



***Sirex noctilio* Trapping Protocols**
5/8/2006

Cooperative trapping efforts for *Sirex noctilio* by APHIS, US Forest Service, state Departments of Agriculture, and state DNR’s will be increasing in 2006. Because many agencies will be involved in this trapping effort, it is important to set standard trapping protocols that can be easily followed. The protocols suggested here are based on the best available information. As more information becomes available on host volatiles and *S. noctilio* attraction, these methods should be adjusted.

Trapping period

Traps should be deployed by early June and removed at the end of September. *Sirex noctilio* flight period may vary from one region to another, but in New York activity occurs from June through September.

Trap type

Until trap efficacy studies are conducted, it is difficult to recommend one trap type over another. Several trap types have been deployed in New York for the *S. noctilio* detection/delimitation effort including cross-vane, IPM Tech intercept panel, log traps, and Lindgren funnel traps. *Sirex noctilio* was captured with all these trap types. Because of their widespread availability, Lindgren funnel traps have made up the majority of the trapping effort. Traps should be fitted with the “wet option” for collecting insects. Preservative used in the traps should be low toxicity anti-freeze (i.e., propylene glycol).

Recommendation: 12-unit Lindgren funnel traps (Figure 1), or IPM Tech intercept panel trap (Figure 2).



Figure 1. A 12-unit Lindgren funnel trap deployed for *Sirex noctilio* detection.



Figure 2. IPM Tech intercept panel trap

Trap lure

Research is currently being conducted on an optimal lure for *S. noctilio*. Preliminary electroantennogram work demonstrated that *S. noctilio* responded positively to alpha-pinene and beta-pinene. Until further research is conducted, a lure consisting of alpha-pinene (70%) and beta-pinene (30%) is suggested.

Trap placement

Stand selection: Priority should be placed on locating declining pine stands that contain potential host trees (i.e., hard pines). Overstocked pine plantations or smaller patches of declining pines should be the focus of trapping efforts. State or federal lands often provide the easiest access for trap placement.

Trap placement: Traps should be hung from a host tree or placed adjacent to the nearest host tree. An attempt should be made to get the bottom of traps (i.e., collecting cups) at least 6 feet off the ground (Figure 1). A rope with a light weight tied to one end can be tossed over a low hanging branch and then tied to the trap hanger. The trap can then be hoisted to the desired height and securely fastened. While hanging traps is optimal, traps placed at or near ground level have successfully captured *S. noctilio* and native Siricidae. Depending on the effort required to hang traps and the total number of traps deployed, surveyors should use their discretion for placement.

Site data: Data collected from each site should include GPS coordinates (decimal degree, NAD83), site description, tree species present, site name, date trap was set and taken down, and trap type (funnel, panel). On the same sheet as this information, collectors may want to keep track of the dates they checked traps and also when lures were changed.

Collections

Trap collections must be made once every two weeks. After two weeks in the preservative, insects begin to break down and are more difficult to sort/identify. Also, large numbers of carrion beetles and flies are often attracted to traps that have been left out for extended periods of time, making sorting more difficult.

Trap collections: Several techniques have been developed for collecting insects from survey traps and individuals can use a method that best suits their situation as long as all insects are collected and samples are properly labeled. One method is to use paint filters (available at most hardware stores) along with a cup or jar to separate insects from preservative (see pictures below). The filter is placed above the jar and the contents of the trap catch are poured through the filter. Alcohol can be squirted into the bottom of the collecting cup to remove any insects that stick to the sides of the cup. Filters can be labeled with pre-made adhesive labels that detail the state, county, site name, date, and collector (see attached template). Filters are then carefully folded and placed in a Ziploc or whirlpack bag with alcohol as a preservative. Bags should also be labeled with the site and date and stored in a freezer if possible.



The collection method outlined above is intended for states that are not pre-screening sample collections. These collections will be sent to Cornell for pre-screening and identification of any siricids. If a state is pre-screening and only interested in siricids, collections can be checked on site and any woodwasps removed. There is significant size variation in *Sirex noctilio* populations, so collections should be screened carefully and any suspect insects should be collected and then more carefully examined. Suspect siricids will then need to be identified and any *Sirex* spp. sent to Cornell for positive identification.

- States that are not pre-screening include: NH, RI, and CT
- States that are pre-screening include: MA, VT, ME

Samples should be sent to:

E. RICHARD HOEBEKE
 Department of Entomology
 Comstock Hall
 Cornell University
 Ithaca, New York 14853-0901

Lure change: Lures should be checked carefully at each collection. If the lure is damaged or only a small amount of liquid is left in the packets they should be replaced. Regardless of condition, lures must be changed once a month. Care should be taken to minimize contact with the lure packet and an attempt should be made to only handle lures on the seams or near the hole cut for hanging the bait. Lures should be hung on the

outside of the trap near the middle of the trap. When not in use, lures must be stored in a freezer.

Data reporting: GPS coordinates (decimal degrees, NAD83) for the location of *Sirex* traps should be sent to Kevin Dodds (kdodds@fs.fed.us) as soon as they are available. Because all *Sirex* spp. are going through Cornell University for species determination, positive confirmation of *S. noctilio* will come from Rick Hoebeke. A final report summarizing results of the *Sirex* survey should be sent to the Durham Field Office by January, 2007.



For Technical Questions:

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USDA Forest Service
Forest Health Protection
Durham Field Office
603-868-7743
kdodds@fs.fed.us

SIREX SURVEY

COUNTY _____ STATE _____
SITE _____
SAMPLE 1 2 3 4 5 6 7 8 9 10
LURE CHANGE: YES NO
DATE ___ JUNE JULY AUG SEPT
COLLECTOR: _____
NOTES:

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