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Insec(tc)ure*:
Are you insecure about your insect cures?

A University of Tennessee Urban IPM Lab Newsletter for the Pest Management Industry

Unusual Submissions to the UT Urban IPM Lab

Karen Vail, UT Entomology & Plant Pathology

Within a week of July 23, 2025, I received two unusual specimen submissions that I want to share with you. The first was found in the office of a UT Extension specialist on the Institute of Agriculture campus. A staff member had noticed black spots in the office and called Facilities Services to address the issue. Facilities Services personnel cleaned the room of the mold and returned a few weeks later to determine the success of their corrective actions. Upon returning, they noticed dark specks on the corner of the wall. This corner met the exterior wall and an interior wall and was near a window; however, no black specks were found on the curtains. I heard exterior wall and small dark specks, and immediately thought of artillery fungus (https://soillab.tennessee.edu/artillery-fungus/), a fungus often found growing on wood mulch that explosively releases sticky spore sacs that strongly adhere to surfaces, including cars, foundation walls, and windows. But a follow-up discussion with the submitter reduced the likelihood that this was the culprit. The specks had been found on the interior of the building's exterior wall. How could a fungus growing outdoors shoot spore cases inside the building when there were no operating windows?

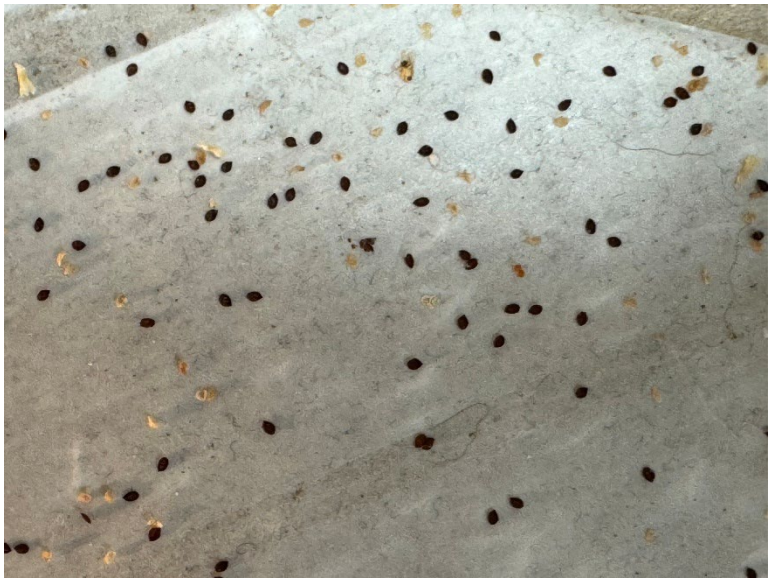


Figure 1. Lint roller sheet covered with small dark specks removed from the corner of an office's interior near the external wall.

Figure 2. One dark speck from the wall.

Finally, the lint roller sheet (Figure 1) which had been run over the dark specks was delivered and placed under a microscope (Figure 2). It was not an artillery fungus spore case. Those present in the room were guessing it was an insect pupa, but it reminded me of a seed. I had a feeling this seed had been submitted before, but a review of our submission database was unhelpful. We uploaded the photo to Google search using the camera icon and sifted through the results. The seed resembled that of *Oxalis* species or wood sorrels. *Oxalis* species explosively release seeds. A quick search on YouTube will provide a video to support that statement. Any botanists who feel inclined to enlighten us as to the proper identification of this seed, please do. We asked the Extension specialist if she was researching pasture weeds, and she informed me that subject was outside her area of focus. So the mystery remains as to the source of these seeds.

The second unusual specimen brought to my attention during that time is in Figure 3. A resident had been kayaking along a river in East Tennessee and sent this image of white semi-spherical egg masses to her Extension agent, who

forwarded them to me. Similar egg masses were also seen on sycamore leaves overhanging the river. She was hoping her attention to detail had discovered a new invasive species before it had a chance to spread. Thank you, Claiborne County resident, for your interest in preventing invasive species from entering our state.

Figure 3. White semi-spherical egg masses on boxelder leaves overhanging a river. Credit: Claiborne County Resident

Well, I didn't recognize this egg mass either. We were starting to get reports about the fall armyworm making its way north, but these weren't fall armyworm egg masses. Fall webworms are active at the tips of branches. Could this be one

of their egg masses? Nope, a comparison of fall webworm egg masses did not yield a match. Googling didn't help. So I forwarded the emails to diagnostician colleagues in other southern states, and Matt Bertone at North Carolina State University was the first to respond. These were dobsonfly/fishfly egg sacs. Ah, the closeness to the water should have been a hint, but urban entomologists don't regularly work with aquatic insects, and this wasn't on my mind, but it should have been. Lisa Ames, University of Georgia had just given a presentation at the Tennessee Pest Control Association (TPCA) Summer Meeting*, Insects and Light: Consequences for Pest Management.* As soon as Matt provided the ID, I remembered Lisa's photo of a Dobsonfly egg sac. Yes, the importance of repetition in learning is evident. I won't forget this again. Evidently, when dobsonflies are attracted to light around a structure they may not disperse and may lay their eggs on the structure (Figure 4). So you may encounter this in one of your accounts, especially those close to streams with rocky bottoms. Hopefully, you'll remember this article. Reducing light around structures or switching to yellow bug lights (or lights with wavelengths that are less attractive) may reduce the number of aquatic insects in the area seeking to mate and lay eggs nearby. I refer you to Don Hall's **Eastern Dobsonfly (Adult), Hellgrammite (Larva) *Corydalus cornutus* (Linnaeus) (Insecta: Megaloptera: Corydalidae: Corydalinae)** https://edis.ifas.ufl.edu/publication/IN987 for more information on this species.

Figure 4. Wayward dobsonfly egg sac on a wooden structure. Credit: Tuggle.

For future reference, when you find unusual specimens around your accounts, you can always submit it to your county Extension agent who will then submit it to the Soil, Plant and Pest Center and it will eventually make its way to me. You can find your Tennessee County Extension Agent's contact information here, https://utextension.tennessee.edu/. We are now charging a fee for actual specimen identifications, but images with good resolution are still identified without a charge. Matt Bertone suggested the book, **Tracks & Sign of Insects and Other Invertebrates: A Guide to North American Species** by Noah Charney and Charley Eiseman for identifying those unusual signs of insects.

Upcoming Category 7 Training Opportunities

Associate Certified Entomologist (ACE) Exam Prep Course, Sept. 15 – Dec. 15, virtual, https://tiny.utk.edu/ACEPrepFall2025

TPCA's PestEd: Monthly Virtual CEUs, *Spotted lanternfly updates from Tennessee: Understanding biology and host preference of SLF in Tennessee* by Dr. Midhula Gireesh, University of Tennessee, September 24. https://tpca.info/

WDO/GRC Licensing Training, October 9, Murfreesboro, TN, https://psep.tennessee.edu/

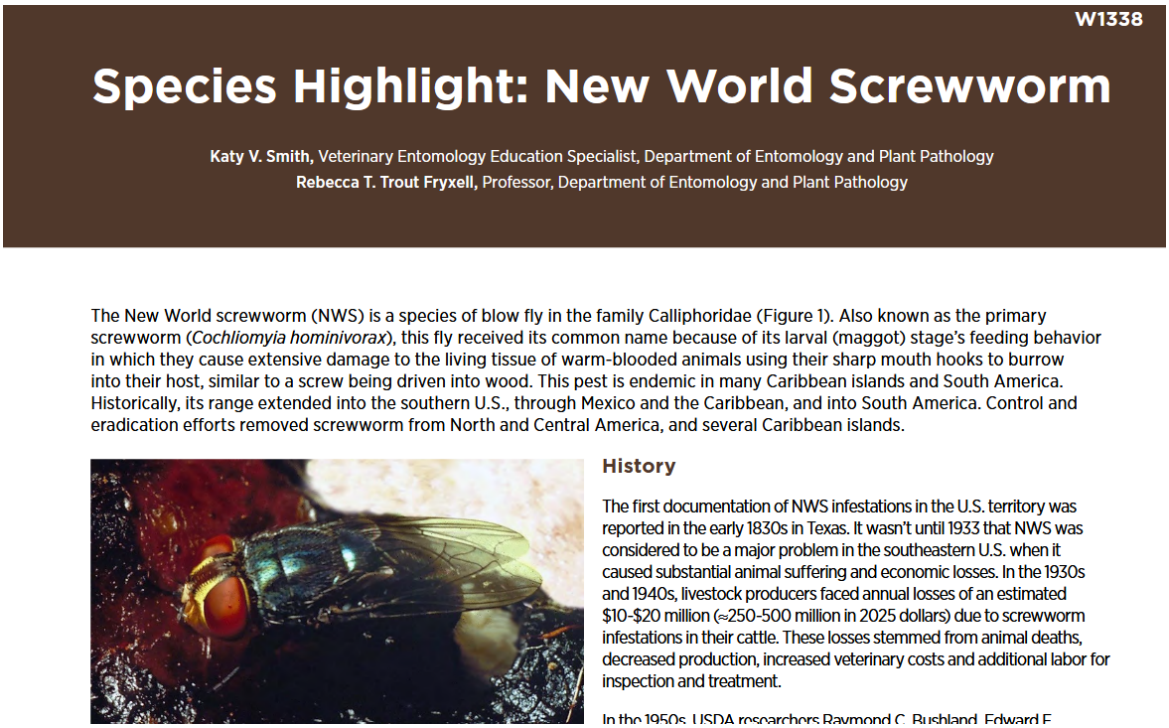
The National Pest Management Association's PestWorld, October 21-24, Orlando, FL https://www.npmapestworld.org/attend/industry-events-calendar/pestworld-2025/

TPCA's PestEd: Monthly Virtual CEUs, *TBD,* by Dr. Santos Portugal, Mississippi State University, October 29. https://tpca.info/ (Other monthly webinars will be the last Wednesday of the month, so mark your calendars. There may be date adjustments around the holidays.)

Pesticide Applicator Category 7 and Category 3 Trainings, https://psep.tennessee.edu/commercial-applicator/

East Tennessee Pest Control Association's Smoky Mountain Conference, January 24, 2026, UT Conference Center, Knoxville, TN https://www.etpca.org/Smoky-Mountain-Conference

Tennessee Pest Control Association Winter Conference, February 16-18, 2026



W1338

Species Highlight: New World Screwworm

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The New World screwworm (NWS) is a species of blow fly in the family Calliphoridae (Figure 1). Also known as the primary screwworm (*Cochliomyia hominivorax*), this fly received its common name because of its larval (maggot) stage's feeding behavior in which they cause extensive damage to the living tissue of warm-blooded animals using their sharp mouth hooks to burrow into their host, similar to a screw being driven into wood. This pest is endemic in many Caribbean islands and South America. Historically, its range extended into the southern U.S., through Mexico and the Caribbean, and into South America. Control and eradication efforts removed screwworm from North and Central America, and several Caribbean islands.

History

The first documentation of NWS infestations in the U.S. territory was reported in the early 1830s in Texas. It wasn't until 1933 that NWS was considered to be a major problem in the southeastern U.S. when it caused substantial animal suffering and economic losses. In the 1930s and 1940s, livestock producers faced annual losses of an estimated $10-$20 million (≈250-500 million in 2025 dollars) due to screwworm infestations in their cattle. These losses stemmed from animal deaths, decreased production, increased veterinary costs and additional labor for inspection and treatment.

In the 1950s, USDA researchers Raymond C. Bushland, Edward F.

Questions about the New World Screwworm, which has not been found in Tennessee yet? See the newly released Extension publication, https://utia.tennessee.edu/publications/wp-content/uploads/sites/269/2025/08/W1338.pdf, by Katy Smith in the UT Medical and Veterinary Entomology Lab led by Dr. Trout Fryxell.

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Precautionary Statement

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label and registered for use in your state.

Disclaimer

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

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