Intercept™ Panel Trap (INT PT) Effective in Management of Forest Coleoptera

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Introduction

Trap efficacy in capturing economically important forest Coleoptera was measured in field trials comparing the Intercept Panel Trap (INT PT) with the Multi-Funnel Trap. The INT PT was designed to provide a better option for the monitoring of forest Coleoptera. The trap is made of corrugated plastic and is very robust under rigorous field conditions, but still lightweight, easy to carry, weather- and waterproof, and easy to install. The trap disassembles rapidly and stores flat, therefore requiring less storage space than Funnel Traps. The INT PT also costs significantly less than the Funnel Trap.

Methods and Materials

Field trials were conducted on five sites within the United States: OR, NC, MN, WI, and NY. In OR, NC, MN, and NY three types of traps were tested: INT PT treated with Rain-X (INT PT-R), INT PT untreated (INT PT), and Multi-Funnel Trap (Phero Tech, Inc.). The traps were baited with three prototype lures: (1) standard lure (alpha-pinene (ap), ipsdienol(id), ipsenol (ie)), (2) turpentine lure (turpentine, id, ie), and (3) ethanol lure (ethanol, ap, id, ie). Five combinations of trap and lure determined the treatments: (A) INT PT-R + lure 1, (B) Funnel trap + lure 1, (C) INT PT + lure 1, (D) INT PT-R + lure 2, and (E) INT PT-R + lure 3. In WI, INT PT and Funnel Traps were both baited with lure 1. The wet-cup method was used, and captured insects were collected every 10 days.

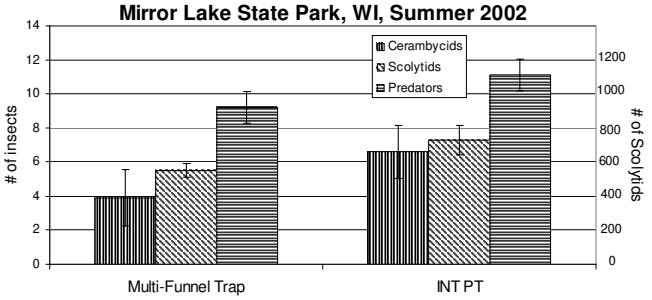
Results

Data from captures in individual states are provided in the attached figures. The INT PT performed equal to or better than the Multi-Funnel Trap for Cerambycids and Scolytids. Captures of Buprestids were lower in the INT PT than in the Funnel Trap. The INT PT captured more bark beetles and consistently fewer predators than the Funnel Trap. The turpentine lure (2) caught equal or fewer numbers of beetles than the standard lure (1); the ethanol lure (3) caught more bark beetles than the standard lure (1).

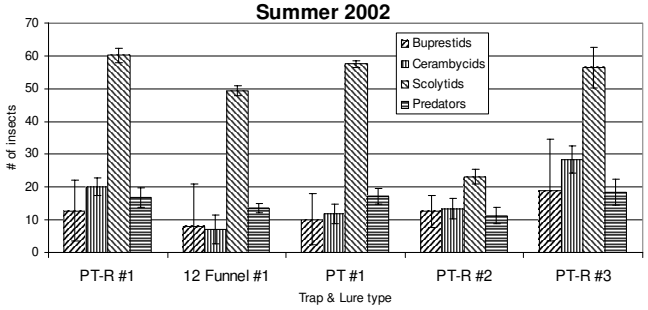
Discussion

The Intercept Panel Trap is an effective tool for monitoring Cerambycids, as well as bark beetles, Buprestids, and other forest Coleoptera. It also captures fewer beneficial insects. The INT PT outperformed Phero Tech's Multi-Funnel Trap for most tested insect species. Higher beetle captures and increased detection capability in a less expensive trap equates to greater efficiency of forest pest monitoring programs. The Intercept Panel Trap is now commercially available.

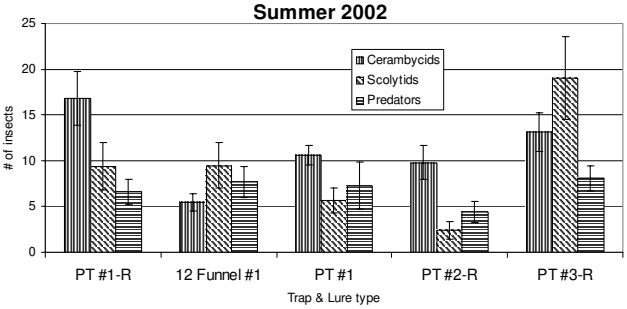
Comparative Trapping of Forest Coleoptera, INT PT and Multi-Funnel Trap, Mirror Lake State Park, WI, Summer 2002



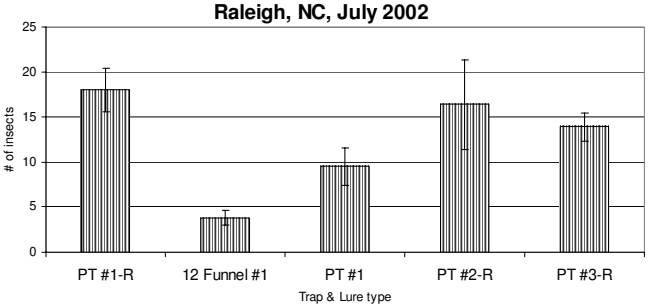
Comparative Trapping of Forest Coleoptera, INT PT and Multi-Funnel Trap, Duluth, MN, Summer 2002



Comparative Trapping of Forest Coleoptera, INT PT and Multi-Funnel Trap, Cranberry Lake, NY, Summer 2002



Comparative Trapping of Cerambycids, INT PT and Multi-Funnel Trap, Raleigh, NC, July 2002



Comparative Trapping of Forest Coleoptera, INT PT and Multi-Funnel Trap, Forest Grove, OR, Summer 2002