Book review

A Problem Snake?!

***Problem snake management: the habu and the brown treesnake**. Edited by G.H. Rodda, Y. Sawai, D. Chiszar, & H. Tanaka. 1999. 534 pages, 57 contributors, a foreword by H.W. Greene, 39 chapters + epilogue. Cornell University Press, Ithaca, New York. US$ 49.95 (cloth). ISBN 0-8014-3507-2.*

Most herpetologists are accustomed to the uninformed public referring to snakes as problem animals. However, few herpetologists are accustomed to their colleagues making any such references! From a scientific viewpoint, the brown treesnake (*Boiga irregularis*) and the habu (*Trimeresurus flavoviridis*) are among very few snakes to fit this category.

Brown treesnakes are native to New Guinea, northern Australia and the southwest Pacific and are thought to have made their way to the Pacific island of Guam as stowaways, possibly during World War II. During their brief stay, they have been responsible for the demise of 9-12 native bird and 3-5 reptile species and have radically altered the island's ecological balance. In addition, they are moderately venomous and therefore constitute a human health risk; they also cause problems as predators of poultry and pets and have cost millions of dollars in power outages. Unlike the brown treesnake, the habu is not an exotic, but is native to the Ryukyu islands of southern Japan. The habu currently thrives in human-altered landscapes such as sugarcane fields, where their prey (black rats) is highly abundant. This has made for an undesirable sympatry between snake and sugarcane worker, and the human health-threat from their bite has been great. (The venom is myonecrotic and potentially lethal.) Incidence of reported bites is as high as 200/100 000 people in the Amami Islands (Ryukyu Archipelago) and in exceptional years, as high as 400/100 000 on Tokunoshima Island. Few people would therefore argue against spending tax dollars on an integrated research and management programme on both species. *Problem Snake Management* is the outcome of such an effort.

This book is an impressive collection of forty contributed chapters on the biology and management of two snake species that have had an enormous impact on both ecosystems and human society. And very importantly, it makes available to the monolingual westerner, a large body of data and information on an Asian snake which has traditionally been written about in Japanese. The book is divided into seven sections ranging from "Venom and Human Health" to "Biological, Ecological and Chemical Control". Each section has a minimum of four chapters, while "Capture and Detection" has the most, with ten. This book is a product of a vast breadth of knowledge representing the contributor's interests, such that there is something of interest for both herpetologists and conservation biologists alike.

With the exception of crocodilians, management of reptile populations is a relatively novel practice in conservation biology. Few snake populations have experienced active management, despite the high number of species requiring attention (see foreword by Greene). Of all the chapters, the introductory chapter on snake management by the book's editors will possibly be of greatest value to conservation biologists in general. Snake management generally involves two fundamental approaches: increasing (e.g., endangered species) or decreasing (e.g., pest species) population numbers. However, it is often geared to influence snake-human interactions, particularly where snakes represent a health risk and the risk of snake bite needs to be reduced (as in the case of the habu and to a lesser extent, the brown treesnake). The authors review all current and past efforts at snake management and the philosophy at the core of these management

efforts. For example, much of snake management can be placed in a financial framework. We learn that US$ 305 600 was saved by a goldfish farm by pre-emptive measures that cost US$ 2 625 for the control of watersnakes. However, this sort of cost-benefit analysis of snake management is the exception. Managers should first consider undertaking such analyses prior to the implementation of management plans. (This applies to pest species, not endangered species.)

Problem Snake Management underscores the significance of fundamental life history data to wildlife management. This book represents an impressive compilation of snake biology and management practices for a stealthy predator. By the same token, it is painfully obvious just how much effort and knowledge is required to control secretive organisms such as pest snakes. For both the herpetologist and conservation biologist, this book is a must read.

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