

Armillaria Ostoyae Encyclopedia Article

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Armillaria Ostoyae

Armillaria ostoyae is a fungus, and is also known as the honey mushroom. The species is particularly noteworthy because of one fungus in the eastern woods of Oregon that is so far the biggest organism in the world.

Armillaria ostoyae grows from a spore by extending filaments called rhizomorphs into the surrounding soil. The rhizomorphs allow access to nutrients. The bulk of the fungus is comprised of these mycelial filaments. The filaments can also be called **hyphae**. The fungal hyphae can consist of cells each containing a **nucleus**, which are walled off from one another. Or, the cells may not be walled off, and a filament is essentially a long cell with multiple nuclei dispersed throughout its length.

For the giant fungus, using an average growth rate of the species as a gauge, scientists have estimated that the specimen in the Malheur National Forest in Oregon has been growing for some 2400 years. The growth now covers 2200 acres, an area equivalent to 1665 football fields.

Analysis of the genetic material obtained from different regions of the fungal growth has shown the **DNA** to be identical, demonstrating that the growth is indeed from the same fungus. The weight of the gigantic fungus has not been estimated.

As the giant fungus has grown the rhizomorph growth has penetrated into the interior of the tree. The fungus then draws off nutrients, suffocating the tree. As well, the mycelia can extend as deep as 10 feet into the soil, and can invade the roots of trees. When viewed from the air, the pattern of dead trees looks remarkably like a mushroom. The outline of the fungal boundary is 3.5 miles in diameter.

Scientists are studying the fungus because of the tree-killing ability it displays. Understanding more of the nature of this effect could lead to the use of the fungus to control tree growth.

The bulk of the gigantic fungus is some three feet underground. The only surface evidence of the fungus are periodic displays of golden mushrooms that are present in rainy times of the year.

Although not as well studied as the Oregon giant, another *Armillaria ostoyae* found in Washington state is even larger. Estimates put the area covered by the Washington state fungus at over 11000 acres.