



Book Reviews

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BOOK REVIEW . . .

Noninfectious Diseases of Wildlife, G. L. Hoff and J. W. Davis, eds. Iowa State University Press, Ames, Iowa, USA. 1982. 174 pp. \$19.95 US (clothbound).

In the preface to the book the editors indicate that this first edition represents an experimental effort to bring together some of the diffuse knowledge on noninfectious diseases of free-ranging and captive wildlife. They have succeeded by describing some of the noninfectious disease syndromes, and in general those covered were well written and provide a good reference source.

This volume is best reviewed by discussing omissions of noninfectious disease syndromes. Specific deficiency diseases were discussed under nutritional and metabolic diseases, but the malnutrition/starvation complex was not covered. This syndrome has a greater impact on wildlife populations than any other disease condition and its omission was a major oversight. A chapter was devoted to tooth anomalies, but anomalies of other systems were not covered. Some lesser omissions include: dystocia (difficult birth); rumen overload; bloat; indigestion (gastritis and enteritis of noninfectious origin); urea poisoning; dermatosis of noninfectious origin; physiologic monitoring of condition and nutritive status using blood, hair, urine, milk, marrow and other tissues; atherosclerosis in caribou and reindeer (*Rangifer tarandus*); capture myopathy in muskox (*Ovibos moschatus*); hair element analyses for monitoring toxic element accumulation; and chronic wasting disease (CWD) in elk (*Cervus elaphus*). The editors did not imply that the book would cover all noninfectious diseases and therefore, some omissions were anticipated. The omissions listed above are based upon one person's experience and are not necessarily complete, but demonstrate the potential for future editions.

It is most difficult to organize a treatise on noninfectious diseases, and particularly with a multiple authored volume. This volume suffers somewhat from that problem. There is a good deal of overlap in the chapters on shock and stress, particularly on background and pathogenesis. However both are excellent chapters and stand well alone. Hypothermia and

hyperthermia are discussed in three chapters (Shock, Stress and Disease of the Cardiovascular System, and Physical Injury). These topics deserve a chapter or section on their own. Nutritional diseases were discussed under birds, mammals, and reptiles. Perhaps, this should have been the system used throughout the text.

The major organizational problem is that disease problems of free-ranging and captive animals were not adequately differentiated. Some discussions focus on both and/or one or the other, but the text would be more useful if there was separate coverage. The book could be divided into two parts; captive and free-ranging. Under each of these sections, diseases could be discussed under birds, mammals and reptiles. Further classification under each of these could be considered. This arrangement would make the book much more useful and give it a semblance of organization.

The last major problem with the book is the lack of discussion in many of the diseases covered of the significance of the disease on populations. It is important that this be covered to avoid misdirecting the reader as to the relative importance of the disease. It may be important to an individual animal, but insignificant to the population. This brings forth another reason for separating the book into free-ranging and captive sections. To a zoo keeper the impact of a disease may be altogether different from that of a wildlife biologist.

The book is a start in recognizing the importance of noninfectious diseases in wildlife. As persons involved in wildlife diseases become more oriented to preventive medicine and place clinical medicine in a proper perspective, noninfectious wildlife diseases will receive greater emphasis. The editors and authors should be commended for their efforts. They should go forward with the concept and build from this pioneering experiment.

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BOOK REVIEW . . .

Diseases of Wildlife in Wyoming, E. T. Thorne, N. Kingston, W. R. Jolley, and R. C. Bergstrom, eds. Wyoming Fish and Game Dept., 5400 Bishop Blvd., Cheyenne, Wyoming, USA. 1982. 353 pp. \$20.00 US (hardbound) \$12.00 US (softbound).

I was never able to obtain a copy of the original edition of *Diseases of Wildlife in Wyoming* (R. F. Honess and K. B. Winter, 1956, *Bull.* 9, Wyo. Game and Fish Comm.), but the copy made available to me the last 10 yr shows evidence of heavy use. The reason is clear. Until 1971 when the Davis et al. series on diseases and parasites of wild birds and mammals appeared, Honess and Winter was the only substantive reference book for diseases of wildlife in the Rocky Mountain region. Unlike edition one, the current edition comes on the heels of several similar books including: *Manual of Common Parasites, Diseases and Anomalies of Wildlife in Ontario* (1979, edited by Fyvie and Addison), a similar manual for Colorado (1981, edited by Adrian), and a volume on Alaskan Wildlife Diseases (1981, edited by Dieterich). *Diseases of Wildlife in Wyoming* will fare well among the competition.

Edition two contains seven sections: viruses (27 pp., 117 refs.), bacteria (75 pp., 281 refs.), protozoans (47, 143), platyhelminths (32, 81), nematodes (41, 104), ectoparasites (29, 52), and miscellaneous diseases (40, 223). There is a useful appendix on methods for collecting and preserving specimens for diagnostic examination. The glossary (~350 terms) is well done and the book well indexed (26 pp.). The text is annoyingly but accurately referenced by number. This space-saving tactic does have benefits (check the price).

There are 35 color photographs, most of which are useful, and numerous black and white photographs and drawings, some of which are poor in quality. The decision to not only retain many photographs and drawings from the first edition, but to reduce many of them in this revision was an error. Photographs are particularly poor (dark) in the platyhelminths section and even when photographs were not

reduced, their quality is sometimes poor (see p. 176) when compared to the original edition.

The writing style of the book is technical but readable. Treatment of each organism or group of organisms is consistent in each section and covers: distribution and hosts affected, life cycle, transmission, pathogenesis, clinical signs, pathology, diagnosis, prognosis, control, and implications (i.e., how hosts are affected). The title is slightly misleading in two respects: *disease* is used in a very broad context often including only the presence of a parasite, and *wildlife* includes, primarily, terrestrial game animals.

Viruses (see under *viruses* and *miscellaneous diseases*) are covered in up-to-date, accurate style. There is a terrific review table on tumors. The *bacteria* section is, perhaps, the best in the book; it contains an excellent summary table of bacteria recovered from Wyoming's wildlife.

Treatment of internal and external parasites is fairly extensive and, generally, good. Summary tables for some of the conditions (for example, characters of oocysts of *Eimeria* spp. or prevalences, intensities, hosts of nematodes) would have helped particularly since one aim of the book is to aid in the diagnosis of conditions. The coverage of certain conditions such as coccidiosis could have been better. In that area, descriptions of oocysts are too brief, there are some factual errors (see, for example, "*Eimeria* of rabbits and hares"), and line drawings of oocysts could have been put to good use. Use of two scientific names for two life stages of the same parasite (here, cestodes of wild ruminants) is confusing.

Twenty-three authors have contributed to this good reference text. The book will find wide use among various wildlife disciplines. It should prove particularly useful to wildlife managers, veterinarians who deal with wildlife, and wildlife students of the Rocky Mountain region. There are some deficiencies, but the overall product makes this a worthwhile purchase.

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