

## THE BITING TRUTH ABOUT TERMITES



### WHAT ARE TERMITES?

Termites are a species of wood destroying insect. Termites are insects that feed on wood and serve an important function in nature by converting dead trees into organic matter. Unfortunately, the wood in buildings is equally appetizing to termites and they cause serious damage to residential and commercial buildings.

Subterranean termites are found in the Northeast.

#### Biology

Subterranean termites are ground-inhabiting, social insects that live in colonies. A colony or nest of subterranean termites may be up to 18-20 feet below the soil surface to protect it from extreme weather conditions. These termites travel through mud tubes to reach food sources above the soil surface. The mature termite colony has three castes:

- reproductives (king and queen)
- soldiers
- workers.

The colony reaches its maximum size in approximately 4 to 5 years and may include 60,000 to 200,000 workers. New colonies are formed when winged males and females from a parent colony emerge in flight or swarm.

The winged reproductives are dark brown to brownish black and have two pairs of equal size wings that extend well beyond the body. Swarms are common in spring and fall, especially after a rain. After a flight, the winged males and females return to the ground and shed their wings. The wingless males and females pair off and search for sources of wood and moisture in soil.

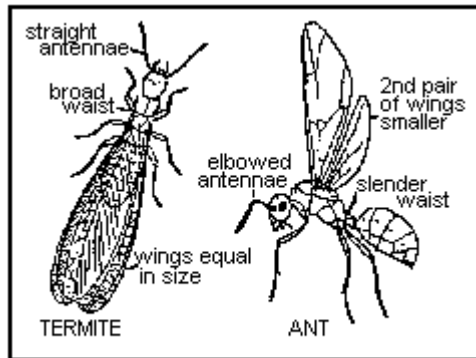
The royal couple digs a chamber in the soil near wood, enters the chamber and seals the opening. After mating, the queen starts laying eggs. The queen may live up to 25 years and lay more than 60,000 eggs in her lifetime. The eggs are yellowish white and hatch after an incubation of 50 to 60 days.

Full-grown workers are soft-bodied, wingless, blind and creamy white. In early stages, they are fed predigested food by the king and queen.

Once workers are able to digest wood, they provide food for the entire colony. The workers perform all the labor in the colony such as obtaining food, feeding other caste members and immatures, excavating wood, and constructing tunnels. Workers mature within a year and live from three to five years. Soldiers are creamy white, soft-bodied, wingless and blind. The head of the soldier is enormously elongated, brownish, hard and equipped with two jaws. Soldiers must be fed by workers because they cannot feed themselves. They are less numerous in the colony than workers and their only function is to defend the colony against invaders. Soldiers mature within a year and live up to five years.

#### Difference Between Termites and Ants

Flying ants and swarming termites are often difficult to tell apart. Termites have relatively straight, beadlike antennae while ants have elbowed antennae. Termites have two pair of wings (front and back) that are of almost equal length. Ants also have two pair of wings but the fore wings are much larger than the hind wings. The abdomen of the termite is broadly joined to the thorax while the abdomen and thorax of the ant are joined by a narrow waist called a petiole.



How to tell winged termites from ants

### Feeding Habits

Subterranean termites feed exclusively on wood and wood products containing cellulose. Termites have protozoa (microorganisms) in their intestines that provide enzymes to digest cellulose. Although termites are soft-bodied insects, their hard, saw-toothed jaws work like shears and are able to bite off extremely small fragments of wood, a piece at a time.

Termites often infest buildings and damage lumber, wood panels, flooring, sheetrock, wallpaper, plastics, paper products and fabric made of plant fibers. The most serious damage is the loss of structural strength. Other costly losses include attacks on flooring, carpeting, art work, books, clothing, furniture and valuable papers. Subterranean termites do not attack live trees.

### Communication in the Colony

Termites communicate primarily by secreting chemicals called pheromones. Each colony develops its own characteristic odor. An intruder is instantly recognized and an alarm pheromone is secreted that triggers the soldiers to attack.

If a worker finds a new source of food, it lays a chemical trail for others to follow. The proportion of termites in each caste within the colony is also regulated chemically. Nymphs or immatures can develop into workers, soldiers or reproductive adults depending on colony needs.

Sound is another means of communication. Soldiers and workers may bang their heads against the tunnels creating vibrations perceived by others in the colony and serving to mobilize the colony to defend itself. Mutual exchange of foods enhances recognition of colony members.

### Evidence of Termite Infestations

Wood damaged by termites always has remains of mud tubes attached to wood galleries or tunnels in an irregular pattern. The tunnels may contain broken mud particles with fecal materials. In the case of an active colony, white termites may be found in infested wood. The presence of flying winged males, females or their shed wings inside the building indicates an infestation. The presence of mud or shelter tubes extending from the ground to woodwork or on foundation walls also may indicate infestation.

Workers travel periodically via shelter tubes to their nest to regain moisture and perform feeding duties. Each mud tube is approximately the diameter of a lead pencil.

#### *How Old is the Damage?*

Based on normal feeding activity, it takes three to eight years to cause appreciable damage. There have been some predictions that, under ideal conditions, a termite colony of 60,000 workers may consume a one-foot length of 2" x 4" pine in 118 to 157 days.

#### *Inspection for Subterranean Termites*

Termite damage may be located by probing wood with a screwdriver, ice pick or knife. Start inspection in the basement and use a bright flashlight. Look for mud tubes and the activity of swarmers. If necessary, get help from a professional pest control operator or advice from an experienced entomologist. A qualified professional inspector should inspect the exterior and interior surfaces of the foundation, particularly construction where wood is on or near the soil. Mud tubes are solid evidence of termite activity.

Other sites requiring inspection are:

- ❖ wood construction in basement and crawl space (if present)
- ❖ sills, joists, support posts, basement window frames, wood under porches
- ❖ hollow blocks, cracks in cement or brick construction and expansion joints
- ❖ scrap wood on ground, old tree stumps, fence posts and exterior frames of basement windows.

#### *Useful Information*

If Termite Treatment is Necessary

- ❖ Do not panic. There is no need to be alarmed if termite activity is found in your home and treatment is necessary. Termites work slowly and the structure will not be extensively damaged or collapse overnight.
- ❖ Take your time to make a sound decision. Do not allow anyone to force you to make quick decisions.
- ❖ If you decide to hire a commercial pest control company, get two or more cost estimates.
- ❖ It is important to request the plan of work revealing sites of termite activity and treatment procedures.
- ❖ Ask for written information on chemical treatment procedures, repair of wood work, warranties, copies of insecticide labels and other pertinent information. Compare bids before making decisions.
- ❖ Ask about liability insurance.



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