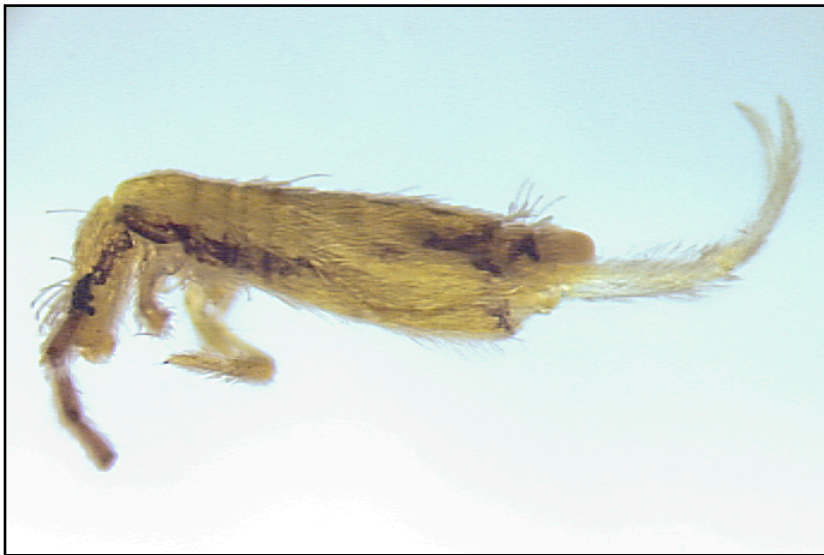


# E-NEWSLETTER

## Springtails

*They can keep you hoppin'!*



Adult springtail (Photo: Patty Alder, NCSU).

Springtails are tiny insects that live in the soil, leaf litter, organic mulches, under tree bark, in decaying logs, and may even infest potted plants. They are most abundant in damp or moist areas.

Springtails get their name from their ability to project themselves through the air using a hinged appendage on the abdomen, called a furcula (see photo above). When the furcula is released, it springs down, sending the springtail through the air.

During long periods of dry weather as soil and mulch begin to dry out, springtails start migrating toward sources of moisture, such as air conditioner condensate lines (see photo at right), lawn sprinkler heads, etc. They often congregate in large numbers and give a soot-like appearance on walls, sidewalks, driveways, etc. Eventually, they

make their way indoors. The most common areas they are found are obvious sources of moisture, such as around exterior doors and windows, in sinks, bathtubs and around commodes. In many cases, springtails may be so numerous around sinks and tubs that people assume that the insects are coming out of the drains.



Air conditioner drip lines may cause moist conditions around a building (Photo: M. Waldvogel, NCSU).

### Upcoming Courses

**Sept 2**

License Exam Specimen Review

**Sept 22-23**

NC Termite Technician Program

**Oct 5**

License Exam Specimen Review

**Oct 7**

Stored Product Pests Workshop

**Oct 14**

Ant ID & Management Workshop

Visit our website at

<http://entomology.ncsu.edu/training>

for registration info and a list of all upcoming courses.

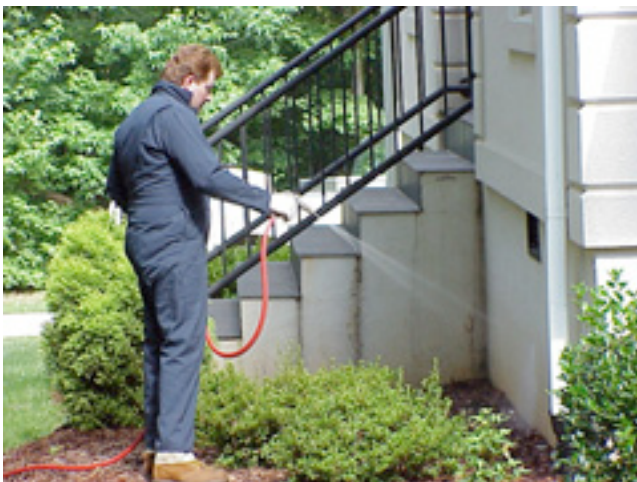
**SPRINGTAILS CONT.**

Springtails may also enter the living areas of a home from the crawl space through plumbing lines that penetrate the floor. The insects are often reported in and around new commercial and residential construction, possibly because they were brought in with freshly spread topsoil and mulch. Springtails more readily invade buildings with slab construction simply because it is easier for them to gain access into structures with this type of construction.

*Control.* Using a 1-2 gallon pump sprayer will not do the job. When soils and mulches dry out, any pesticides applied to these areas are tied up in the thatch layer on lawns, in the mulch, and at the soil surface, which means that you do not get the coverage needed to stop these insects. Therefore, spray equipment capable of

delivering the maximum allowable volume around the structure (see photo below).

If there is a thick layer of mulch around the house, it must be raked back at least 3 feet so the underlying soil can be treated. For best results, treat an area about 3-5 feet wide around the house (or more if preferred), plus about 2 feet of the lower foundation walls as well. Applying 1/4" or so of water to the area before application may help attract the insects to the soil surface and the subsequent treatment may be more effective. Although granular insecticide products are easier to apply, they are less likely to work in dry conditions because they need moisture to work. Unless you water the treated area after application or you know that it will rain, then stick with applying liquid insecticides.



The spray must penetrate the soil, not simply lightly coat the surface (Photo, M. Waldvogel, NCSU).

**We would love to hear from you!**

Please tell us what other programs you'd like to see at the training facility.

- Is there a particular pest or group of pests you'd like to see covered?
- Are there other relevant subjects, such as pesticide safety, pesticide formulations, equipment calibration and maintenance, pest management in specialized facilities, integrated pest management, etc. that you'd like to learn more about?
- Do you feel you or your employees would benefit from online training offered through the training facility?

Email your comments to Patty Alder at [patricia\\_alder@ncsu.edu](mailto:patricia_alder@ncsu.edu); please type "comment" in the subject line.

**Did you know...**

That the male cricket "chirps" to attract females and that some male crickets are not blessed with a loud, strong chirp? So, how do these wimpy crickets attract females? These wimpy crickets, called satellite males, hide out near a male with a strong chirp. When a female approaches the male she wants (the one with the loud, strong chirp), the satellite male jumps out of hiding and tries to mate with the female before the other cricket can.

**THERE'S A FUNGUS (GNAT) AMONG US!**

Most of us in the pest management industry have seen fungus gnats in residential and commercial buildings associated with overwatered potted plants or some other chronic source of moisture (and subsequent mold growth). Because fungus gnat larvae tend to feed on any organic matter in the soil, they may also be found outside in lawns or other landscaped



Migrating mass of fungus gnat maggots (Photo: Glenda Bumgardner, Clinic Photo Lincoln Co.)

areas. Being somewhat gregarious, the larvae often form clusters in the soil, particularly in areas with organic-rich soil and areas of heavy thatch following wet periods. If a large number of eggs hatch near each other and the maggots migrate, they may form a snake-like line crawling atop each other (see photo above). These are most often noticed when moving across a sidewalk or driveway.

**Control.** Successful management of fungus gnats involves finding and eliminating the source of moisture. Allowing the soils in overwatered plant pots to dry out on a regular basis is not only a good way to prevent the growth of fungi and fungus gnats, but it may also be better for the

plants themselves. Check areas where moisture is often found (bathrooms, kitchens, laundry rooms, crawl spaces, etc.). Outside, inspect around and on the structure for problem areas, e.g.,



Checking moisture on a membrane roof (Photo: M. Waldvogel, NCSU)

roof leaks, clogged downspouts, condensation from air conditioner lines, etc. On commercial buildings with flat membrane-covered (e.g., EPDM) roofs, inspect the interior roof and ceiling below for signs of leaks. A leak through a break in the membrane material can cause the underlying insulation (in older buildings) or the concrete roof deck to trap moisture and subsequently become moldy, an ideal habitat for fungus gnats. Use UV light traps to help determine which areas are most heavily infested. Although adult fungus gnats are killed easily with spray insecticides, these chemicals are a short-term solution. Unless you can access and treat the source, once the chemical dissipates, more flies are likely to appear. Similarly, treating outdoor areas may produce mixed results particularly if you cannot identify the key areas that are infested with fungus gnats.

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## THE ASIAN NEEDLE ANT

Most of us are already familiar with two important invasive ant species: the red imported fire ant (*Solenopsis invicta*) and the Argentine ant (*Linepithema humile*). These two ants have caused serious economical, medical, and ecological problems. Unfortunately, a new invasive ant species, the Asian needle ant (*Pachycondyla chinensis*) is spreading and you will need to learn how to recognize and handle it.

Asian needle ant workers are about 3.5mm in length and are dark brown to black in color with light brown mouthparts and legs (see photo below). The ant has a long and skinny body. Interestingly, the Asian needle ant is a very bad climber; the ants cannot escape the walls of a glass jar.



Asian needle ant worker (Photo: AntWeb, <http://www.antweb.org>).

The Asian needle ant nests under logs, stumps, stones, or other debris. In urban settings, it may be found under mulch, landscape timbers, concrete pavers, etc. Colonies range in size from a single nest with less than 50 individuals to multiple nests with more than 5,000 individuals.

As the name implies, this ant can pack an extremely painful sting. This ant is not aggressive, however, and will sting only as a last resort, e.g., if it gets trapped in clothing, etc. Still, the Asian needle ant should not be

taken lightly; the ant poses an emerging threat to public health, particularly to people with strong allergic reactions to insect stings.

The ant is documented from Virginia, North Carolina, South Carolina, and Georgia. Benoit Guenard, an NCSU graduate student, stated in a News & Observer article that the Asian needle ant has been found in every forest in the Raleigh area. As with the Argentine ant, it seems that where the Asian needle ant occurs, it is a dominant species that excludes many beneficial native ant species.

**Control.** Entomologists Pat Zungoli and Eric Benson at Clemson University are currently researching ways to effectively control the Asian needle ant.

To reduce the likelihood of Asian needle ants invading structures, make sure doors and windows are tight-fitting. Caulk or seal any obvious cracks or gaps on the exterior of the building. Limit potential ant nesting sites around the structure, such as firewood, excess leaf litter, rotting wood, and other debris next to the foundation.

If chemical treatment is used, Zungoli and Benson recommend direct treatment of nest sites. This requires moving objects that cover and protect the colony so that the insecticide can reach the nest. No data are available on the use of ant baits for controlling Asian needle ants. Baiting may be unsuccessful because the ants do not form foraging trails.

If you find Asian needle ants, please contact Patty Alder (919.513.3805) or Eleanor Spicer (515.3784) so that we may update our database and verify their presence. Your cooperation is greatly appreciated!