

# Q

## Who invented zombies?

—Julian (J-cub) of the USA

### A:

“I guess you could say that nature invented them,” says David Hughes,

a biologist at Penn State University. He’s one of the few scientists who study real-life zombies. Not human ones, of course—those don’t exist. Hughes studies zombie ants.

Here’s what happens: deep in the forest, a worker ant sets off looking for food and accidentally walks over a tiny spore of a fungus called *Ophiocordyceps*. The spore latches onto the ant, burrows a hole in her body, and starts growing. Eventually, about half of the cells in the ant’s head will actually be *Ophiocordyceps*. “It’s a fungus in ant’s clothing,” Hughes says.

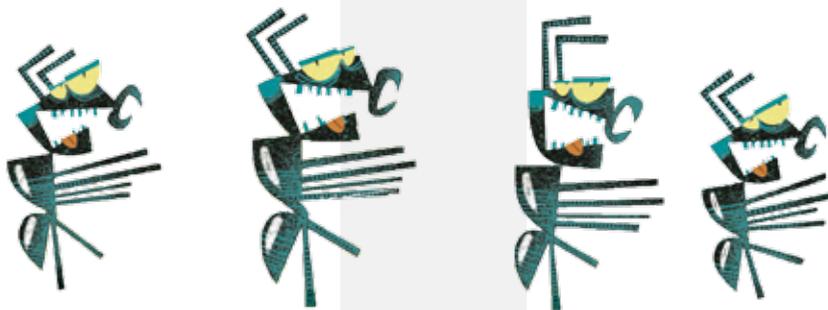
What the fungus does to the ant’s brain is even creepier.



Growing in the ant’s head, right next to the brain, the fungus makes a special mix of chemicals that gives it complete control over its host’s behavior. Even though

the ant is still technically alive, she has been hijacked by the fungus to serve its needs. And the only thing *Ophiocordyceps* needs is to infect other ants.

For a while, the zombie ant keeps acting normal. But then she suddenly flees the nest, finds a tree, and starts climbing. Up and up and up, until she reaches a height of about 10 inches (25 cm). Then the ant clamps her jaws





onto a leaf and dies. This was *Ophiocordyceps*' plan all along. A stalk of the fungus sprouts from the ant's body and rains new spores down on the forest floor, where other unlucky ants are doomed to pick them up and continue the cycle.

Different species of *Ophiocordyceps* have been found infecting ants everywhere from Thailand to Brazil to South Carolina. Each one even has "its favorite brain," meaning

that it attacks only one species of ant, says Charissa de Bekker, a biologist who studies the mind-controlling fungus at Ludwig Maximilian University of Munich, in Germany. So, are ants in the middle of their very own zombie apocalypse? Not quite. "This fungus does not wipe out entire colonies," de Bekker told me. Only a portion of ants from a given nest are doomed to become

zombies. *Ophiocordyceps* is more of a nuisance than a threat capable of destroying ant civilization. Which is reassuring . . . I guess.

—Lizzie

**Have any questions?**

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