

Natter's Notes

Ants!

Jean R. Natter

Ants! They're likely major players in perhaps one of the oldest good-news-bad-news stories ever.

The good news is that ants are valued for their beneficial activities. They add large quantities of spent plant and animal remains into the soil surrounding their colonies as they cultivate and aerate the soil. They also create channels for water and roots. They're predators, too, and are members of nature's clean-up crew, carting away debris that includes stray crumbs indoors and dead insects outdoors.

The bad news is that, outdoors, ants sometimes get carried away. If they aerate the soil in and around a rootball excessively, water passes through the ground too rapidly to soak in, the plant wilts, and may die. Then, too, people take a dismal view of their uninvited excursions indoors when they trail across the floor, headed for the pet's dish or wayward crumbs.

Overall, it's safe to say that most people detest the little buggers. People don't want to control them. They want to eradicate them. Forever!

Well, **the cold, hard truth** is this: That's not possible; ants are here to stay.

Everyone, clients and Master Gardeners alike, must discard their dreams to eradicate ants. The more accurate strategy, although far less comforting, is to hope to manage ants.

Odorous house ants, *Tapinoma sessile*, are probably the most common house-invading ants across the country. They're small, dark brown or black ants, 1/16- to 1/8-inch long, with the usual 3 body parts of an insect – head, thorax, and abdomen. The characters which define them as ants are a petiole (a narrow connection between the thorax and abdomen) and a pair of elbowed antennae. The character which differentiates them from other ants is the single node on the petiole; it's small and hidden by the abdomen. When crushed, these ants emit a rather penetrating odor, likened to rotted coconut.

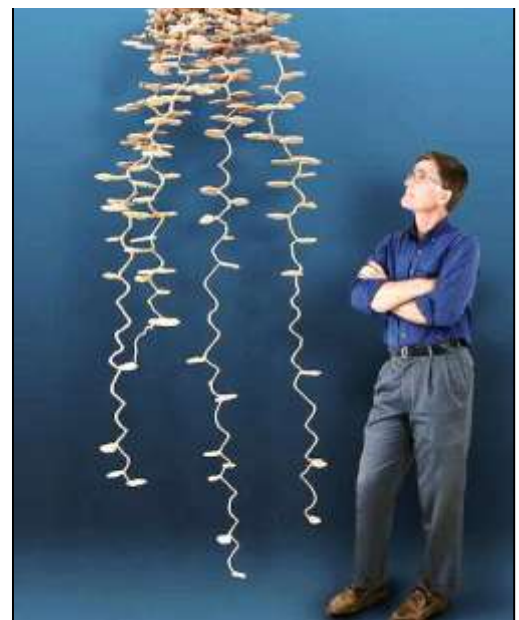
Colonies are relatively small, to about 10,000 individuals, each with multiple queens. Nests are usually outdoors just below the soil surface, underneath pavers, wood piles, or other debris. Nests may also be indoors, in a wall void or near warmth-emitting sources.



Odorous house ant, *Tapinoma sessile*; lateral view. The small petiolar node is hidden by the abdomen. (<https://www.antweb.org/specimenImages.do?code=case-nt0005329>)



Odorous house ant, dorsal view. The small petiolar node is hidden by the abdomen. (From www.antweb.org. Accessed 11 January 2018)



Aluminum cast of ant nest (species not identified) reveals the depth some ants will go. (Walter R. Tschinkel, former professor at Florida State) <http://www.core77.com/posts/23607/walter-tschinkels-aluminum-casts-of-ant-colonies-reveals-insect-architecture-23607>

Odorous house ant **populations enlarge by one of two methods:** mating of reproductives or via budding. Budding may be triggered when a hundred or so workers transport several of the colony's queens to a new site. With time, a series of closely related, cooperative colonies form: a supercolony.

Sweets are a favorite food but these ants will eat most any people or pet food.

Managing ants requires a multi-pronged approach.

1. **Sanitation** (clean up regularly), and store perishable foodstuffs in tight, rigid containers.
2. **Caulk and seal entries** such as cracks in the foundation or gaps where utilities enter structures.
3. **Limit honeydew-producing insects:** ants, mealybugs, whiteflies, and scale, both soft and cottony scales.
4. **Limit indoor access** by trimming foliage away from structures.
3. **Use commercial ant baits** and repeat as needed.

Ant baits are superior to sprays but require more time to be effective, occasionally several weeks. The reason? They are shared with other ants within the colony, including the queens. If a bait is ineffective after a week or more, try a different kind. It can be useful to pre-bait by first setting out a small dab of jam or other food.

Resources

- *Identification and habits of Key Ant Pests in the Pacific Northwest* (<http://cru.cahe.wsu.edu/CEPublications/PNW624/PNW624.pdf>)
- How to identify the odorous house ant, *Tapinoma sessile*: <http://ipm.ucanr.edu/TOOLS/ANTKEY/odorous.html>
- Professional pest control publications in each Metro MG office contain many insights useful for home-use:
 - a. *PCT Technician's Handbook*
 - b. *PCT Field Guide for the Management of Structure-Infesting Ants*
 - c. *NPMA Handbook of Pest Control*
- *Life in the Soil* (James Nardi; University of Chicago; 2007)
- *AntWeb* – An online database about numerous ant species;
<https://www.antweb.org/description.do?rank=species&genus=tapinoma&name=sessile>

- Active ingredients in ant baits -

- **Avermectin** – Derived from soil bacteria; affects the nervous system.
<https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/avermectin>
- **Boric acid** – An inorganic compound used in ant management for years. Mode of action unknown.
- **Fipronil** – Causes hyperexcitation of the central nervous system causing convulsions and death. Very active against ants.
- **Hydramethylnon** – Interferes with energy production.
- **Imidacloprid** – Useful in baits for ants that prefer sweets.
- **Insect growth regulators (IGRs)** - The queen's reproductive organs degenerate and immatures die before they become adults.
- **Indoxacarb** – Activated by enzymes inside the insect.
- **Spinosad** – Produced by soil actinomycetes; the insect dies of exhaustion because of continuous activation of motor neurons.
- **Sulfuramid** – Potentiated by enzymes inside the insect body; toxic metabolites inhibit energy production.