



BOOK REVIEW

Source: Journal of Wildlife Diseases, 8(2) : 198-200

Published By: Wildlife Disease Association

URL: <https://doi.org/10.7589/0090-3558-8.2.198>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

viable organisms have been found in the feces." (Soulsby, E. J. L. 1968. *Helminths, Arthropods and Protozoa of Domestic Animals*. Edition 6, page 740, London). This author further suggests that feces of infected animals may be important in transmission.

I emphasize that this mode of transmission is merely suspected. However, I feel that more and more evidence is accumulating to support a theory that Toxoplasmosis is horizontally transmitted between individuals of a species other than cats and by means other than carnivorism. Watson and Beverly, (Veterinary Record, Vol. 88, No. 5, 1971, page 123) in their investigations of ovine abortion in Britain, make this statement: "In all probability the Leicester flock was free from infection until mixed with the Hampshires two weeks before lambing, but contracted it (Toxoplasmosis) from the Hampshires either late in pregnancy, at lambing or soon afterwards".

In my opinion, it is quite possible that recently described life cycles for *Toxoplasma gondii* will eventually be expanded to include additional modes of transmission which will help to explain the high incidence of infection in so many different species by this very interesting parasite.

Sincerely,

W. S. Bulmer, D.V.M.

Book Review

"PARASITIC DISEASES OF WILD MAMMALS"

edited by John W. Davis and Roy C. Anderson,
Iowa State Press, Ames, Iowa, Copyright 1971, 364 pages.

This is one of a series of three volumes published by Iowa State University Press on the parasitic and infectious diseases of wild birds and mammals. (For review of the others, see J. Wildl. Dis. 7: 339-342). Together, they comprise the most comprehensive treatment of the diseases of wild birds and mammals available in English.

This volume includes seventeen chapters by a total of nineteen authors. Each chapter covers one disease agent or a group of related agents, and is intended to provide basic information on the distribution, life cycle and transmission, clinical signs, pathology, pathogenesis, diagnosis, treatment and control of the parasite(s) covered.

The ectoparasites are covered in two chapters. In "Mites and Pentastomes", one of the best chapters in the book, G. K. Sweatman provides an excellent summary of each of the major groups, with specific examples important to wild mammals. In addition, he indicates problem areas and suggests specific further studies in some of the groups. If the rest of the book reached the same high standards as this first chapter, it would be much easier to review.

The problems with the book are illustrated by the coverage of the rest of the ectoparasites. Ticks, generally regarded by wildlife biologists as the most pathogenic of the groups of ectoparasites, are not covered at all. Neither are hippoboscids or the myriad biting flies so important in affecting the behaviour of their hosts — or the ungulates at least. True, these latter groups may not produce "parasitic diseases",

but then, neither do "Fleas and Lice", which are the only other ectoparasites covered. Perhaps that is why the last two groups are covered in such a general (and skimpy) fashion, with no specific examples. There is no coverage of transmission of other disease agents, a topic covered in another volume in the series.

There are nine chapters on endoparasites. The four which cover individual disease agents ("Trichinosis" by W. J. Zimmermann, "Bighorn Sheep Lungworm-Pneumonia Complex" by D. J. Forrester, "*Dictyophyme renale*" by A. Fyvie, and "Elaeophorosis" by C. P. Hibler and J. L. Adcock) are excellent summaries of the state of knowledge at the time of preparation, although specialists may quibble about some details.

The five chapters on groups of parasites are more variable in quality. Such important disease agents as the trichostrongyles and ascaridoids are not covered. The chapter on "Lungworms" is mistitled, since *Dictyocaulus* is not covered, but various tissue-dwelling metastrongylids are. It contains an unfortunate (but less detailed) duplication of the coverage on protostrongylids of bighorn sheep; otherwise, this chapter is up to the usual high standards of the author, R. C. Anderson. The reviews of *Pneumostrongylus* and *Elaphostrongylus* are particularly well done. The chapters on "Acanthocephala" by D. L. De Giusti, "Cyclophyllidean cestodes of Wild Carnivora" by P. D. Leiby and W. G. Dyer, and "Myiasis" by K. J. Capelle are good reviews of the groups concerned, with specific coverage of important species. The chapter on "Trematodes" should have been omitted. The material covered appears to have been gleaned from old textbooks or from Yamaguti's "Systema Helminthum", does not give an adequate picture of the pathogenic capacities of trematodes, and does not appear to be aimed at those important in wild animals. For example, *Metorchis conjunctus* and the paramphistomes (which are not covered) would appear to be more important to wild mammals than are the human schistosomes, especially *Schistosoma mansoni* (which is).

Protozoans are covered in six chapters. Once again, the coverage is spotty, omitting such pathogens as coccidia and malarial parasites. In "Trypanosomiasis", E. A. Wells and W. H. R. Lumsden provide a general coverage of mammalian trypanosomes around the world, with brief summaries of specific examples. The five chapters on individual disease agents ("Toxoplasmosis" by V. L. Sanger, "Toxoplasmosis in Microtine Rodents" by W. L. Jellison, "Babesiosis" by D. L. Howe, "Theileriosis" by D. L. Howe, and "Besnoitiosis" by W. L. Jellison) appear to be very brief, and did not answer questions I have been asked by students.

In their preface, the editors emphasize the increasing appreciation of the roles parasites play in the diseases of wildlife, and hope that this volume will be a useful reference on the subject. They have certainly fulfilled that goal. Anyone interested in parasites or diseases of wild mammals will find this book indispensable.

Normally, it is unfair to judge a book on whether or not it fulfills goals other than those intended by the author (or editors). However, this series will inevitably be considered as texts for courses in wildlife parasitology or wildlife diseases, and may preempt the field for years to come. Unfortunately, the coverage of this volume is too incomplete and too uneven for a text. Those of us who have been looking for such texts can only wish that the editors had aimed higher.

John C. Holmes
Department of Zoology
The University of Alberta

Book Review:

MONOGRAPHS IN VIROLOGY VOL. 3, PERSISTENT AND SLOW VIRUS INFECTIONS

by John Hotchin

S. Karger AG, Basel (Switzerland), 1971. XII + 211 pp., 26 figs. and 11 tables. \$14.65.

Ten years ago Sigurdsson's concept of slow infection was not generally known and had few convinced followers. Although considered of some interest academically, it was not to be taken too seriously as offering any new insight into old disease problems. Times have changed. Now the concept, as it has been applied to certain viral infections, is generally accepted; it is worthy of serious attention by established investigators and studies using it as an operational theme are supported. Indeed, enthusiasm for the concept today far exceeds our knowledge of the unusual host-virus interrelationship implicit in its definition.

Despite this state of affairs, one feature of the pathogenesis of slow viral diseases is clear: the causative viruses persist throughout the long course of the infection. Undoubtedly, this observation has focused attention on the whole matter of persistent viral infections and the significance they may have in the genesis of disease in man and animals. In this slim volume, John Hotchin ably reviews information on such infections.

The monograph deals with a heterogeneous group of viruses whose only apparent common bond is their ability to persist, in a readily detectable form, for long periods in an infected host. The information is presented to two sections. The first, entitled *Arenaviruses*, comprises half (71 pages) of the text. It is devoted almost entirely to lymphocytic choriomeningitis (LCM) infections, to whose understanding Dr. Hotchin has contributed so much. He recounts in detail the interrelation of LCM virus infection and host immunologic responses that lead to disease. Emphasis is placed on the pathogenetic mechanisms involved. These may help explain the pathologic effects induced by other persistent viruses, including some that cause slow diseases.

The second section, entitled *Miscellaneous Persistent Viruses*, is concerned mainly with the slow viral diseases. Of these, scrapie is dealt with in considerable detail. Indeed, Dr. Hotchin's review of this disease is one of the most thorough available. Aleutian disease of mink and maedi-visna of sheep are also discussed in some detail. Many other examples of persistent viral infection are briefly reviewed. The pathogenic significance of some of them is still uncertain. Nevertheless, apart from making the review comprehensive, their inclusion emphasizes the need for continued awareness of the unconventional ways viruses may injure the host.

Many useful tables and figures are dispersed through the readable text. The value of this monograph is further enhanced by a list of 1165 references. Although an index is not provided, a detailed table of contents allows ready access to the information.

Above all else, this monograph is timely. It is an excellent source of information on a new and exciting frontier of animal virology. I recommend it to all persons concerned with disease and the varied mechanisms by which it may evolve in man and animals.

W. J. Hadlow
Rocky Mountain Laboratory
Hamilton, Montana 59840, U.S.A.