

THE EXOTIC BANDED ELM BARK BEETLE AND THE SMALLER EUROPEAN ELM BARK BEETLE: ABUNDANCE AND HOST ATTRACTION

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ABSTRACT

In April 2003, the banded elm bark beetle (BEBB) (*Scolytus schevyrewi* Semenov), an invasive from Asia, was first detected in North America in Colorado and Utah. To date, BEBB has been detected in 21 states. BEBB attacks elm trees (*Ulmus* spp.) and may potentially vector the fungal pathogen causing Dutch elm disease. BEBB shares a similar biology and appearance with an established invasive, the European elm bark beetle (EEBB) (*Scolytus multistriatus* (Marsham)). However, BEBB seems to attack standing trees more aggressively and appears now more abundant than EEBB in the Rocky Mountain region, suggesting that it may have displaced EEBB and/or is better able to colonize regions beyond EEBB's range. Our objectives were to determine the relative abundance of BEBB and EEBB in California, Nevada, Utah, Colorado, and Utah.

A trap Siberian elm log, baited funnel trap, and passive plexiglass Schmidt trap were set up at four sites in each state and monitored from May to September. BEBB was far less common than EEBB in California (12% =

100*BEBB/ (BEBB+EEBB)), and BEBB increased in abundance from Nevada (43%), Utah (60%), and Colorado and Wyoming (90%). The attraction of BEBB and EEBB to hosts American elm (*U. Americana*) and Siberian elm (*U. pumila*) and the same hosts infested with conspecifics were tested with flight traps baited with uninfested and infested bolts.

In Colorado and Wyoming, BEBB was very attracted to Siberian elms bolts alone or infested with conspecifics. This suggests that BEBB is responding to host and not pheromonal cues during the initial stages of infestation. In California, EEBB was most attracted to Siberian elm bolts infested with other EEBB, and attracted to a lesser degree to uninfested Siberian elm bolts. This suggests that EEBB was responding to host cues, and even more to pheromonal cues. Both BEBB and EEBB were less attracted to American than Siberian elm bolts, which could indicate a preference. However, we suspect this difference was due to the lower quality of the American elm sample in which the phloem was noticeably less moist.