

BOOK REVIEWS

Proceedings of the Symposium on Birds of the Sea and Shore. 1981. J. Cooper, ed. 474 pp. African Seabird Group, Cape Town, South Africa. (Symposium held at the University of Cape Town, 19-21 November 1979). Available from: Treasurer, African Seabird Group, FitzPatrick Institute, Univ. Cape Town, Rondebosch 7700, South Africa.

These *Proceedings* (see PSG Bulletin, Summer 1983, 10(1):29) provide an excellent review of current work on marine birds in a part of the world that, quite likely, few members of PSG are familiar with. Included are 26 complete papers plus abstracts of an additional 11 papers that were presented at the symposium. The proceedings are highlighted by four papers of major general significance (see below), but the geographic coverage of the papers focuses on coastal areas of South Africa (16, 43% of the papers) and adjacent oceans (11 papers, 30%). Four papers on European studies and three others from North America round out the geographic coverage.

A wide variety of topics is covered, with 26 (70%) on typical seabirds, and the remaining 11 (30%) on shorebirds. Feeding ecology is by far the most intensively covered general topic (ten papers, six on seabirds and four on shorebirds). Quite surprisingly, however, none of these is related to breeding biology. Only six (16%) deal specifically with some aspect of breeding biology or early life history. These statistics may seem dry, but they provide a perspective for comparison with recent work in the eastern North Pacific, where investigators' energies have remained somewhat focused on studies conducted from land.

More specifically, topics and bird species covered include seabird-fisheries interactions, feeding behavior of White-fronted Sand Plovers and Sanderlings, procellariiforms as squid predators, feeding ecology of sheathbills, storm-petrels, prions, skuas, oystercatchers and Curlew Sandpipers; pelagic distribution and censusing problems, seabird fossils, giant petrels, Jackass and Gentoo penguins, Terek Sandpipers, Common Terns in New York, Brown Pelicans along the Atlantic seaboard of North America, and, in a fascinating paper by J. Mendelsohn, movements of *Pachyptila* spp. prions in relation to low-pressure weather systems.

With 38 papers, it is difficult to mention any single one more than fleetingly and stay within the scope of a normal book review. Four papers, however, have broad enough implications to deserve more than passing commentary: Robert Furness's treatment of seabird and seal foods in relationship to commercial fisheries; W. R. P. Bourne's thoughtful, if somewhat rambling and philosophical, discussion of pelagic distribution; A. J. Prater's excellent review of primary molt patterns in Palearctic shorebirds; and Joanna Burger's thought-provoking analysis of the process of fledging in seabirds.

Furness argues convincingly that commercial fisheries have effected changes in marine ecosystems as indicated by population changes in marine birds and mammals in several areas of the world ocean. Increased whale catches in the Southern Ocean have resulted in increased population sizes and decreased age of breeding in crabeater and southern fur seals and in krill-eating birds (Chinstrap and Adelie penguins). The anchoveta fishery off the Pacific coast of South America (along with periodic El Niño events) has resulted in the reduction of populations of guano birds to sustained levels that are much lower than before the fishery. Increased landings in the South African pilchard fishery have paralleled decreasing population sizes in Cape Gannets, Cape Cormorants, and Jackass Penguins. Conversely, population levels of 13 species of seabirds in the North Sea have been enhanced by fisheries over the past century.

Overfishing of relatively large species such as cod and plaice at first created more food for birds that had competed with the fishes for food. After stocks of these fishes crashed, progressively smaller species were similarly overfished over the years, one after the other, until at present, species such as sand lance and sprats are being fished, which threatens the birds' primary food source.

W. R. P. Bourne, long a guru of the broad view of seabird biology, relates seabird distribution to oceanography, meteorology, breeding biology, the structure of seabird communities (But why no mention of V. P. Shuntov's (1972) thorough treatment of the subject? *cf.* "Marine birds and the biological structure of the ocean"), and "The Human Factor." Touching on seabird-fisheries interactions under the last subject, Bourne raises ". . . an ethical question whether in a world short of protein we are justified in demanding the limitation of human fisheries for the sake of vast bird populations which few people ever see." A point well taken. The editor of the proceedings apparently allowed Bourne a certain amount of literary license, but Shuntov's important work should at least have been mentioned, and the statement that alcids ". . . frequent comparatively sheltered seas . . ." should have been challenged. I don't know about the North Sea, but if Bourne were to sail the waters of the Aleutian Islands and the Bering Sea he might reconsider this odd notion.

A. J. Prater's thorough review of patterns of primary molt strikes me as the kind of work we need more of. Subtopics include distribution of molting shorebirds in the western palearctic, general molt patterns, sequence, suspended molt, arrested molt, asymmetry, sexual variations in starting and speed of molt, annual and latitudinal variation in timing, duration of adult molt, primary molt of juvenile/first-year birds, and first-summer molt. Prater focuses on constraints on molting as related to feeding conditions, and he makes a well-reasoned plea for international standardization and cooperation in molt studies.

"Ambiguous" is how Joanna Burger views the popular term "fledging;" she uses instead "transition period" to describe what happens in the life history of young seabirds from the time they leave the nest until they are fully independent of their parents. For each of 14 families in four orders, Burger reviews and compares major developmental stages in young birds. (Omitted, however, are the storm-petrels.) Developmental stages described are leaving the nest, vacating the colony, learning to fly, learning to forage, and being left by parents. The sequence of these events and their relative duration vary among different birds.

Although Burger claims that this paper contrasts with one she published in 1980 ("The transition to independence and postfledging parental care in seabirds," pp. 367-447 *in: Behavior of Marine animals, V. 4: Marine Birds*, Plenum Press), it appears merely to summarize ideas mentioned in more detail in the 1980 paper; i.e., the 36-page section subtitled "The transition and post-fledging period in seabird families." As an oral presentation at a symposium this duplication may be acceptable, but as a publication it is redundant. Burger's approach to understanding "fledging," however, is helpful, and I anticipate that these ideas will indeed stimulate discussion and further research on the transition period in seabirds.

Ralph Schreiber's insightful and positive summary of the symposium includes advice that seabird workers anywhere in the world would do well to heed. Here are a few direct quotes:

". . . . We need to acknowledge the BIG PICTURE as we study only small aspects of a species or system, and we need to be aware of the large VARIABILITY inherent in the system.

The need to look at large geographic areas, and the necessity of long term studies became very clear during this symposium We are kidding ourselves if we think that short term "quick and dirty" studies are biologically valid." (Are you listening, Alaskan Outer Continental Shelf Environmental Assessment Program?).

". . . .The role of HUMAN INTERACTIONS was often explicit . . ." "There is a need for presentation of our scientific results to government policy making bodies so that wise conservation decisions may be adopted." "We must understand [seabirds'] lives at sea, and during the nonbreeding seasons, since that is the basis of their island life." (Agreed to as your main point, Ralph, but isn't the reverse equally true?).

"Serious consideration must be given to collecting data that are truly relevant to valid biological questions." "We must know more about prey density and availability and mere observation of the birds from a distance will not provide answers to most basic questions. Studies are needed on how birds actually feed, and the role of taste and choice investigated." "The need for precise and strict DEFINITION OF TERMINOLOGY AND TECHNIQUES is essential . . ." " 'At sea' observation methods must be standardized and more attention given to relative numbers than to attempts to arrive at a precise number of individuals." ". . . .Marine ornithologists must avail themselves of all ships of opportunity and find means to show oceanographers the value of bird studies and how this avian knowledge can contribute to their, and our understanding of ocean systems."

In short, Schreiber notes that answers to "what" questions abounded during the symposium, but "why" and "how" questions were not addressed. However, this is a universal problem in seabird biology and is not confined to South Africa. This is certainly true for the eastern North Pacific, where most PSG activity takes place.

Overall, I was favorably impressed with these *Proceedings* and would recommend this book to those wishing to learn more about marine birds and their conservation problems in this part of the world and to gain a wider perspective on their own studies. A number of the papers will surely be used and quoted widely, and they will foster a greater understanding of marine birds on a world scale. The African Seabird Group and, in particular, John Cooper, the editor of these *Proceedings*, are to be congratulated for producing a very fine report on the state of seabird biology in South Africa and surrounding seas.

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The Arctic Skua, a study of the ecology and evolution of a seabird. 1983. P. O'Donald. 324 pp. Cambridge University Press. \$49.50.

This book concerns the population dynamics and genetics of a colony of Parasitic Jaegers. O'Donald presents in one place a summary of studies spanning 30 years.

Chapter one presents the history of the Fair Isle colony, methods for capturing the birds, the sorts of data collected, describes the phenotypes (color phases) of adults and chicks, introduces ideas on the interaction of ecology and genetics, and suggests the phylogenetic relationships among skuas and jaegers. Chapter two reviews the history of the various Parasitic Jaeger colonies in Shetland and Orkney, discusses the regulation of numbers and migration in Parasitic Jaegers, and the historical and theoretical aspects of the clines in the plumage