

## **Crocodiles – Biology, husbandry and diseases**

By F Huchzermeyer

2003. CABI Publishing, Wallingford, 352 pp., hard cover. Price US\$170. ISBN 85199 656 6.

In the past few years, crocodile and alligator farming has become an expanding enterprise. This book, influenced by the author's experience in pathology and herd health, is a comprehensive review of the current state of knowledge on these animals. As such it will be of interest to ranchers, veterinarians and biologists alike. The book is well researched, and draws on the author's extensive personal experience, published research and anecdotal evidence. An indication of the quality of the work is the comprehensive list of more than 750 references available at the back of the book. All statements in the text are accompanied by the relevant references for those wishing to pursue a more in-depth study of the subject. Pathological and anatomical details are well illustrated, using colour and black and white photographs and drawings. Although the medical and surgical aspects of caring for individual crocodiles are touched on, the book has a herd-oriented approach. The relative paucity of this kind of medical and surgical clinical information probably reflects the writer's background, as well as the fact that little is known about these aspects of caring for crocodiles.

The book discusses the basic approach to all crocodilians. One is introduced to the classification and basic anatomy of these animals, and perti-

nent differences between species are discussed. The physiology of sex determination, metabolic rate, digestion, respiration and response to salinity are among the subjects dealt with. Immunology, reaction to disease and blood biochemistry are discussed. Published normal values for haematology and blood biochemistry of different species are available in the text in table form, all referenced to the articles from which the values were derived. Basic behaviour and its practical application, especially from a captivity perspective, is discussed throughout the book.

A full chapter is devoted to the examination and clinical procedures performed on crocodilians. This includes restraint, blood collection techniques, sexing, chemical immobilisation and euthanasia. Drawing on the author's own experience as a pathologist, sample collection and the *post mortem* examination are discussed in detail and illustrated with photographs and drawings where applicable.

As with all reptiles, most cases of disease in crocodiles can be directly attributed to environmental and management factors. As such, a basic introduction to crocodile farming is an essential part of the book. Basic nutrition, based on the current state of knowledge of the nutritional requirements of crocodiles is discussed, with examples of the vitamin and mineral supplements

*Continued on p. 131*

used in commercial farming in South Africa. Reproduction – of prime importance to commercial farmers and conservationists alike – is examined. Prof. Huchzermeyer discusses nesting behaviour, practical considerations in preparing commercial nesting sites, as well as the evaluation, incubation and care of eggs and hatchlings.

Temperature control and stress reduction are of prime importance when dealing with any captive reptile, and is of even greater importance in captive crocodiles when kept at high stocking densities. Ways of maintaining optimal temperature gradients, as well as methods of stress reduction, such as providing adequate hiding areas and reducing stocking densities are discussed. Hygiene is also of the utmost importance in commercial crocodile farming, and all aspects – from egg to adult – are touched on, including biosecurity measures. Although most of the book focuses on commercial farming, the requirements of crocodilians in a zoo setting are also discussed where this differs from the above.

The slaughter process, humane killing, as well as the effects of preslaughter stress are examined in depth. From a conservation aspect, the bushmeat

trade and the use of crocodile parts in traditional medicine are touched on.

Transmissible diseases, such as crocodile-specific viral and bacterial diseases, as well as non-specific bacterial, fungal and parasitic infections are dealt with. As in other reptiles, disease is usually secondary to underlying husbandry concerns, and is discussed in this context. Parasite and host lists are extensive and where known, parasite life cycles are described. As is the case in most captive exotic species, non-transmissible – especially nutritional and husbandry-related – diseases are major causes of morbidity and mortality, and are discussed in great detail. The chapters dealing with disease reflect the current state of knowledge as to the prevention, clinical significance and treatment of both transmissible and non-transmissible diseases.

This book can be wholeheartedly recommended as an essential addition to the library of anyone dealing with captive or farmed crocodilians.

**W van Wyk**

*Bird and Exotic Animal Clinic  
Faculty of Veterinary Science  
University of Pretoria  
Onderstepoort*