

Book review

HANDBOOK OF MAMMALS OF THE WORLD: 5. MONOTREMES AND MARSUPIALS

By Wilson, D. E. and Mittermeier, R. A. (Eds)
2015. Published by Lynx Edicions, Barcelona. 800 pp.
Hardback, Euro €160.00 (free shipping worldwide),
ISBN 9788496553996.

This book is the fifth in the series under the title *Handbook of Mammals of the World* published by Lynx Edicions, Barcelona. It is preceded by Volume 1 Carnivores; Volume 2 Hoofed Mammals; Volume 3 Primates and Volume 4 Sea Mammals: it is proposed that Volumes 6 Rodents and Lagomorphs, 7 Insectivores, and 8 Bats will follow. This is a well known and respected series of books. The Chief Editors of this volume *Monotremes and Marsupials* are senior academics in their fields. Dr Don E. Wilson is Curator Emeritus, National Museum of Natural History, Smithsonian Institution, Washington DC, and has coauthored *Mammals of North America* (2002; 2009) published by Princeton University Press. Dr Russell A. Mittermeier is President, Conservation International; Vice-President, International Union for Conservation of Nature (IUCN) and has coauthored *Lemurs of Madagascar* (2010) published by Conservation International. Both act as Chief Editors of all eight volumes of the *Mammals of the World* series. The authors of the sections are taken from the pool of eminent researchers who work with the taxa involved in this volume. Unsurprisingly, many of them are based in Australia. These are the appropriate academics to write this weighty volume.

This volume presents a world of monotremes and marsupials: monotremes within the comparatively limited range of Australia and Papua New Guinea, and marsupials with the more cosmopolitan range extending from near the bottom of South America to southern Canada. The volume's intent is to thoroughly background all the world's marsupial and monotreme taxa and do this while incorporating a very large variety of suitable photographs.

The framework, as you might expect, follows a taxonomic hierarchy of order, family, genus and species. The sections within each order are divided hierarchically, although not necessarily in any phylogenetic order. Little attempt is made to discuss taxa at the ordinal level, getting quickly into discussions on familial and lower level taxa. Each of the ordinal sections opens with a global distribution map of the family immediately under focus. A large essay dominated by photographs follows. This is broken down into the subheadings: Systematics; Morphology; Habit; General Habits (which I take as meaning behaviour); Communication; Food and Feeding; Breeding; Movement, Home Range and Social Organisation; Relationship to Humans; and, Status and Conservation. The general section is concluded by a General Bibliography, citing only authors and dates. This is followed by a smaller field-guide styled section with a smaller font and usually on less than a single page. These are juxtaposed with colour illustrations of the species grouped on a single one-page plate. The species section contains its own distribution map and the text is divided into the

subheadings: Taxonomy; Distribution; Descriptive Notes; Habitat; Food and Feeding; Breeding; Activity Patterns; Movement, Home Range and Social Organisation; Status and Conservation; followed by a moderate bibliography.

The layout is orthodox with a table of contents that gives orders and families, which is followed by a list of plates; an opening introduction by one of the senior editors, Don Wilson; followed by acknowledgements. The volume opens with a discussion of recently extinct Australian marsupials and monotremes. The volume concludes with a full bibliography and an index. The bibliography is divided into two sections: general references and references for type descriptions. The combined bibliographies have ~9000 citations. For the most part the index is of the names of animals; but alas, under bear I found Koala. Fortunately, I also found it under K and P (P for *Phascolarctos cinereus*).

The volume does not state the intended readership, although it seems to be a broad audience, sitting the volume somewhere between a coffee table publication and a reference volume. It will be used by zoologists and high school students alike, but it is probably too heavy for anything but the sturdiest of coffee tables.

In terms strengths and weaknesses the volume was something of a paradox to me. It contains a lot of widely accepted general and some detailed information: alas, which is unreferenced. A general bibliography is given at the conclusion of the large family sections and another given at the conclusion of the smaller species sections. These consist of author and year. No in-text citations are given so you cannot tell which reference goes with which piece of information in the sections. This is the volume's greatest weakness. This point alone makes this volume far less useful to professional zoologists and post-graduate students. Its greatest strengths lie in its discussions and photographs. Photographs convey a sense of the animals and most of these are of the highest standard, with many showing details of a taxon's behaviour that can be described in words, but is remarkably clearer with a photograph. The illustrations (as opposed to photographs) are diagnostic drawings of the animal at rest facing left. One purported strength was the inclusion of French, Spanish and German names, although I fail to see the point when all the text is in English. Some familiar Aboriginal names, which are commonly used in Australia e.g. Woylie and Boodie were included. I note that the Aboriginal names are the English names commonly used in Australia and in much of the scientific literature.

Putting the world's marsupials into a single volume compels enquiring minds to look at taxa they do not normally work with or commonly see, for my part this was looking at the three orders and 111 species of American marsupials. This quickly highlighted for me one utility of the volume: having the world's marsupials in the one place. This utility and its quick general reference function underscore how the professional community might use the volume.

The volume opens with an essay on recently extinct marsupials from Australia along with the conjoined field-guide styled species-sections: eleven are described and nine illustrated (because the morphology of some remains unknown). This

opening is what I needed to read when coming to terms with Australian marsupials somewhere near the start of my time as a biologist. The volume has major educational values to secondary and tertiary students as a general reference text. It will function as a starter text for these students and act as the same for biologists wanting a background of a taxon they know little about. However, this function is limited without in-text citations.

The level of research is of a high standard. Each section has been written by an expert in the field who is familiar with the current literature on that taxon. A scan through the Boodie (Burrowing Bettong *Bettongia lesueur*) section found up to date citations and finally the beginning of an understanding that this animal is a little carnivorous; this volume points to it eating carrion, but I have them eating beef sausages and bird eggs, and they have been published eating live turtle hatchlings (Thomas 2003; Fulton unpubl. data).

The writing style varies throughout, but given that different authors have written for different families this seems unsurprising. The overall writing quality is high and has undoubtedly been checked by the editors. I found Don Wilson's introduction to be engaging and informative.

Assuming the 717 colour photographs are supplementary and not core then the quality of the supplementary material is extremely high. There are 44 drawn plates covering all the species and these are diagnostic illustrations and of a very high standard. There are 375 distribution maps and as far as I can tell

from my investigation they appear to be accurate; they are clear and large enough to see clearly with arrows used to point out very small distributions such as off-shore islands.

I recommend this book with its limitation of no in-text references, to secondary and tertiary students in Australia, Papua New Guinea or the Americas, or wherever they will study marsupials and monotremes. Professional biologists may prefer to stay within the science journals, Google Scholar etc. However, professional biologists would benefit from the quick general information. Managers and administrators in the conservation and environmental arenas would also benefit from its general utility: that is, if you work with marsupials and monotremes. Don Wilson brings his introduction to an end saying, '...there are species found in this remarkable radiation that have no counterparts anywhere in the world. Such a unique fauna deserves its own volume.' I heartily agree and it is refreshing to see the world's marsupials and monotremes in this one volume.

Graham R. Fulton

School of Veterinary and Life Sciences
Murdoch University, South Street, Murdoch WA, Australia

Reference

- Thomas, N. D. (2003). Predation of loggerhead turtle hatchlings by the boodie (*Bettongia lesueur*) on Dorre Island, Western Australia. *Western Australian Naturalist (Perth)* **24**, 150–151.