

Tawny (Raspberry) Crazy Ant, *Nylanderia fulva*

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This exotic invasive pest ant species to Texas was found around Houston (Harris County), in 2002, and has begun to spread largely through human assistance.

Identification: How do I spot them?

Suspect tawny ants if you see a lot of ants with the following characteristics (see full listing of characteristics below):

- Appearance of many (millions) of uniformly-sized 1/8 inch long, reddish-brown ants in the landscape; foraging occurs indoors from outdoor nests.
- Under a microscope you will find 12-segmented antennae, a petiole (1 node), an acidopore (circle of hairs at the tip of the gaster (abdomen)), and the ant will be covered with many hairs (macrosetae).
- Winged males (see image below) are needed for identification to species
- Ants that form loose foraging trails as well as forage randomly (non-trailing) and crawl rapidly and erratically (hence the description "crazy" ant).
- Ant colonies (where queens with brood including whitish larvae and pupae, See image on right) occur under landscape objects like rocks, timbers, piles of debris, etc. These ants do not build centralized nests, beds, or mounds, and do not emerge to the surface from nests through central openings.

Impact: What do they do?

In infested areas, large numbers of tawny crazy ants have caused great annoyance to residents and businesses. In some situations, it has become uncomfortable for residents to enjoy time in their yards. Companion animals may, in some cases, avoid the outdoors as well, and wildlife such as nesting songbirds, can be affected. The cumulative economic impact is currently unknown.

Biting and medical implications to people, livestock and wildlife: Tawny crazy ants do not have stingers. In place of a stinger, worker ants possess an acidopore on the end of the gaster (abdomen), which can excrete chemicals for defense or attack. They are capable of biting, and when bitten, they cause a minute pain that quickly fades.

Nylanderia fulva, has been a serious pest in rural and urban areas of Colombia, South America. In this case, they reportedly displaced all other ant species and caused small livestock (e.g. chickens) to die of asphyxia. Larger animals, such as cattle, have been attacked around the eyes, nasal fossae and hooves. The ants also caused grasslands to dry out (dessicate) because the ants aggravated sucking insect pests (hemipterans) because the ants feed on the sugary "honeydew" produced by these plant feeding insects.

Electrical equipment: In areas infested by the tawny crazy ant, large numbers of ants have accumulated in electrical equipment, causing short circuits and clogging switching mechanisms resulting in equipment failure. In some cases the ants have caused several thousand dollars in damage and remedial costs.

Agriculture: These ants show likelihood of being transported through movement of almost any infested container or material. Thus, movement of garbage, yard debris, bags or loads of

compost, potted plants, and bales of hay can transport these ant colonies by truck, railroad, and airplane. No information is available on potential yield effects in infested lands.

Biology: ID Characteristics & Behavior

Worker ant body characteristics:

Coloration: Adult colony members, including queens, males and workers, are reddish-brown (although lightness or darkness of their body color may vary)

- Size: Worker ants are all similar in size (they are monomorphic), with a body length of 1/8 inch.
- Worker ants have long legs and antennae, although not as long as the crazy ant, *Paratrechina longicornis*, and their bodies have numerous, long, coarse hairs. The antenna have 12-segments with no club. There is a small circle of hairs (acidopore) present at tip of the abdomen (as opposed to the typical stinger found in many ants), a characteristic of formicine ants (found within the Formicinae subfamily).

Colonies:

- Tawny crazy ants can be found in enormous population densities. They are social insects that live in large colonies or groups of colonies that seem to be indistinguishable from one another.
- Colonies contain many queen ants (they are polygyne colonies), worker ants, and brood consisting of larval and pupal stages. Pupae are "naked" or without cocoons. They periodically produce winged male and female forms called sexuals, alates, or reproductives.
- The size of the colony infestations can be large and display super colony (unicolonial) behavior

Trailing behavior: Tawny crazy ants foraging trails are quite apparent (≥ 10 cm) and individuals forage erratically, hence the typical reference to "crazy" ant. Foraging trails will often follow structural guidelines, however, large trails can be found in open areas.

Nesting and nesting behavior:

- Raspberry crazy ant colonies can be found under or within almost any object or void, including stumps, soil, concrete, rocks, potted plants, etc.
- Nests primarily occur outdoors, but worker ants will forage indoors, into homes and other structures.
- Nesting occurs under almost any object that retains moisture.

Food and feeding behavior:

- Tawny crazy ants eat almost anything; they are omnivorous.
- Worker ants commonly "tend" sucking hemipterous insects such as aphids, scale insects, whiteflies, mealy bugs, and others that excrete a sugary (carbohydrate) liquid called "honeydew" when stimulated by the ants.
- Workers are attracted to sweet parts of plants including nectaries, damaged, and over-ripe fruit.
- Worker ants also consume other insects and other small vertebrates for protein.
- Click here to view a video by Bart Drees titled "[Raspberry crazy ant feeding on oak aphid honeydew](#)"

Seasonal abundance:

- Few worker ants forage during cooler winter months.

- In spring foraging activity begins and colonies grow, producing millions of workers that increase in density dramatically by mid-summer (July-August).
- Ant numbers remain high through fall (October-November).

Natural spread:

- No mating (nuptial) flights have been observed in the field, despite the periodic development of winged male and female ants, called sexuals, alates, or reproductives. This indicates that colonies spread or propagate by "budding" with breeding possibly occurring at/near the edge of the nest, creating new colonies at the periphery. Annual rate of spread by ground migration is ~20 and ~30 m per month in neighborhoods and industrial areas respectively and ~207 m/year in rural landscapes.

Distribution: Where are they found?

The tawny crazy ant has only been known in the state of Texas (near Pasadena) since 2002. High numbers of the ants have been found in localized spot infestations in southeast Houston (Harris County), including Houston, Pasadena, Deer Park, Friendswood, San Jacinto Port, Pearland, Seabrook and La Porte. The tawny crazy ant has now been confirmed in the following counties: Bexar, Brazoria, Brazos, Comal, Cameron, Fayette, Fort Bend, Chambers, Galveston, Hardin, Harris, Hays, Hidalgo, Jefferson, Jim Hogg, Liberty, Matagorda, Montgomery, Nueces, Polk, Orange, San Augustine, Travis, Victoria, Walker, Wharton and Williamson counties. New infestations are suspected beyond these areas of infestation. However, sample identifications have not been confirmed. This ant has the potential to spread well beyond the current range in coastal Texas. However, it is a semi-tropical ant and potential northern distribution will be limited by cooler weather conditions.

Management: What can you do for them?

Many of the typical control tactics for other ants do not provide adequate control of the tawny crazy ant. Because colonies predominantly nest outdoors, reliance on indoor treatments to control these ants foraging inside structures is not effective. Effective crazy ant management is a 3-tiered Integrated Pest Management approach that involves landscape modification, elimination of food sources and landscape treatment, and lastly, if necessary, barrier treatment for structures. This approach is further detailed in the steps below.

It should be noted that just chemical applications are not the answer. They are part of the solution, but chemical applications by themselves will only give minimal reduction in the tawny crazy ant population. ***Population reduction through habitat modification*** will allow the chemicals treatments to perform better.

1. Landscape Modification: cultural practices including the removal of harborage such as fallen limbs, rocks, leaf litter, potted plants, and just about anything sitting on the ground that isn't absolutely necessary. Cultural methods can also include altering the moisture conditions in a landscape. Crazy ants prefer humid, wet conditions so reducing the amount of irrigation, repairing leaks, leveling low areas and improving drainage should help. You may need to alter your landscape, i.e., remove mulch, severely prune landscape plants where the ants prefer to forage and nest.

2. Elimination of Food Sources and Landscape Treatment: Specifically honeydew producing hemipterans should be managed. Often, products containing the active ingredient imidacloprid or other systemic neonicotinoids are a good option for hemipterans. Additionally, you might have other areas such as compost, pet food, etc. that will need to be eliminated or relocated. Periodic (following intervals specified in the pesticide label) lawn treatment with a pyrethroid insecticide such as lambda-cyhalothrin will help to reduce foraging ants and exposed nests. I also suggest spraying 4-5 foot up each of the large trees on your property to help control the ants from moving into the trees. A broadcast application of the product Alpine WSG (10% solution rate) can be made to the yard and other areas of the landscape. It is important that all areas be treated with the appropriately labeled product. Spot treatments are not successful.

3. Barrier Treatment: Some of the effective products involved with the treatments are not readily available to the consumer. Because of the equipment and products required to effectively manage tawny crazy ants, it is recommended that you hire a professional pest control provider. A barrier treatment of Termidor® SC** to and around the structure (3' up and 10' out from where the soil meets the foundation, from the Section 18 label which must be available when application is made) is recommended (per label restrictions, it cannot be applied to or near edible plants). **Two and only two applications are allowed per year at approximately 90 day intervals.**

After treatment, or when making multiple applications over time, piles of dead ants must be swept or moved out of the area in order to treat the surface(s) underneath. It is important to read and follow all pesticide label instructions including use rate and mixing instructions, personal protective equipment, re-entry intervals, and proper disposal.

4. Landscape treatment: Application of TopChoice ® or Taurus G™ to extend “fipronil” barrier may be considered. One application per year. Replicated trials have shown these to be effective. These are restricted products and can only be purchased by holders of a pesticide license.

Contact insecticides applied to surfaces, such as those containing acephate or pyrethroid insecticides (lambda-cyhalothrin, bifenthrin, cypermethrin, cyfluthrin, deltamethrin, permethrin, s-fenvalerate, and others) could be considered. These treatments may be breached within 1-3 months post application. **Landscape plants should be treated and the trunks of all trees (3-4 ft up).**

Alpine® WSG (dinotefuran), a product to be used in the yard, can be used in conjunction with the Termidor SC treatments. These two treatments should be applied when ant pressure is high or getting close to high. Alpine WSG can be used at same time, but away from the Termidor SC treatments. Research has shown this combination to be effective.

Tawny crazy ant workers are not attracted to most bait products but they are attracted to the Advance ® Carpenter Ant bait. This bait does not offer enough control as a standalone treatment, and could be used in early in the season when populations are at their lowest.

Phantom ® insecticide (chlorfenapyr) may be used indoors

** According to the Texas Department of Agriculture, the products Termidor® SC and Talstar® have received expanded use approval through a Section 18 Quarantine Exemption from the Texas Department of Agriculture (TDA) and the Environmental Protection Agency (EPA) for the control of these ants. These are only available for use in counties with confirmed infestations of the tawny crazy ant. See product labels and supplemental labels for specific use directions: This exemption will expire on November 1, 2015.



Photo by Danny McDonald