

TERMITES? IN WYOMING?

“We don’t have termites in Wyoming, do we?”

I have heard this quasi statement-question numerous times over the years in my job as the University of Wyoming Extension entomology specialist. The answer I have to give is yes, we do have termites.

Wyoming’s cold and dry climate is not hospitable to many species of termites; however, the native arid land subterranean termite (*Reticulitermes tibialis*) was here long before humans on the lower elevation prairie, valleys, and sagebrush steppe of our state. This species plays a role in the environment by recycling nutrients tied up in dead plant material back into the soil. It can occasionally also damage our buildings.

Unfortunately, I also have to tell folks that isolated populations of eastern subterranean termite (*Reticulitermes flavipes*) are present in Wyoming. This species is endemic to the woodlands of eastern North America.

People create habitat for this moisture-loving, cold-hardy termite species in towns by watering and growing lots of deciduous trees and shrubs similar to what they would find in their original home range.

The expansion of this pest has been gradual, with the “tree sections” of our oldest towns in the

lower elevations of the state most likely to harbor populations.

IN THE UNDERWORLD

The word “subterranean” in the common name of both termite species indicates the central colony complexes are always found within the soil. A study of eastern subterranean termites in Nebraska found their tunnels could go down as deep as 20 feet. They do this to find their preferred temperature and humidity conditions.

Actually, having our two pest termite species originating from nests in the ground is fortunate. Other species of termite pests, such as the Formosan termite that plagues the southeastern U.S., can form colonies entirely within a building. The central colony can be two or three stories above ground, which makes them much harder to detect.

Our two termite species are considered eusocial with cooperative care of the immatures, division of labor, and overlapping generations in their colonies. Both species’ colonies start with a single female

reproductive, called a queen, that can potentially live for over 20 years, and her mate, called a king.

MASSIVE REPRODUCTION

After five years a successful eastern subterranean termite queen will have produced thousands of wingless, sterile, worker and soldier caste offspring. In well-established, mature colonies, the queen will also start to produce winged, fertile females and male offspring called alates. The alates from colonies will be released in mass starting in early spring. These alate termites leaving a nest can reveal the presence of a hidden colony inside or near your house or outbuildings. Fortunately, most termite colonies fail due to predation of the mating pair.

The worker termites radiate out in tunnels up to 150 feet long from the central nest in the soil to find wood to eat. The eastern subterranean termite species will sometimes damage the roots of living trees and even root vegetables, but they prefer slightly damp, dead wood. They can also digest untreated kiln dried wood with which houses are built. Termites will eat the

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Young Swee Ming, shutterstock.com

These mud tunnels were built from the soil up a concrete foundation by eastern subterranean termites to get to the wood of the house.

paper off of drywall on the side next to the studs.

The worker termites eat the wood as they excavate tunnels through it. They don't make sawdust; they excrete dry fecal pellets. They have symbiotic gut microbes that break down the plant cellulose for them.



Whitney Cranshaw, Colorado State University, Bugwood.org

This is an arid land subterranean termite that has shed its wings after its mating flight from a colony. It has straight "beaded" antennae and broad junction between its thorax and abdomen.

The workers have to feed themselves and all the other members of the colonies by regurgitating liquid food. The soldier caste termites have big mandibles that make it impossible for them to feed themselves. Most termiticides take advantage of this shared feeding behavior by using cellulose bait treated with a slow-acting poison that eventually spreads back to the queen to destroy the colony.

WHERE AND HOW TO FIND TERMITES

The arid land subterranean termite can potentially be a pest in any building that has wood in contact with the ground and isn't treated to specifically prevent termite damage. Sheds, barns, and fence posts can be damaged. This species will not build long mud tunnels across stone or concrete foundations to get to a wood structure. Lacking the eastern subterranean termite's ability to make long tunnels make them unlikely to damage wood buildings built on concrete foundations or

piers. Their colonies also don't reach the enormous populations of their eastern subterranean termite relatives.

In contrast, the eastern subterranean termite workers will build tubes made of their feces and soil particles several feet straight up concrete foundations to get to the structural wood of the house. Unless the termites are discovered and removed, they can severely weaken the wood in a building that will eventually require expensive repairs. The insurance industry estimates that termites of all species cause \$5 billion worth of damage to U.S. structures every year.

Avoid extensive termite damage by performing regular inspections of the buildings on a property for visible signs of termite infestation. This includes the interior of basements and crawl spaces. If you are building new, remodeling, or landscaping your property, make sure no untreated wood is in contact with the soil. Never stack firewood directly on the ground next to a building unless

An ounce of termite prevention ...

Termites can be a potential problem in Wyoming and by raising awareness you will know what to look for and find them early in the infestation stage.

Detecting termites before they have caused extensive damage is imperative. Pest prevention is going to be the most economical option because homeowner's insurance policies do not cover termite damage.

Please follow building guidelines to prevent termite problems on new construction and modify the conditions around established building foundations to discourage termite activity.

This joint publication has very detailed information on best building practices for termite prevention. Cranshaw, W., S. Armbrust, M. Brewer, and S. Lajeunesse. 1994. *Household Insects of the Rocky Mountain States*. Colorado State University Extension, Bulletin 557A, available online at bit.ly/household-insects.

Also, an arid land termite factsheet is at bit.ly/arid-subterranean-termite.



The soldier and worker caste make up the majority of the population in an eastern subterranean termite (*Reticulitermes flavipes*) colony. The soldiers' only job with their big mandibles is to fight off predators. The workers do all the tunneling in the soil and eating all of the wood the colony needs for food.

you plan on burning it all before the following spring. Having firewood directly on the ground is like bait to these pests.

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We're not sure what Mother Nature's intent is with some of the insects in Wyoming, but **Scott Schell** probably does. He is the University of Wyoming Extension entomologist and can be reached at (307) 766-2508 or at sschell@uwyo.edu.



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