first encounter of European explorers with bats in Australia. Also highlighted are the passionate people who rescue and care for injured bats. The closing chapter is devoted to species profiles, with stunning photos of a large proportion of Australian bats, and associated descriptive information.

What I liked especially about this book is that it brings together current knowledge on bats in Australia, and each chapter is presented in a way that can be followed easily even by people who are completely new to the world of bats. In addition, it manages to present factual information that would intrigue bat scientists, making this an enjoyable read for them too. All readers benefit greatly by the profusion of photographs that enhance the text to make this book a very engaging read. I guarantee that, by the end of this book, readers will be hooked on bats, if they are not hooked already!

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A Guide to Australia's Spiny Freshwater Crayfish.

By Robert B McCormack

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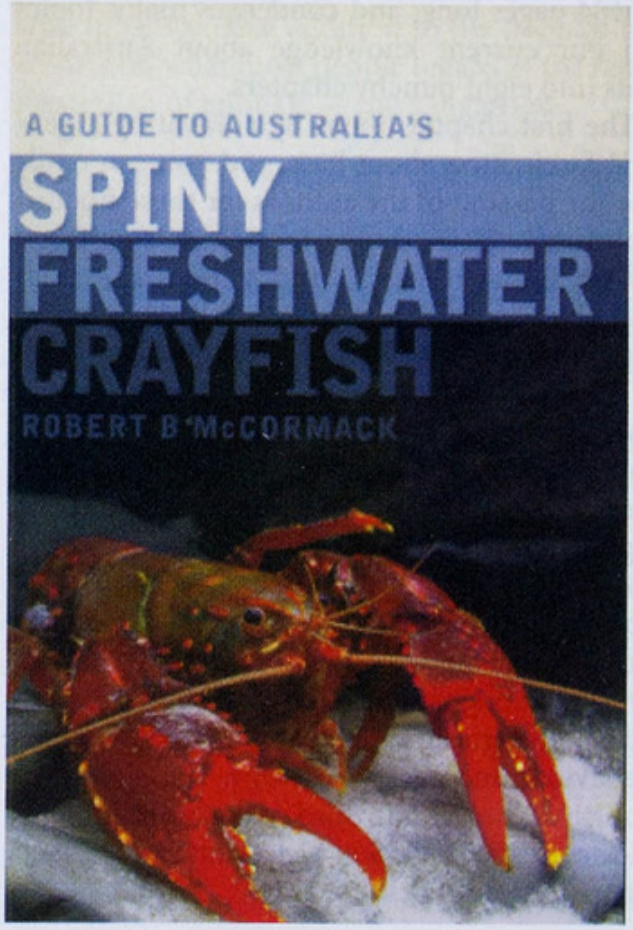

From time to time I have been asked to identify freshwater crayfish for environmental managers, curious members of the public or kids. While I know something about marine crustaceans, these groups are not my speciality. So a 'guide' is just what I need. This new book is a fine publication but it is not a guide for those who might want to find out the name of a newly caught crayfish. Identification of species, especially in a genus like *Euastacus* with 50 named species and more yet to be described, is no easy task. To the uninitiated (that's most of us) telling one from the other is difficult. Gary Morgan, whose taxonomic work (1986–1997) is the foundation of current understanding, provided dichotomous keys full of arcane terms and demanded an appreciation of subtle distinctions. No substitute for these keys is provided in this book—perhaps that is not possible but some of the new information provided here, colour patterns for example, might have proved useful. I wonder how the author and his colleagues identify species without resorting to Morgan's

works. The section devoted to identification of crayfish relies on division of the species into what the author calls 'giant', 'intermediate' and 'dwarf' spiny crayfish, each group characterised by about 20 morphological, ecological and behavioural features, some overlapping. I found it difficult to differentiate some of the species tabulated aphabetically on the basis of these characters. The section fails to explain how to tell one species from another.

Having said that, *A Guide to Australia's Spiny Freshwater Crayfish* should have general interest. I am a fan of books that cover a well defined taxonomic group, the genus *Euastacus* in this case, in detail and in a popular format. Three-quarters of the book discusses all 50 species found in Australia in alphabetical order (which is fine if you know the species name of the species of interest). A colour photograph, ecology, diagnostic features, distribution, colour, size, breeding and conservation status are given for each. We learn that many are uncommon and most are restricted to small catchment areas. In the absence of identification keys, it might have been better to group similar species together and discuss how they differed from their neighbours. The introductory chapters discuss basic crayfish anatomy, moulting and growth, morphology and breeding. A concluding chapter evaluates threats from recreational fishing, illegal fishing, climate change, habitat alteration, exotic species and diseases.

There is a wealth of information in the introductory chapters and for each species. I assume that the author and his colleagues in the Australian Crayfish Project, a collaboration active since 2005, are responsible for most of it and are to be commended for bringing it together. I was curious why only 27, mostly taxonomic, citations are listed in the *References* section. A vast number of refereed papers and government reports goes unacknowledged. This literature deals with spiny crayfish physiology, reproduction, life history, evolution, phylogeny, population genetics, conservation, management, fisheries, diet, behaviour, growth, burrows, Aboriginal use, moulting, pollution tolerance, dispersal, ectoparasites and more (try *Euastacus* in Google Scholar). I list below some key papers from the hundreds I found.

The writing style ranges from highly technical to chatty, fact and opinion often intermingled. The technical sections will be beyond many readers – I wonder what are the really diagnostic bits in the species diagnoses. Advice on handling spiny crayfish is useful but not in a section on anatomy (p. 32). The excellent coloured and labelled illustrations of anatomy (pp. 37–40) seem to stand alone and the difference between 'small', 'medium' and 'large' spines is never explained. Small errors have crept in. The cheliped (and in fact all the legs) comprise seven segments, coxa, basis, ischium, merus, carpus, propodus and dactylus in that order, not four as stated. There is only one pair of uropods, each with two branches, not two pairs.

This book covers a lot and fills a gap for an important and charismatic group of endemic Australian crustaceans and for these reasons it is to be recommended.

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