

# ETHANOL AND $\alpha$ -PINENE—NATIONWIDE SURVEY OF RESPONSES OF BARK AND WOOD BORING BEETLES

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## Abstract

Validation of ethanol and (-)- $\alpha$ -pinene in traps for monitoring native bark and wood boring beetles at overseas ports-of-entry, silvicultural treatments in U.S., and further assessment of the occurrence and abundance of exotic species of bark and wood boring beetles in the United States. At each site, 32 traps are grouped into eight replicates of four treatments per replicate with traps spaced 10-15 m within a replicate and replicates spaced 10-100 m apart. We select sites with recent history of thinning or prescribed burns in the past 6-9 months. The following treatments are randomly assigned to one of four traps within each replicate: (1) blank; (2) ethanol alone; (3) (-)- $\alpha$ -pinene alone; and (4) ethanol with (-)- $\alpha$ -pinene (each released at about 2-3 grams/day). Collection cups contain an aqueous solution of propylene glycol, formaldehyde and soap. Trap catches are collected at 3-week intervals from early May to mid-July, with the glycol solution each occasion. Catches are placed into individual Whirl-Pak Bags and shipped back to Athens GA for processing. Catches, transformed by log function, are analysed by 2-way full-factorial ANOVA for each test separately. To date, tests have been conducted in six National Forests. Contingent upon new funding, tests are planned for sites in 30 National or State Forests throughout the United States. In initial tests in Florida and Georgia, we found that traps baited with ethanol and/or (-)- $\alpha$ -pinene caught significant numbers of Cerambycidae, Buprestidae, Scolytidae, Platypodidae, Curculionidae, Elateridae, Cleridae and Trogositidae. Some species demonstrate some specificity in attractants but no evidence of repellency or interruption.