

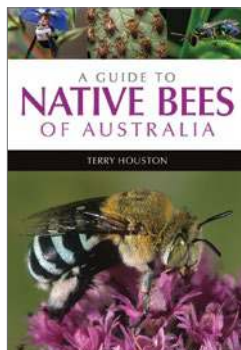
Book review

A Guide to Native Bees of Australia

Terry Houston, 2018. CSIRO Publishing, Clayton South. 272 pp. ISBN: 9781486304066. RRP \$49.99

Dr Houston has produced a superb and timely addition to the literature concerning bees and provides a wealth of information to stimulate the bee enthusiast and beekeeper alike. Enriched by some of the finest and most impressive macrophotographs and photomicrographs of bees and their anatomy taken by a cohort of talented photographers, this book offers a fascinating insight into many of the species that comprise Australia's native bee genera and five families. Dr. Houston's passion, years of experience and knowledge are evidently embodied throughout the text, and his succinct writing style makes the field of entomology and technical language of bees accessible to the non-specialist. Even so, specialists too will be delighted with the content and level of detail, supported by further reading advice and a lengthy bibliography of key resources.

Laden with scientific and entomological facts, the reader is taken deep into the captivating world of bees and their relationships with the environment. The physical characteristics and appearances, behavioural patterns, societal natures, nesting habits, threats and



even curiosities are detailed across a series of well-written and well-structured short chapters divided into two parts: (1) Overview of bees and their biology, and (2) Identification of bees. The first part covers a variety of topics and sets the basis for understanding native bees whilst the second part constitutes a significant portion of the book and offers a close examination of the five bee families. Throughout the second part the reader is provided with substantial detail on key identifying features of bee species.

With increasing social awareness occurring within Australia and globally of both the importance and plight of bees, this guide will surely have the reader in awe spending much of their time outdoors and engaged in nature, eagerly seeking out and observing the native bees that might be in their area. Perhaps the reader will even find themselves fashioning 'bee hotels' or introducing specific floral species to their gardens following some of the useful tips provided at the end of Part 1 to encourage some of our country's wonderful native bee colonies to their area and to nest, thrive, and be enjoyed.

Reviewer: Paul Kucera, beekeeper, Melbourne

Restoring Farm Woodlands for Wildlife

David Lindenmayer, Damian Michael, Mason Crane, Daniel Florance and Emma Burns

Pub. CSIRO, Locked Bag 10, Clayton South, Victoria, 3169 (2018). ISBN 978-1-4863-0964-1. Paperback, 122 pp. RRP \$39.99

Restoration of some form of native vegetation in previously cleared landscapes is a growing (pardon the pun) activity throughout the agricultural zones of Australia. Landcare groups and other private groups and individuals are active in tree planting, weed removal, fencing and all the other activities that are part of this campaign in habitat restoration. There is a need for a text that brings together and summarises in an accessible way what we've learnt so far about how to revegetate most effectively.

This book is logically organised, starting with a statement of the current situation (the 'problem') and then providing the background of the authors – their credentials as writers in this intellectual space, the sources of their expertise and the assumptions and



limitations that govern the book. This book is an outcome of decades of research and records encompassing many properties in south-eastern Australia. Unfortunately, the book's bias towards the authors' research and survey efforts shows through early on, even in the Acknowledgements (with appreciation shown for the '... generous funders of **our** work over the past two decades, my emphasis). This bias pervades the book. All the authors are (or were) members of a tight research group based at the Australian National University in Canberra. Other contributors to the field are not completely ignored. There are occasional references to the work of others. Nevertheless, the authors' work dominates the book.

Regardless of this bias, the authors and their research group are principal players in this increasingly important space of native vegetation restoration in agricultural landscapes and their collective experience is valuable.

The authors are careful to explain aspects of revegetation that are to be discussed and, refreshingly, aspects that they will not cover here. The text is clearly oriented towards the concerned public, including landholders. Scientific data are presented in a decidedly accessible form. Call-out boxes are very successfully used to explain more esoteric scientific points or social issues outside the sequential logic of the rest of the text. For example, Box 1.3 provides one of the best, simplest and briefest explanations the reviewer has read of the peer review process that underpins the scientific method. Box 1.5 clarifies issues not covered by this book (an important qualifier, often otherwise overlooked). Box 2.4 thoroughly immerses the book in the practical landscape and practicable revegetation, not in some unattainable ideal.

The relevant component topics are covered, from what, where and how to plant, through management, changes with time, creating a whole-farm plan and monitoring. The authors are careful to provide neither formulae nor schema that purport to direct the best revegetation efforts. Again and again, the reader is reminded that local circumstances may be unusual or even unique, such that all revegetation plans must be adapted to local conditions and histories. This pervasive theme underscores the authors' determination to write a practical manual, not a series of theoretical tenets that are difficult for the practitioner to put into effect. This lack of a 'best practice' formula is somewhat frustrating, but is sensible and realistic. Useful guiding principles for revegetation are outlined and one of the most useful aspects of the book is that it helps focus the practitioners' on long-term outcomes and real (measurable) achievements.

Weed control is not ignored in the book. But it is clear that the authors have most experience where weeds are not a major handicap to revegetation. In some landscapes, notably on the more fertile geologies (particularly basalt) or landforms (such as river flats and drainage lines), weeds have captured the landscape so tightly that extensive and intensive weed removal works are a pre-requisite for revegetation. Dominance by perennial weeds (such as the thistles *Cynara* and *Silybum*, or grasses, e.g., *Nassella* and *Phalaris* species) may necessitate intensive weed control before any further revegetation works. This issue is barely covered, and inadequately, in this book.

There is a gratifyingly small number of errors (e.g., p.41 – 'Larger areas supporting more species' is not a summary definition of the Species-Area curve, and p.79, Box 6.3 – Australian trees are not 'notoriously bad at extracting nutrients from the already nutrient poor soil'. Indeed, some Australian trees are justifiably renowned for being able to extract otherwise limiting nutrients from almost nutrient-free soil, e.g., species of *Banksia* and *Allocasuarina*. Ecto-mycorrhizae are widespread on tree species around the globe and should not be seen as separate from the trees with which they're associated.

In summary, the book is a useful and worthy addition to the shelves of any land management organisation and all landholders concerned with revegetation in agricultural landscapes. It's an accessible summary of much recent research and a useful statement of guiding principles that all successful revegetation works should keep in mind. It's recommended.

*Reviewer: David Cheal, Hon. Research Fellow
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