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5 Horrifying Ways Plants Can Fight Back



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Ben Eisenkop

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Most people probably consider plants to be nothing more than a lovely green backdrop to their lives—one that is constantly being eaten by even the lowliest of animals. These people are unaware that plants have been slowly plotting their revenge. While you sleep, even our very food crops are subtly planning ways to seek payback! Here is a quick listing of just some of the ways we might expect to meet our ends at the leaves of these photosynthetic psychopaths.

1. CYANIDE POISONING

Over 3000 different plants—including apples, cassava, spinach, and lima beans—have evolved a defense that causes the animals that eat them to choke on hydrogen cyanide (HCN) [PDF]. This compound is synthesized by plants in an attempt to dissuade herbivores from munching down on them. During the process, called cyanogenesis, hydrogen cyanide is attached to sugar or fat molecules and eventually stored. When an animal eats a part of the plant containing these cyanide laced sugars (cyanogenic glycosides) or fats (cyanogenic lipids), they are broken down in the digestive tract, releasing the hydrogen cyanide which disrupts cellular respiration, the process from which we are able to, you know, continue living.

But how does the plant keep from poisoning itself? It compartmentalizes the poison in specialized cells which only release the poison after being ruptured. So an average plant cell sequence may go something like this: delicious, delicious, delicious, deadly poison, delicious. And the reason that we don't die from eating things like apples is that the concentration of cyanide is much lower than in plants like cassava, which need to be soaked in water or cooked in order to leach out the cyanide compounds!

2. GIVING YOU IMMEDIATE HEART ATTACKS

Some plants want to cut right to the chase. Why give you time to slowly die from cellular death like cyanide when they can just go for the heart of the matter, literally? Plants like foxglove contain incredibly potent toxins that can stop the heart dead in its tracks. Digitoxin, the cardiac glycoside responsible for the poisoning and named after the foxglove genus Digitalis, is fatal [in excess of 10 milligrams](#). Toxins such as digitoxin are certainly a good way to ensure that even if a potential herbivore takes a nibble of you, chances are they won't be doing so again—namely because they'll be too busy convulsing on the ground, dying.

People have been accidentally poisoning themselves with foxglove for years; its leaves look remarkably similar to the leaves of comfrey (*Symphytum* spp.) which is commonly made into a soothing, healing tea. Below is a comparison of the two leaves.

Only two people remain who are fluent in Ayapaneco—but they refuse to talk to each other.

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3. INJECTING YOU WITH HORRIFYINGLY PAINFUL NEUROTOXIN

Some trees just want to see you suffer. The Stinging Tree of Australia (Dendrocnide moroides), or Gympie Gympie, is certainly one of them. This relatively innocuous looking plant is covered in countless microscopic hairs, all of which are loaded with an incredibly potent neurotoxin. The hollow hairs get easily stuck in skin on contact and deliver the neurotoxin, which causes intolerable pain and, sometimes, death—this according to Dutch Botanist H. J. Winkler, who recorded such an event in the 1920s after an associate was stung by the plant.

How intense is the pain? It's apparently akin to being burned alive while being stabbed and can apparently last for months after the initial sting. It turns out, plants can really hold a grudge. Here's a video of an Australian biologist brushing the plant with the back of his finger for barely a second.

Why You Don't Want To Touch The Gympie-Gympie P...



0:00 / 4:50

4. COVERING YOU IN INNUMERABLE BITING, SWARMING ANTS



[Wikimedia Commons](#)

Just like humans, some plants have turned to hiring bodyguards in order to protect

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themselves. The bull-horn acacia (Acacia cornigera) has evolved a mutualistic relationship with the aptly named acacia ant (Pseudomyrmex ferruginea): In exchange for housing—inside of its **giant thorns**, which can house many ants each—and food (the plant feeds them through special nectaries and even by producing little bag-lunches for the ants in the form of fat and protein-packed **Beltian bodies**), the ants viciously defend the tree.

If a herbivorous insect even so much as touches the tree, it is immediately descended upon by the ants, who will eat the intruder or throw it off the tree. Even large animals such as humans will be given no mercy by the ants, who will swarm and bite in order to defend their precious all-providing tree. In fact, many bull-horn acacias have reduced pollination rates as compared to other plants as even beneficial pollinating insects can barely approach the tree without having a hurricane of ants sweep them to their deaths!

5. SUMMONING DEADLY WASPS FROM THE HEAVENS

When you think of corn (Zea mays), you may think of warm summers, grilling with your family, and enjoying the ears at your leisure, slathered in butter. Rarely do people think of corn as a capable arcane wizard of a plant that can call down a torrent of wasps to annihilate would-be murderers.

Corn, as well as many other plants, produces what are referred to as “green leaf volatile compounds” when its leaves are chewed on. These compounds are a cocktail of various chemicals, including terpenoids and phenolics, that are incredibly attractive to parasitic wasps. These wasps fly to the plant that is being eaten, find the culprits and, depending on the species, employ a few different protection strategies: some wasps, like digger wasps (genus Sphex), will actually pick up the host and put it somewhere else. Other wasps will lay eggs in the creature munching on the plant; those eggs hatch a la the Xenomorphs from Alien, often chewing their way out of the host’s body cavity within a day or two.

This sounds like a long time if you’re being eaten, but it takes a while for caterpillars or other insects to completely destroy a corn plant. Generally, the host is dying or near dead by the time the larvae emerge. So the next time you pick a fresh ear of corn, make sure you leave as quickly as possible—the wasps are probably already en route.

Additional Source: Lambers, H., Chapin F.S., Pons, T.L., Plant Physiological Ecology, Second Edition, Springer Science+Business Media, LLC, 2008, New York.

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 **Tammy H** · 11 months ago
Regarding #2, if you are going to post 2 pictures of plants - one that will kill you and one that makes a tasty tea, you should probably label them. :)


9 ^ | v · Reply · Share >

 **Ben Eisenkop** → Tammy H · 11 months ago
Haha, that was intentional, I like to make the reader sweat a little bit!


8 ^ | v · Reply · Share >

 milo → Ben Eisenkop · 11 months ago
Riiiiiiight. :P


2 ^ | v · Reply · Share >

 **Ben Eisenkop** → milo · 11 months ago
What can I say? The plants have me in their pocket.


2 ^ | v · Reply · Share >

 **DanInTampa** · 11 months ago
Mother Nature is trying to kill you. Constantly, and without warning.

2 ^ | v · Reply · Share >

 [A] → DanInTampa · 11 months ago
Is that why you hoard trash in the backyard..?

^ | v · Reply · Share >

 [A] · 11 months ago
Plants can also force you to watch M Night Shyamalan's *The Happening* and that's also deadly.


2 ^ | v · Reply · Share >

 **Ben Eisenkop** → [A] · 11 months ago
That fate was simply too horrifying to list.

1 ^ | v · Reply · Share >

 **Bones_IV** · 11 months ago
All hail Unidan, King of Nature! Glad I started following your Tumblr, sir.

5 ^ | v · Reply · Share >

 **Ben Eisenkop** → Bones_IV · 11 months ago
Thanks a bunch for reading!

2 ^ | v · Reply · Share >

 freshasapoppy · 11 months ago
Sorry to be a stickler but shouldn't:
"foxglove for years; its leaves looks remarkably similar..."
read
"foxglove for years; its leaves look remarkably similar..."?
(Ed. note: Can't argue with that, fresh - you're right!)

^ | v · Reply · Share >



Jo Cooper · 11 months ago

Sorry to be picky but the Gympie Gympie guy is not Australian, he's English.

1 ^ | v · Reply · Share >



Sarah · 11 months ago

I heard about a tree I expected to see on this list but I don't know the name of it so I'll just have to describe it. It's not only covered in spikes, but it produces giant seeds covered in spikes that will fall off and literally EXPLODE so that everything within several feet is impregnated with spikes containing seeds. It intentionally kills animals to use as fertilizer. I wish I knew the name of this tree.

^ | v · Reply · Share >



Snow → Sarah · 11 months ago

that would be the Sandbox tree

<http://en.wikipedia.org/wiki/H...>

^ | v · Reply · Share >



QDV · 11 months ago

#3 - Suddenly, those little show-off-my-bravado drops of Dave's Total Insanity and all those ghost pepper salsas...well, they don't seem so bad. A "nettle on steroids" that burns like a MF and has you throwing up a few minutes later? Pass.

^ | v · Reply · Share >



SorchaCierlyn · 11 months ago

"photosynthetic psychopaths" Is that a great band name, or what?

1 ^ | v · Reply · Share >



THATguy · 10 months ago

Damn , Nature! You scary!

^ | v · Reply · Share >

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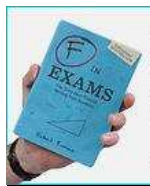


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DID YOU KNOW? Marlon Brando hated memorizing lines so much that he posted cue cards everywhere to help him get through scenes. He even asked for lines to be written on an actress's posterior. (That request was denied.)

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