

BOOK REVIEW

A Natural History of Australia. Tim M. Berra. 1998. Academic Press, San Diego, CA. 304 p. \$44.95 hardcover.

This is likely the period of greatest interest by Americans in the "Land Down Under," although the island continent has always possessed a certain mystique as the last real frontier for most of the 20th century. Cable television has brought us closer to the realm's biota, but these shows usually place an unfortunate emphasis on the dangerous and poisonous elements, rather than introduce the unique diversity and abundant examples of convergent and divergent evolution. With so many curiosities to be satisfied, the lure of the Olympics, and a highly favorable exchange rate between the Australian and US dollars, this first decade of the new millennium should produce the greatest influx of American tourists to Australia. This anticipation would explain the incredible array of tourist guides to Australia available at bookstores today. On a recent visit to a book store, I counted 34 books offering inside information on various aspects of Australian culture and experiences. Not one of these came close to offering anything on Australian biota and geology like Berra's *A Natural History of Australia*.

The book has over 400 photos and illustrations, an average of 1.4 per page, which do an excellent job of establishing the fact that one can travel to no more exotic place. The text is organized into ten chapters. The first three are a bit unusual for a natural history guide but prepare the canvas for the rich overlay of biodiversity and endemism presented in the subsequent units. Chapter 1 deals with early explorations and settlement by Europeans, basic geography, and the political organization of the island continent. The six states and two territories are profiled as to natural features, population, climate, cities and towns, and industry. Chapter 2 is a geological treatment including mechanisms of continental drift. These are brought into a biogeographical context with a section on differences in vertebrate distribution between Australia and the nearby Indonesian islands, which form a discontinuous bridge linking tropical Asia with New Guinea and Australia. Chapter 3 is an account of the original settlers, which Europeans named 500 centuries later as *Aborigines*. Traversing from south-eastern Asia to Australasian shores, aborigines were perhaps the original ocean going sailors. The move from a New Guinean beachhead to the mainland was rapid and the impact of their arrival traumatic on an ecosystem scale (Miller and others 1999).

Berra devotes nearly 200 pages in seven chapters to the Australian biota. The text is full of information, a tribute to Berra's concise writing style since the pages must also accommodate photos and figures. The biases of coverage are toward animals, particularly vertebrates, with freshwater fishes, and tetrapods, especially marsupials, predominating. This is an observation, not a criticism. The book also contains lots to appreciate about the plants, invertebrates, and marine fishes. Chapter 5, "Dangerous Waters," is where some of the more no-

torious marine species are treated, including the sea wasp (*Chironex fleckeri*) on which Berra bestows the title "most venomous animal known." Blue-ringed octopus, cone shells, stonefish, and firefish (also known as lionfish and turkeyfish) are other poisonous creatures presented. Berra treats these animals more as components of the Great Barrier Reef fauna and does not belabor the dangers visitors from the northern hemisphere are likely to encounter. In this regard, his section on "Shark Attacks" is the best. It is factual, vivid, and respectful to these marine predators. Many readers may find that they are surprisingly sympathetic to conservation measure required to maintain diversity and vital ecological roles of these cartilaginous fishes.

All the chapters on major groups of organisms are very good to excellent. The photos and figures complement the text. The chapter on amphibians and reptiles is one of my favorites. It is a good illustration of a theme repeated often amongst components of the Australian biota. A relatively few, higher taxa (orders, suborders, families) are present, but most of these have diversified significantly in isolation. Frogs are the only amphibian representatives, but just four families contain over 200 species. Elapid snakes, the same family as cobras and mambas, have 200 species in 50 genera and make Australia the only major continent with more poisonous than non-poisonous species. A table comparing relative toxicities of venomous snakes around the world reveals that Australia is home to 9 of the top 10!

Berra's purpose in writing this book was to "...explain Australia and the beautiful...biota to visitors. The book is also intended for the general natural history reader...." He has succeeded admirably. Still there must be some deductions, errors, and omissions, but I had trouble finding any, such is the quality of the editing. Berra can occasionally be patronizing. For example, he alerts readers (p 37) "the ensuing discussion on plate tectonics may be too technical." I doubt that anyone inclined to purchase this book would have any difficulty with this section. The report of a single fatal shark attack in 1982 as the only one in New South Wales waters since 1967 is unfortunately out of date. On June 9, 1993, there was a male scuba diver killed by a great white shark near Julian Rocks off Byron Bay. Among the interesting invertebrates treated in Chapter 6, no mention is made of the unusual arthropod *Peripatoides*, which occurs in tropical rain forests in Australia.

The book also has three appendices, "Political and Social Essentials," "Australian Idiomatic Language" (a must for real survival in Australia), and "Some Facts and Figures for Travelers." I urge anyone visiting Australia with a modicum of interest in its plants and animals to buy this book. It is a bargain and a natural history treasure.

LITERATURE CITED

Miller GH, Magee JW, Johnson BJ, Fogel ML, Spooner NA, McCulloch MT, Ayliffe LK. 1999. Pleistocene extinction of *Genyornis newtoni*: Human impact on Australian megafauna. *Science* 283:205-8.

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