
Book Review

Olethreutine Moths of Australia (Lepidoptera: Tortricidae)

M. Horak, with contributions from F. Komai

Monographs on Australian Lepidoptera vol. 10. CSIRO Publishing 2006. 522 pp.
ISBN 0-643-09093-2.

This long-awaited volume continues the 'top-down' approach typical of the *Monographs* series, revising the Australian fauna of Olethreutinae comprehensively at the generic level. No less than 90 genera are fully described and diagnosed, and the named Australian species listed for each. The genera are grouped into genus-groups and tribes, which are also fully diagnosed, and the constituent taxa listed. The book represents a superb and scholarly treatment of the Australian fauna, but its usefulness extends far beyond the bounds of that continent. The Australian fauna of Olethreutinae is largely derived from the Papuan and Oriental fauna, and most genera and many species are shared with those regions. The breadth of Horak's scholarship is demonstrated in her obvious knowledge and mastery of the literature pertaining to these regions, and she has clearly studied an enormous amount of extralimital material to validate her taxonomic treatment of the Australian genera. Even the obscure, endemic New Zealand genera *Parienia*, *Hendecasticha* and *Protithona* are discussed and placed in systematic context with their close Australian relatives.

There are several introductory chapters. The first contains a phylogenetic analysis of the Olethreutinae based on 126 morphological characters of adults. The results of this analysis are not used to build a classification, and indeed Horak remarks on the 'failure of the analysis to recover several well accepted groupings based on unique apomorphies'. The impression given is that this is a preliminary and unrevised data matrix, and one wonders whether the analysis might not have better been omitted from this volume. A detailed account of adult morphology follows in chapter 2; this is well written and well illustrated with photographs and photomicrographs. Chapter 3 provides a brief unillustrated account of biology and chapter 4 is an interesting summary of world diversity and

distribution, which emphasises the importance of the Oriental region as a centre of evolution for the group.

Chapter 5 constitutes the bulk of the book, with a key to Australian olethreutine genera, followed by the individual genus accounts. The key is based mostly on external characters and the couplets are for the most part admirably brief and crisp. The descriptions and diagnoses are excellent and exhaustive. The illustrations are black and white photographs of adults and of genitalia. The genitalia photographs are of excellent clear quality, partly reflecting Horak's superb dissecting and slide-making technique. Sometimes line drawings are better able to show overlapping or poorly sclerotised structures clearly, but for the most part I find these photographs perfectly adequate when coupled with the text to visualise the important structures. The photographs of the adults are of good quality overall, but occasionally appear slightly unfocussed and / or overexposed (e.g., *Cyphophanes* on p. 248, *Helictophanes*, p. 259). In these days of superb crisp digital photography and colour reproduction, these black and white photographs do look distinctly anaemic and antiquated.

The book appears to have been expertly reviewed and is almost free of obvious errors. New Zealand is mistakenly omitted from the distribution of *Holocola*, although there are several endemic species here. There is some confusion over the usage of the name *Bactra optanias*, which Meyrick described once from New Zealand (July 1911) and once from Australia (November 1911). This problem is not fully addressed by Horak, who implies in her checklist (p. 210) that the Australian and New Zealand taxa may be distinct (in which case the name should apply to the New Zealand species), while she lists *B. passeracula* Turner from Queensland as a junior synonym of *optanias*. These are very minor issues.

If the book has a fault, it is the complete lack of any description or illustration of the immature stages of these moths. Although these are known for only a minority of Australian species, at least a brief survey and summary of structure for the subfamily, such as was provided earlier in the *Monographs* series for Oecophorinae by Common (1994: 19-27), and for Zygaenidae by Tarmann (2004: 36-40), would have been extremely welcome. I hope that such a treatment will be forthcoming in a future publication.

There can be no doubt that for the systematics of adult Olethreutinae, this work is an indispensable landmark publication of the highest quality. Horak is to be congratulated on the breadth, thoroughness and precision of her scholarship, for which generations of tortricid workers will thank her in years to come.

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References

- Common IFB. 1994.** Oecophorine Genera of Australia I. The *Wingia* Group (Lepidoptera: Oecophoridae). *Monographs on Australian Lepidoptera* 3: 390p.
- Tarmann GM. 2004.** Zygaenid Moths of Australia. *Monographs on Australian Lepidoptera* 9: 248p.