

Birds of Prey: Health & Disease, Third Edition

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Birds of Prey: Health & Disease, Third Edition. Edited by John E. Cooper. Blackwell Sciences, Ltd., Oxford, UK. 2002. 345 pp. ISBN 978-0-63205-115-1. US \$149.99 (hardback).

Review by Glenn H. Olsen

Even though this book is billed as the third edition it is, in the words of Patrick T. Redig, author of its Foreword, “a seriously re-invented book.” Originally published in 1978 under the title of *Veterinary Aspects of Captive Birds of Prey*, this new edition, with its new title, could stand alone and not have been tagged with the “third edition.” Much has changed in the world of avian medicine in the 30 yr since the publishing of the original tome, and this new volume brings the latest information on raptor medicine to the reader.

Usually, I start looking at new veterinary medical textbooks by examining the table of contents and then choosing a chapter or two to examine or read quickly. Possibly, if one is standing at a book seller’s booth trying to make a purchase decision, the contents of one or two chapters will be scanned to see whether the material is new, engaging, and of sufficient interest to make a purchase worthwhile. With Dr. John E. Cooper’s *Birds of Prey: Health and Disease, Third Edition*, I dutifully looked at the table of contents, but what caught my attention were the appendices.

Now, I found this a very useful way to look at this book—starting at the appendices and working forward, so let me take you with me. Appendix I of *Birds of Prey* is just a list of raptors mentioned in the text, their English and scientific names. The interesting information starts in Appendix II, Clinical Examination Forms, including a Client Questionnaire—useful information that will help modify the examination form that I presently use. What especially perked my interest, though, was Appendix III, a postmortem and egg/embryo protocol and examination form. The postmortem form is similar to others I have seen; however, the egg/embryo protocol is an excellent treatment of the subject, a subject too often skipped in avian medical textbooks.

Appendix V, a handy key to major clinical diagnoses, consists of a table of clinical signs or lesions and the possible differential diagnoses. Similarly, Appendix VI presents a list of

postmortem lesions and the possible differential diagnoses. Appendix VII discusses health monitoring and how that process differs from a clinical diagnosis. This section covers monitoring the health of both captive and free-living raptors, and Dr. Cooper provides several flow charts to aid readers unfamiliar with this type of work. Appendix VIII takes us smoothly from the section on monitoring raptor health to a discussion of minimally invasive-health monitoring programs.

Appendix IX is the formulary that we have come to expect and rely upon for treatment of avian, in this case raptor, patients. However, the references for the doses and comments are only given sporadically, and more references could have been given for dose recommendations.

Appendix X provides valuable suggestions about fieldwork, medical kits for the field, and portable equipment. The equipment lists are useful, but actual recommendations giving model number and manufacturer, for such things as the battery-powered microscope listed, would have been more helpful. Notably absent from the list is any type of small centrifuge.

Dr. Cooper’s wife, Margaret E. Cooper, authored Appendix XI—Legislation and Codes of Practice Relevant to Working with Raptors. In 10 pages, she summarizes the range of laws found on an international level and, as examples, in some specific countries. Now let us proceed through the chapters.

The first chapter is unusual in that it is a relatively detailed history of raptor medicine. The sport of falconry, as Dr. Cooper points out, has been practiced for more than 3,000 yr. Among the Egyptians, falcons were worshipped as gods. The peoples of both Mesopotamia and Greece incorporated owls into their religions. As early as the ninth century, Arabian writers referenced diseases of falcons. *The Boke of St. Albans*, published in 1486, provided information in old English on diseases of hawks. Dr. Cooper has used parts of this ancient book as illustrations throughout his current work.

Chapter 2 of *Birds of Prey* introduces nomenclature, whereas chapter 3 covers anatomy. Both chapters are brief, but both provide the reader with references for more comprehensive information. Chapter 4 is a thoughtful essay on methods of investigation and treatment, linking clinical investigation (history, physical examination, radiography, endoscopy, and clinical sampling) with health monitoring/

screening and postmortem examination as a complete picture. There is even a subsection on egg examination and necropsy of the egg.

Chapter 5, Non-infectious Diseases, covers a variety of subject matter. Sections of particular interest because these are not always well covered in other avian medical texts include "Rehabilitation and Release" and "Hypothermia and Hyperthermia." Because raptors are often treated by rehabilitators, the section on rehabilitation and release is especially welcome. Chapter 6, Infectious Diseases, begins with a review of the historical literature on infection in raptors. It includes a good review of the literature on aspergillosis in birds of prey. Another section discusses the implications of *Escherichia coli*, both as a normal gastrointestinal constituent and as a cause for infection in raptors. In chapter 7, which deals with parasitic diseases, photomicrographs of protozoa and the eggs of helminths of the most common endoparasites are reproduced on page 111. Each photomicrograph is represented at the same scale to give the clinician and technician a quick reference. The pictures run "a" through "s," but the captions only cover "a" through "r"—one of the few mistakes that I found in this book.

The conditions of the legs and feet, an important subject in captive raptor medicine and management, is well covered in Chapter 8. Cooper uses a three-step classification for bumblefoot lesions, and, as we might expect, his presentation on bumblefoot is thorough and informative. Chapter 9 speaks to neurologic disorders, including a useful discussion of how to preserve brain tissue in formalin and retain a portion for later bacteriologic culture, virus isolation, or toxicology.

Chapter 10 reviews nutritional diseases in captive birds. The author recommends regular weighing of raptors as part of a good nutritional program. However, he recommends feeding extra during the breeding season, as it is disturbing to the raptors to be weighed frequently, and precopulatory behavior may include offering food to the mate.

Thus, underfeeding during breeding season could reduce breeding success. When rearing offspring, underfeeding can result in some offspring being killed and eaten. The need for rangle, or small stones, in the digestive process for some raptors is discussed. However, as with psittacines (as the author points out), some of the nutritional needs of raptors are extrapolated from what is known for poultry.

In Chapter 11, a short summary of poisoning in wild raptors, the section on population effects is especially well written and insightful. Chapter 12 covers anesthesia and surgery. The surgical section is rather short and would not be recommended as a complete guide to the subject, but rather a summary of some common procedures in raptors. Emerging diseases is the topic of Chapter 13. Again, this is more of an overview of a number of conditions seen in raptors. This section includes discussions of captive-breeding, genetic and developmental disorders, reproductive disorders, and embryonic death and problems affecting the nestling. Chapter 14, Diseases in Wild Bird Populations, has an engaging discussion of parasitism, and the discussion in this chapter ranges beyond raptors to include other avian species. (The survival of Hawaiian passerines infected with avian malaria is described in Table 14.1.) Aptly titled Discussion and Conclusions, chapter 15 reviews the past 30 yr of raptor medicine and where we are today.

This book is a highly informative review of the author's extensive experience in raptor medicine. The literature that is reviewed and included in the books goes back centuries but most is concentrated on the past 30 or so yr. If you are looking for a source of information on raptor medicine, I highly recommend the third edition of *Birds of Prey: Health and Medicine* for your bookshelf.

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