

Meruliporia incrassata commonly known as “Poria” “The House Eating Fungus”

In the last 2 decades *Meruliporia incrassata*, an orange colored mushroom shaped macro fungus, with the appearance of pancake batter, has shown up recently in homes from San Diego to northern California. However, *poria incrassata*, the water-conducting fungus occurs mainly in the southern states, it can be found anywhere. In the past, reports of *poria* were confined mainly to the Gulf states Mississippi, Alabama, Texas, etc.

"It's a rare fungus, but it's as common here as anywhere in the world," said UC Riverside plant pathology professor John Menge. "It's also the most devastating wood-decaying fungus of houses that we know of".

Poria is one of many wood decay fungi that feeds on dead wood. It sounds like science fiction and looks like it too, but *poria*, like all decay fungi, is an organism that needs moisture to break down and utilize wood as a food source, according to forest product experts at UC Berkeley. But unlike other wood-decaying fungi, which tend to destroy only a six inch area around a plumbing leak or wet window sill, *poria* has the capacity to begin in wet soil as opposed to just damp soil.

Experts say this water-conducting fungi differs from most other wood decay fungi in several respects: Large, semi-tough water-conducting roots called rhizomorphs are formed which transport water by capillary action from a constant source (usually damp or wet soil) to dry wood in a building, wetting it sufficiently to support decay. As decay proceeds, water is conducted to dry wood adjacent to that already colonized fungi. In this manner, as long as the supply of water is available, water-conducting fungi can colonize and decay the wood to the entire structure. "In other words, because fungus does not have teeth to help it eat, it has to spit on the wood. And the enzyme it secretes turns the wood to mush. Any piece of wood exposed to this fungus is destroyed" says *poria* expert Glenn Sigmon.

We used to think *poria* would usually start under a newly installed patio, with new landscaping or with a new room addition, and can travel far from its original water source. But that is not always the case. Wayne Wilcox, a UC Berkeley forestry professor, has found a similarity among houses with *poria* and the fact that major landscaping was done within 2 years of *poria*'s onset. He speculates that the soil dumped on these suburban lawns originated in various forests around the world, where *poria* occurs naturally and helps in the process of decomposition, and he feels *poria* may have come along for the ride.

Donna Kingwell, a spokeswoman for the California State's Structural Pest Control Board, said "the agency is keenly aware of the potent problems of *poria*, especially in the southern part of California".

First reports of *poria incrassata* destruction surfaced in 1913 in the southeastern United States, where forest products were the suspected origin of the fungus-abound. There is no record of the first reported case of *poria* in California, according to Wayne Wilcox, a UC Berkeley forestry professor, but scientists discovered the telltale spores on three coastal redwoods in 1924. Infestations of *poria* are rare. Only 15 cases were reported state wide by 1968, according to a U.S. Department of Agriculture study.

"When *poria* does invade a house, it's almost always catastrophic", said Mississippi State University wood technology professor Terry Amburgey. "The fungus will infiltrate a foundation, wood or concrete, and pretty soon the entire house goes".

Poria has an appetite not only for common construction woods such as oak and pine, but for cedar, redwood, cypress and juniper that are naturally decay-resistant. In addition to attacking most woods classed as naturally decay resistant, laboratory tests show that *poria* is resistant to many fungicides containing copper. The practical significance of this tolerance is uncertain, but no failures of wood treated with copper fungicides have been reported in buildings to date.

When *poria* attacks a building, spectacular damage often results once well established it can destroy large areas of floors and walls every year or so. Fortunately, control is relatively simple, i.e. the permanent elimination of the water source. Although *poria* is relatively rare, the rapid and extensive damage it can cause makes it desirable to understand the conditions leading to the attack, the signs indicating an attack is in progress, and methods of prevention and control of an attack.

Control and Remediation

"The bad news about *poria* is that it's hidden and it spreads fast, but once you find it, it can be controlled," said Wayne Wilcox. Earlier control recommendations called for the removal of decayed wood and all sound wood within 2 feet of obvious visible growth on the assumption that *poria*, once established, can decay wood with metabolic water as the sole source of moisture. *Poria Incrassata* is more sensitive to higher temperatures than most decaying fungi and is killed in moist wood at temperatures only moderately above "air-temperature maxima." This explains why *poria* occurs in the more protected parts of structure and not in wood exposed to full sun. In other words, *poria* is extremely sensitive to drying. In naturally infected wood, it can survive only 32 days of air drying. In laboratory tests, all artificial infections were dead in 1 day at 10% RH (relative humidity), 5 days at 65%, and 10 days at 90%. Sensitivity to drying, in conjunction with the need for conducted-water, forms the basis for the presently recommended simplified control and remediation measures.

See www.poria.com .