

The Response of Saprotrophic Beetles to Coast Live Oaks Infected with *Phytophthora ramorum*

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Saprotrophic ambrosia and bark beetles (*Coleoptera: Scolytidae*) tunnel into the bark overlying cankers caused by *Phytophthora ramorum* in coast live oaks, *Q. agrifolia*. These insects are characteristically reported to colonize freshly dead or moribund trees. However, the initial attacks by these beetles on *P. ramorum*-infected coast live oaks are limited to the bleeding cankers. In a disease progression study, the first symptom of sudden oak death was always bleeding, but beetles were a consistent factor in the progression sequence. Beetles were present in about 50% of all bleeding trees in each of four years and every bleeding tree that died had been colonized while the foliage was still healthy. The study described here was designed to quantify the attraction of these beetles to *P. ramorum*-infected trees.

We hung wire traps coated with sticky material on trees that had been 1) inoculated with *P. ramorum*, and 2) wounded but not inoculated. Trees were sprayed with insecticide to prevent beetle colonization. Traps were monitored during beetle flight periods in 2003 and 2004. Trapped beetles were identified to species, and sex where possible. Equal numbers of trees in each category were not treated with insecticide and did not get traps.

Infected trees attracted significantly more beetles than mock-inoculated trees. Six scolytid beetle species were trapped, two of which are introduced to North America. Strongly skewed sex ratios were found for three of the four most abundant species. The greatest response to inoculated trees occurred within the first year following inoculation. Beetles had colonized more than half the bleeding trees not treated with insecticide through July 2004, killing 13% of this group within two years of inoculation.