

Spooky FUNGI

By Diana Thottungal

Some fungi are good to eat, some help make bread (and beer) and others are beneficial to us in many different ways. But some are downright scary. Here are just a few.

Invisibility Cloak

The fungus is called *Cladosporium fulvum*, and you can find it infecting tomato plants. Needless to say, tomato plants object to this indignity so their immune system goes on the attack as soon as it recognizes the foreign fungal bits running around. And there's the rub: Recognizes. The fungus hides its exterior behind a special molecule it produces called Ecp6 and carries on the attack behind this shield.

To make matters worse, fungi that infect animals, including people, produce this same chemical.

The Strangler

There's a whole family of predatory fungi, the *Orbillaceae*, that eat nematode worms. When people meet, we shake hands and say "Hi." When these little monsters meet a nematode, they promptly make traps of at least five different kinds. They may

form a sticky net, somewhat like a mini spider web; they may add little rings to further slow the nematode down; they may produce sticky knobs or columns that create a hard-to-traverse thicket or, the *piece de resistance*, they may form a loop that constricts and strangles the victim. In every case, once contact is made, rootlike fine hairs called *mycelia* penetrate the worm and digest it from the inside.

Zombie Makers

When a healthy carpenter ant heads down from its home in the forest canopy to forage on the ground, it may get infected by the zombie-maker fungus *Ophiocordyceps unilateralis*. Then it climbs back up.

The fungus spreads to what the ant uses for a brain and now compels the victim to move down to the favored home of the fungus: low hanging leaves on the northwest side of plants.

By the time the ant has arrived at the desired location, all but a small fraction of its innards have been absorbed into the fungus, but its jaws (mandibles) remain intact. That's so the fungus can direct the ant to clamp firmly onto the underside of a leaf. Then the ant finishes dying ... and the fungus can sprout and send more spores down to the forest floor to repeat the cycle.

There Go Your CDs

You carefully recycle your plastics because, except for a few kinds, they don't naturally decompose and so fill up landfills. And of course, you don't need to worry about CD storage, just scratches. Umm-m, and fungi. There is a skinny, filamentous, pestiferous fungus, *Geotrichum* (which translates into "earth hairs"), that can make a meal of your neatly stored music or computer CDs.

Sometimes the 'spookiness' is just the looks:

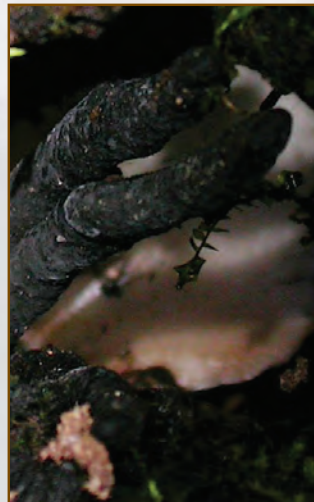
Not strictly speaking a fungus, this slime mold called Dog Vomit (*Fuligo*) crawled across the stump, leaving a slime trail and looking like a weird salamander.



This other Dog Vomit specimen resembles a skull emerging from the ground.



Dead Man's Fingers (*Xylaria*) emerging from the soil near the woodpile behind the shelter.



Bleeding Agaricus shows up in the autumn, near Mallard Pond. It bleeds red juice if you break it.



That one bleeds, this puffball (*Calvatia*) photographed outside Susan Wilkins's office, looks as if it is screaming.

