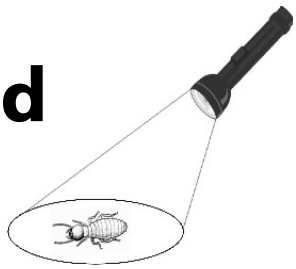
Chapter 3

Detecting Termites and Their Damage



It has been estimated 17–20 percent of Nebraska homes have either had a termite infestation sometime in the past, or will have a termite infestation sometime in the future. Because of this, it is extremely important to carefully examine every home for termites or termite damage. This is the only way to detect the presence of termites and prevent future structural damage. The authors suggest every home be inspected annually by a qualified termite inspector. However, we also believe homeowners should be forever diligent and always "be on the lookout" for termite activity. The homeowners, after all, live in the house 24 hours-a-day. They are the "ideal" inspectors because they are the most familiar with all parts of the house.

This chapter provides the necessary information so the average homeowner can successfully inspect their homes for termites and/or termite damage.

What is Needed for the Inspection?

Whether done by you, the homeowner or a professional inspector, the number one thing required for a successful termite inspection is careful thought (use your head!). Termites try to stay hidden. Everything they do hides their existence. You must use everything learned in this chapter to help detect their presence.

Essential items needed to do an inspection are a bright flashlight; a flat-bladed screwdriver; a pencil, clipboard, graph paper and a tape measure. The flashlight allows the inspector to examine all the "nooks and crannies" where termites hide. The screwdriver is used for probing (more later on this). The other items are for constructing an accurate scale drawing of the house.

Some other useful items are a hard hat to protect your head in low clearance areas, a pair of gloves and coveralls to protect your hands and clothing, a trim prybar and hammer for removing trim boards, baseboard or other wood coverings, and a ladder or step ladder for easier access of some areas within the house.

Additional "high end" items sometimes used by professional inspectors include a moisture meter, a fiber optic viewing device, microwave pestfinder and termite-sniffing dogs. The moisture meter can detect high moisture inside walls without opening the wall. High moisture is a good indication of termite activity. The operator must receive special training before the meter can be used properly. A BoreScope (fiber optic device) allows the inspector to visually look into void areas for evidence of termites. The pestfinder allows the inspector to "beam" microwave signals through walls to "see" termites and other wood destroying insects. The termite-sniffing dogs are used to literally "sniff out" the termites.

Inspection Targets

The inspector is primarily looking for two things: live termites and signs of termites. If any of these are spotted, we suggest hiring a professional inspector to assure nothing is overlooked. Live termites are sometimes spotted outdoors when soil is disturbed around wood that touches or penetrates into the soil. Live termites are also sometimes seen during remodeling activities or if a termite mud tube is disturbed. The other time you may see live termites is during swarming (see Chapter 2).

There are three main signs of termites that can be seen during an inspection: shed termite wings and/or dead swarmer termites, termite mud tubes and termite damage. During the swarming season, termites shed their wings. These wings become very important as an indicator of termites. The wings can be anywhere (inside or outside), but a good place to start looking is in window sills. The wings/dead swarmer termites will also sometimes fall into spider webs.

Figure 3-1. Swarmers in a window sill.

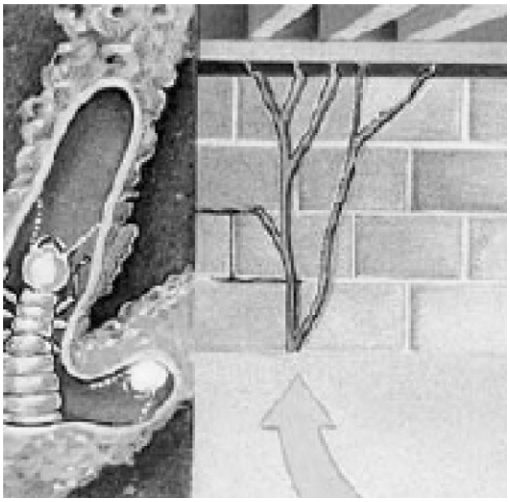


Figure 3-2. Termite mud tubes.

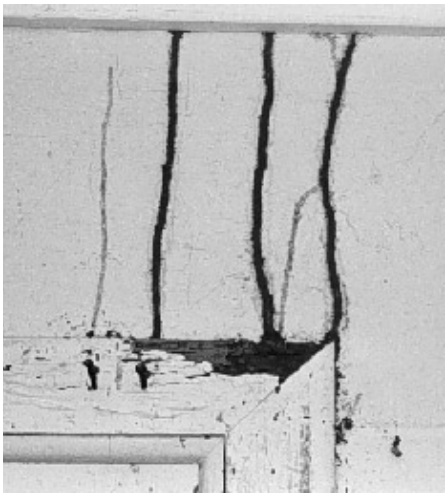


Figure 3-3. Termite mud tubes above a door frame.

Termite Mud Tubes

Mud tubes (also called shelter tubes) are constructed by worker termites (see Chapter 2). These tubes are an obvious indication there is termite activity in the area. These tubes will be evident anywhere there is a connection between the termite colony in the ground and any wooden food source. The tubes can be constructed on the surface of concrete, metal, wood, plaster, brick or almost any other material. They can be inside cracks (termites can fit through any opening 1/64th of an inch wide or wider) in concrete or wood, inside building materials such as insulating materials and wooden supports or between walls or floors in "void" areas.

There are several types of shelter tubes: utility/working tubes, exploratory/migratory tubes, suspended/drop tubes and swarming tubes.

Utility tubes are often very wide. They carry hundreds to thousands of termites daily. Typically, the utility tube has "lanes" inside, with some "lanes" handling termite traffic going up and some "lanes" handling termite traffic going down. These "lanes" are not as well organized as our highway system, but the termites do tend to stay in well organized caravans as they move up and down the tube. Termites moving up are carrying mud and water from the soil for use in further tube construction, whereas termites moving down are carrying food (wood and cellulose material).

Exploratory tubes are usually only about two termite-widths across. These tubes are constructed to facilitate "finding" food sources. These tubes have been seen traveling 15 feet or more above ground (tubing over metal or concrete) to reach a desirable food source. Freestanding exploratory tubes can be 3–5 feet up from the soil surface. Exploratory tubes can be built from the food source down to the soil. Suspended/drop tubes are a special type of exploratory tube that are constructed to add more access tubes to and from an existing food source.

Swarming tubes are side branches constructed off existing tubes. The end of the swarming tube is opened to the atmosphere at the time of swarming.

Termite Damage

Termite damage can be either inactive or active. It often takes an experienced inspector to tell the difference. Termites can damage softwood and hardwood lumber products, masonite paneling, composition siding and other construction materials within a house. They can also damage such cellulose materials as books, paper, cardboard, wallpaper and the paper covering on drywall.

The wood or cellulose that has been infested with termites is usually damp and invaded by fungi. Termites feed in the larger, softer areas of the wood first (between the tree growth rings of the wood). The resulting damage appears "lattice-like." As the wood is eaten, the empty spaces are replaced with soil. Wood is rarely completely eaten and the size and shape of the wood is maintained. Usually they only eat about 10–20 percent of the total wood volume. Termite

Figure 3-4. Termite-damaged wood.

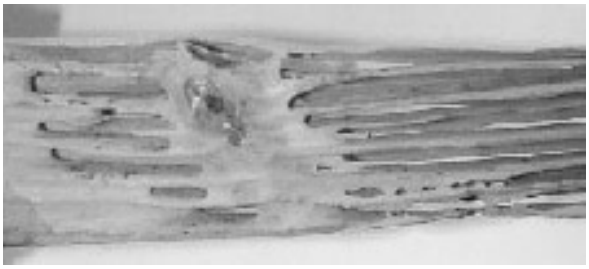


Figure 3-4. Carpenter ant-damaged wood.

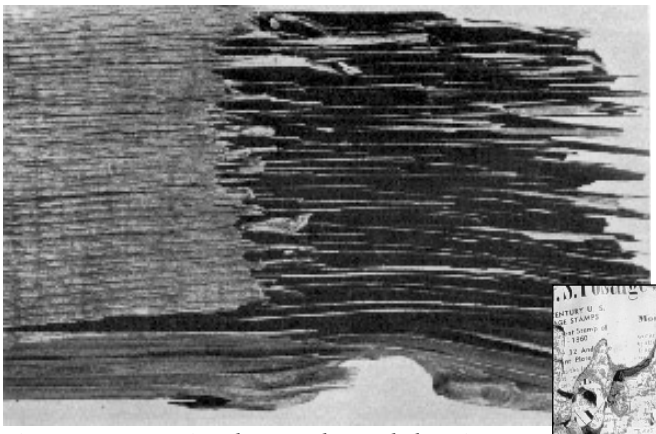


Figure 3-5. Termite-damaged wood showing termites' preference for the soft wood parts.

damage is easily distinguished from other insect or rot damage.

Carpenter ant damage is distinctly different from termite-damaged wood. Occupied galleries are kept very clean, resulting in the surface having a "polished" look (see Figure 3-4). These ants prefer to infest wood that is moist and rotting and will sometimes use wood that has been "hollowed out" by termites. They push sawdust and other debris out of their galleries, often resulting in a cone-shaped pile accumulating just below the nest entrance.

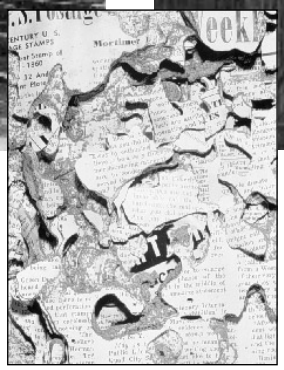


Figure 3-6. Termite-damaged paper.

Figure 3-7. Termite-damaged paneling.

Probing and Sounding

Tapping exposed wood by firmly hitting parallel to the grain with a screwdriver (probing) is an important technique used during termite inspections. If the wood has been damaged, the blade of the screwdriver will penetrate into the wood. Tapping wood by hitting with the blunt end of the screwdriver (sounding) is another technique used. Sounding will tell you where the wood may have been damaged. The inspector will hear a hollow or dull sound indicating possible hidden termite damage. If either probing or sounding indicates possible hidden damage, probe further for tunnels, galleries or termite mud termites leave behind as they feed.

Figure 3-5. A screwdriver is a useful tool for inspections.

Where Should You Look for Damage?

Termites usually do more damage to areas closer to the soil. Therefore, the most commonly infested areas in homes are exterior walls, areas near cracked foundations/slabs, sill plates and joists, walls common with garages/additions and areas near porches. However, if there is a problem that creates a buildup of moisture, like a plumbing leak or leaky roof, the termites may gravitate toward these areas (more about moisture problem areas in Chapter 4).

Quick Inspection Guide

What do I need?

- Flashlight
- Flat bladed screwdriver

What are the signs of termites?

- Shed termite wings and dead swarmer termites
- Termite mud tubes
- Termite damage

Where do I look for damage?

- Window sills are a good place to look for termite wings.
- Wings and dead swarmers often fall into spider webs.
- Mud tubes are evidence of an active termite infestation.
- Termites can damage softwood and hardwood lumber products, paneling, siding, books, cardboard, wallpaper and paper covering on drywall.

- The most commonly infested areas are exterior walls, near cracked foundations, sill plates and joists, walls next to garages and areas near porches. Also places where moisture builds up such as plumbing leaks and leaky roofs.

How do I find the termites?

- Tap exposed wood by firmly hitting parallel to the grain with a screwdriver.
- If the wood has been damaged, the blade of the screwdriver will penetrate into the wood.
- Tapping the wood by hitting with the blunt end of the screwdriver will help you hear hollow or dull sounds indicating possible hidden termite damage.

What do I do if I find live termites?

- Use a tweezers to carefully pick up several of the insects.
- Place them in a small container and close the cover tightly.
- Bring the sample to the Termite Workshop or your local county extension office for identification.

The Inspection

- Look for wood-soil contact areas.
- Be especially wary of foundation walls that are of hollow-block construction. Termites frequently enter wood through the voids in the blocks and are very hard to detect.
- Check each room inside for damage, decay and excessive moisture.
- Look at baseboards and around door/window frames.
- Look for termite-damaged wood and/or water stains.
- Check all walls, ceilings and floors.
- Look for cracks in the baseboard (could indicate excessive moisture and/or feeding damage).
- Look for raised paint or wallpaper (termites can eat paper and leave paint behind).
- Look for ripples in paneling and wallboard (caused by moisture/termites).
- Look for drywall ripples or tiny holes in surface of drywall or wall paper (termites seal holes with mud after emerging through the paper).
- Probe wall plates (board at bottom of walls) with a screwdriver.
- Pry back the baseboards and window/door trim boards if possible, especially if you suspect termites and/or moisture problems.
- Probe sill plates and joists with the grain of the wood using a screwdriver every foot or so.
- Check for structural sagging, buckling, or settling.
- Check for improper ventilation in crawlspaces and correct if necessary.
- Note plumbing and utility fixture entrances and passages through the basement floor and the foundation.
- Look around showers and tubs.
- Be sure to check closets as well.
- Walls constructed of stone, concrete, cinder blocks, hollow tile, or brick may develop cracks through which termites can pass to sills and other wood members; carefully inspect such walls.
- Check plumbing for leaks/condensation.
- Spend extra time inspecting areas around porches. Earth-filled porches and steps account for more cases of termite attack than any other building feature.
- Check all perimeter walls carefully. Check wood paneling and other wall finishings on basement walls, wood partition walls and other wood construction in the basement that extends from masonry to the sills or joists.
- Look for moisture problems—proper grading, down spouts, poor drainage.
- Check sheathing of eaves, chimneys, and vents.
- Record the outside dimensions of the house. Compare outside dimension of house with inside measurements to determine if there are any hidden areas that may provide access to your home for termites.

Remember

- Termites are constantly foraging, just because you didn't find termites last year doesn't mean that you won't find them this year.
- Lots of things can help to make it easier to inspect for termites or provide a sign they are present: use of termite shields, establishing 6-8-inch gaps between soil and wood parts of the house, and eliminating vegetation near the exterior foundation (more on this in Chapter 4).
- The average home takes two hours to completely inspect.
- Inspect your home at least once a year.
- Even if an infestation is found, the inspection should be complete and thorough to ensure all points of entry and damage have been found.
- A light infestation may escape detection even with careful inspection.
- Termite workers attempt to remain concealed.

Figure 3-8. Termite-damaged wood. A mud tube has been opened, exposing a worker termite.