



### Introduced reptiles and amphibians of the world: unwanted exotic species

Lever, C. (2003) *Naturalized reptiles and amphibians of the world*. Oxford University Press, Oxford, UK. xx + 318 pp, maps, tables, index. Hardback: price £79.95, ISBN 0-198-50771-2.

This book joins a growing list of publications focusing on the distribution and ecological and economic impacts of plants and animals introduced outside of their native range. According to the information on the back of the book, this volume completes the author's own long list of publications on the world's naturalized or introduced vertebrates, including previous titles on fishes, birds and mammals. This is a remarkable accomplishment given the large number of species involved, the geographical scope of such an undertaking and the sheer quantity of literature summarized. The present volume adds significantly to the achievement, with more than 60 pages of literature cited, summarizing over 1200 references!

The Preface of the book is very important for the reader because that is where the definitions are provided for terms that are used widely in the literature, but often in different ways. According to the author, one of the criteria for inclusion in the book is introduction from one country to another. Initially, this made me concerned that some of the more important intracountry introductions would be excluded (e.g. bullfrog introductions from eastern to western North America). However, the author does indeed describe some of the more important examples of intracountry introductions. His definition of 'invasive species' is, at odds, with most uses in that it does not require a negative ecological or socio-economic impact.

The Introduction of the book provides an overview of the issue of animal introductions. I found the presentation to be overly generalized. In reality the reason why some animals succeed when introduced while others do not, and some become harmful from an ecological or economic perspective, while others do not, is far more complicated than

presented. The author's statement that 'the only predictable fact about introduced animals is their unpredictability' is a more honest assessment of the state of our understanding in this area of research.

The book presents a standard account for each species, describing the natural distribution (where it occurred before humans moved it to another area), the naturalized distribution (where it has been liberated by human agency), and then documents the history of introduction and the ecological and socio-economic consequences (if any) of the introduction. Included are accounts for 20 turtles and tortoises, 3 crocodylians, 123 lizards, 40 snakes, 69 frogs and toads and 15 salamanders. The taxonomic source for names used by the author is not widely accepted by professional herpetologists. I found at least one invalid combination for a turtle (*Trachemys picta* instead of *Chrysemys picta*).

In the second account, regarding the European pond turtle, material is included for the unrelated diamondback terrapin, a North American species that should be treated separately. In support of this suggestion, literature documenting introductions of the diamondback terrapin to San Francisco Bay, Italy and possibly Belize was missed by the author. The confusing practice of including multiple species under one account, seemingly at random, continues in several other accounts (e.g. spiny soft-shell turtle, crocodiles, snakes of the genus *Elaphe* and frogs of the genus *Rana*), usually for species in the same genus that do not warrant separate treatment in the author's opinion. The confusion reaches an apex in the account on the dwarf crocodile where the man-eating Nile crocodile is mentioned, but the dwarf crocodile is inferred to have been responsible for the death of a tourist. In all likelihood, the Nile crocodile was responsible.

The accounts of some of the most notable naturalized reptiles and amphibians such as cane toads, brown tree snakes and the clawed frog are detailed and interesting. Many provide glimpses of the motivation that inspired people to move these animals from one place to another, often with tragic consequences for native fauna, including humans!

Given the scope of this book, it is not surprising that the author missed some documented species of naturalized reptiles. For example, populations of Texas horned lizards are established in South Carolina and other parts of the south-eastern USA. In addition, Burmese pythons sightings are increasing in south Florida with much fanfare, but they are not mentioned in the treatment for pythons. Doubtless, others are missing as the list grows longer every day. Otherwise, the book contains few obvious errors or typos.

The minor faults noted above do not detract appreciably from the overall importance of this book. If I could change one aspect it would be to include a photo of each species. The complete absence of photos or illustrations detracts from the usefulness of the book, especially as an identification guide. Nevertheless, this book represents a monumental effort to catalogue the majority of the world's naturalized reptiles and amphibians. Anyone with an interest in invasive species should have a copy in their library.

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### Wild western mammals

Zabel, C.J. & Anthony, R.G. (eds) (2003) *Mammal community dynamics: management and conservation in the coniferous forests of western North America*. Cambridge University Press, Cambridge, UK. xxi + 709 pp, figs, tables, line diagrams, halftones, index. Hardback: price £110.00, ISBN 0-521-81043-4. Paperback: price £43.00, ISBN 0-521-00865-4.

As the title implies, the focus of this book is somewhat restricted in terms of the taxonomic group, habitat and geographical range discussed within its pages. At first glance it might therefore appear to be of limited value to anyone