

● ALTERNATIVES

DAMPWOOD TERMITE SOLUTIONS

BY MEGAN KEMPLE

Termites, including dampwood termites, perform an essential ecological function: they help break down dead wood and return nutrients and other components of this wood to the soil and atmosphere.¹ Unfortunately, when they perform this same function in a house or other wooden building they become a pest. In fact, they are "among the most important structural insect pests in the Northwest."² This doesn't mean that pesticide applications are necessary, however. If you find dampwood termites in your house, there are straightforward nonchemical methods for dealing with them.

Biology

There are two species of dampwood termites in the Pacific Northwest. The Pacific dampwood termite *Zootermopsis augusticollis* occurs along the Pacific coast from Baja California north to British Columbia³ and also in parts of Idaho, Montana, and western Nevada.^{4,5} The Nevada dampwood termite *Zootermopsis nevadenses*⁶ is present in this same area, but also extends to the cold, dry, high elevations of the Sierra Nevada, Coast Range, and Cascade and Rocky Mountains.^{4,5} In Oregon, the Pacific dampwood termite is found in the western part of the state, and is most common along the coast.⁷

Identification

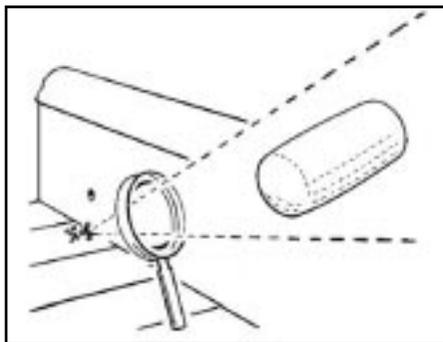
Correct termite identification is essential since different termites require different control efforts.² If you are at all uncertain about which termite species is causing trouble for you, catch a few of the termites in a jar and take them to your county extension agent for identification.



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A winged, reproductive dampwood termite.



A drawing of a dampwood termite pellet.

The Pacific dampwood termite is the largest of the common northwest termite species. It has three castes: reproductives (the winged form), nymphs, and soldiers. The reproductive caste may exceed one inch in length including the wings and is cream colored to dark brown. The soldiers are approximately 3/4 inch (20mm) long with head and jaws comprising about one-third of their length. They have a large reddish brown to blackish head and a cream-colored body. There is no worker caste in this species; the nymphs perform this function. Nymphs are white to cream colored and are about 1/2 inch (13mm) long. Dampwood termite fecal pellets are approximately 1/25 inch (1mm) long and slightly hexagonal.²

Habitat

Dampwood termites thrive in wood with a high moisture content. Soil-

wood contact is not necessary, although it often leads to infestation. Any condition which leads to moisture buildup in wood can encourage dampwood termites. Wood can become damp as a result of leaky pipes or poor gutters. Support beams may become damp due to poor ventilation. Rain-soaked firewood can also attract these termites. Once established, they can extend their activities into sound wood, even relatively dry wood.² Dampwood termites, unlike other termites, have a tendency to work their way upward from the foundation to the roof rafters.⁸

Detection

Dampwood termites are hard to spot because they hide themselves to prevent moisture loss, but you can look for indications of termite activity.² Swarms coming from the home are probably the most obvious sign.² These flights usually occur on warm evenings in late summer or fall, especially after rain.³

A thorough visual inspection is the main monitoring technique for detecting termite infestations. Look around and under the house for damp or damaged wood with holes or tunnels in it and wood that sounds hollow or soft when tapped. A screwdriver or pick is useful for prying into suspect areas and opening up holes to look for termites.⁹ Also look for piles of sawdust and dead insects.² Be aware of any condition that promotes moisture or wood decay.⁹

There are a number of other detection methods, which vary in their availability. Electronic odor detectors can detect the gases termites emit. Although these devices are currently on the market, their effectiveness has not been fully studied. A fiber-optic scope can be used to view areas behind dry-wall and paneling. Specially trained dogs can sniff out termites and detect termite galleries that might otherwise be overlooked.⁹

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Prevention and Physical Controls

As Art Antonelli, a termite expert from Washington State University Cooperative Extension, has written, "Avoiding situations that lead to dampening or rot of structural wood can prevent termite attack and establishment in most cases."²

Remove or fix sources of water such as leaking pipes and leaky irrigation systems.¹⁰ Get rid of shrubbery blocking air flow through foundation vents.² If foundation walls are too low, wood may be in contact with soil. There should be 12 inches of clean concrete between soil surface and structural wood.⁶ No wood near or under your house should be in contact with soil; this includes firewood, tree stumps, lumber, and scrap wood.⁶ Downspouts should carry water away from the building.¹¹ Move any soil piled up next to the house. Be sure planter boxes built on the ground are at least 4 inches away from the house.¹¹ Repair leaky roofs.¹²

Replacing rotten or damaged wood is important. You will remove the majority of the termites along with the damaged wood.¹² Once removed, small pieces of wood debris containing live termites can be soaked in soapy water to kill the insects. Larger pieces can be taken to a landfill or a natural area where the decomposing ability of the termites is useful.¹³

Biological Control

Nematodes that parasitize insects are

commercially available. One company that markets the parasitic nematode *Steinernema carpocapsae* recommends them for termite control.¹⁴

However, NCAP found very little information about nematodes' effectiveness against dampwood termites. In a laboratory study, one species of *Steinernema* (*Steinernema rarum*), reproduced well in Pacific dampwood termites and caused 80 percent mortality.¹⁵ This is a different species than is used in the product mentioned above, but suggests that the nematodes might be worth trying if your situation is difficult to manage with other techniques.

Heat Treatment

Heat is an effective nonchemical control for some termites. In this process, propane heaters are used to heat a house or other building that has been covered with tarps to help hold in the heat. After the temperature inside wood timbers reaches 130 degrees it is kept at that temperature for an hour. The entire process usually takes less than eight hours.¹⁶

Several pest control companies have found that this kind of heat treatment can be effective against dampwood termites^{12,17} but one of these companies cautions that the technique is "probably overkill and not cost-effective unless the infestation is massive."¹² Heat treatment will not be effective if the termite nests are near or below the ground,⁶ as it will not be possible to raise the temperature high enough

to kill the termites.

Summary

To control dampwood termites, eliminate the moist wood in which these termites thrive. Repair leaky pipes and roofs, make sure the area under your house is adequately ventilated, and remove scrap wood that is near your house. In addition, be sure that there is at least a foot between the wood portions of your house and the ground. These steps will keep your house in good repair while they minimize damage from dampwood termites. ♣

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If the crawl space under your house keeps wood at least a foot above the ground and is clear of wood scraps, dampwood termite problems are unlikely.