



## Book Reviews

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virulent avian cholera organisms outside of the host. These findings emphasize the necessity for immediate carcass removal from die-off areas.

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#### BOOK REVIEW . . .

**Manual of Procedures for the Salvage and Necropsy of Carcasses of the West Indian Manatee (*Trichechus manatus*)**, Robert K. Bonde, Thomas J. O'Shea, and Cathy A. Beck. Sirenia Project, U.S. Fish and Wildlife Service, Denver Wildlife Research Center, 412 N.E. 16th Ave., Room 250, Gainesville, Florida 32601, USA. Available from: National Technical Information Service, Springfield, Virginia 22161, USA. NTIS Document Number: PB83-255273. 1983. 175 pp., 3 tables, 23 figs., 6 appendices. Paper \$17.50 US, Microfiche \$4.50 US.

This is a well written, nicely illustrated and carefully edited paperback manual. It consists of six sections: 1. agency responsibilities, 2. carcass retrieval, 3. record keeping, 4. necropsy, 5. determining cause of death and 6. disposition of specimens. Even though only Section 4 deals with the actual necropsy procedure the others are important for completeness. The authors should be commended for their efforts to pro-

duce a manual that unfortunately will have very limited circulation. There are a few instances where a better selection of words or better arrangement of words would have enhanced the clarity of the manual. The first encounter with an unexplained abbreviation was annoying, for example, when AFA (Alcohol-Formalin-Acetic acid) was first encountered on page 19 and when GAA was encountered on page 26. The reviewer has never seen Glacial Acetic Acid referred to as GAA. There are other minor inconsistencies however they do not detract from the manual's worth. Appendix V is a very worthwhile addition.

In spite of a few "picky" criticisms the manual will be of tremendous help to anyone working or contemplating working with this or other sirenians.

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## BOOK REVIEW . . .

**Veterinary Biology and Medicine of Captive Amphibians and Reptiles**, Leonard C. Marcus. Lea & Febiger, 600 Washington Square, Philadelphia, Pennsylvania, USA. 1981. 239 pp. \$25.50 US.

This relatively new book supplies a well organized and concise overview of poikilotherm husbandry, management, and medicine. The text is divided into only three chapters, and fortunately two of these deal with the basic biology and requirements of amphibians and reptiles.

The first chapter deals with practical anatomy and physiology, and as with any basic science, is a necessary primer for understanding and treating disease problems in these groups. The material is a concise summary of pertinent herpetology and could serve as a basic classroom text in vertebrate zoology or related exotic animal medicine courses.

Chapter 2 is also a summarization, dealing with husbandry and care of normal specimens prior to morbidity. This chapter is somewhat brief, but adequately covers the principles of captive care. Some subtle points of captive care are also noted, and these fine points relate to the experience of the author. Medical and surgical principles also are covered briefly, but specific techniques and indications for coelomic surgery are not included.

Specific disease problems are presented in Chapter 3 and are outlined well. Some space was utilized poorly with technical schematics which do not fit well with the basic theme. The pathological aspects are presented from a pathologist's perspective and histopathological photomicrographs may intimidate the novice herpetologist. Zoonoses are also covered.

For what the text lacks in detail to satisfy professional herpetologists and allied professionals, the bibliography compensates as a thorough compilation of the current literature prior to publication. Unfortunately, some timely information regarding paramyxovirus could not be included prior to publication. A list of sources for obtaining current relevant information would have been a useful inclusion, but these can be gleaned from the references.

For the herpetologist and/or veterinarian who needs an economical general reference, *Veterinary Biology and Medicine of Captive Amphibians and Reptiles* will more than suffice. For the professional specialist in either field, the book is a necessary complement to a library.

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## BOOK REVIEW . . .

**A Guide to Integrated Fish Health Management in the Great Lakes Basin**, F. P. Meyer, J. W. Warren, and T. G. Carey, eds. Great Lakes Fishery Commission, Ann Arbor, Michigan, Spec. Publ. 83-2. 1983. 272 pp.

The Great Lakes Fishery Commission was organized in 1956. One of its responsibilities was to advise Canada and the United States on procedures to improve jointly held fisheries. In 1973 the Commission established the Great Lakes Fish Disease Control Committee to devise methods to protect the health of cultured and native fish populations. Two yr later, the Commission issued a fish disease control policy and model program. To help implement the program a compendium was needed to place information from many sources into the hands of resource administrators, managers, fish-culturists, and pathologists.

The stated purpose of this book “is to create an awareness on the part of fish culturists and administrators of the benefits of implementing continuous, integrated disease control procedures rather than reacting to disease problems as and when they arise.” To this reviewer’s knowledge, the ‘guide’ is the result of the first attempt to present both fact and philosophy for rational control of infectious diseases of fish; moreover, the overall attempt is successful.

Although the title indicates the ‘guide’ is intended for use in the Great Lakes Basin, much of the material has application to disease control for all cultured salmonids.

The ‘guide’ is divided into six parts and has 19 contributors. The first part, The Fish Health Management Problem, has chapters on The Nature of Fish Diseases, The Role of Improved Husbandry Practices, and Planning a Fish Health Program for Hatchery Management. All are well written and informative.

Part II consists of 14 chapters devoted to Disease Control Options in Hatchery Management. Subjects covered include hatchery design, genetics, nutrition, water supplies, chemotherapy, immunization, and hatchery disinfection. Presentations of the various chapters tend to be somewhat uneven; i.e., the chapter on Fish Nutrition contains much information—especially in the table describing nu-

tritional deficiencies—and presents clearly a complex subject. The chapter on Chemotherapy would be more useful if the component parts had been discussed, or at least referenced: preparation of medicated diets, general formulas for calculation of standing treatments, constant flow treatments, etc. In contrast, the chapter on Hatchery Disinfection and Disposal of Infected Stocks covers the subject thoroughly. The chapters on Stock and Yearclass Separation and Stocking Practices and Disease Control consist of only three and two pages, respectively. The reader wonders if there is not more to say on these subjects. Chapters on Considerations in Hatchery Design for the Prevention of Diseases, Selection of Water Supplies, Water Supply Sanitation, Genetics and Fish Health, Routine Fish Disease Monitoring, and Immunization with Vaccines present good general overviews.

Part III on Administrative Options in Disease Control, and Part IV on Integrating Fish Health Management Options are particularly useful in that they bring together administrative options in fish health management and the synthesis of a fish health program. The material provides in capsule form both the philosophy and a means of implementing an effective health management program.

Part V is devoted to the major bacterial, parasitic, and viral infections of salmonids. The uniform presentation describing signs of infection, etiologic agent, control, etc. of each disease is useful and as a result this section is very informative.

Part VI contains Training and Information Needs, Common and Scientific Names of Selected Fishes, Great Lakes Model Fish Disease Control Program, and a Glossary of Fish Health Terms. A few errors are present, e.g., the Fish Health Management Course sponsored by the Fisheries Academy, U.S. Fish and Wildlife Service (p. 240), is not given annually, but every 2–4 yr depending on demand for the course.

Some omissions and inconsistencies are noted: page 18, no date was given for the Wedemeyer reference; on page 32 the reader is advised that dissolved oxygen should not be less than 90% of saturation level, but on page 39 the recommendation is for not less than 75% satu-

ration. "Unionized" ammonia should be unionized. Scoliosis is misplaced in the Glossary of Fish Health Terms.

Overall, the editors have done a good job of assembling and editing contributions from 19 authors. As a result, the 'guide' will be useful to both experienced and new fish culturists, fish health specialists, and administrators.

Free copies of the 'guide' are available from the Great Lakes Fishery Commission, 1451 Green Road, Ann Arbor, Michigan 48105, USA.

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articles, the submission of a manuscript is done with the understanding that the information and ideas are original and have not been published previously and are not being considered for publication elsewhere. In the case of multiple-authored papers the transmittal letter should state that each author has seen the manuscript and is aware that it is being submitted for publication.

—Donald J. Forrester, Editor