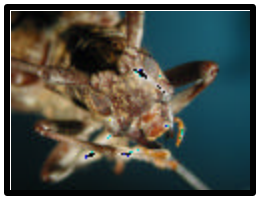
Research & Development
USDA Forest Service

Healthy Forests Restoration Act Projects
Title IV-Accelerated Information Gathering



Project Title: Trapping systems for early detection of exotic beetles at ports–of–origin and ports–of–entry, and for detection and control of exotic and invasive beetles in urban landscapes and managed forests. Athens, GA (SRS-4505)

Significance: Economic losses to exotic insects in the period 1906-1991 were estimated to be $92 billion (Office of Technology Assessment, U. S. Congress 1993). This research seeks to develop trapping techniques and lures that can be used at both ports–of–entry and ports–of–origin to detect potential pests, including invasive bark beetles and wood-boring insects. The technology could also be used to detect and monitor established exotic and invasive species in urban landscapes, managed forests and horticultural nurseries. Early detection and monitoring will facilitate prevention and control efforts for invasive insects.

Approach: The Southern Forest Insect and Disease Unit SRS-4505 is testing lures and traps to see which work best for a broad array of insects. The abundance of bark and wood boring species in southeastern forests provides numerous surrogate species to test design characteristics such as trap shape, color and size. We also test host- and beetle-produced compounds for native species. Cooperators in China and Canada will then test the most promising traps and lures for detection of potential invasive species in their respective countries.

Outcomes: Expected outcomes include:

- Better traps for capturing bark and wood boring beetles throughout the world.
- Effective lures for capturing beetles from the United States at foreign ports–of–entry.
- Effective lures for detecting and controlling established species of exotic beetles in the US.
- Effective trapping system for monitoring changes in forest health.

Benefits: Society will benefit from this research by reduced economic and environmental losses from exotic and invasive species. Our work will also help establish risk priorities for efficient use of limited funds to detect and control exotic and invasive species. As traps and lures are fairly simple to understand and use, pest management officials and the general public can be engaged in the fight against exotic species.

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