

## **Life in the Clouds: New Zealand's Alpine Beetle Fauna**

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Insect diversity above the timberline has, in general, been poorly documented in New Zealand and limited to certain taxonomic groups. What is known about alpine beetles is confined to secondary observations in ecological studies and information contained in taxonomic works documenting species and genera. Examination of material held in museum collections, specimens derived from survey work, and insights from naturalists, indicates an unexpected and little appreciated richness in beetle species in alpine areas with low vegetation and exposed, rocky environments. Almost every survey of microcoleoptera above the tree-line produces species new to science and not seen in collections. To summarise on-going phylogenetic, ecological, and survey work: 1) some species have a wide altitudinal range, while some lineages contain species that are range-restricted and/or alpine-specific; 2) high altitude specialists may have lowland counterparts and may be older in age than alpine plants or, rarely, may be of ancient origin with sister taxa outside New Zealand; 3) morphological adaptations include darker colouration and the absence of hind wings.

