

Biology's Most Amazing Lists: Lethal Venoms and Deadly Chemicals

The natural world is full of creatures with amazing abilities and specializations, including the ability to produce venoms and poisons. Below is a list of the deadliest venoms and poisons found in nature.

PRACTICAL SCIENCE WITH PHIL FREDA

Here's another "[Practical Science Most Amazing List](#)." This time we explore the lethal world of venoms.

Animals:

There are probably hundreds of animals out there that can kill you, but this is a list of five extremely venomous/poisonous species, according to [Discovery Magazine](#).

It is important to realize that a poisonous species produces toxins as a defense mechanism and is not looking to harm other species but to protect themselves.

Venomous species on the other hand inject venom through bites and stings to subdue and ultimately eat prey species.

- **The Poison Dart Frog:** This tiny, [poisonous frog](#) is found in the rainforests of Central and South America, according to the [Smithsonian National Zoological Park](#). Their brilliant colors serve as a warning for any would-be predators trying to make a meal out of one. According to Discovery Magazine, only two micrograms (a millionth of a gram) is all that is needed to kill a human. In case you were wondering, the ink in a single period on a piece of paper weighs six micrograms. This frog got its name from the fact that indigenous peoples used to use the venom secreted from the frog's skin to coat their arrows with venom.
- **The Stonefish:** [This creature](#) gets the award of the most poisonous fish. It can be found in Indo-Pacific and northern Australian waters. Their toxin is stored in large spines on the back of the fish that are used to inject venom into predators. Like the poison dart frog, this animal is poisonous but not venomous, it doesn't use its venom in order to obtain food. According to [Oracle's ThinkQuest](#)

[site](#), the sting causes excruciating pain followed by swelling and death of the surrounding tissue. If left untreated, the sting can be fatal.

- **The Brazilian Wandering Spider:** If you are afraid of spiders, things are about to get worse. [The Brazilian Wandering Spider](#) is the most venomous spider known to man, according to [The Guinness Book of World Records](#). These spiders are found throughout South America and get their name from the fact that they roam on the ground and not on a web. The spider's venom works as a neurotoxin by blocking synaptic connections in the brain leading to loss of muscle control, breathing problems and eventually death. Remember this animal is considered venomous, because it uses its venom to kill prey.
- **The Inland Taipan:** This is considered [the most venomous snake in the world](#) by a number of sources including Discovery Magazine. This snake is found in the continent of Australia. According to the [Clinical Toxicology Resources site](#), The Inland Taipan's venom consists of several toxins. The venom contains neurotoxins which work to disable muscle control and breathing, procoagulants which stop blood clotting, renal toxins which affect the kidneys and myotoxins which cause muscle damage. This is not a snake you wanna get bit by.
- **The Australian Box Jellyfish:** This species is widely claimed to be the [most venomous animal in the world](#). It is found in waters surrounding Asia and Australia and delivers its venom with extremely long tentacles lined with special stinging cells called [nematocysts](#). The Box Jellyfish's venom affects the heart, nerves, and skin. According to [Outback Australia Travel Guide](#), approximately six feet of tentacle making contact with the skin is enough to cause cardiac arrest within minutes. If stung while swimming, it is very uncommon to make it back to shore alive.

Plants, Fungi, and Bacteria:

I know what your thinking, I have to look out for [plants](#), too?

Unfortunately the answer is yes and some are common to this area!

This list was compiled from [Discovery Channel's How Stuff Works](#).

- **The Castor Bean:** [This plant](#) is commonly grown in gardens around the world for decoration and for castor bean oil. The oil is widely used for food additives and candy production. The seed coat

however, contains a poison called ricin. According to How Stuff Works, three seeds are enough to kill a child. The poison affects the kidneys and causes circulation failure.

- **Deadly Nightshade:** [This species of plant](#) is cultivated in the United States. The toxin atropine is found in its stems, leaves, berries and roots. As few as two berries can kill a child while approximately fifteen or so can kill an adult. The toxin works as a neurotoxin to shut down involuntary muscles involved in circulation and breathing.
- **Rosary Pea:** [The berries of this plant](#) are used to make rosary beads in other parts of the world. The plant is native to Indonesia but has been found in some of the southern states of the U.S. The berry is perfectly safe as long as the seed coat isn't broken. If the coat is broken and the toxin abrin is absorbed into the body, protein synthesis in the body can be shut down – leading to death. Only three micrograms are required in order to kill an adult.
- **Water Hemlock:** The [water hemlock](#)'s white roots are sometimes mistaken for parsnips. The plant toxin, cicutoxin, is most concentrated in the roots. If ingested, the poison causes violent convulsions, nausea, vomiting, cramps and muscle tremors. Death is a very possible outcome but those who survive usually suffer from amnesia.
- **Oleander:** [This plant](#) is considered to be the most poisonous in the world. The two most prevalent toxins, oleandrin and neriine, are so potent, that one can be poisoned from eating the honey produced by bees that got nectar from the oleander's flowers. Oleander is found mostly in Europe but also grows in the United States. One leaf of this plant can kill a child and symptoms usually include diarrhea, vomiting, stomach pain, drowsiness, dizziness, irregular heartbeat and often, death.
- **The Destroying Angel:** [This mushroom](#) is extremely poisonous and usually fatal if ingested. They can be found all across North America and in Europe. The toxin, amanitin, can easily be fatal if about half a mushroom cap is eaten. Symptoms include vomiting, cramps, delirium, convulsions, and diarrhea. The venom also targets the tissues of the liver and kidney, which is what causes death.
- **Clostridium botulinum:** I saved the most potent poison for last. This species of bacteria produces the most potent toxin known to man. The bacteria are found in almost all soil environments and

are easily killed while cooking vegetables. Their spores however, can withstand massive amounts of heat and can re-germinate in your body. The toxin, botulinum, causes the disease known as **Botulism**. One teaspoon of botulinum can kill 1.2 billion people! According to MedicineNet.com, symptoms of botulism include double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, muscle weakness and constipation. These are all signs of muscles failure and paralysis. Paralysis is caused by the fact that the toxin affects the nervous systems and could ultimately cause death by asphyxiation.

I encourage everyone to check out all embedded links to see what these plants and animals look like if you ever come in contact with them.

We in the Northeastern part of the country really only need to worry about the plant species, but try to imagine what it must be like to swim in Australia near the box jellyfish.

Think about it.

Please be sure to check out a very special video article of Practical Science, featuring an exclusive interview with **Dr. Clint Springer**, professor of Biology at St. Joseph's University, on the topic of global climate change and its effects on us and our environment.

Did you think about it yet? [Tell us in the comments.](#)