Pitcheating Weevil

Pachylobius picivorus (Germar)
Coleoptera: Curculionidae

Hunt, D. W. A.; Raffa, K. F. 1989. Attraction of *Hylobius radicis* and *Pachylobius picivorus* (Coleoptera: Curculionidae) to ethanol and turpentine in pitfall traps. *Environmental Entomology* 18: 351-355.

Objectives: To determine if *P. picivorus* preferentially selects red pine, *Pinus resinosa* (Aiton), stems, volatiles of turpentine and ethanol, or a combination of these baits, placed in pitfall traps; and if the number of *P. picivorus* caught in traps is related positively to host damage.

Abstract: The pitcheating weevil, *Pachylobius picivorus* (Germar), feeds nocturnally on the inner bark of pine twigs, and can cause widespread mortality in newly planted stands. Pitfall traps were placed in a 5-year-old plantation of Scots pine, *Pinus sylvestris* (L.), in Waushara Co., Wisconsin, to evaluate the relative attractiveness of red pine stems, turpentine (52.5% α-pinene, 41.4% β-pinene, 2% β-phellandrene and 1.1% limonene) (Sunnyside Corp., Wheeling, IL, USA) and 95% ethanol to adult weevils.

One trap per 72 m^2 was most effective at catching *P. picivorus* if baited in the spring with 2 ml each of ethanol and turpentine released from separate vials. Slightly more female than male *P. picivorus* were attracted to the traps. Because the peak activity period of *H. radicis* occurred earlier than *P. picivorus*, it is suspected that the initial wounding of trees by *H. radicis* attracts *P. picivorus*, thereby increasing risk to young host trees. No significant relationships were found between the number of *P. picivorus* caught in the pitfall traps and subsequent tree damage. However, the presence of high numbers of *H. radicis*, which is suspected to precondition tree hosts for *P. picivorus*, could be useful in defining damage thresholds.

Sampling Procedure: Use 10 cm wide and 20 cm long PVC pipe as the trap body. Drill eight 6-mm entrance holes at 4 cm intervals 4 cm from the top of each trap. Apply liquid Teflon or Fluon (Dupont de Nemours, Wilmington, DE, USA) to the inside walls of each trap to prevent weevil escape. Drill two 2-mm holes into the trap wall, below the eight 6-mm holes and attach a small wire through the holes. Hang bait(s) from this wire. Place a plastic cap on both ends of the trap, and drill two 2-mm holes in the bottom cap to drain water. In each plot, bury eight traps horizontally until entrance holes are flush with the soil surface. Traps should be within tree rows midway between every second tree such that the trap spacing is 3.4 m. Plots should be spaced 30 m apart. Empty the contents of each trap and replenish baits weekly.