

Book reviews

Edited by P. DANN

Disease and Threatened Birds, edited by J. E. Cooper, 1989. Proceedings of a Symposium at the 19th World Conference of the International Council for Bird Preservation, 1986, Kingston, Canada. ICBP Technical Publication No. 10. Pp xi + 200, many tables and b & w photos. 137 x 215 mm \$14.50 (soft).

Ornithologists do not often consider the effects of disease on avian populations. At the conclusion of the Symposium on Disease and Management of Threatened Bird Populations at the 19th World Conference of the International Council for Bird Preservation, two resolutions were made:

1. ICBP should note that there is increasing evidence that infectious and parasitic disease may have an adverse impact on avian populations and should encourage health monitoring in all studies on, and management programs for, threatened species.

2. National and international bodies and governments should be made aware of the potential dangers to domestic stock and humans, as well as to wildlife, of the movement of birds and their products from one country to another. These groups should be urged to introduce controls so as to restrict the spread of avian pathogens, especially to isolated populations.

This publication is based on the proceedings of the symposium on disease in threatened populations and provides sound information for ornithologists who want to develop a better understanding of disease ecology. The fifteen chapters and two appendices are written by an international selection of major researchers and provide both general material and investigation of birds in the U.S.A., Thailand, Mauritius, and Australia.

In the editor's preface, John Cooper explains that these proceedings are concerned with infectious disease, not non-infectious disease. This excludes disease due to toxicities, nutritional deficiencies, physical injuries, developmental defects, or neoplasia.

The first four chapters provide a clear and brief introduction to the major infectious diseases of birds. An overview of how infectious agents are detected or isolated and identified, mechanisms for their spread and dispersal, and approaches for their monitoring and control are covered.

Five chapters report on disease investigations of endangered or threatened species. These include Hawaiian passerines and the Hawaiian Crow, the Pink Pigeon from Mauritius, the Whooping Crane from North America, and Green Peafowl in Thailand. Problems included avian malaria, avian poxviruses, Eastern Equine Encephalitis (a togavirus), and internal and external parasites, respectively. These conservation projects all combined captive propagation with field studies on wild populations. Studies of captive birds are useful as they provide information on possible disease problems in wild birds, and are also important so that a known disease status is established before reintroduction of animals to the wild. Bobwhite Quail and Sandhill Cranes were monitored for antibodies (indicating infection), and potential arthropod vectors for virus, to determine the risk of infection of Whoopers. This use of other species as sentinels to assist with monitoring disease is very useful to minimise problems associated with sampling of endangered species. In other chapters, American

Kestrels were used as a model to examine the effects of faecal contamination in artificial nest boxes on egg hatchability, and the need for disease-testing of foster parents were described.

In the chapter on disease in free-ranging Australian birds, Steve McOrist discusses psittacine beak and feather dystrophy in wild Sulphur-crested Cockatoos and Crimson Rosellas. The flocks under observation declined, with forty dead and dying cockatoos found from a group of 120 during nine months.

Other chapters discuss legal aspects that relate to disease and conservation, and the role of birds in long-distance dispersal of disease. The two appendices provide an extensive registry of laboratories and reference centres, and protocols for screening for disease and investigations of mortality.

There is increasing evidence that disease can be an important stochastic event and can seriously affect the status of threatened or endangered avian populations. In addition, disease may be the single most important factor preventing a population recovery. John Cooper encourages ornithologists to consider the bird's internal ecosystem. He also explains that our limited information on disease in wild birds is partly because carcasses are usually not found and examined. Many investigations of disease in wild birds involve large outbreaks that attract attention, however, increasing research needs to be directed towards disease affecting fecundity and survival that can alter distribution and abundance. Disease can increase susceptibility to predation, starvation, or secondary infection, and diseases can act synergistically. In addition, latent or chronic diseases may relapse during breeding, migration, or other periods of stress.

In the editor's forward, John Cooper asks us to address four questions: What is the evidence of the role of disease in threatened populations? How serious is the introduction of an exotic pathogen to a susceptible population? Can we monitor disease? How can we minimise the risk of introduction or spread? Many of the answers to these questions are contained in this book.

The major problem outlined in this book is that more research has not been done on the effect of disease on wild avian populations. Disease is usually neglected in ecological studies, and is an area requiring the input of specialist training. John Cooper, and the other authors in these proceedings, emphasise the need for collaborative studies involving interdisciplinary research. These proceedings are concerned with infectious disease, neglecting non-infectious causes. Non-infectious diseases in wild birds are discussed elsewhere. However, interactions of non-infectious and infectious diseases can also occur, when immunity and disease resistance are decreased by toxicants.

I recommend this book to ornithologists interested in a perspective of avian disease ecology, wildlife biologists responsible for endangered species conservation and management, and veterinarians who want to broaden their knowledge of investigations of infectious disease in wild bird populations.

Pam Whiteley

Other publications of interest

Studies of Mascarene Island Birds, edited by A.W. Diamond for the British Ornithologists' Union with the assistance of A.S. Cheke and Sir H. F. I. Elliott, 1987. Cambridge: Cambridge University Press. Pp vi + 458. Many maps, graphs, diagrams and tables. \$234.

This book arose from the BOU Mascarene Island Expedition in 1974-75. The Mascarene Group is in the western Indian Ocean and includes Mauritius, Reunion and Rodrigues Islands. These islands were once heavily forested but a high density of human settlement and exploitation of the forests has contributed to the extinction of at least thirty endemic species of birds and others are threatened.

The first of four parts of the book examines the ecological history and fossil record of the islands and presents a study of the vocalisations of all the land-birds. The second and third parts cover the ecology of surviving species on Mauritius and, Reunion and Rodrigues, respectively and the final part concerns the weights and measurements of the surviving endemic birds and their eggs.

This important work is a timely contribution, not just to the ornithology of the region, but as an analysis of typical problems of island faunas. Extensive habitat modification, introduced predators and other pressures from increasing human populations have had, and are continuing to have, devastating effects on the avifauna. A wealth of information is presented on many aspects of the life histories of the endemic birds and the usefulness of the book will endure long after some of the species described in it, unless recovery plans are implemented.

An Annotated Bibliography on Preparation, Taxidermy, and Collection Management of Vertebrates with emphasis on Birds, by Stephen P. Rogers, Mary Ann Schmidt and Thomas Guteiger, 1989. Special publication of Carnegie Museum of Natural History. Number 15, Pittsburgh: Carnegie Museum of Natural History Pp 189. 275 x 214 mm. US\$15.

A substantial bibliography comprised of 1231 citations including literature in languages other than English.

An Annotated List of the Birds of Bolivia, by J. V. Remsen, Jr. and Melvin A. Traylor, Jr., 1989. Vermillion: Buteo Books. Pp 79. 1 map. 228 x 153 mm. US\$15.

A fully referenced list of the 1274 species inhabiting a country with one of the richest avifaunas in the world. Includes geographic and likely habitat zones.

New Journal: Behavioural & Political Animal Studies, edited by Sharon Gottermeyer and David Youngmeyer, 1988. Hamilton: Animal Archives. Vol. 1. Pp 44. NZ\$8.

A new bi-annual journal which encourages the disciplined study of animal rights, non-exploitive animal studies and alternatives to animal exploitation. Manuscripts and enquiries to the Editors. PO Box 13-104, Hamilton, New Zealand.

Biodiversity and Conservation in the Caribbean: Profiles of Selected Islands, by Timothy H. Johnson, 1988. ICBP Monograph No. 1 Cambridge: ICBP. Pp xvii + 144. 208 x 150 mm. £8.

This volume is the first of the ICBP monograph series designed to provide information on specific or regional issues relating to conservation. It is derived from the ICBP Island Database and covers 11 islands in the Caribbean. Each profile has seven major sections; biodiversity and conservation summary, general information, important fauna and flora, important ecosystems, conservation infrastructure, conservation action and references.

Hawks and Owls of the World: An Annotated List of Species, by Dean Amadon and John Bull, with the genus *Otus*, by Joe T. Marshall and Ben F. King, 1988. Proceedings of the Western Foundation of Vertebrate Zoology: Volume 3, Number 4. col. p11. 2. Pp 62. US\$10.

A list of the 292 species of living and recently extinct hawks and 162 species of owls with brief descriptions of range and habitat. The classification, arrangement and choice of English names contain some innovations.