



Revision of the *Mecodema curvidens* species group (Coleoptera: Carabidae: Broscini)

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Abstract

The flightless carabid genus *Mecodema* Blanchard 1843 is restricted to New Zealand and presently contains 64 species. In this study, we examine species in the newly constituted curvidens group (*sulcatum* and *curvidens* are synonymised), reducing the *Mecodema* species groups to seven. They share two synapomorphies (rounded apical lobe of the aedeagus and lack of microsculpture on the vertex of the head) and are distributed in Northland, south along the east coast of the North Island and the northeast portion of the South Island. Adult specimens of the curvidens and *sulcatum* groups, along with exemplars of the other *Mecodema* groups (*alternans*, *costellum*, *ducale*, *infimate*, *laterale* and *spiniferum*), and an outgroup *Oregus* Putzeys 1868 were examined for cladistic analysis using a data matrix composed of a 63 characters and 21 terminal taxa. The analysis resulted in 18 most parsimonious trees. The following new species in the curvidens group are described: *M. aoteano* **sp. n.**, *M. haunoho* **sp. n.**, *M. manaia* **sp. n.**, *M. parataiko* **sp. n.**, *M. ponaiti* **sp. n.**, and *M. tenaki* **sp. n.** *Mecodema exitiosus* was wrongly synonymised under *M. occiputale* and we propose a new synonymy *M. curvidens* (= *M. exitiosus*). We consider the parts of the male genitalia in detail with special attention to the structures of apical plate once everted from the endophallus.

Key words: Carabidae, Broscini, *Mecodema*, curvidens group, New Zealand