

**What I know:**

I love carnivorous plants, though they are more accurately insectivorous. I think it is so interesting that there is this small subset of plants that have evolved independently around the world to adapt to nutrient poor environments. All carnivorous plants get their nutrients from insects (though some are large enough to catch and digest small mammals and others get nutrients from shrew droppings (a fascinating beneficial relationship between the plant and shrew)). How they attract and digest those (mostly) insects depends on their environment and their trap structure.

Venus fly traps have small trigger hairs in their fan shaped leaves that when an insect lands on the leaf and brushes the hair, the trap snaps shut around the insect. The trap doesn't close all at once, though. It closes most of the way quickly with the "teeth" of the trap creating a prison. Small bugs that aren't worth the fly trap's energy can escape. Larger bugs are trapped inside as the fly trap slowly closes the rest of the way and creates a seal so that bacteria can't get in. Then the trap digests the bug over several days or a week, and then opens again when it's done to catch more bugs.

North American Pitcher plants and Tropical Pitcher plants both lure bugs into their pitchers with the sweet scent of their nectar and the bright colors of the trap. Insects react to visual and scent cues that the trap is a flower but instead slip into the digestive enzyme in the bottom of the trap, where they drown and are digested by the plant. North American Pitcher plants (Sarracenia) are found in bogs and swamps in the Carolinas, Virginia, and Pennsylvania. Cousins of these plants that are more tolerant of cold temperatures (Darlingtonia) can be found in the Pacific Northwest region. Tropical pitcher plants (Nepenthes) are found in Borneo, Sumatra, the Philippines, and surrounding areas. Though, I've personally seen a particularly healthy Nepenthes in Southern California.

There are others, too, though Venus Fly-Traps and Pitcher plants are the most recognizable. Venus fly traps have long captured imaginations and Darwin published a lot of work on tropical pitcher plants.

Less well known are the sundew plants. They are covered in long "hairs" and what looks like dew drops, but is actually a very sticky digestive enzyme. The more insects struggle after getting stuck to the sticky leaves, the more the leaf slowly curls around the insect, exposing it to more digestive enzyme and trapping it further. The sundew then absorbs the nutrients from the digested insect through its leaves. Butterwort plants catch prey in a similar manner, but they look more like a succulent plant. They are missing the long colorful "hairs" that make the sundew so distinctive. Some carnivorous plants even grow underwater.

Carnivorous plants have made appearances in fiction and media, too- though few of these fictional counterparts seem to be more than loosely based on reality. Audrey II from little shop of horrors is much, much larger than even the largest carnivorous plants (the Nepenthes Raja can digest rats), and is a much more aggressive hunter than we've seen above. The same can be said for the Piranha plants in the Mario universe. The Addams family had a pet carnivorous plant named Cleopatra. See a gif of her in action here: <https://www.pinterest.co.uk/pin/268808671485669141/>

**Comment [RAJ1]:** Write 500 words about something. You don't have to be an expert, but it should be a topic you think you know more about than the average person and can write at least a page or 500 words about.

You're not required to cite sources, but if you consult them to write your artifact you should attribute the information you borrow to those sources. Citations (informal or formal at this stage) do not count towards your word count.

**Comment [RAJ2]:** It's okay to talk about why you're interested in this subject. This artifact should include factual information but can also include your experiences.

**Comment [RAJ3]:** Think about what your peers are going to do with this artifact. They (and you with someone else's artifact!) are going to research the topic in scholarly article databases, a library of books, the free web, and image databases. Think about directions they might take that research and still be able to synthesize information from your artifact- someone using this artifact could research the science behind carnivorous plant digestion, trigger hairs, Darwin's historical work with tropical plants, carnivorous plants in films/drama, video games, or fiction. They could research mutually beneficial relationships between carnivorous plants and other animals or insects, or how carnivorous plants lure insects with a combination of color and scent cues. What interests you about this artifact? Is it something I didn't list? There are plenty of directions to take a topic.

How I know it:

I first learned about carnivorous plants in 2010. My father gave me a Venus Flytrap as a gift, and I've been fascinated ever since, reading books and articles about them, carefully observing the many plants I own, and even presenting information on carnivorous plants to a lay-audience. I've carefully researched sun and soil requirements to help the plants I have at home thrive.

**Comment [RAJ4]:** If you've taken a class on a subject, gotten special certifications or degrees, worked in the field, these are all things to include.

**Comment [RAJ5]:** I've identified how long I've had an interest.

**Comment [RAJ6]:** Here's how I gathered information.

**Comment [RAJ7]:** Here I list examples of other places I've shared this information.