



THE WALKING ZOMBIES

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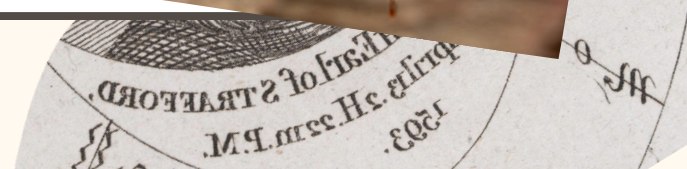
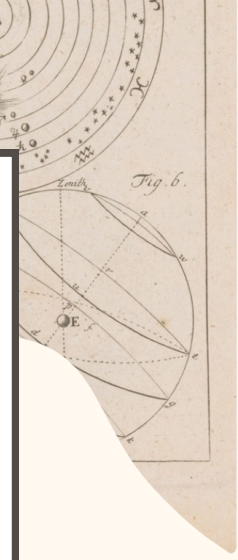
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Have you ever thought about zombies being real? Most people think zombies aren't real, but there are species of fungi that make this fact seem possible, that it might come to reality. This group of fungi belongs to the genus *Ophiocordyceps*. *Ophiocordyceps* is a parasitic fungus that can infect many different insects. It is a fascinating fungus that infects insects and can manipulate their behavior, earning them the nickname "zombies."

CARPENTER ANTS

Carpenter ants are a group of ants made up of different species found worldwide. They can be black, brown, reddish, or a combination of these colors. Carpenter ants mostly live in damp, rotted wood and can also live in undamaged wood. They do not eat wood; instead, they dig tunnels through it, hence the name "carpenter ant." However, some species of carpenter ants can be infected by a fungus called *Ophiocordyceps*, which can manipulate their behavior.



OPHIOCORDYCEPS

Ophiocordyceps is an aggressive airborne fungus found in tropical and temperate forests. They do not only infect ants; different species can infect other insects and arthropods, such as beetles, wasps, spiders, and caterpillars. This fungus, which predates humans, has earned itself a reputation as the zombie fungus. It can manipulate its host's behavior. Through the process, the original host dies. The fungus produces spores that can infect other suitable hosts. Specifically, the spores invade other ants through the ants' legs, which it uses as an entry point. Finally, the infected ant climbs onto nearby vegetation before it dies. This provides the fungus with a suitable environment to grow and produce spores, helping restart its life cycle.

When the right moment comes, the fungus causes the ant to climb onto nearby vegetation. The ant eventually bites down on a leaf before it dies. Some carpenter ants infected by Ophiocordyceps are known for their 'death grip'. This "death grip" is when an infected ant bites down on vegetation, and its jaws remain locked after it dies. The fungus effectively transforms its host into a zombie, compelling the ant to ascend to a significant height on a plant and bite down, showcasing a two-part behavior: climbing onto vegetation and a death grip. The infected ant climbs up and secures itself in place before succumbing to the fungus.

Ophiocordyceps eventually releases spores from the infected insect's body, which can infect other suitable hosts and restart the cycle. This cycle can affect insect populations and plays a role in the ecosystem.

Ophiocordyceps (carpenter ant)
Photo credit: Britannica



WHY DO MYCOLOGISTS STUDY THIS?

Mycology is the study of fungi. Mycologists study *Ophiocordyceps* to better understand how it affects the behavior of its insect hosts, including carpenter ants. One of the main things mycologists study is how fungi manipulate ant behavior.

Scientists also study how the infection works and how *Ophiocordyceps* affects the ecosystem. *Ophiocordyceps* can affect ecosystems by infecting various insects and other arthropods, including some ant species. Some *Ophiocordyceps* infect different insects; not all are the same. For example, some species infect carpenter ants, whilst others infect caterpillars and beetles. Scientists study *Ophiocordyceps* because it can affect insect populations and play a role in tropical forest ecosystems. Some species of *Ophiocordyceps* are used in traditional Chinese medicine and are believed to have health benefits, although more research is needed to understand these effects.

Have you ever thought *ophiocordyceps* could do all this? The reason why is that it's because the *ophiocordyceps* are very complex and complicated. The reason why the *ophiocordyceps* are so important to the ecological cycle is that it breaks down pests slowly. And these are the reasons why mycologists study this fungus because there's so much to learn from these zombies that are fundamental for the study of *ophiocordyceps*. *Ophiocordyceps* plays a role in ecosystems because it infects and kills certain insects and other arthropods.

Ophiocordyceps sinensis
Photo credit: Wikipedia



Ophiocordyceps unilateralis
Photo credit: National Geographic

