

Community **IPM**

Pavement Ants – A Groovy Pest

Pavement ants are native to Europe and were introduced into the United States during the 1700's. Today, they are one of the most common indoor ant pests in the northeastern United States. Pavement ants are small, brown or brownish-black in color and forage indoors for sweets and high-protein foods. Under magnification, the grooves on their head and thorax can be used to distinguish them from other small, dark-colored home-invading ants. They construct nests under building foundations, sidewalks or rocks, and produce characteristic mounds of soil.

Did you know ... ?

- **Ant Fight:** In the spring, neighboring pavement ant colonies may engage in large battles on sidewalks, resulting in hundreds of dead ants.
- **Full House:** Pavement ant colonies can have as many as 10,000 workers in a single nest.
- **Follow Me!** Pavement ants use a chemical or pheromone trail to recruit nest mates to a food source.

Identification

Accurate identification can be difficult for small ant species, but is critically important for developing an integrated management program. Ants can be collected on scotch tape or in vials and brought to your local university or county extension office for identification.

Worker pavement ants are small insects that measure only 3mm in length. They are dark brown to black in color with a shiny abdomen. Under magnification, these ants have distinguishing grooves on their head and the dorsal surface of their thorax. Foraging ants are observed on the floor, along the edge of the walls near doorframes or on countertops where spilled food can be found. On warmer days, a number of winged male and female ants may swarm indoors and can be seen near windows attempting to escape. Pavement ants excavate soil when making their nest entrance, leaving characteristic mounds of soil. These can be observed indoors at cracks in a slab, at the junction between the wall and floor, or outdoors in the soil.



Pavement Ant, *Tetramorium caespitum*, adult worker. Photo: Joseph Berger, Bugwood.org



Pavement ant mound. Photo: M. Frye



Battling pavement ant colonies can be observed on sidewalks and patios in the spring. Photo: J. Gangloff-Kaufmann

Biology

In natural areas, pavement ants build their nests under rocks in open meadows. Rocks that are heated by the sun retain heat into the evening, and buffer ants against cold temperatures. When pavement ants are found in urban areas, they maintain these preferences and construct nests under sidewalks, patios and building foundations that also retain heat. Occasionally ants will nest inside walls and insulation if a heat source is nearby. Most colonies have three to four thousand individuals, but colonies of up to 10,000 workers have been reported. In general, nests have a single queen, but larger colonies may have multiple queens.

Pavement ants feed on honeydew, soil-dwelling insects (including termites), plant juices, and a wide assortment of sweet and protein-containing foods. They are mostly nocturnal, foraging at night, but will forage during the day in spring and summer to obtain additional resources. Pavement ants use pheromones to mark the path from nest to a food source. As more ants visit the food, the pheromone trail gets stronger. If disturbed, pavement ants attempt to sting, but their stinger is thought to be too weak to damage human skin.

Management

Pavement ants are a nuisance when they invade homes and are found in kitchens and bathrooms. Furthermore, because they excavate soil to construct their nests, these ants can cause aesthetic and structural damage to walkways and patios by excavating soil between bricks or blocks. Integrated pest management of pavement ants includes identification of the nest site, sanitation, and exclusion, and may require assistance by a pest management professional.

Nest Location

The most important step in controlling pavement ants is to locate the nest. Worker ants leave the nest on a regular basis and search nearby areas for food - mostly at night during the summer. You can search the inside perimeter of the house looking for ants on their return trip to the nest. Follow a few workers patiently and you will find that all ants return to the same location. In a few cases there may be more than one nest in a building. Pavement ants nest below rocks and under sidewalk and are usually found in areas with high moisture levels. Managing moisture levels to acceptable limits will help avoid problems with ants and other pests.

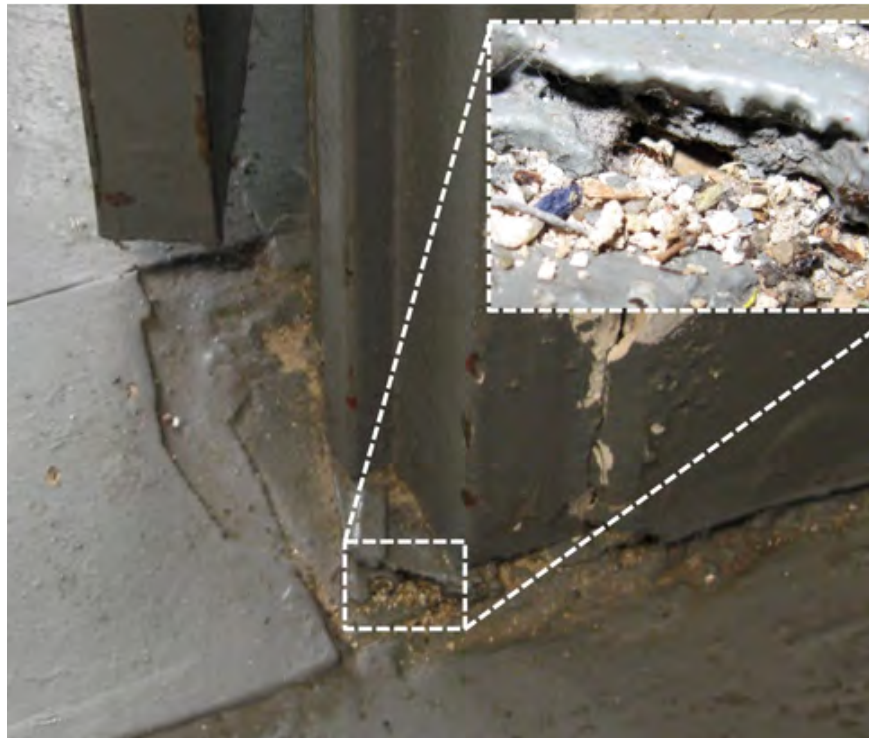
If you are having trouble locating the nest, you might try the following steps:

- Start from areas of high activity and follow ants back to the nest. Returning ants take a more direct route than ants searching for food, and their abdomens are often expanded with liquid food.
- Look for small piles of soil kicked out of their nest entrance. This is often near door jams and in areas of foundation cracks.
- Put out a sweet food source such as dilute honey or jam and follow ants from your bait back to their nest.

Do It Yourself

Once the nest has been located, the next step is to eliminate the ants. Baits labeled for ant control, specifically for pavement ants, are an effective strategy when these products are used according to instructions on the label. Note that some baits sold in retail stores, such as carpenter ant baits, will not control pavement ants. Bait products are most effective when they are fresh and placed near a foraging trail. Avoid placing liquid or gel baits near the nest entrance, as these may be accidentally covered in excavated soil.

One benefit of using bait formulations is that these products contain a feeding stimulant or food source for the ants. The result is that ants are attracted to the bait, and will use pheromone trails so that other ants can locate the food source. On the other hand, insecticide sprays kill only on contact, and will have limited impact on the colony.



Pavement ant workers at entrance to nest under door jamb. Photo: M. Frye

Conducive Conditions

An important component of ant management, including control of pavement ants, is to remove conditions that favor their development, or to prevent access to resources. Reducing moisture levels in a building is critical.

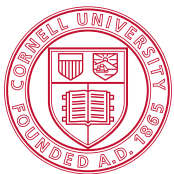
- Grade soil away from the house so that moisture does not collect against the foundation, siding or wood.
- Clean gutters regularly to remove accumulated leaves and debris that might clog the downspout. Verify that water from the downspout is directed away from the house at the base.
- Do not stack firewood near the house.
- Trim branches of trees or shrubs away from the house to create a gap of six feet or more. This distance will also help reduce problems with other pests such as squirrels and mice.
- Use appropriate sealants to close gaps around windows, doors, and other areas where ants might enter a home. This is especially important near a heat source, such as a hot water heater, air conditioning condenser, furnace, or even on the south/west facing side of a building that is warmed by sunlight.

Professional Pest Management Services

If you prefer to use a pest control vendor, the following guidelines should help you choose a reputable firm.

- Obtain two or more estimates for control. The company you choose should have experience in using IPM in an urban location. Do not accept the alternating of chemical sprays as a definition of IPM—an IPM approach finds a way to get to the source of the problem and always includes inspection and monitoring.
- Make sure that safety is a priority. Safety Data Sheets (SDS sheets) and product labels should be available upon request, and the professional should be mindful of sensitive situations such as children, pregnant women and pets.
- Choose a company that is insured and has pest management professionals (PMPs) that are licensed in your state. In New York, you can search the DEC's Pesticide Business / Agency Listing, which is updated regularly.
- The PMP should have suggestions for what you should do. As the person who is present most often, your behavior and maintenance of the home impact pest management more than any other factor.

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Cornell University
Cooperative Extension



Produced by the New York State Integrated Pest Management Program, which is funded through Cornell University, Cornell Cooperative Extension, the New York State Department of Agriculture and Markets, the New York State Department of Environmental Conservation, and USDA-NIFA. Design by Karen English, New York State IPM Program. Cornell Cooperative Extension provides equal program and employment opportunities. © 2015 Cornell University and the New York State IPM Program. Posted 3/2015 at www.nysipm.cornell.edu/factsheets/buildings/pavement_ants.pdf

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