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A Taxonomic Revision of New Zealand Blepharoceridae and the
Origin and Evolution of the Australasian Blepharoceridae
(Diptera: Nematocera)*

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Abstract

LITERATURE pertaining to New Zealand Blepharoceridae is reviewed. Materials, methods and terminology are described. Keys are provided for the Australasian genera and subgenera of Blepharoceridae, and for the adults and larval instars of New Zealand *Neocurupira* and *Peritheates*.

New blepharocerids from the south of the South Island, New Zealand, are described as *Neocurupira rotalapisculus* n.sp. and Forms A, B and C, and are placed with *Neocurupira hudsoni* in a *hudsoni*-complex. Because these new blepharocerids possess dichoptic males the subgenus *Paracurupira* has been synonymised with *Neocurupira*. As *Neocurupira tonnoiri* and *Neocurupira chiltoni* are distinct from the other New Zealand *Neocurupira* and are similar to each other, they are placed in a *tonnoiri*-complex.

Nothohoraia n.gen. is erected for new blepharocerid material from Westland, New Zealand. This genus shows morphological affinities to *Neocurupira*, *Apistomyia* and *Horaia*, and possesses highly specialised larvae. *Peritheates intermedius* is placed in synonymy with *P. turriter*. Larval teratology is discussed.

The phylogeny of the Indo-Australasian Apistomyiinae is discussed and it is concluded that apistomyids probably arose from a *Neocurupira*-like ancestor. The zoogeography of the Australasian Blepharoceridae is considered and it is believed that *Edwardsina* arrived in Australia during the Cretaceous, either from the south or more probably the north. Later in the Cretaceous blepharocerids entered New Zealand from the north. During the Miocene *Apistomyia* and *Neocurupira* (*Austrocurupira*) entered Australia. The distribution of New Zealand blepharocerids is interpreted in the light of past geological and climatic changes and the possibility of refugia is discussed.

INTRODUCTION

ALTHOUGH blepharocerid adults were originally described by Westwood in 1842 and were associated with larvae and pupae by Müller (1879 and 1881), it is surprising that they were not discovered in New Zealand until 1900, for all stages are particularly numerous and widespread in the South Island.

Chilton (1906) reported the discovery of blepharocerid larvae in 1900 by G. R. Marriner at Lake Coleridge, Canterbury, and his own discovery in 1903 of

* This work is based on a portion of the author's Ph.D. Thesis.