

Study shows use of feces as building material by termites serves as antibiotic

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Formosan subterranean termite queen. Credit: Wikipedia.

(Phys.org) —A team of researchers at the University of Florida has found that some termites use their own feces as an ingredient in building materials. Doing so, the group reports in their paper published in the journal *Proceedings of the Royal Society B*, offers the insects a natural antibacterial agent that helps them fend off infections that could harm them.

Termites, as most are aware, cause damage to buildings that have a wood component—the insects eat the wood ruining its ability to maintain its stability. The tiny insects are also notoriously difficult to eradicate once they build a nest in an area and begin munching on building parts. Prior research has found that termites have two natural ways to fend off [antibiotic agents](#). The first is that they have an immune system that is particularly good at fighting off fungal and bacterial infections. The second is they have evolved skills that help them keep bacteria at bay, such as nest cleaning, grooming nest mates, getting rid of those that die and at times eating their remains. In this new effort, the researchers have found that termites have a third type of defense against bacteria—they use their own feces as an ingredient when making a material they use to line the walls of their nests, resulting in nest foundations that are able to ward off bacteria.

The researchers discovered the [antibacterial properties](#) of the building material in termite nests by digging up five Formosan subterranean [termite colonies](#) near the university. In studying the material the termites used to create the walls, the researchers discovered they had been made using feces and chewed wood. In exposing a large variety of bacteria to the material, the researchers found it capable of warding off a host of fungus and other bacteria. Next, the researchers put a colony of the termites into an artificial nest which had been exposed to a type of fungus that can kill [termites](#). Adding bacteria from their natural building material, they found, helped the insects ward off fungal infections.

The researchers say microbes in the feces are responsible for the antibacterial nature of the building material, which suggests that further study may yield a new source of [antibacterial agent](#) that humans might use to do the same.

More information: Extended disease resistance emerging from the fecal nest of a subterranean termite, To be published here:

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