

## THE BEHAVIOR OF PENGUINS ADAPTED TO ICE AND TROPICS

Muller-Schwarz, D. 1984. Albany: State University of New York Press, 193 pp. \$ 29.50 hardcover, \$ 10.95 softcover.

A glance through the detailed table of contents suggests that this book is more of a general text on penguins than the title implies. The book is divided into two main sections. Part one covers the history and distribution of penguins, their social and diving behaviour, phylogeny, anatomical and behavioural adaptations to a polar environment (but not to temperate and tropical climates) and, finally, their relationships with man. An initial look through chapters of particular interest to myself proved disappointing and further reading did little to dispel this initial impression. For the most part, the chapters comprising this section are very short and many of the more fascinating aspects of penguin adaptations and behaviour are covered only superficially. The longest, and most interesting, account is that on man and penguins in which the author describes the effects of man's past exploitation and current activities, both tourist and scientific, on penguin populations.

Part Two of the book consists of species accounts. The first of these, a particularly readable account of the Adelie Penguin, covers aspects of these birds' breeding biology and behaviour, activity rhythms, predation and anti-predator behaviour, diet and foraging, thermoregulation and moult. This is undoubtedly the best chapter in the book but, regrettably, it does not set the tone for the rest of the species accounts. The remaining 17 species warrant only brief descriptions of their physical features and breeding biologies and in some species, notably the *Spheniscus* penguins, even less. The majority of these species, and in some cases whole genera are dispensed with in one or two brief pages. Publications on most aspects of penguin biology are abundant (see Williams *et al.* 1985) and the disproportionate amount of attention afforded the Adelie Penguin reflects the author's research interests rather than availability of suitable source material. A final chapter on the comparative ethology and evolution of penguins concludes the main text.

The book is illustrated with a considerable number of black and white photographs, the majority of which are well reproduced. The zoogeographical maps presented are, however, very poor with several place names being illegible, and at least one island, Amsterdam Island, is situated in the wrong ocean. Numerous typographical errors and sloppy editing further detract from the book. In my particular review copy the pages of the otherwise comprehensive index are in the incorrect order and Emperor Penguins follow Mustelids and Mutual displays. The frequent omission from the reference list of literature cited in the text, or their incorrect and inconsistent citation, is particularly irritating.

The book is aimed at a "broad audience, including, but not limited to, ornithological and behavioural researchers, graduate and undergraduate students, as well as the educated non-specialist". Whereas I would recommend the book to the enthusiastic amateur interested in finding out more about penguins in general, I feel the book falls short of expectations for anyone seeking more detailed information on these fascinating birds.

#### REFERENCES

- WILLIAMS, A.J., COOPER, J., NEWTON, I.P., PHILLIPS, C.M. & WATKINS, B.P. 1985. Penguins of the world: a bibliography. Cambridge, U.K.: British Antarctic Survey.

Received 12 February 1986.

C.R.Brown, Percy FitzPatrick Institute of African Ornithology,  
University of Cape Town, Rondebosch 7700, South Africa.

#### THE I C B P SEABIRD SPECIALIST GROUP

The Seabird Specialist Group of the International Council for Bird Preservation invites ornithologists interested in seabird biology and conservation to communicate with us. Our recent book Status and conservation of the world's seabirds (I.C.B.P. Technical Publication No. 2, 1984, 778 pp., £24.95 plus 2.00 postage, from ICBP, 219c Huntingdon Rd., Cambridge CB3 0DL, England) summarizes our knowledge up to 1982. We desire to keep current on the status and prospects of the world's seabirds in order to take action on behalf of birds where we can, and to encourage communication between seabird people. If you are interested in participating or providing information, contact the current Chairman: Ralph W. Schreiber, Natural History Museum, 900 Exposition Blvd., Los Angeles, CA 90007, USA.

## A DICTIONARY OF BIRDS

Campbell, B. & Lack, E. (Eds.). 1985. Calton, U.K.: Poyser & Vermilion, 670 pp. £ 39.00.

This is a worthy successor to the two earlier efforts: the 1964 A New Dictionary of Birds and the original 1896 A Dictionary of Birds. It is a massive undertaking, with 3 573 entries, totalling over 800 000 words in 670 pages, written by 280 leaders in their fields. Most of ornithology is here, from 'abdomen' to 'zygomatic arch'.

A proper review would require someone with competence in all aspects of ornithology. I doubt that many people qualify; I certainly don't. In those areas with which I am familiar, the entries are uniformly good and frequently excellent. The newest dictionary will be an indispensable sourcebook.

I would, however, have wished to know more about how the book was organized. Who chose the entries or decided their lengths? I'm not sure how 'rookooing' (sound made by male Black grouse at lek) or 'parvorder' (yet another bit of taxonomic jargon, in uneasy coexistence with infraorder, suborder, and superfamily) made it in. Torrent larks appear as an entry but not torrent ducks. I'm very pleased that 'merrythought' (the furcula) and 'emu war' are included, the latter being an account of "an artillery attachment which attempted to engage some 20,000 birds which apparently adopted guerilla tactics and split into small units" in Australia. Finally, I was surprised to learn that the transitive verb 'to tread' can mean 'to copulate' in an avian context. I don't suppose the word will make a come-back.

I found it sad that 'group selection' received short (four lines) shrift. Right or wrong, Wynne-Edward's theory was a powerful stimulus to ecological development. Other ecological theories do not fare well either, such as 'taxon cycle', 'sociobiology' and 'information centre'. They are likely to be around a bit longer and have served to direct and stimulate thinking about ornithological data. Perhaps the entries reflect a lingering anti-theoretical tendency in ornithology. I also found the coverage of electrophoresis rather limited, being wedged into an entry on DNA. Recent work on electrophoresis is not done justice; the entry is severely out of date. The use of the Shannon-Weiner diversity index was also unfortunate. It is the most widely-used measure but work in the 1970's showed that simpler indices, more transparent to ornithologists, are preferable. Finally, I found two errors, unfortunately both concerning my favourite group, the sulids: 'malagash' is probably a misprint for malagas or malgas, the Afrikaans name for Cape Gannet *Morus (Sula) capensis*, while 'piquero' most commonly refers to the Peruvian Booby *Sula variegata* rather than to the Bluefooted Booby *S. nebouxii*.

In any sourcebook, it is important to know up to what date the literature is covered. The editors added references as late as possible in the publishing process. I suspect, however, that thorough literature coverage ends in 1982. Looking at the dictionary's citations for the 1980's, in the 'A' to 'E'

entries: 30 % are from 1980; 31 % from 1981; 20 % from 1982; 9 % from 1983; 9 % from 1984; and 1 % from 1985.

The dictionary and its predecessors are a rich mine of material about the history of ornithology. With due caveats about idiosyncracies of editors and contributors, the appearance of new entries and the space given to them should reflect the arrival and incorporation of new subjects into the field. The publication dates for the citations give some idea of how active a field is within ornithology. Very few of the entries include only references from the 1980's, indicating few breath-taking rapid advances; most have references extending back two to four decades, suggesting both continuity and progress. This bodes well for ornithology and for the working life of A Dictionary of Birds. Ornithology is progressing, but not so fast that the book will be out of date within a decade or two. In the meanwhile, it is an excellent investment, if you can afford it.

Received 18 February 1986.

David Cameron Duffy, Percy FitzPatrick Institute of African Ornithology, University of Cape Town, Rondebosch 7700, South Africa.

## MARINE BIRDS: THEIR FEEDING ECOLOGY AND COMMERCIAL FISHERIES RELATIONSHIPS

Nettleship, D.N., Sanger, G.A. & Springer, P.F. (Eds.). 1984. Ottawa: Canadian Wildlife Service, 220 pp. No price.

This special publication is produced by the Canadian Wildlife Service on behalf of the Pacific Seabird Group (PSG) and is the Proceedings of the PSG Symposium held in Seattle, Washington, 6-8 January 1982. It is divided into three main sections and contains 23 papers presented by 39 authors.

The first section is on the feeding ecology of marine waterfowl and its inclusion reflects a deliberate attempt by the symposium organizers to bring both marine waterfowl and primary seabird workers together. This is particularly welcome given the large biomass of waterfowl in some coastal systems. Five of the six papers present data from studies carried out in Alaska, including one on the terrestrial feeding ecology of Brant Geese *Branta bernicla* that seems rather out of place. Most of the papers present basic analyses of the stomach contents of collected birds but it is encouraging to see one researcher (Johnson) also collecting prey availability data at the same time.

Part Two is on the feeding ecology of pelagic marine seabirds and is more varied in content than is the previous part - reflecting the more advanced nature of pelagic seabird research. Feeding behaviour and diets are generally covered in greater detail and topics include analyses of feeding related to environmental factors (Biggs *et al.* on phalaropes; Ogi on Sooty Shearwaters *Puffinus griseus*) and an informative contribution on between and within year variation in nestling diets of Rhinoceros Auklets *Cerorhinca monocerata* (Vermeer & Westrheim). There is also an excellent paper on olfactory foraging in Sooty Shearwaters (Hutchison *et al.*), a neglected area of study.

The final section comprises papers on seabird - commercial fisheries interactions. I found it enlightening to have the Capelin *Mallotus villosus* - seabird interactions story presented by both a fisheries biologist (Carscadden) and ornithologists (Brown & Nettleship). There are still many problems in reconciling fisheries and seabird data and a need for each discipline to be more aware of the limitations in the collection and assessment of each others information. Many papers in this section rely on the modelling and interpretation of complex dynamic systems that are not fully understood and we still have some way to go before we can present really viable seabird-commercial fisheries management plans. However, there are some useful contributions on the subject in this volume.

At the end of this final section are three papers on net mortality in auks. The figures given on the levels of mortality as a result of incidental bycatches make disturbing reading. The authors of all these papers call for further research on this topic and it is to be hoped that their calls do not go unheeded.

Though this publication is rather more regionally orientated than its title would suggest I found it a useful addition to the

ornithological literature. Certainly it is one of the better symposium proceedings that I have seen. There has been a successful attempt to include only those papers that passed a good level of reviewing, rather than all submitted papers - a very welcome procedure. The format of the publication is pleasing and the illustrations of good standard but I would have preferred a more robust cover - my copy is already tatty.

Received 27 February 1986

Stephen Hunter, Percy FitzPatrick Institute of African Ornithology, University of Cape Town, Rondebosch 7700, South Africa.

#### NEW EDITOR FOR COLONIAL WATERBIRDS

James A. Kushlan has been appointed as the new editor of Colonial Waterbirds, the journal sponsored by the Colonial Waterbird Group. It is a fully-refereed journal emphasizing all aspects of the biology, conservation, and methods of study of aquatic birds that nest in aggregations, including colonial seabirds. Colonial Waterbirds is an international journal with a distinguished board of editors and is reviewed in all the prominent bibliographic services, including Current Contents and BIOSIS. Authors are invited to submit papers, notes, commentary, or book reviews for consideration to the general editor (Department of Biological Sciences, East Texas State University, Commerce, Texas 75428 USA) or to one of the regional editors. The editor for southern Africa is Rod. M. Randall (Department of Zoology, University of Port Elizabeth, Box 1600, Port Elizabeth 6000, South Africa), The editor for Australia is Harry Recher (Australian Museum, Box A285, Sydney South 2000, NSW, Australia).

## PENGUINS OF THE WORLD: A BIBLIOGRAPHY

Williams, A.J., Cooper, J., Newton, I.P., Phillips, C.M. & Watkins, B.P. 1985. Cambridge, U.K.: British Antarctic Survey, Natural Environment Research Council, 268 pp. £11.50 hardcover.

There is a horrifying amount of literature concerning penguins and, because of their widespread distribution, many articles are published in obscure local journals. Any comprehensive bibliography thus necessitates a great deal of work, but is all the more valuable to the researcher.

'Penguins of the world: A bibliography' starts with two pages of succinct explanation on how to use the coding system employed in the work. Following this, the major part of the book consists of a numbered alphabetical author index. Each article is fully referenced and coded according to species and subject. After glancing at the two pages with the key to the codes it is delightfully easy to determine the subject matter of any article. The next section consists of a species index where each species is referenced (via a number back to the author index) according to subject. There are 17 subject categories in all, covering such topics as distribution, diet and feeding, behaviour, feathers and moult, disease, anatomy and taxonomy, biochemistry and pollution and conservation. I found the divisions to be very useful because they overlapped very little, while comprehensively covering the field. The final part of the work consists of a replication of the previous section except that each subject is covered by species.

The bibliography appears to be comprehensive (I was aghast to see how many penguin references I had never heard of) and I was right to think that I would get bored checking to see if any major references had been omitted. It was pleasing to see how many 'really obscure' articles were covered, right down, in some cases, to South American newspaper reports (even if they are sometimes misspelt, see Grau's 1977 "'Exterimino' de los pinguinos"). However, I did eventually manage to ascertain that a few lesser known references were missing e.g. Carter's (1923) Emu paper on birds observed at sea and, to my mind, the unpardonable omission of Wilson and Bain's article in Nuclear Active!

Overall though, the work is carefully catalogued and very easy to use. In the introduction the compilers state that the bibliography sets out to be a 'comprehensive guide to the (penguin) literature' and to 'aid the scientific study of the world's penguins'. There is little doubt that this work is fairly comprehensive but whether it will aid the scientific study of the world's penguins depends on how many researchers are wise enough to use it.

Received 25 April 1986

R.P. Wilson, Ardwy Orme, Ty Gwyn Road, Llandudno, Gwynedd, U.K.

## CONSERVATION OF ISLAND BIRDS

MOORS, P.J. (Ed.). 1985. ICBP Technical Publication No. 3. International Council for Bird Preservation: Cambridge, U.K. 271 pp, numerous figures, £16.50.

Shame, at the ravages wrought by men on island birds; despair at the near-impossibility of remedying a globally-dismal situation; hope, for the sterling conservation efforts now underway; these are some of the emotions engendered by this book. And yet, as the third in ICBP's valuable Technical Publication series, the volume is not a deliberately passionate tract. It achieves its impact by force of scholarship. The dry listing, page after page, of islands reached by man-borne rats, is an awful indictment of our past. The enormous number of man-hours required to exterminate cats on islands of very modest size confirms how the sins of the fathers shall be visited on the sons.

Of course the know-how of the book, a volume based on a symposium at the ICBP's 1982 World Conference, has come too late to be of much interest to the birds which have vanished in recent centuries. 93 % of avian extinctions since 1600 have been island birds. Instead it is for the benefit of today's threatened birds, 10 % of which are confined to a single island, that the authors have written. Their efforts are divided into four parts.

The first, the most general, ranges widely from Reed's note of caution concerning the use of equilibrium theory in assessing the conservation value of islands to Atkinson's fascinating account of the oceanic spread of the three rats, *Rattus exulans*, *R. rattus* and *R. norvegicus*. (Incidentally the Juan Fernandez Islands, correctly tabulated as being rat-infested, are not depicted in the figure as having rats.)

The second part, titled regional surveys of the status of island birds, contains just two chapters. Rejecting the single species approach as 'inadequate and outdated', Diamond (Tony, not Jared) pleads for more conservation of total island ecosystems in his knowledgeable survey of the Indian Ocean. While this exhortation may be appropriate for an international symposium, I am not certain it is always the most reliable means of achieving progress. Often islands are small emerging nation states whose political leaders must respond, first, to their own burgeoning human population and only second to the anguished cries of foreign conservationists. In this circumstance it may be easier to sell the conservation of one endemic species dear to the islanders than it is to promote the concept of habitat conservation, which can all too often seem like taking the bread out of children's mouths. Johnstone gives similar treatment to the Subantarctic islands, wondering whether they might not be covered by a treaty akin to the Antarctic Treaty. Of course the surest way to prevent damaging introductions to those islands still more or less pristine (e.g. Prince Edward, Heard) is to ban all visits by all people. In practise the likely visitors are scientists, such as the reviewer and readers of this review. If a moment's preaching can be borne, it behoves us to think very hard whether the benefits to the creatures we



study on unspoilt islands justify the risks our presence brings.

Part 3 covers the nitty-gritty of conservation efforts. For example there is Veitch's review of cat eradication programmes. How small are the islands on which success has been achieved! There is Wiley's account of nest site improvements for the Puerto Rican Parrot *Amazona vittata*. There is an extraordinary chapter by Coulter *et al.*, so brief that the chapter appears to have been written at breakfast the morning before delivery at the symposium. There is Wingate's story of the considerable success achieved in restoring Nonsuch Island, Bermuda, to a state of nature. Throughout this part of the book I was impressed by the extent to which New Zealanders are actually doing and achieving.

Finally, in Part 4, Kepler and Scott try to develop a framework for future conservation action. But the strength of 'Conservation of Island Birds' is that the volume itself provides an inspiring framework.

Received 19 May 1986

M. de L. Brooke, Department of Zoology, University of Cambridge,  
Downing Street, Cambridge CB2 3EJ, United Kingdom.