

Book Reviews

ZOOLOGY

Antarctic Birds: Ecological and Behavioral Approaches

By D. F. Parmelee. 1992. University of Minnesota Press, Minneapolis. xviii + 203 pp., illus. U.S. \$39.95.

Although Professor Parmelee has written many scientific papers; this is only his second book. This is a pity. For although he writes as a scientist about serious scientific studies, he uses a style that is very easy to digest. In addition, his chosen subject is, for most of us, remote and exotic. The combination make for an enjoyable book that, while entertaining is also very informative.

This new book leads the reader through the decision to set up a research station in Antarctica, to the selection of the site at Palmer Station, and the work and results of the ensuing years. Parmelee explains the logistics and physical difficulties, not to say the dangers, of working in such a demanding environment and he provides a basic overview of the area's natural history. He gives a brief outline of the scientific techniques used. These are more to set the scene than to assist other researchers. There is also an extremely brief description of the Antarctic life zones.

The main text, fully 70 per cent of the book, is a compilation of the results of the work done by Parmelee and his students. Each of the thirty species listed in the Palmer Station checklist is covered in some detail. Using the banding, satellite and observational data Parmelee gives an outline of seasonal distribution. Where appropriate, he describes what is known of the breeding biology. The depth of this coverage depends in part on the work done and in part on the opportunities offered by the location. Some birds are covered somewhat sparingly, while others are treated in significant detail. One of the more thoroughly covered species is the Southern Giant Petrel. This is the species on which the

researchers used satellite tracking devices. The results were quite fascinating and this is clearly a technique with promise. The six individuals fitted with transmitters lived out very different lives, with one wandering over 2000 km in two months.

Palmer's group have also made some interesting discoveries about diet. The Kelp Gull, for example, primarily feeds on one species of limpet (wherever it is not tempted away by garbage dumps) and its range is thus governed by the limpet's range. The dominant food item for South Polar Skuas is fish, whereas Brown Skuas prefer penguins. What really emerges as the most important food source is krill, however. It is either the major direct source of food or is the basis of the food chain for all the important prey species. The effects on Antarctic biology of harvesting large quantities of krill by humans is disturbing to contemplate. This may be Parmelee's greatest contribution to science and the future of this region.

The book is illustrated by the author's photographs, line drawings, and paintings. The quality of the photographs is extremely good, with the really magnificent ones being in colour. The drawings and paintings vary somewhat in quality but all possess a degree of charm.

Dr. Parmelee has been fortunate to spend so much time in this fascinating part of the world. We are fortunate too, in having a scientist who can contribute so much on this remote area and also write and illustrate so well. We can all now enjoy some of what this region has to offer.

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Ecology and Conservation of Neotropical Migrant Landbirds

By John M. Hagan III and David W. Johnson. 1992. Smithsonian Institution Press, Washington. xii + 609 pp., illus. Cloth U.S. \$48.00, Paper U.S. \$17.95.

There is increasing evidence that many neotropical migrant songbirds are declining in numbers since 1970s (e.g., Robbins et al. 1989; Terborgh 1992). Human induced environmental changes (e.g., habitat

fragmentation, pesticides, etc.) may be responsible for these declines. This publication, therefore, is a timely contribution on the ecology of neotropical migrant songbirds. It is based on papers presented at a Manomet Bird Observatory symposium held in December 1989 at Woods Hole, Massachusetts.

The purpose of the symposium, and subsequently this monograph, was to identify gaps in our knowl-

edge about neotropical migrant landbirds. The monograph starts with two papers based on plenary addresses, one on the conservation of neotropical migrant landbirds and the other on forest loss in Central America. The former makes a plea to all scientists working on these neotropical migrants to come together so that productive conservation measures can be taken.

The rest of monograph (49 papers) is divided into five parts: trends in populations, the nonbreeding season, hemispheric perspectives, and concluding remarks. Many papers in the trends of population section report significant population declines for some neotropical migrant landbirds that associate with the forest habitat. However, some authors report population increases for forest-dwelling neotropical migrant songbirds (James et al.), or report declines both for neotropical migrants and for short-distance migrants (species that migrate to other parts of North America).

In his introduction to the nonbreeding season section, Greenberg correctly states that basic natural history studies are urgently needed on most of neotropical migrant landbirds. The studies in this section show that these species are diverse in their habitat use during winter. In addition to mature primary forest they also occur in agricultural areas, pastures, and early successional forests. Some studies in the breeding season section show that there is a need to preserve unfragmented forests as they may serve as immigration sources for poorly reproducing populations as far as 200 km away and save them from extinction (Robinson). In this section, like Greenberg, Martin also points out that we lack basic breeding data on most of neotropical migrant landbirds.

In the hemispheric perspectives section, Hunter postulates that neotropical migrants may be more

adaptable to habitat change because they encounter and use different habitats when breeding, migrating, or wintering. Reed ranks different species according to their extinction probabilities based on habitat selection, geographic distribution, and local population sizes and reaches a disturbing conclusion that about a quarter of neotropical migrant songbirds are vulnerable to extinction.

There are two concluding chapters. Morton by reviewing different studies concludes that many neotropical migrant songbirds are indeed showing long-term population declines. He also recommends standardizing and improving methods to count birds both during the breeding season and winter. Finally, 12 neotropical ornithologists (Naranjo et al.) make a plea for an increase in cooperation between scientists of both hemispheres. Symposium program and resolutions are presented at the end.

The papers in this monograph are easy to read. This monograph is an excellent contribution on neotropical migrant landbirds and will interest both scientists and wildlife managers. Reading this monograph, however, made me sad. I wondered, if we will ever be able to save these attractive birds?

Literature Cited

- Robbins, C. S., J. R. Sauer, R. S. Greenberg, and S. Droege. 1989. Population declines in North American birds that migrate to the neotropics. *Proceedings of the National Academy of Sciences, USA*, 86: 7658–7662.
- Terborgh, J. 1992. Why American songbirds are vanishing. *Scientific American* 267: 98–104.

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Studies of High-latitude Seabirds: 1. Behavioural, Energetic, and Oceanographic Aspects of Seabird Feeding Ecology

Edited By W. A. Montevecchi and A. J. Gaston. 1991. Canadian Wildlife Service, Environment Canada, Ottawa. 56 pp., illus.

Studies of High-latitude Seabirds: 2. Conservation Biology of Thick-billed Murres in the Northwest Atlantic

Edited by A. J. Gaston and R. D. Elliot. 1991. Canadian Wildlife Service, Environment Canada, Ottawa. 63 pp., illus.

Atlas of Pelagic Birds of Western Canada

By K. H. Morgan, K. Vermeer, and R. W. McKelvey. 1991. Canadian Wildlife Service, Environment Canada, Delta, British Columbia. 72 pp., illus.

These are all publications in the Occasional Papers series from the Canadian Wildlife Service. The first two are a compilation of a number of papers presented at a symposium on Population

Biology and Conservation of Marine Birds held at Memorial University, Newfoundland in 1989.

The first volume deals mainly with alcids in the northern hemisphere (except for a comparison with penguins). Three of the papers focus on food and one is partially oriented towards feeding. There is an interesting attempt in one paper to relate the carbon



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