its pages, which helps to make for entertaining reading. It is in some ways an intensely personal book, with a sparse account of the breakdown of the author's first marriage and the founding of a new partnership woven into the story. But through it all surges his intense concern that the Islands' wildlife and its habitat should be protected from further damage. With natural wonders like Beauchêne Island, the most remote island of the group, with its staggeringly vast colony of Rockhopper Penguins and Black-browed Albatross, almost on the author's doorstep, one can hardly blame him.

G. W. Johnstone

Handbook of the Birds of Europe, the Middle East and North Africa. The Birds of the Western Palearctic. Volume 1. Ostrich to ducks. Edited by S. Cramp and K. E. L. Simmons, 1977. Oxford: OUP. Pp 724, col. pll 108, 350 text figures. 255 x 205mm, 2 kg. £25.00.

In a British book the misspelt title makes one weep. Pale Artic, indeed! Is Oxford no longer the home of lost causes? Have we no resistance against the slovenliness of latter-day speech and writing, against the contempt for our inheritance? Which outburst puts me in a better frame of mind for an impossible task. One might as well be expected to review critically a volume of the *Encyclopaedia Britannica* and to think that I more or less volunteered to review this book! At least one can outline what one gets for one's money.

The area covered by the book contains all eastern Atlantic islands south to the Cape Verde Islands, excluding Greenland but including the important Banc d'Arguin off Mauretania. The southern boundary follows the northern limit of the Sahel region and, on reaching the Red Sea, dodges up to the Gulf of Aqaba and runs east across the Arabian peninsula to the Arabian Gulf at Kuwait. From there the eastern boundary runs up between Iraq and Iran (totally excluded) to the Caspian and so up the Urals to include all European Russia, Novaya Zembleya, Franz Josef Land and Svalbard. That nets, in this volume, 143 species of eight orders (Struthioniformes, Gaviiformes, Podicipediformes, Procellariiformes, Pelecaniformes, Ciconiiformes, Phoenicopteriformes and Anseriformes) of which about thirty-four (depending on one's classification) happen to be on the Australasian books as well.

The text is arranged in two columns of print with some sections in 8 pt, which gives a good 1,100 words to a full page. So the mere weight of words boggles the mind. The book starts with an introduction of thirty-four pages plus two of acknowledgements and, after outlining the object of the exercise, the introduction goes on to describe in some detail the subject matter for the specific accounts and its arrangement in those accounts. What this amounts to, in fact, is a synopsis of pretty nearly the whole gamut of field ornithology and is thus in itself useful as a basis against which to check knowledge of a species or from which to identify projects for research generally. Sections on habitat, social pattern and behaviour, and particularly voice are of greater length than those on other topics and there are glossaries to go with the sections on habitat and voice. This particular ignoramus found plenty of instruction here. As far as I could see, the promised arrangement is followed faithfully in the account of each species and that put me in awe of the editorial talent and effort that must have been exercised. The acknowledgements contain many well-known names, though at one point they are certainly too enthusiastic, and show clearly the extent of co-operation for this undertaking.

The species treated are of several sorts: breeding birds, including introductions with viable feral populations and species extinct in historical times, regular non-breeding migrants and accidental visitors since 1900. The first sort gets full treatment; for the second, accounts of population, social pattern and behaviour, and breeding are left out; for the third, the section on food also goes. All species in these groups are illustrated in colour, showing every plumage that can be identified in the field. I shall dodge an assessment of the merits of these illustrations by saying merely that I really admire the work of only one contributing artist and that a rusty memory is no basis for judgement of such an array of paintings of birds from the cradle to the grave. All are, of course, strictly illustrative without any fancy backgrounds such as enhanced the work of yesteryear. Though one can hardly expect that all is perfect in 100 plates with many birds on each plate, it would be surprising if these pictures did not fulfil almost all the requirements of field identification. Several plates are given over to portrayal of the birds in flight, specially ducks and geese, in accordance with standard practice.

The nineteen or so species that have not been recorded in the western Pal*ae*arctic since 1900 or for which records

are doubtful are treated shortly only with mention of distribution and migration.

Each taxon down to a tribe gets a general introduction. The accounts of species that are treated in full are given names in several European languages (one wonders why they are not also given Arabic names, if only as a politeness in these times or perhaps as a test of printing skills at Oxford; I fancy that Brill of the Netherlands would do it without comment), followed by sections on field characters, distribution with a map of total range and a larger one of range within the western Palaearctic, population, movement, food, social pattern and behaviour, voice with sonograms, breeding, plumages, measurements, weights, structure and geographical variation. One feels overwhelmed after skimming through a few species.

I suppose that gives an idea of what you will get for twenty-five nicker. Is it worth it? The introduction claims that, Witherby's Handbook now being obsolescent because interest in birds has transcended national boundaries, a mere revision of 'Witherby' would be waste of time and effort; the solution was to tackle as much as possible of the zoogeographical region in which Britain lies. The book does that without doubt. The introduction also claims that the book focuses attention on gaps in information and provides stimulus for further studies, just as 'Witherby' did forty years ago. I do not think that the claim is exaggerated. However, in one respect, rather important for a handbook, 'Witherby' still seems to be ahead. Without an exhaustive search, descriptions of plumage for species common to both books seem more detailed and comprehensive in 'Witherby'.

Unfortunately I cannot make a comparison between this book and two other compendia that are now being published: Palmer's *Handbook of North American Birds* and Bauer and Glutz's *Handbuch der Vögel Mitteleuropas,* neither of which I know or have seen. So I cannot assess the treatment in this handbook by comparison with other modern efforts. Yet it is interesting to note the advance over 'Witherby', if only in sheer volume. In 'Witherby', the Mallard received just about eight pages or, say, 5000 words, including one map and two drawings of feet and feathers. Here, we get thirteen pages or, say, 14,000 words, including a couple of maps, four vignettes of display, five sonograms and an annual cycle diagram. I dare say that this is a rough measure of the expansion of knowledge in the last forty years. I was not alone in thinking that 'Witherby' was an important advance itself and specially valuable as a springboard for further advance. I get the same feeling about this book and hope that it is not mere sentimentality.

One ought perhaps to mention a few cavils. The plates of most of the Procellariiformes are a bit crowded and disorderly with some species shown at different scales and each bird numbered, sometimes haphazardly, so that it is not always easy to find what one wants quickly. The text of each section is run on so that one may have to do a lot of reading to find what one wants or to make sure that what one wants is not there (but what can one expect in such a large work?). This also prevents one from gratifying one's vanity by doing what I am sure everyone does first — finding out what information has been contributed by oneself. If one cannot remember some of the conventions used in diagrams, one has to hunt through the introduction for enlightenment. Frankly I have never seen much point in pictures of eggs because they vary so much individually; I can see none in four glossy plates of white or dirty white ovoids attributed to species of grebe and seabirds.

But these are trivia and some other minor criticisms that occurred to me were forestalled with good reason in the introduction when I read it. A more fundamental point is that knowledge from Iraq in the far south-eastern corner of the region seems as scanty as it was twenty years ago and Egyptian data are probably well out of date, judged by the amout of reference to Meinertzhagen's *Nicoll's Birds of Egypt,* once an invaluable and now a treasured possession but surely no longer adequate. The hole in Iraq is specially noticeable among waterbirds because the marshes near Basrah are one of the world's major wetlands and they have not been ornithologically explored for sixty years and then only by army officers in spare time. However, these shortcomings are hardly the fault of editors or contributors.

This garden, being so large, doubtless has some weeds and individuals will probably find inadequacies or sins of omission and commission within their own experience and specialities. As a whole, though, it looks as if it ought to take a substantial place in ornithological literature as did 'Witherby'. (This book is fittingly dedicated to that great man.) I cannot see how any serious student of birds can do without it and at about 3p a page or less if the illustrations are taken into account he will have something to show for his money. For my part, I cannot wait for succeeding volumes but my impatience is sobered by the question whether I shall be on deck to see them all.

S. Marchant

Birds of Tasmania by R. H. Green, 1977. Launceston: published by the author. Pp x + 68, b. & w. pll 24. 155 x 222mm. $A4.95. (Obtainable from Mary Fisher Bookshop, 91A Brisbane Street, Launceston, Tas. 7250).

Subtitled 'An annotated checklist with illustrations', this is a revision of *A Catalogue of Tasmanian Birds* (1959), brought up to date and enlarged to include Macquarie Island and a comprehensive reference section. Twenty-four black-and-white photographs have been added, depicting eight Tasmanian habitats and sixteen birds, including six of the eleven endemics.

A total of 297 species are listed as occurring (or having occurred in the past) within Tasmania's political boundaries. This represents an increase of sixty-seven since 1959, although nine can be attributed to the inclusion of Macquarie Island. I find the incorporation of Macquarie Island records in the main list confusing and would prefer them presented separately. Although this would mean duplication of some species, the Island's avifauna has closer affinities with the New Zealand region and so would be more useful kept apart.

The Flesh-footed Shearwater, Gull-billed and Sooty Terns and the Brown Treecreeper have rightly been omitted from this revision, no doubt because there are no published records. However, three species appear to have been overlooked and ought to be added. Sharland (1958, Tasmanian Birds 3rd ed.) gives old records of the Providence and White-chinned Petrels in Bass Strait and the White-naped Honeyeater occurs on Deal Island in the Kent Group (Whinray, 1971, Tas. Nat. 24: 2-3; Abbott, 1973, Proc. R. Soc. Vict. 85: 197-224).

The treatment of each species is more than adequate for a work of this kind, with information on distribution and breeding, status, movements and habitat. The referenced records for accidental and rare species are particularly valuable although the significance of the difference between the two categories (i.e. accidental less than thirty records, rare more than thirty) is not clear. Another minor criticism is that, though records for some species are given in great detail (e.g. Freckled Duck, Blue-billed Duck, Large Sand-plover) listings for others

are vague (e.g. Plumed Whistling-duck, Pink-eared Duck, Oriental Plover).

A few significant records of rarities, which have been omitted, are the Little Curlew at Pittwater on 12 February 1966 (Newman, 1972, Tas. Bird Rep. No. 1), Whiskered Tern at Ouse in July 1969 (Newman, 1972), White-winged Tern at Oatlands on 21 December 1971 (Newman, 1972) and Little Lorikeet on Maria Island (Gould, 1865, *Handbook of Birds of Australia*). Distributional records that ought to be added are for the Swift Parrot on Flinders Island (Green, 1969, Rec. Queen Vict. Mus. No. 34) and the Deal Island occurrences of the Sacred Kingfisher and Brown Thornbill (Abbott, 1973, *op. cit.*).

I do not agree with all the classifications of status, though it is difficult to find two ornithologists who ever completely concur on this subject. Changes that I should like to see would be the Stubble Quail, Oriental Plover, Common Sandpiper and Forty-spotted Pardalote from uncommon to rare; the Painted Button-quail, Black-fronted Plover, Latham's Snipe, White-fronted Tern and Tawny-crowned Honeyeater from common to uncommon and the Great Skua, Sharp-tailed Sandpiper and Musk Lorikeet from numerous to uncommon. In addition, the Australian Hobby is uncommon, not rare, on Flinders Island, the Blue-winged Parrot is uncommon on Flinders Island and the Yellow Wattlebird is rare on King Island.

In conclusion, I find this revision a great improvement on the first edition with the reference section and extracted list of checklists and regional works most useful. The author's and Michael Sharland's excellent photographs enhance its appearance, though bad printing has tilted the horizons of some of the photographs of habitat and the two-staple binding will probably not endure much field use. Despite some minor omissions. I would recommend this checklist as essential for the serious student of Tasmanian birds.

D. R. Milledge

The Noah's Ark Syndrome: 100 Years of Acclimatization and Zoo Development in Australia by C. F. H. Jenkins, 1977. Perth: Zoological Gardens Board of West. Aust. Pp 147, col. pll 5, b. & w. pll 4, figs 6. 140 x 220mm. $A8.00.

This is the first attempt at a comprehensive review of acclimatization and zoo activities in Australia, compiled in the main from inaccessible published reports and unpublished archival records kept by the organizations concerned. The author was in an unrivalled position to assemble the data because since 1959 he was a member of the Zoological Gardens Board in Western Australia and he became its president in 1970. Furthermore, he was a professional zoologist in State Government service since 1929, interested in these matters and in touch with similarly concerned colleagues in other States.

Each State is discussed in turn and appendices are added, giving statistical information on the numbers of each species of animal whose acclimatization was attempted with an assessment of its success or failure. Fortunately, most introductions failed; a persistence with them was brief. As Mrs June Craig, Minister for Lands in Western Australia, says in her preface, 'this urge to acclimatize in the wild proved to be a short-lived fad' and 'the sponsoring organizations soon came to restrict their energies to confining exotic fauna to zoological gardens and similar enclosures.' Acclimatization societies in the main were not responsible for some outstanding disasters in animal introductions, such as that of the rabbit, but Jenkins's account reveals how perilously close we were to suffering potentially dangerous introductions through the awful zeal and ecological ignorance of the pioneering acclimatization societies. It is useful to have these histories documented because they offer caution to present-day zealots in analogous activities.

There is a familiar ring about the nature of the early propaganda to justify acclimatization. There was a general denigration of the native fauna. Adam Lindsay Gordon's sentiments, in 1870, on the bush as a place 'where bright blossoms are scentless, and songless bright birds' had ready acceptance and there was an eagerness to remedy the defects. The Acclimatization Society of Victoria justified its bird introductions to help dissipate the 'savage silence' of the Australian bush (Professor Frederick McCoy's phrase) and the former Speaker of the Queensland Legislative Assembly, active in the acclimatization movement in that State, contended 'that our beautiful gardens lacked the pleasing music created by birdlife'. The Director of the Adelaide Botanic Gardens, Mr G. W. Francis, in an address in 1862, desired to make 'South Australia a pleasanter and happier place to live in' by urging the wholesale introduction of a range of foreign fauna, including song-birds and insect-eaters, 'particularly swallows and sparrows'.

Not only aesthetic considerations swayed the members of the early acclimatization societies. They were also imbued with practical ideals of introducing useful plants and animals. This was particularly urged by the Governor of Victoria, Sir Henry Barkly, in an address to the first meeting of the Acclimatization Society of Victoria in 1862, where he argued that such introductions should have priority over the establishment of conventional zoos. Some of the proposals for such economic introductions were remarkably naive. Thus Dr R. M. Schomburgk, Director of the Royal Botanic Gardens, Adelaide, recommended in 1870 the planting of the Western Australian hardwood, jarrah, alongside railway lines so that an 'ample supply of sleepers would be . . . growing along the lines to replace the old ones as they decay.' This proposal was supported by the Queensland Acclimatization Society. Schomburgk's views show that some scientific opinion could be even more absurd than that of laymen. He was equalled in ecological naiveté by no less an authority than Professor F. McCoy of Melbourne University who, in an address published in the Acclimatization Society of Victoria, Report No. 1, 1862, referred to the absence of ruminants in Australia and said that the continent ought to be capable of supporting 100 of the 180 then known species of such animals.

Fortunately, there *were* voices, even then, against unbridled acclimatization efforts and it is interesting that such critics were often roundly abused by 'authority' just as in our own day, though the derisory term 'econut' was not then in vogue.

Thus in 1871 Dr Thomas Black, the prominent Melbourne surgeon, who was a leading light in the Victoria Society, upbraided critics of introducing sparrows by charging that the complaints 'came from a small number of persons, and were not all of a trustworthy character. The English people were naturally given to grumbling, and not only the sparrow, but everything else introduced by the Society would be found fault with by some.' In Western Australia the Bureau (later Department) of Agriculture became alarmed at a proposal in 1897 by the Acclimatization Committee to liberate Common Starlings in the north of the State to control cattle ticks. To this the Committee's President, Sir Winthrop Hackett, tartly replied that 'some of the recommendations of the Bureau of Agriculture, in regard to the exclusion of cer-

tain kinds of birds, have been acted upon hastily and without full consideration.'

Jenkins's review of zoo activities includes a perceptive essay on 'Why keep animals in zoos?' and an informative chapter on future developments in Australian zoos, such as the adoption of new types of restraining methods in place of cages and walls, the provision of 'walk-through' aviaries and the establishment of nocturnal houses, based on the principle of reversed lighting. Coming from a zoo administrator and an economic biologist, it is encouraging to read his final sentence: 'As wildlife and the many beauties of nature come under increasing threat zoos must take their rightful place alongside wildlife sanctuaries and national parks in the conservation battle and give real support to the words of the German poet, scientist and philosopher, Goethe: — "We should do our utmost to encourage the Beautiful for the Useful encourages itself." '

D. L. Serventy

Birds as Builders by Peter Goodfellow, n.d. London: David & Charles. Pp 168, col. pll 11, b. & w. pll 91, figs 17. 170 x 240mm. $A14.50.

The author clearly enjoyed writing this account of birds and their nests. He does not deal with bowers, display mounds or any other structures that birds may build; he does deal with parasitic breeders and with Emperor Penguins, none of which can be described as builders; so the title is not entirely accurate. However, the book is pleasant to look at and to browse through. The photographs are clear and attractive, as are the drawings depicting nests for which, presumably, no appropriate photograph was available. The book does not purport to be an addition to or reorganization of existing knowledge and it is difficult to know for what kind of reader it was intended, although it will no doubt be bought by libraries. There is, refreshingly, more Australian material than is usual in general works of this kind.

The statement (p. 96) that the Little Penguin *Eudyptula minor* 'makes a nest of a little dry grass or seaweed in a cavity beneath rocks or turf, or sometimes in a petrel burrow' casts doubt on the book's accuracy as regards other species with which this reviewer is less familiar. The Little Penguin lays typically in burrows, occasionally elsewhere. Of the Apostle Bird and White-winged Chough we are told (p. 81) that 'sometimes more than one female may lay in the one nest, but this has no real advantage because the mud is quite unable to stretch to hold an abnormally large family'. He seems to have missed the point.

As a contribution to the ooh! aah! school of ornithological writing this production is of fair average quality. Attempting loyally to follow up a reference to Marchant (1964) from the first chapter, I found that it had been omitted from the bibliography.

Rosemary Balmford

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