

## BOOK REVIEW

BARKER, S. 2006. *Castiarina* Australia's richest jewel beetle genus. v + 341 pp., 46 plates (32 color, 14 greyscale genitalia). ISBN 978 0 64256 843 4. The book is available from ABRS Publications for AU\$90 (includes surface shipping). Online orders: [www.deh.gov.au/biodiversity/abrs/publications/other/castiarina.html](http://www.deh.gov.au/biodiversity/abrs/publications/other/castiarina.html).

This new hard cover volume (size: 242 × 340 mm (B5)) is the stunningly well-appointed conclusion to Dr. Barker's 30-year study of the largest genus of Australian Buprestidae, *Castiarina* Gory & Laporte. All 478 Australian species (6 additional species are found in Papua New Guinea) of this diverse group of flower-visiting jewel beetles are discussed and illustrated. The species are first grouped into 117 species groups and then each species group is detailed. Keys to the species groups are followed by keys within each species group (except for monotypic groups). A total of 530 color dorsal habitus paintings are provided for the 478 species to illustrate both sexually dichromatic species and several mimicry groups together. The layout of the volume is very nice, printed on an off-white ('ivory' or 'linen') colored paper. The cover and frontispiece are illustrated in color with *Castiarina magnificollis* (Barker). It should be noted that this is not a revision of *Castiarina* in the traditional sense, and thus not a complete summary of all previously published information, but rather a handbook to aid in the identification of a species-rich and widely distributed genus.

The volume begins with the author's brief Preface, then the following major sections: Introduction; Distribution; Materials and Methods (included museum codens); Collectors (a very nice discussion about the history of those who have been important collectors in Australia with photos of many); Structural specialisations in *Castiarina*; Mimicry in *Castiarina*; Conservation; Taxonomy (pp. 35–317); Acknowledgements; References; Appendix: Author & Illustrators; and the Index. Under each species group, there is a summary description for the members of the group, then each species is treated in alphabetical order. Under each species heading, a reference to the dorsal habitus and genitalia figures is followed by synonymy, types, size, description of color, distribution, and any remarks. The 478 valid species also include listings of 266 junior synonyms, but not the 99 unavailable (infrasubspecific) names. Taxa originally described as 'varieties' are treated as though they are subspecies in the synonymy lists. The infrasubspecific names are not included in this volume, neither were they listed in the two earlier accountings of the genus (Barker 1979, 1986), but they were treated by Bellamy & Peterson (2000) and included in the full synonymy by Bellamy (2002).

As nice as this volume is, we do have several comments and concerns to report. The first is that using the key to species groups starting on page 37 proved to be a challenge, which is exacerbated by the fact that there are no figure references in the key to help make decisions with subtle character choices. Couplet 5 of the 112 couplet key is problematic, forcing the reader to choose between male genitalia that are 'spade-shaped' or 'not spade-shaped.' When one hunts down the figures for the spade-shaped option (Figs. 7x, 7y, 7z), these turn out to be not so different from some examples on the same plate (e.g., Fig. 7an) that are considered not spade-shaped. It is also unfortunate that a character found in only one sex is used early in a long key. A similar situation is found for couplet 33, where the user must decide if male genitalia are 'wedge-shaped' or not. Other characters used are ambiguous as well. Couplet 22 is a choice between mouthparts that are "very short" or "short to elongate," and yet on page 21 of the text the author admits that the length of mouthparts in the genus is a continuum. With so many couplets using a single character, some of which are not precise, it is apparent that most users will likely make identifications by matching specimens to the color figures.

Other comments and concerns: 1) The definition of museum and private collection codens seems to be a pointless pursuit since the original list and system of Ross Arnett & Al Samuleson has evolved to the Bishop Museum website (Evenhuis & Samuelson 2006), so this volume joins the list of those modern works which coins codens that are used once and not familiar to many readers. 2) Of stronger concern is the use of specific epithets that differ from the original spelling. The following four species of *Castiarina* have original spellings (with or without that blasted double 'ii') different than those presented in this volume: C.

*burchellii* (Gory & Laporte), as *C. burchelli*, pg. 139; *C. castelnaudi* (Saunders) (subsequently redescribed by Thomson [1878] with the double 'ii') as *C. castelnaudii*, pg. 97; *C. klugii* (Gory & Laporte), as *C. klugi*, pg. 281; and *C. pertii* (Gory & Laporte) (perhaps needing an emendation) as *C. pertyi*, pg. 304. There may be other cases not noted here. 3) There are some junior synonyms listed more than once: *C. octospilota* var. *roseipes* Deuquet is listed on pg. 67 under *C. femorata* (Gory & Laporte) and again on pg. 68 under *C. octospilota* (Gory & Laporte). Both listings reference an earlier work by Barker (1986, 1996), and this suggests that he considered this taxon under different senior synonyms previously, but the present volume does not indicate the proper assignment of this junior synonym now. Another case is with *C. unica* (Kerremans) listed on pg. 258 as the junior synonym of *C. abdominalis* (Saunders) and again on pg. 266 as the junior synonym of *C. ignea* (Blackburn). It would have been far more useful to present complete synonymies under each valid species where past opinions and listings could have been more fully explained. 4) There is inconsistency of listing type registration numbers. Several of the Australian collections that serve as the repository for a number of the *Castiarina* primary types have no published, or otherwise available, lists of their type collections. In this volume, type numbers were listed for collections in Adelaide and Perth, for instance, but not for the large collections in Melbourne and Sydney, even though McKeown (1948) listed them for the Australian Museum and these were provided for several additional institutions by Bellamy (2002). 5) And finally, the placement of the plates is awkward and causes a lot of page-thumbing because they are not always after a species entry. It would have been much better to have them at the end which would better facilitate finding a figure.

Despite these concerns, this is a beautiful volume, which stands out in the crowd of academic monographic tomes. This is partly due to the attention to design by the ABRS team in Canberra but mostly a tribute to the persistence of the author who stuck with it for 30 years, through the inconsistencies of funding, availability of biological illustrators, and the transition from academic employment at the University of Adelaide to retirement and adjunct appointment at the South Australian Museum. We recommend that a copy of this work belongs on the shelves of every specialist and collector of buprestids and the many natural historians who have a strong interest in the Australian fauna.

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