

**2006 Hawaii Conservation Conference**  
**Best Student Oral Presentation, Runner-up**  
**Abstract**

**Peter Oboyski**

University of California, Berkeley; 510-847-0360; poboyski@nature.berkeley.edu

**Ecology, Evolution, and Conservation of a Group of Small Endemic Moths: Hawaiian *Cydia*.** Hawaiian *Cydia* (Lepidoptera: Tortricidae) form a complex of closely allied small moths found from shoreline to tree line, with an often underappreciated role in native forest ecology. Larvae feed on the seeds of endemic Hawaiian plants, including māmane (*Sophora chrysophylla*), koa (*Acacia koa*), awikiwiki (*Canavalia sp.*) and nukuiwi (*Strongylodon ruber*), as well as in flowers, under bark, and in twigs of these plants. As seed predators, *Cydia* impact seed bank deposition and plant recruitment. Larvae are also prey for endemic forest birds and for both native and alien parasitic wasps. However, aside from a few site specific surveys and idiosyncratic collections, little is known about the number and distribution of *Cydia* species, their ecology, or their conservation status. In this study, *Cydia* were collected as larvae and adults across the main Hawaiian Islands to construct a phylogeny of extant species, determine distributions and host-plant relationships, and evaluate conservation threats. Results suggest that three species may now be extinct, while four species new to science have been discovered. Principal threats to *Cydia* include parasitism by wasps, lack of host-plants, and competition from alien seed predators. Encouragingly, newly discovered populations indicate that some species can persist in heavily disturbed low elevation habitats.