



Book Review

Australian deserts: ecology and landscapes

By S. Morton

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Many physical geographers and I expect more than a few ecologists will be familiar with Griffith Taylor's 'Habitability Map of Australia'. The first version appeared in his 1926 paper in *Geographical Review* (Taylor 1926) and a modified version in his 1937 book chapter (Taylor 1937) on constraints to (European) land settlement in Australia. This version was used, almost unaltered, as the frontispiece to the first edition (1940) of *Australia: A Study of Warm Environments and Their Effect on British Settlement* (Taylor 1940), and as far as I can tell appeared in all subsequent editions of this highly influential book. Perhaps the map finds its strongest expression in the version created by the Commonwealth Department of Information in 1946, the variant turned up most readily by an internet search for the item (National Archives of Australia 2023).

The 1946 map is famous – perhaps infamous – for labelling four areas of Australia as 'Useless'. The smallest is the alpine country around Mount Kosciuszko. The next smallest is south-west Tasmania. But they are dwarfed by two huge areas in central Australia: one, a circle of land including the Gibson Desert, Little Sandy Desert, Great Sandy Desert and Great Victoria Desert in eastern Western Australia, the south-west of the Northern Territory and the north-west of South Australia; the other, a boomerang-shaped region encompassing the Simpson Desert, Strzelecki Desert and Sturt Stony Desert in northern South Australia. These two coincide with what Griffith Taylor described as 'Empty Australia' in fig. 1 in his 1940 book (Taylor 1940), a massive slab of land in central, northern and western Australia that contrasted with the 'Economic Australia' of the south-east and south-west. (Tasmania didn't rate in this delimitation.)

The significance of these descriptions is reflected in the old-fashioned moniker for the arid inland of Australia, 'The

Dead Heart' (Gregory 1906). The paradox of course is that the land is neither 'useless', nor 'empty', nor 'dead'. The British, for example, found this inland desert country far from useless. It provided the sites for nine atomic-bomb tests and untold numbers of missile tests in the 1950s and 1960s, facts that came to light to most Australians only after many cover-ups and mostly incomplete, sometimes grimly enforced and reluctantly undertaken, clean-ups. More recent and innocent uses of these 'useless', 'empty' lands in the 'Dead Heart' are based on their attractiveness for modern-day grey nomads and other peripatetic travellers and part-time explorers (e.g. Bayly 2009; Phoenix 2015; see Fig. 1). And, of course, millennia of Aboriginal people have found these parts of Australia far from 'useless', 'empty' or 'dead'.

It is these 'useless', 'empty' lands of the 'Dead Heart' of the continent that provide the focus of the book by Steve Morton, the well-known and highly respected desert ecologist based in Alice Springs, *Australian Deserts: Ecology and Landscapes*. The preface (p. iv) delimits the book's scope. It is not primarily concerned with the management of Australia's deserts nor with how Aboriginal people have used and lived in them. Both are astute judgements, as other works have addressed these topics in considerable depth and to have included them would likely have made the book unmanageable, or at least unfocused.

So much for the 'Australian Deserts' part of the title. What about the subtitle, 'Ecology and Landscapes'? The book is concerned far more with desert ecology than with desert landscapes. Chapter 1 ('Far horizons') provides a regional overview of Australian deserts, and Chapter 2 ('Blue skies, occasional rain') a background on desert climates, but the seven chapters that follow all have a sturdy ecological orientation. This is in keeping with the statement on pp. iv–v

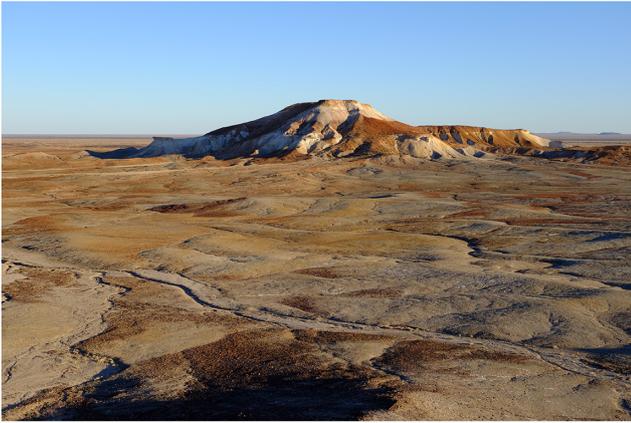


Fig. 1. The Painted Desert, between Oodnadatta and Coober Pedy, north-central South Australia. Photograph taken by P. I. Boon, July 2019.

that the book addresses the ‘wonderful ecological complexity’ of Australian deserts. Again I can understand from a pragmatic perspective why this choice was made: to have visited all the deserts of Australia to obtain the necessary photographs and first-hand descriptions needed for a detailed landscape synopsis would have been an overwhelming (if exceptionally thrilling) task.

Even so, there are two grounds on which I would have liked to have seen a chapter devoted solely to the topic of desert landscapes, say a new Chapter 3. The first is that such a chapter would have rounded out more fully the first two chapters. It would also have provided a stronger context for the subsequent ecological chapters. An orographic map of the continent, for example, would have shown that many desert landscapes in the centre and west of the continent are not all low-lying, as say Lake Eyre is, but are situated on (relatively) elevated lands above 600 m. The second reason is entirely selfish. I feel cheated, since the rest of the book is so delightful that an additional chapter on desert landscapes would have been a joy in itself. Still, we do have some texts on this topic (e.g. [Twidale and Campbell 2005](#) and the superb, if geographically limited, [Thompson 1995](#)) and it seems these will have to do until a more modern book focusing on desert landscapes comes along.

To summarise, the book is neither an environmental history nor a work of historical ecology. It does not pretend to be either. What’s in the can is pretty well described by what’s on the label: it’s a book on the ecology of Australian deserts.

The book is beautifully produced. It follows the format adopted by CSIRO Publishing in many of its recent monographs: colourful without being garish, a layout that is simple without being trivial, and with a clever and very attractive use of a bold mid-blue typeface for headings within each chapter. The photographs – by Mike Gillam – are exceptional and beautifully reproduced. They are never simply gratuitous. They always add to and complement the

narrative. Take the photograph of the flock of budgerigars on p. 29: perfect. Ditto that of the honey grevillea on p. 237. These images should act as a inoculum against the belief held by many people – and often most stridently by those who have never ventured into them – that Australia’s deserts are drab, boring, featureless and dangerous (and ‘useless’ and ‘empty’ and ‘dead’).

To return briefly to Griffith Taylor. In *Australia* he lamented that ‘It is amazing how little the layman uses maps in his geographical discussions’ ([Taylor 1940](#), p. 108). No such criticism can apply to Steve Morton’s book. The maps are abundant, relevant and excellent, always clear in layout and often half-page in size, so easy to interpret. Again some examples: the map on p. 15 shows why sand dunes are orientated in the way they are in different deserts across Australia, something that has always intrigued me and the reasons for which are now made clear. Figure 2.4, on p. 31, showing palaeodrainage systems and the distribution of salt lakes, also helps the reader make sense of the country. Likewise, the conceptual models explain simply and effectively what’s driving the abundance of many desert creatures (e.g. for ants, fig. 4.4; termites, fig. 5.1) and their trophic interactions (e.g. fig. 6.1). In other words then, the production qualities are first rate.

Earlier I pointed out the book’s focus on desert ecology rather than on desert landscapes. The chapters that follow the regional and climatic overviews in Chapters 1 and 2 deal variously with plants (Chapters 3 and 4), food webs (Chapter 5), invertebrates (Chapter 6), vertebrates (Chapter 7), aquatic systems (Chapter 8) and ecosystem dynamics (Chapter 9). The wonder is how the author collated and digested all this divergent material, then assimilated it into such a glorious and easy-to-read story. The resultant narrative is never less than vivid. It routinely combines a faultless scientific description of a topic with touches of personal reflection that work synergistically, along with the magnificent maps and photographs, to bring the text alive. Also included are many – but not too many – descriptions of deserts related in interesting old books and journals, for example, the reference to the book, *The Red Centre*, by Hedley Finlayson ([Finlayson 1935](#)). (I’m not sure whether Arthur Groom’s charming 1950 book *I saw a Strange Land* ([Groom 1950](#)) is cited though.)

These references to earlier works are further complemented by personal descriptions of some of the author’s most interesting experiences in the desert. The preface (p. iv) opens with a brief, but amusing, description of how visiting film-makers totally misunderstood the nature of Australian deserts, half expecting (and wanting) to find a replica of the Sahara with a Lawrence of Arabia-like figure emerging on horseback from a blinding sandstorm. On p. 18 the author relates a pivotal experience in his late teens on the Hay Plain in south-western New South Wales, an incident that forged his love of the desert. Elsewhere we find anecdotes about burrowing frogs (p. 15), the joys of

eating juicy gall-forming insects on the edge of the Great Sandy Desert (p. 107), an amusing tale about a late-night, half-drunken interaction with a surly centipede near Rabbit Flat (p. 149), and a story about trapping lizards in the Tanami Desert (p. 166). As with the photographs, none are superfluous or unjustified and everywhere such historical or personal information is effortlessly incorporated into the narrative.

What to say about the scientific elements of the book? Being an aquatic ecologist, I quickly turned to Chapter 8 ('By the waterhole') to see what I could learn. Deserts are famously perceived by the layman as being waterless and lacking substantial rivers (both notions wrong of course) and so I also wanted to see the ways in which this view could be corrected. As with the rest of the book, the material in the Chapter 8 is captivating. If the author's description of the watery aspects of deserts does not prompt you to race out to see them for yourself, there is something missing in your sense of adventure and depth of curiosity. My only criticism – and it's a very mild one – is that a stronger treatment could have been given to the physiographic aspects of desert rivers and lakes. That so many of Australia's rivers are arheic or endorheic could have been stressed and its ecological significance drawn out more fully. The almost complete dominance of (often dry) salt lakes could perhaps also have been given a bit more emphasis, especially given there are so few in-depth treatments of this type of aquatic system in Australia and what is nominally 'available' is now rather old (e.g. Williams 1998). However, it was nice to see the hyporheic zone given its rightful place (pp. 221–224), as so many animals live in it or find refuge there, and the magnificent River Red Gums that line so many of our arid-zone watercourses use groundwater as their water source. Of course, including any of these suggestions would have made the book longer and dearer than it is, and so can be safely disregarded by a practical author and a responsible editor as unworkable!

Every chapter has a comprehensive reference list associated with it, cleverly and unobtrusively provided as endnotes. There is also a short but useful glossary at the end, and a collation of common and scientific names of desert critters and plants. One minor criticism is that each chapter ends with a concluding summary, but the way in which these summaries have been incorporated into the text is a bit inconsistent, sometimes having their own dedicated subheadings (e.g. Chapters 1, 2 and 5) but other times not (e.g. Chapters 3 and 4) and on other occasions having an expanded or restricted conclusions section (e.g. Chapter 6). I could find no embarrassing typos, so full marks to the book's copy-editor and proof-readers. The index is also sufficiently detailed to be actually useful, rather than simply a cursory addition at the end.

Morton rightfully points out that 'Deserts lie at the heart of Australia. They are significant because of the proportion of

the continent that they cover and because of their role in the national consciousness' (p. 17). His book, focusing on desert ecology, is a valuable scientific contribution to the literature on Australian deserts and complements beautifully earlier works that have shown how deserts have informed the Australian psyche. Perhaps more than any other landscape type in Australia, it is deserts that have been responsible for Europeans' perception of and relation to the continent. (The coast comes a distant second). Think of the heroic explorations of 19th and even 20th century explorers, all of which were epics and more than a few were farces, and their deep-rooted place in popular psychology (e.g. Phoenix 2015). Or of the landscapes painted by prominent European Australian artists such as Russell Drysdale, Sidney Nolan or John Olsen, or indeed of the remarkable Aboriginal Western Desert art movement centred on Papunya, let alone the unmistakable watercolours by Albert Namatjira of his beloved MacDonnell Ranges. Consider the role the desert played as a living backdrop to the novels of Patrick White, Xavier Herbert and Ion Idriess. Mull on films such as *Walkabout*, *Wake in Fright*, *Wolf Creek*, *Mad Max* or *Rabbit Proof Fence*, all of which were set in the desert. The book of course does not cover these topics and, in any case, there are some excellent texts that do look at these subjects from a scholarly perspective (e.g. Falkiner 1992; Haynes 1998).

So, to conclude. The author states on p. iv of the preface that 'The book is a celebration of Australian deserts, of 5 million square kilometres of wonderful ecological complexity'. It is. Who will find it useful? First, it is a book for people from all walks of life who love the deserts of Australia and want to know more. They could be scientists who want to learn about matters outside their area of expertise (e.g. aquatic ecologists and the feeding and reproductive ecology of kangaroos or the nesting behaviour of goannas; vertebrate ecologists and the growth responses of desert plants, etc) or non-scientists – for example, those lucky, peripatetic grey nomads – who simply want to know a bit more about the ecological structure and function of the landscapes they are travelling through. But I hope it is also the book that will convert those who do *not* know about these astonishing landscapes and their ecology to develop a new respect for and understanding of the deserts of Australia.

Steve Morton's book, therefore, should be available not only in all the capital and regional cities, but also in every refuelling stop and tourist stay-over in arid and semi-arid Australia, for sale or merely to look through while you are waiting for the hamburgers to cook and the coffee to brew and your partner to refuel the 4WD with diesel. After all, it is a beautiful *and* practical book, and costs about the same as a 20 L jerry can of diesel in Oodnadatta or Birdsville or Curtin Springs or Menindee, and far less than one in Warburton or Warakurna. It would be money well spent to pay the \$60 or so to enter the world of Australian deserts so magnificently described in this book. It gets a full tick of

approval from me. Now all I have to do is find a way to get back to these wonderful places for a couple of months with *Australian Deserts* as my companion . . .

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Conflicts of interest. The author declares no conflicts of interest.