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Book Review: *Aphodiinae (Insecta: Coleoptera: Scarabaeidae) Fauna of New Zealand* (Stebnicka, Z. T. 2001)

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## BOOK REVIEW

STEBNICKA, Z. T. 2001. **Aphodiinae (Insecta: Coleoptera: Scarabaeidae). Fauna of New Zealand 42**, 62 pp. ISBN 0-478-09341-1. Price: \$29.50 NZ (about \$13 US). Available at the Manaaki Whenua Press website: [www.mwpress.co.nz](http://www.mwpress.co.nz).

This is an excellent faunal survey of the scarab beetle subfamily Aphodiinae of New Zealand. It is obvious that Stebnicka has thoroughly searched the literature and has critically examined many specimens (1,500+) from all the important collections. The monograph includes keys to species and descriptions of all taxa. It also contains detailed information on the systematics, biology, and biogeography of the group as it pertains to New Zealand. There are 20 species dealt with in this volume. Nine species are native endemics, ten are adventive, and one is an interception record (with no evidence of persistent populations occurring). The volume contains 59 figures and 20 maps (one for each species). Species have either a dorsal or lateral view of the entire body or an illustration of the male genitalia (most species have both). Most of the habitus illustrations are SEMs. The remaining illustrations are line drawings of the epipharynx, genitalia, and leg characters.

Stebnicka is one of the world's leading experts on the subfamily Aphodiinae. She has published numerous taxonomic papers on the group and has been particularly prolific over the past ten years. Her recent series of reviews of the Australian Aphodiinae (co-authored with H. Howden) makes New Zealand the next logical area of study. She adeptly places the New Zealand fauna in the context of the world fauna. This is especially important for a region where over half the species are introduced from other regions. Stebnicka's next efforts will be on Neotropical Eupariini. This work is sorely needed and eagerly awaited by scarab researchers.

The biogeography section will be of general use to those interested in the fauna of New Zealand. Stebnicka theorizes that the native monospecific genus *Phycocus* is relictual while the remaining eight native species (all in the genus *Saprosites*) fall into two groups derived from two separate colonizing events. Stebnicka's statement that the genus *Saprosites* "is seemingly one of the oldest taxa of Eupariini" is closely followed by an account of New Zealand's connection to other Gondwanan land masses up to the late Cretaceous. This seems to imply that she supports the vicariance hypothesis explaining the distribution of the native New Zealand Aphodiinae. She fails to confirm this with a direct statement though. This reflects the enigmatic biogeographical history of New Zealand flora and fauna. The fact that some of the native species are collected BOTH in sand and near water (dispersal) and on and around *Nothofagus* trees (vicariance) will only frustrate (and seemingly taunt) the student of biogeography looking for more clues into the age and mode of dispersal of New Zealand lineages!

There are a few minor mistakes with this volume that warrant comment. Stebnicka has attempted to make a number of new lectotype designations for various names. The current International Code of Zoological Nomenclature requires that there be an express statement of taxonomic purpose for each lectotype designation done after 1999 (Article 74.7.3). Unfortunately, this statement was absent in all cases. The prudence of this requirement has been debated recently in the *Bulletin of Zoological Nomenclature* and on the taxacom listserv. It remains to be seen if this provision will endure. In the meantime, taxonomists should include a statement of taxonomic purpose when designating lectotypes "just to be safe." I also noticed that one species (*Saprosites sulcatissimus* [Broun]) was said to have a neotype and two syntypes. That must be an error because if syntypes still exist then one would select from them a lectotype and not a neotype. These issues are minor in the context of the entire work.

Overall this is an excellent work and well worth the \$13 price. All Aphodiinae workers and those generally interested in the fauna of New Zealand should have a copy. Aphodiinae is one of many groups investigated in the *Fauna of New Zealand* series. This series deals with non-marine invertebrates and has been ongoing since 1982. The volumes in the series have an attractive appearance and the layout used is logical and easy to follow. A list of all the titles (11 on beetles!) in the series can be found at the website listed above.

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