CAES
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CARPENTER ANTS (*Camponotus* sp.)

Summary:

- Carpenter ants create nests by hollowing out water-damaged wood.
- They are often mistaken for termites, but unlike termites, carpenter ants cannot excavate undamaged wood.
- When they are found colonizing houses, it is evidence that there may be water-damaged wood in the structure.
- Reduce moisture and address water leaks to prevent carpenter ants nesting indoors.
- Use baits to control presence of foraging workers.

Carpenter ants specialize in colonizing water-damaged wood (Fig. 1). In Connecticut, the three carpenter ant species most likely to establish colonies in buildings are the Eastern black carpenter ant *Camponotus pennsylvanicus*, a smaller species of black carpenter ant *Camponotus nearcticus*, and the red carpenter ant *Camponotus chromaiodes*.

Fig. 1: Carpenter ant colony in wooden beam

Fig. 2: Black carpenter ant worker

Description:

The Eastern black carpenter ant (*C. pennsylvanicus*) is one of the largest ants in New England. It is the most common building infesting ant. Workers range in size from ¼ to ½" in length (Fig. 2), while the winged reproductive adults range in size from 1/2 to 3/4" (Fig. 3). *Camponotus nearcticus* is much smaller than *C. pennsylvanicus* and is not as common. It usually nests near window and door frames. The red carpenter ant *C. chromaiodes* is between these two in size. Workers are about 1/4 - 1/3" long, and have a reddish-brown

Fig. 3: Carpenter ant reproductive 'swarmer'

thorax. Ant reproductives are larger than workers, winged and are known as "alates" or "swarmers." These ants are males and unmated queens, who leave the nest, mate, and disperse to establish new colonies. People often confuse ant swarmers with termite swarmers. They can be separated by three characteristics (Fig. 4):

1. Ants: antennae smooth, 'elbowed'. Termites: antennae straight, 'beaded'

2. Ants: Bodies with distinct narrowed 'waist' between thorax and abdomen. Termites: bodies broad with no constrictions

3. Ants: forewings longer than the hindwings. Termites: wings paddle-shaped and both pairs equal in length.

Additionally, termites swarm only in the spring, while ants swarm from late spring through the summer into fall.

Biology:
A carpenter ant colony is populated by a fertile female queen and workers. The queen lays eggs and the workers tend to the eggs, larvae, and pupae, forage for food, excavate, clean, and protect the nest.
When first establishing a colony, a newly fertilized young queen selects or excavates a small cavity, usually in moist or decayed wood, and lays 15 to 20 eggs. She cares for the eggs and larvae until they become mature workers. The queen's behavior then switches to just egg laying, while the workers take on all other colony activities.
As the population increases and more room is needed, workers will begin excavating galleries into adjacent wood (and other materials such as insulation) especially if it has been softened by water or wood rot. The coarse sawdust produced is deposited directly outside the nest in a "dump."

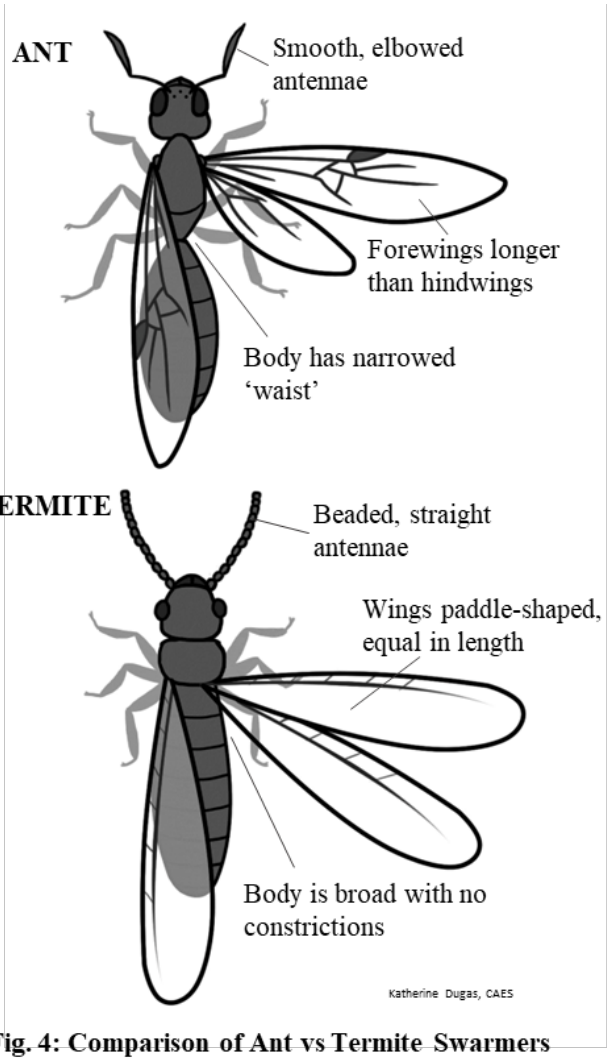

Fig. 4: Comparison of Ant vs Termite Swarmers

Deceased workers are also deposited in these piles. Galleries are irregular in shape, usually following the grain and softer parts of the wood. Occasionally satellite colonies without a queen may establish, when environmental or physical conditions stress the primary nest. Workers in these colonies perform the same activities as in the primary nest.
Established colonies are considered mature when the numbers of ants reach approximately 2,000 individuals. Colonies take three to six years to mature. At this time, adult reproductive winged male and female swarmers, are reared. Swarming and mating occur from late spring to mid-summer. Male carpenter ants die shortly

after they mate. Only one in a thousand of young fertilized queens will successfully establish a new colony. Carpenter ants are active during the warm weather months. During onset of winter, they convert their body fluids into a natural glycol to prevent tissue freeze damage and enter hibernation.

Indoor nests: Buildings located near outdoor nests are more likely to become infested with carpenter ants. Carpenter ant nests can be found in cavities of un-split firewood, hollow-core doors, walls, ceilings, attics, and areas behind window frames and sills. In buildings, nests are associated with areas that have moisture issues. These locations often favor development of wood rot fungi. Such areas include attachment points of porches, chimneys, garages, and decks. Nests may also be found in and around bathrooms, more particular behind tile covered walls surrounding bathtubs, and flooring surrounding tubs and toilets.

Outdoor nests: In the natural environment, carpenter ants nest in decaying cavities of both live and dead trees, fence posts, and tree stumps (Fig. 5). Queens usually establish nests in moist locations but may use cavities that are structurally sound and dry. Workers can forage for food from 65 feet up to 100 yards from the nest. They feed primarily on honeydew excreted by aphids and scale insects. Other food sources may include insects (dead or live), other small invertebrates, and plant material.

Activity: Carpenter ants forage both inside and outside buildings. Nests can establish in buildings with foraging only outside making detection difficult. Foraging trails may be over foundation walls, along clothes lines, telephone or electrical lines, railings and/or tree branches that touch buildings. Foraging indoors is often seen in the kitchens, pantries, around sinks, dishwashers, and

Fig. 5: Carpenter ant galleries in dead tree

refrigerators. The ants will readily feed on many household foods. They prefer sugary foods such as jam, honey, sugar, and fruits (especially overripe fruit.), but will also eat bread crumbs, grease, and fat. Carpenter ants are generally nocturnal, and any observed daytime activity are scouts looking for sources of food.

Management:
Control of established carpenter ant colonies, either in a building or adjacent to a building is variable depending on conditions and location. The location of a colony will determine in part, the steps taken to control the ants, even when a nest is not found.

Finding a nest: Conduct an inspection when carpenter ants are most active. This is generally late evening during spring and early summer.

- Look for sawdust "dump" piles deposited outside nests, especially in damp areas (Fig. 6).
- Watch for ant trails and if feasible, follow these back to the nest.
- Nocturnal scratching noises in walls or voids may indicate a nest.
- Pest management professionals may flush out ants from suspected nest sites with small amounts of aerosol insecticide.

Fig. 6: Sawdust 'dumps' – evidence of carpenter ant activity

Control:
The two methods for control are structural and chemical. Chemical control may be directed at either foraging ants or the nest.

Structural: Reduce potential nest sites by eliminating moisture problems. Replace and/or repair water damaged wood, leaking gutters, chimney flashing, porches, damaged roof shingles, and so on. Grade the ground to prevent any direct wood to soil contact in areas such as garages, decks, and porches. Provide adequate ventilation to enclosed areas such as crawl spaces, attics, basements (especially those with dirt floors and field stone foundations), and under porches and decks. Firewood or hollow-core doors may conceal nests, so these should be examined and if a colony is found, removed from a building.

Chemical - Baits: Baits are a combination of an attractive food mixed with a pesticide such as boric acid. Foraging workers carry this food back to their nest to feed other workers and the queen, eventually killing them. There are several baits registered for general ant control. Activity should lessen and stop after in approximately one week. Baiting ants is most effective during the spring.

Chemical - Sprays: Spraying a pesticide directly into a nest is the most effective way of managing a colony. Ready-to-spray formulations of several pyrethroid insecticides are available for use by citizens. However, some nests may be difficult to reach. If there is a hard to access nest, use the services of a licensed pest management professional. Additionally, pesticides may be put down around building foundations to repel foraging ants. Before using any pesticide, please read and follow the manufacturer's instructions and precautions.

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