

## SIREX NOCTILIO DETECTION AND BEHAVIOR IN NORTH AMERICAN PINE ECOSYSTEMS

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North American pine ecosystems contain diverse groups of insects and microorganisms that develop within pine trees. These organisms complicate *S. noctilio* detection efforts and understanding the potential impact the exotic woodwasp will have in North American pine ecosystems. Survey method development and assessment of *S. noctilio* impacts on red and Scots pine are currently underway in North America and native fauna have presented unique challenges during these efforts.

Preliminary trap tree studies conducted in 2006 were successful at attracting *S. noctilio*, but Cerambycidae, Scolytidae, native Siricidae, and other insects were also found on or within trees. Bark beetles (e.g., native *Ips* spp. and the exotic *Tomicus piniperda*) and associated fungi were commonly found in trap trees and likely possess the strongest ability to influence the trap tree resource. While interactions among *S. noctilio*, *Amylostereum areolatum*, bark beetles, and associated fungi have not yet been defined, it is likely interactions occur and the outcomes could have serious implications for *S. noctilio* biological control efforts. Tools such as bark beetle anti-attractants may provide a technique to help reduce the impact of bark beetles on trap trees. Studies during 2007 will evaluate the effectiveness of green leaf volatiles and bark beetle pheromones to protect trap trees from bark beetles.

Efforts are currently underway to assess the impact and behavior of *S. noctilio* in North American pine ecosystems. Scots and red pine stands currently infested with *S. noctilio* are being located and sampled to describe stand structure, growth patterns of attacked and unattacked trees, and tree mortality. Preliminary results suggest that *S. noctilio* concentrates attacks on suppressed and/or overtopped trees. However, on several occasions, attacks on larger apparently healthy trees have been noted.



Kevin Dodds is currently a Forest Entomologist with the USDA Forest Service, Durham, NH. Prior to this he was a Research Associate at the University of Minnesota. Kevin also gained experience while working as a Research Assistant and a Technician at Oregon State University and the University of Arkansas, respectively. He has a PhD in Forest Science from Oregon State University. Kevin's current research interests lie in bark beetle biology and management, invasive species management, Cerambycidae, Buprestidae, chemical ecology, trapping and survey methods.