



THE MECYCLOTHORAX BEETLES (COLEOPTERA, CARABIDAE, MORIOMORPHINI) OF HALEAKALĀ, MAUI: KEYSTONE OF A HYPERDIVERSE HAWAIIAN RADIATION

BY JAMES K. LIEBHERR



Mecyclothorax medeirosi James K. Liebherr, sp. n.

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The 116 *Mecyclothorax* beetle species of Haleakalā volcano, Maui constitute the biogeographic center of a Hawaiian adaptive radiation that evolved from a single colonizing species over the past 1.2 million years. The fauna includes highly distinctive taxa with specializations not seen in other carabid beetles, as well as suites of allopatrically distributed, cryptic sibling species reliably discernible only by characters of the male genitalia. Fieldwork supporting this revision targeted diverse habitats over all geographic regions of the volcano, amassing taxonomic material representing 74 newly described species. *Mecyclothorax* diversity is highest within Haleakalā's windward rainforest, with 20 or more species often found in a contiguous patch of forest. Biogeographic patterns associated with speciation are not congruent among the various lineages comprising this fauna, indicating that even within these closely related species, allopatric boundaries to speciation differ based on how populations of individual species interact within the physical and biotic environment. The identification keys and descriptions are extensively complemented by micro-photographs, supporting reliable species determination. This revision gives conservation and evolutionary biologists alike access to information concerning this hyperdiverse radiation.

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