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Integrated Pest Management (IPM) of the Caribbean Crazy Ant, *Nylanderia* (=Paratrechina) *pubens* (Forel)[1]

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Introduction

Although reported in the state of Florida since the mid 1950's, incidents of Caribbean crazy ant (CCA) infestations have increased in recent years. Reports of infestations in urban areas describe large numbers of ants outside, and occasionally inside structures. The highly active ants are annoying to residents and pets. Additionally, Caribbean crazy ants infesting electrical equipment can cause short circuits and power outages.

Management of this ant often will require the services of a professional pest control company. Relying on a single control method will not solve an established CCA infestation. IPM is a dynamic process that uses multiple control tactics. It starts with correct pest identification and monitoring.

This ant is also known as the brown or hairy crazy ant based on its appearance. It is very closely related to the Rasberry crazy ant in Texas. For additional information on the distribution, taxonomic description and life-cycle of this ant, please refer to EENY-284, by Warner and Scheffrahn (http://edis.ifas.ufl.edu/in560).

Field Identification

Caribbean crazy ants are medium sized, reddish brown ants and at first glance are often mistaken for fire ants. However, CCA workers are all the same size (monomorphic) whereas, fire ants range in size from small to medium (polymorphic). Caribbean crazy ants do not sting but will bite the skin with their mandibles if the nest is disturbed. Infestations of CCA are notorious for the vast numbers of ants present. Homeowners have reported that "the ground is moving".

Figure 1. Caribbean crazy ants with their brood.

When foraging to and from an established food source, CCA will form dense trails several ants wide but otherwise move about in a random, erratic, quick "crazy" manner. Additionally, CCA do not form mounds in the landscape. CCA nest opportunistically in leaf litter, debris, and under material such as potted plants, garbage cans, stones and landscape timbers. CCA quickly relocate when disturbed

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and they are easily transported to other areas when nests are moved inadvertently by people.

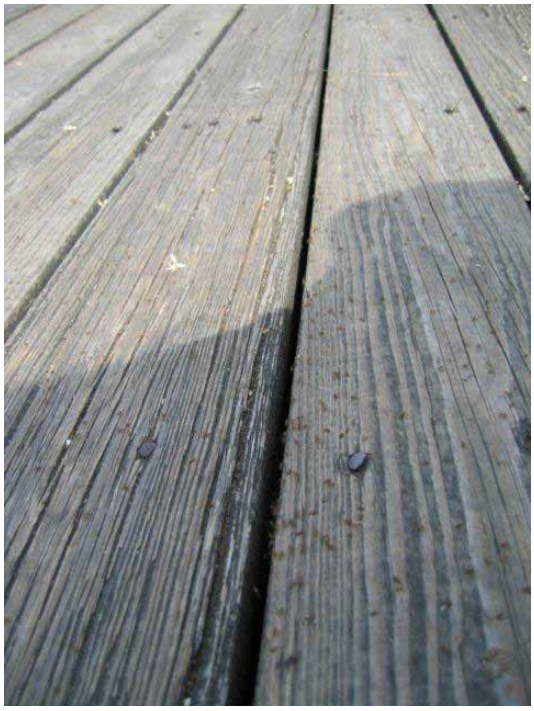

Figure 2. Dense foraging trails and "crazy movement" of the Caribbean crazy ant.

Foraging and Feeding

CCA appear to be predominately protein feeders, often foraging on dead and live insects, but have been observed tending aphids for honeydew. This may reflect seasonality in food preferences and changing dietary requirements of the colony. Changes in dietary requirements may also impact bait preferences when used as part of an IPM plan.

Management Facts

- 100% eradication of this ant is not probable in areas where the ant is established; however, population suppression is possible.
- Expect the ants to reinvade.
- There is a legal limit as to how often insecticide products can be used, so please do not ask your pest control operator to do "extra" treatments.
- Multiple control tactics will be required, including baiting grounds and treating the perimeters of buildings. Product selection is critical to success. Some products are better at excluding ants from structures.

Integrated Pest Management

Sanitation

De-cluttering is one of the most important tasks that a homeowner can do toward control of this ant. It eliminates harborage where ants seek shelter and areas become accessible for pest control methods to be applied. Additional tips:

Indoors

- Eliminate or reduce possible food, water and nesting sources.
- Remove trash regularly and keep trash receptacle clean.
- Do not leave dirty dishes in the sink.
- Clean up spills immediately.
- Place food items in the refrigerator or in sealed containers.
- Pick up pet food bowls when pet is not eating.

Outdoors

- Schedule regular trash pick-up and keep trash cans clean.
- Remove leaf litter, fallen branches and other yard debris.
- Keep hedges and trees trimmed so that they do not touch the home.

Exclusion

To prevent ants from entering the home, walk around the outside of the home and locate potential entry points (cracks, crevices, spaces around windows and doors). Use an appropriate sealant such as caulk or expandable foam and seal these openings. Locate indoor entry points, paying particular attention to windows, doors and plumbing and utility penetrations.

Insecticides

Insecticides are regulated by the law. Always follow the use directions on the label.

BAITS

Insecticidal baits can be very effective in suppressing large ant colonies because baits exploit food sharing behavior (trophallaxis) in ants. Granular insecticidal baits should not be confused with granular contact insecticides. Granular baits require ingestion; granular contact insecticides require touching the product. Insecticidal baits can be formulated as granular, liquid or containerized products.

Insecticidal baits should contain an active ingredient (toxicant) that works slowly enough to be spread through the colony before the ants die. The active ingredient should be incorporated into a food source that is palatable to the ants. Before applying bait to large areas, it is important to make sure that the ants are feeding on the bait by placing

a small amount of bait where ants are present and simply observing whether the ants will feed on it.

Generally, baits are formulated for protein-feeders, sweet-feeders, and oil-feeders. Baits for oil-feeders are predominantly directed toward fire ant control and are not represented below. Bait particles also need to be an appropriate size for the ants to pick up. Table 1 provides examples of each of these kinds of baits.

Granular baits are most commonly applied by broadcasting the bait over a large area. Because infestations of CCA include very large numbers of ants, repeat applications will be necessary but do not use more product than instructed on the label.

Indoors one may choose to use an insecticidal bait. These baits can be in the form of a plastic bait station that is placed on the surfaces where ants are found or as a gel or paste that is applied to cracks and crevices using a syringe-like device. Whether applied by the homeowner or by a Pest Management Professional (PMP), it is important to follow the instructions on the label.

Additional Information

- Expect to see ants after application of any bait because it will take at least a few hours to days for the toxicant to spread.
- Do not disturb the foraging ants because they will stop picking up the bait and sharing it.
- Do not use other insecticides or strong household cleaners in the areas where the baits have been placed because this will contaminate the bait and make it unpalatable to the ants.

SPRAYS AND CONTACT GRANULAR APPLICATIONS

Insecticides are often categorized as "repellent" or "non-repellent". **Repellent** insecticides deter ants from entering the home. Ants will die quickly upon contact; however, quick kill provides very little opportunity to transfer of the toxicant to other ants. These products are often used around windows, doors and other openings.

There are many repellent insecticides that can be purchased by the homeowner, and are most commonly found in an aerosol formulation or a liquid with a trigger sprayer. Look for products that contain active ingredients in the pyrethroid class of chemistry: permethrin, allethrin, cyhalothrin, etc. Repellent insecticides applied by a PMP may be applied either as an aerosol spray or as a liquid formulation that is sprayed with a hand held sprayer.

A PMP may also apply **a non-repellent** insecticide spray to areas where ants are active. Non-repellent insecticides are generally slower acting but have the advantage of being transferred easily from ant to ant. This results in more ants in the colony to be exposed to the insecticide. Examples of professional products that are repellent, non-repellent and combination products are listed in Table 2.

Important things to remember

Control of CCA requires the use of **all** aspects of IPM. It is not unusual that multiple insecticide products are used **in addition** to sanitation and exclusion. Since some products do not work together, it is recommended that a Pest Management Professional is consulted for an effective IPM program.

What you may see a pest control professional do

- Treat landscape plants
- Spread insecticidal granules that kill ants by contact
- Spray liquid insecticides around the perimeter of your house
- Apply baits that ants will consume and share with other ants
- Apply crack and crevice products on the inside of homes or buildings

What your pest control professional cannot do

- Treat other people's property
- Put pesticides down sewers
- Make "off-label" applications

What homeowners should do and expect

- Make sure you have a correct identification for this ant
- Be a good neighbor and eliminate food, water and shelter that encourages colony growth by
- De-cluttering and
- Establishing regular trash removal

If you have taken pest control measures, please do not hose the ants off the pavement area. You will wash away your treatment. Use a blower instead.

Pest control customers used to less frequent service will find that they must pay for a monthly (or more frequent) service.

Non-professionals should be careful about "self-treating" since it may counteract what your pest control professional has done. For example, if you spray an insecticide over a bait you will render the bait ineffective.

If you are a PMP

We have developed door hangers that contain a space for your company logo at the front. You may download for printing at:

Commercial printing:

http://schoolipm.ifas.ufl.edu/crazy_ant_door_hanger_COMMERCIAL%20PRINTER.pdf

Printing on your own laser printer:

http://schoolipm.ifas.ufl.edu/crazy_ant_door_hanger_PRINTABLE.pdf

Selected References

Trager, J.C. 1984. A revision of the genus *Paratrechina* (Hymenoptera: Formicidae) of the continental United States. Sociobiology 9:51-162.

Warner, J. and R. Scheffrahn. 2010. Caribbean Crazy Ant (proposed common name), *Nylanderia* (=*Paratrechina*) *pubens* (Forel) (Insecta: Hymenoptera: Formicidae: Formicinae) EENY-284, (http://edis.ifas.ufl.edu/in560).

Table 1. Examples of professional product baits based on feeding preference.

Feeding preference	Trade name, manufacturer, active ingredient	Formulation
Protein	Advance Carpenter Ant Bait (BASF), abamectin	Granular bait
Sweet	MaxForce Quantum (Bayer), hydramethylnon Advance Liquid Ant Bait 381B (BASF), borax	Liquid bait
Combination protein, oil and sweet	MaxForce Complete (Bayer), hydramethylnon	Granular bait

Table 2. Examples of professional products used as sprays and contact granular applications based on "repellent", "non-repellent" or combination categories.

Category	Trade name, (manufacturer), active ingredient
Non-repellent, spray	Termidor[1] (BASF), fipronil
Repellent, spray	Demon MAX (Syngenta), cypermethrin
Combination, spray	Temprid (Bayer), imidacloprid, β-cyfluthrin Transport GHP Insecticide (FMC), acetamiprid, bifenthrin
Non-repellent, contact granular	
Repellent, contact granular	Talstar XTRA (FMC), bifenthrin
[1]Can only be used 2 times per year	