ZOOTAXA

1159

Review of generic limits of the tiger moth genera Virbia Walker and Holomelina Herrich-Schäffer (Lepidoptera: Arctiidae: Arctiinae) and their biogeography

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(*Zootaxa* 1159)

68 pp.; 30 cm.

27 Mar. 2006

ISBN 1-877407-67-4 (paperback)

ISBN 1-877407-68-2 (Online edition)

FIRST PUBLISHED IN 2006 BY

Magnolia Press

P.O. Box 41383

Auckland 1030

New Zealand

e-mail: zootaxa@mapress.com

http://www.mapress.com/zootaxa/

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ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)

Review of generic limits of the tiger moth genera *Virbia* Walker and *Holomelina* Herrich-Schäffer (Lepidoptera: Arctiidae: Arctiinae) and their biogeography

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ABSTRACT

A phylogeny for *Holomelina* and *Virbia* was constructed based on adult morphology. This study included 42 of the 70 recognized species in *Holomelina* and *Virbia*, two new species, and two elevated synonyms (*H. marginata* Druce and *V. inversia* Edwards). The following outgroups were chosen from the Arctiini: *Arachnis picta* Packard, *Hypercompe permaculata* Packard, *Paracles fusca* Walker, *Phragmatobia fuliginosa* (Linneaus), *Pyrrarctia isabella* (J. E. Smith), and *Spilosoma virginica* (Fabricius). Fifty-eight characters (195 states) were described and scored, including several newly discovered characters of the male and female abdomen and genitalia. Three male character systems, the shape and orientation of the basiphallus; the shape, orientation and ornamentation of the endophallus; and the pattern of sclerotization of the eighth male sternite, were important diagnostic characters for smaller clades and species.

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