# BIRDBRAINED SCIENCE

## Boo-ology and other spooky science facts

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Happy Halloween Eve! It's the perfect time of year for lovers of thrills and frights. Whether you'll be spending your night out partying or staying in for a scary movie and some candy, take a minute to celebrate the natural horror of our planet with these spooky biology facts.

**Bone worms**

Deep beneath the ocean's surface lay the Osedax — a genus of deep-sea marine worms that survive by consuming the skeletons of deceased animals on the ocean floor. The Osedax, commonly referred to as bone-eating worms, take their name from the Latin words "bone devourer." A truly eldritch creature, the bone-eating worm has no mouth or stomach. It also lacks a gut, eyes and legs.

Osedax primarily feed on the lipids hidden deep inside of bones, and they are uniquely adapted for their chosen food source. Once an Osedax settles on a bone, it secretes an acid through specialized mucus-covered root tissues to dissolve the bone's external layers to access the lipids within. Inside a specialized organ called a trophosome, Osedax rely on an endosymbiotic bacteria, known as Oceanospirillales, to help break down and digest the complex nutrients dissolved by the worm's root acids.

Despite their terrifying nature, Osedax act as ecosystem engineers and enhance the biodiversity of bones they inhabit by increasing their structural complexity. This selfless act allows microfauna to inhabit otherwise inaccessible regions of the internal bone, contributing to the ocean floor's strange and alien world.



**Butcherbirds are carnivorous songbirds known for impaling their prey on sharp objects like thorns, tree forks or barbed wire. Although butcherbirds are generally insect eaters, they will not hesitate to feed on and display small lizards, mice and other vertebrates.**

PHOTO COURTESY OF @B_TUCKER_WILDLIFE_PHOTOGRAPHY ON INSTAGRAM

**Zombie ants**

The subject of the award-winning video game and TV adaptation "The Last of Us," Ophiocordyceps unilateralis is a specialized parasitic fungus that infects carpenter ants. In recent years, it has seized the popular imagination as the source of an imagined zombie apocalypse.

Of course, the real-life Ophiocordyceps fungus differs from its fictional counterpoint. For one, it does not infect the brains of its victims. Instead, spores from the forest floor infect unsuspecting ants by forming a mycelial network around their muscle fibers. From there, the fungus secretes chemical compounds that compel the ant to leave and seek out a plant or other tall object to climb. Once found, the fungus forces the ant's jaws to clamp down on whatever it has climbed to secure its body, before it eventually withers away. After the ant dies, a fruiting body sprouts from the back of the ant's head, releasing spores across the ground below. These spores infect more ants, and the cycle continues.

A fungal zombie outbreak from Ophiordyceps is unlikely, according to the Yale School of Medicine. Not only is the fungus too simple to infect the human body's more complex musculature, but we are simply too hot for the fungus to handle. It would burn up in our bodies before taking over the world!

**Frozen viruses**

From the ice comes a slightly smaller "Thing." Warming temperatures in the world's polar regions have reached the icy tombs of innumerable microscopic killers. Permafrost — sediment that remains frozen solid for years at a time — has stored a record of the evolution of life on our planet. Due to its frozen nature, organic matter buried in the sediment can remain almost perfectly preserved. In the past, scientists have been able to exhume the bodies of wooly mammoths, humans and even a full penguin colony. Now, however, scientists have been focusing on the bacteria and viruses found frozen within the soil. In 2014, scientists were able to revive a dead virus, which was able to target amoeba cells. The experiment has since been replicated for other viruses.

The threat of a time-traveling viral outbreak is not theoretical. In 2016, an anthrax outbreak in Siberia affected dozens of humans and more than 2,000 reindeer between July and August. It was later linked to the deeper thawing of permafrost during exceptionally hot summers, which allowed old spores of Bacillus anthracis to resurface from old burial grounds and animal carcasses. As the climate continues to warm, what other horrors may crawl their way out of the arctic?



**Osedax are a type of deep-sea marine polychaete worms. They are commonly known as bone-eating worms and act as ecosystem engineers, enhancing the biodiversity of bones they inhabit by increasing their structural complexity.**

PHOTO COURTESY OF @BOETSTUDIO ON INSTAGRAM

**Serial-killer birds**

This column would be remiss if it didn't mention at least one type of bird. Butcherbirds, distinguished by their heavy, hook-like beak, are carnivorous songbirds known for impaling their prey on sharp objects such as thorns, branches or barbed wire. To nobody's surprise, these avian murderers hail from Australia.

Although butcherbirds are generally insect eaters, they will not hesitate to feed on and display small lizards, mice and other vertebrates. Butcherbirds are not just senseless killers, however. They impale their prey for several reasons. For larger prey, external support is sometimes needed to allow the much smaller bird to feed on the carcass. Butcherbirds will often store away kills for later, turning bushes into a gruesome natural equivalent of a pantry. More bizarrely, the display of dead prey is used as a mating incentive.

Butcherbirds do have a sweet side. They are known to sing complex, high-pitched songs, which are used to defend their year-round group territories. Unlike birds of extratropical Eurasia and the Americas, both sexes sing prolifically. Gender equality amongst butchers — who would have thought?

# New documentary reflects on late-actor Matthew Perry's battle with addiction

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The documentary "The One About Matthew Perry" was released on Netflix on Tuesday, Oct. 27, and was directed by Emmy winner Mary Robertson.

"The One About Metthew Perry" follows actor Matthew Perry and the story of his life, from his career to struggles with addiction. There are video clips provided by his sister, friends, co-workers and others who knew Perry.

I really enjoyed this documentary. The stories that his friends shared shone so much light on his character and deep care for others. The documentary is divided into three episodes that are approximately one hour long each.

One of the first lines in the documentary is from Perry. He said, "God, you can do anything you want to me, just please make me famous." The documentary provides information about the consequences of that wish.

A member of the "Friends" production team shared that all the casting was easy except for the role of Chandler. Chandler was the last to be cast, but it took producers less than 30 seconds to know Perry was the man for the job.

Mia Perry Bowick, Perry's sister, said she was skeptical about sharing what happened. She said she remembers Perry's face in his prime before things got bad.

The documentary provided information about Perry's childhood. Whether or not he got a laugh would put him in a tailspin, according to the several interviews from the documentary.

After six months of being famous, Perry realized it did not fix his underlying problems with his feelings, according to the interviews. Bowick shared that it was impossible to fix the emptiness and loneliness. Perry was found to be in early stages of chemical dependency.

In episode two, Perry shares that being famous is 85% of your dreams coming true and 15% scary, strange and weird. Bowick said that she was in disbelief when Perry was in treatment for drug abuse until she found out he was in a rehabilitation center. According to the interviews, Matthew tried other drugs to balance out his drinking. Bowick said that Perry could never make it to a year of sobriety. As time passed, Perry started to sponsor people in Alcoholics Anonymous to help as many as he could.

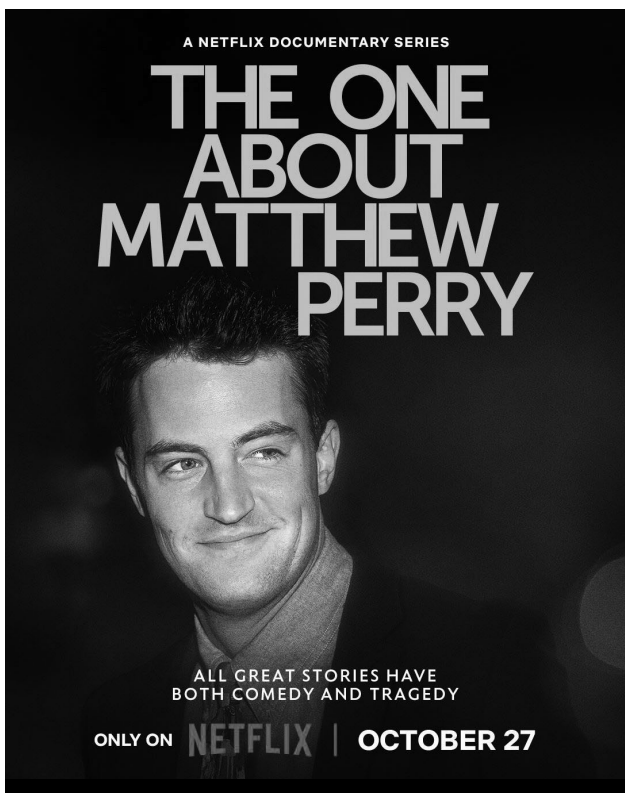
The documentary provided background about several news interviews where Perry shared his struggle with addiction and advocated for others struggling with addiction. Perry spent over six million dollars trying to be sober, according to an interview. Perry identified himself as an addict in a television clip.

The documentary also sheds light on Perry's writing work. Perry wrote and starred in a play called "The End of Longing." The play is about a man struggling with alcoholism. He also wrote a book.

Episode 3 opens with Perry in a hospital's Intensive Care Unit in 2018 after his colon ruptured. The documentary provided background on his recovery process, explaining that Perry was showing signs of waking up just a few weeks in, but was in the hospital for a long time.

The documentary also discusses studies showing that ketamine could be beneficial for mental health. Perry once shared that he felt as though he had multiple lives while he was on ketamine. He published a memoir with the opening explaining that he should be dead. The book was a huge success, and his sister said Perry was as happy as he ever had been.

When Perry's friends and family found out he had passed, they were in disbelief. Perry drowned in a hot tub, and a report later revealed he died from acute effects of ketamine.




**"The One About Matthew Perry" follows actor Matthew Perry and the story of his life, from his career to struggles with addiction. The documentary was released on Netflix on Tuesday, Oct. 27, and was directed by Emmy winner Mary Robertson.**

PHOTO COURTESY OF NETFLIX

## SUBOG Weekly Events:

### October 19th - November 8th

November 4th – GTA VI Trivia @ 7:00 pm in the Student Union Theatre

November 5th - Coffee House @ 4:30 pm at the Benton Museum

November 6th – Jersey Day @ 6:00 pm in SU 325

November 7th – Harvest Fest @ 12:00 pm on the Student Union Mall

November 8th – Amazing Race @ 11:00 am across campus

Any questions? Email subog@uconn.edu and check out

## RATING

★★★★★