Scolytid Beetles

Coleoptera: Curculionidae

Lindgren, B. S. 1983. A multiple funnel trap for scolytid beetles (Coleoptera). Canadian Entomologist 115: 299-302.

Objective: To evaluate the effectiveness of a multiple funnel trap in capturing scolytid beetles.

Abstract: The multiple funnel trap, also known as the Lindgren funnel trap, revolutionized the trapping of ambrosia and bark beetles. The trap is constructed of suspended, vertically aligned funnels baited with pheromone lure and directing captured insects into a collection jar at the bottom of the trap. This design minimizes the loss of attracted beetles, a problem encountered with window flight traps when beetles resume flight after colliding with the vertical panes. Beetles were captured more easily by the funnel trap than the perforated entrances of stovepipe traps. Furthermore, the multiple funnel trap collected beetles in a jar at the bottom of the trap, avoiding the need for the adhesive used in sticky traps. Traps are reusable and are serviced quickly, saving both time and money.

Sampling Procedure: The multiple funnel trap is now available commercially, but was originally constructed of suspended, vertically aligned funnels (16 cm tall; 20 cm upper diameter; 3.5 cm lower diameter) made from 0.2 mm vinyl sheets. Funnels were stapled to three twill tapes (16 mm wide) at 7.5 cm intervals. Traps consisting of eight funnels provided 0.33 m^2 trapping surface, which could be adjusted as needed by adding or removing funnels, or by using funnels of a different size.

Each trap could be collapsed for portability. A pheromone lure was placed under an inverted plastic tray (30 cm diameter) set above the top funnel. The lid of a collection container was attached at the neck of the lowest funnel and the jar screwed onto it. The collection container could hold a killing substance and preservative, or filled with suitable material to hold live insects. A hole piercing the side of the collection container allowed excess rainwater to drain. Traps are hung from sturdy hooks welded to iron pipe or rods. Avoid installing traps under trees where leaves may fall and clog the funnels.

Figure

Fig. 1. Lindgren funnel trap. Photo taken by K. E. Gibson, USDA Forest Service; image provided by www.Bugwood.org.