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Book review

HETERICK, B.E. 2009: A guide to the ants of south-western Australia

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The south-western corner of Western Australia is a well-known biodiversity hotspot of global importance, being exceptionally rich in taxa as well as containing a large number of endemic species. Ants are no exception to this, with the region containing twelve of Australia's thirteen ant subfamilies, approximately 61 of the 100 known Australian genera and approximately 350 described species (plus approximately 150 known but undescribed species). This compares well with the geographically much larger North American continent and exceeds similar sized areas in Europe. It is a truly exceptional area biologically, and Brian HETERICK's *Guide* places ants at the fore for studying and documenting this biodiversity hotspot.

A *guide to the ants of south-western Australia* provides a firm foundation for understanding the entire ant fauna of this important region at the species level. It includes both described and undescribed species, the undescribed species being identified with "JDM" voucher numbers, numbers originally devised by Jonathan D. Majer. This is the first attempt to document an Australian regional fauna at species level, although Alan Andersen has provided regional guides at species-group level and Steve Shattuck produced a guide to the fauna at generic level. Moreover, while John Greenslade did address many of the species found in South Australia, his work is little more than a field guide compared to HETERICK's encyclopaedic treatment of the Western Australian fauna.

The *Guide* begins with an overview describing the region under study including notes on vegetation and ant communities. A number of colour landscape photos are provided to supplement the text. To help those with minimal formal taxonomic training, an introduction to nomenclature is given along with comments on the "species problem." These are unexpected but welcome in this type of work, and expand its potential audience considerably. Additional sections include a coverage of morphological terms used to describe and identify ants (backed up with additional definitions provided in a glossary near the end of the book), presentation of an overview of the ecology of species in the region, extensive notes on introduced ants and a section on ants as bioindicators. While information

relates primarily to the region covered by this book, it draws from other regions where appropriate and is applicable across an area much broader than that covered by the *Guide*.

However, taxonomic guides are judged by their keys, and this *Guide* passes with a High Distinction. The keys are clearly written with language as simple and non-technical as possible while still being accurate and unambiguous. The vast majority of couplets include well executed line drawings, over 700 drawings in total, nearly all with arrows indicating the relevant feature under consideration. A number of scanning-electron micrographs are also included to supplement the line drawings. Keys include those to subfamilies followed by keys to genera for each subfamily. For genera containing more than one species a key to species is provided. These keys include both described and undescribed species.

Approximately 500 species are included in the *Guide*, 154 of which are undescribed. An unexpected pleasure of the *Guide* is that undescribed species are given the same treatment as described species. These species are named using their "JDM" numbers and material on which this work is based is also labelled using these codes. It will be straightforward to substitute nomenclaturally valid names for these codes during full taxonomic revisions with little loss of information. For each taxon, descriptions are included as well as biological notes. These notes can be quite extensive, covering separation from close relatives, notes on classification (both new and historical), distribution records within south-western Western Australia as well as Australia-wide, and biology. They also provide an often detailed overview of the species, with most of the information presented here for the first time. It is abundantly clear from these notes that the author has first-hand field experience with the majority of species considered in this *Guide*.

After perusing this work in some detail, only a single drawback could be found: There is no index and only a minimalist table of contents. This is not a particular problem if one is using the keys, as the text flows directly from key to species discussion. However, locating a specific genus or species requires extensive page flipping, complicated by the apparently random ordering of subfamilies. Simply adding the subfamilies to the Table of Contents would have been a help, but even this is missing. I predict regular users of this work will create an index to genus entries and attach it to the back cover soon after their copy arrives.

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