

What? How? Why? Zombie-ant fungus

Britannica

March 1, 2024

How?

How?

more

How does it die

- How does this happen? How this happens is that a fungus releases spores and some of them are a type of spore called Cordyceps land on an ant and begin to grow roots in the ant's body and control the muscles and when the spore kills the ant, it forces it to bite on a dead plant, roots begin to grow out of the ant into the plant and grow out a fungus out of the ant's head.

Where?

- Where does this happen? Cordyceps are mostly found in jungles and also the usual place where zombie ant process takes place.

Source

March 1. 24

② National Geographic website

↳ "How a parasitic fungus turns ants into 'zombies'"

The *Ophiocordyceps unilateralis* fungus only has one goal: self-propagation and dispersal.

Fungus release spores that land on an ant, penetrating its skin and takes over its behavior. The ant is compelled to leave nest, descend to a vantage point, bite on a leaf vein, and die. The fungus feeds on its victim's innards, grows a fruiting body out of the head, and ejecting more spores.

The goal for the fungus is not to turn ants into zombies, but to increase their chance of survival.

But cordyceps don't invade the brain.

Instead they invade the cells of muscle tissues.

The fungus controls the nervous system of the ant.

There are ^{more than} over 200 species of cordyceps that can control more than one type of bug

Sources:

March 1-24

1. Britannica website

↳ encyclopedia entry "zombie-ant-fungus"

fungus, parasitic, infects ants, alters behaviors & kills
paratropical

starts as a sticky spore on the forest floor.

↳ pierces ant's exoskeleton

↳ infects, grows inside, manipulates

16-24 day infection process

ant will leave nest at irregular times
and follow non-traditional paths

don't interact normally

eventually fall from canopy

positions itself on a plant with a death grip

Then it dies.

fungus stalk grows out of head

similar heights and locations

Who
What
How

↳ gene & hormone suppression

alters chemistry of the ant body

doesn't appear to enter brain directly, but does

alter the central nervous system

toxins that impact communication with other ants

source:

DISCOVER magazine: How a zombie-ant fungus can infect a host.

March 5.24

introduction: The Last of US is a game of humans being infected by mutated cordyceps and becoming zombies. In reality, cordyceps can infect ants, but can it really infect humans? Cordyceps fungus can be found somewhere in the Amazon Rainforest in Brazil. An Entomologist named David Hughes and his team created an image that shows that the oocyst starts as a single cell. Over time, the cells begin to multiply and connect and begin to drain the host of its nutrients and also breach the ant's muscle tissue by growing through them. However, showing that cordyceps take control of the host's muscle cells, it leaves the brain untouched. Once the fungus takes full control of its host, it compels it to climb a nearby plant at a height where it is perfect for the fungus to thrive in. It then bites down on a leaf and die while a fungus plant grows out of the head. But in reality, it can't infect humans.

source: ORKIN Are Zombie Ants Real? March 5, 2014

notes: What is a zombie ant. A zombie ant is an ant that has lost control of its body to a fungus spore called Cordyceps and is compelled to climb a nearby plant, bite down on a leaf, and die in the fungus's growing process. Cordyceps have been known to destroy entire ant colonies, but now ants have evolved to take the infected far away from the nest so that no other ant can get infected. Later on, the name cordyceps fungus is Ophiocordyceps. This parasitic fungus can't infect humans because we have a more complex immune system and our temperature is 98°F which is too hot that Ophiocordyceps can't survive to that much heat.

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Question: How do Cordyceps take control of the Ants body and behavior?

Hypothesis: The Cordyceps will start as a single cell. Then they begin to multiply and connect to each other to form tubes. They enter the ants body of its nutrients and breach the muscle cells of its host. It takes control of the ants entire body except for the brain. It leaves the brain untouched and instead releases gases to change the ants behavior. It then compelles the Ant to climb a plant and bite down on a leaf vein. Then the ant dies while a spore plant grows out of its hosts head or neck. In summery, cordyceps take control of the ant by taking control of its muscles.

ask this.

March 9.24

question: What would our world look like if Cordyceps infected humans?

Hypothesis: That question can be answered through the popular game "The Last Of Us." The Last of Us is a game where cordyceps mutated into controlling humans and people are trying to survive in a zombie world. There are six stages of fungus zombies in Last Of Us. The first stage is the most human like and as the next stages come the less human it looks, the more scary it gets, until stage #6, which is death. But luckily this can never happen.

Quest: