The Mysterious Venus' Flytrap

Welcome to the Botanical Society of America's Mysterious Venus Flytrap (*Dionaea muscipula*) page! This page is intended as an easy access resource. For more specific and detailed scientific information please also have a look at the BSA's Carnivorous Plants Pages. Definitely worth exploring! The insectivorous (carnivorous) plants are representatives of the Kingdom Plantae, the Division Anthophyta, are located in both Classes Dicotyledones and Monocotyledones , span 6 Orders, 9 Families and 595 species. They provide interesting examples of plant morphology and environmental adaptation. Here you'll find general and scientific information, growing tips, images, further reading, and resources on these mysterious plants. Now, back to the mysterious Venus Flytrap, enjoy!

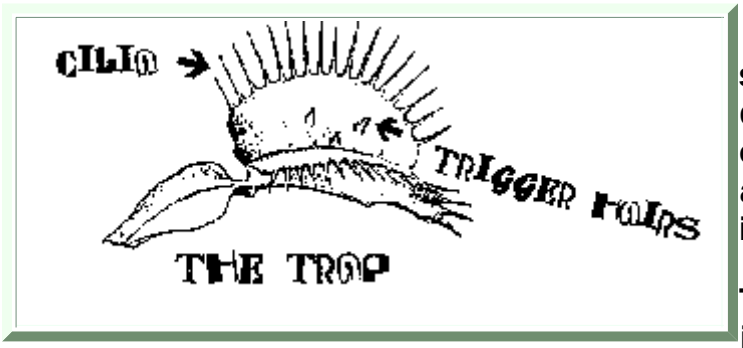
Just like other plants, Venus' Flytraps gather nutrients from gases in the air and nutrients in the soil. However, they live in poor soil and are healthier if they get nutrients from insects. Carnivorous plants live all over the world but Venus' Flytraps live only in select boggy areas in North and South Carolina. Because of people's fascination with these plants, they collected many of them and they became endangered. Venus' Flytraps today are grown in greenhouses.

The leaves of Venus' Flytrap open wide and on them are short, stiff hairs called trigger or sensitive hairs. When anything touches these hairs enough to bend them, the two lobes of the leaves snap shut trapping whatever is inside. The trap will shut in less than a second. The trap doesn't close all of the way at first. It is thought that it stays open for a few seconds in order to allow very small insects to escape because they wouldn't provide enough food. If the object isn't food, e.g., a stone, or a nut, the trap will reopen in about twelve hours and 'spit' it out.

When the trap closes over food, the cilia. finger-like projections, keep larger insects inside. Fold your hands together lacing your fingers to see what the trap looks like. In a few minutes the trap will shut tightly and form an air-tight seal in order to keep the digestive fluids inside and bacteria out.

If an insect is too large it will stick out of the trap. This allows bacteria and molds on the insect to thrive. Eventually the trap turns black, rots and falls off.

The trap constricts tightly around the insect and secretes digestive juices, much like those in your stomach. It dissolves the soft, inner parts of the insect, but not the tough, outer part called the exoskeleton. At the end of the digestive process, which takes from five to twelve days, the trap reabsorbs the digestive fluid and then reopens. The leftover parts of the insect, the exoskeleton, blow away in the wind or are washed away by rain. The time it takes for the trap to reopen depends on the size of the insect, temperature, the age of the trap, and the number of times it has gone through this process.



If you feed a Venus Flytrap something that doesn't move, e.g., a dead insect, it will not close tightly over it. You need to squeeze the trap and move the food around so it imitates the action of a live insect.

The lobe manufactures digestive juices and an antiseptic juice. This keeps the insect from decaying over the few days it is in the trap and purifies prey that it captures.

People still do not understand fully how the trap closes. The Venus' Flytrap does not have a nervous system or any muscles or tendons. Scientists theorize that it moves from some type of fluid pressure activated by an actual electrical current that runs through each lobe.

How to Grow

The Venus Flytrap is one of the easiest carnivorous plants to grow. If you wish to grow one or more, they have only a few requirements such as, wet roots, high humidity, full sunlight, and poor, acidic soil. It comes shipped to you as a bulb or rhizome. Plant it root side down so that the top of the bulb is even with the soil. A recommended soil mixture is one that contains sphagnum moss and sand. *Do not add fertilizer or lime.* Your plants will do better if you transplant them into new soil every few years.

In order to provide high humidity for your Venus Flytrap, plant it in a terrarium or in a glass container with a small opening. An old aquarium or fish bowl make good containers for this purpose. You need to watch your terrarium in the summer because the temperature inside the glass may get too hot. Two hours in the sun may be sufficient. If your plants wilt, then they need to come out of the sun sooner. Just the opposite is true for winter. If it gets very cold in your area you may need to move your plants away from the window or cover them at night in order to keep them warm and moist. However, your Venus' Flytrap will experience a dormant period in the winter, from Thanksgiving to Valentine's Day so it needs fewer hours of daylight and cooler temperatures.

Another way is to plant it in a pot and place the pot in a larger container such as a bucket. Partially cover the top of the bucket with a piece of glass or Plexiglas. Don't cover the entire top because air needs to circulate.

If you grow your plant outside, it will get enough insects to eat. If it rains the container may fill up with water but this will not hurt the plants, they can live underwater for months. If you grow your plant inside you will need to feed it insects. A couple of houseflies or small slugs per month is enough during the growing season. Do your plant a favor and do NOT feed it hamburger! Indigestion, rot may occur and usually your plant will die. Find a "just right" sized bug instead!

Reproduction

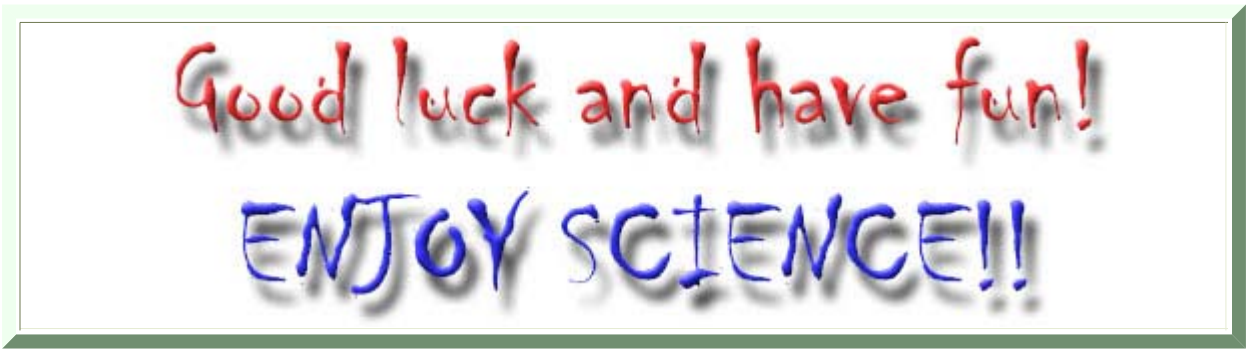
After your plant matures, it may produce flowers on a tall stalk far above the leaves. It has to be high above the leaves so insects pollinating the flowers do not get trapped in the leaves. Each flower produces very tiny seeds. They are about the size of the period at the end of this sentence. Plant the seeds right away or store them in the refrigerator. If you pinch the flowers off, the leaves will grow more vigorously since growing flowers takes a lot of energy

from the plant.

The Venus' Flytrap also reproduces via its rhizome. It never has more than seven leaves. If your plant has more then seven leaves, it has already split off another plant from the mother plant. You may want to try pulling a leaf off and replanting it. Eventually, this leaf will die off and a tiny, tiny new plant will emerge.

If you wish to obtain and grow Venus' Flytraps you may check to see if you have a local greenhouse that carries them. If not, you will need to order them from a greenhouse. Many of these have a minimum charge, such as $ 10 to $25. They also include shipping charges because shipping is difficult.

- ***Secrets of the Venus' Flytrap,*** **by Jerome Wexler**
- ***Carnivorous Plants,*** **by Pat Kites**
- ***Weird Plants You Can Grow,*** **by Janet Goldenburg**



- Botanical Society of America

Some selected images of the Venus' flytrap from the BSA Online Image Collection. Click on the medium resolution picture for an image that fills most of your screen and the high resolution one to see an even larger version. Check out the other cool looking carnivorous plants on our Carnivorous Plants

Pages. Check it out!!!

Young Venus' flytrap seedling with first trap leaves

Young Venus' flytrap seedling with first trap leaves

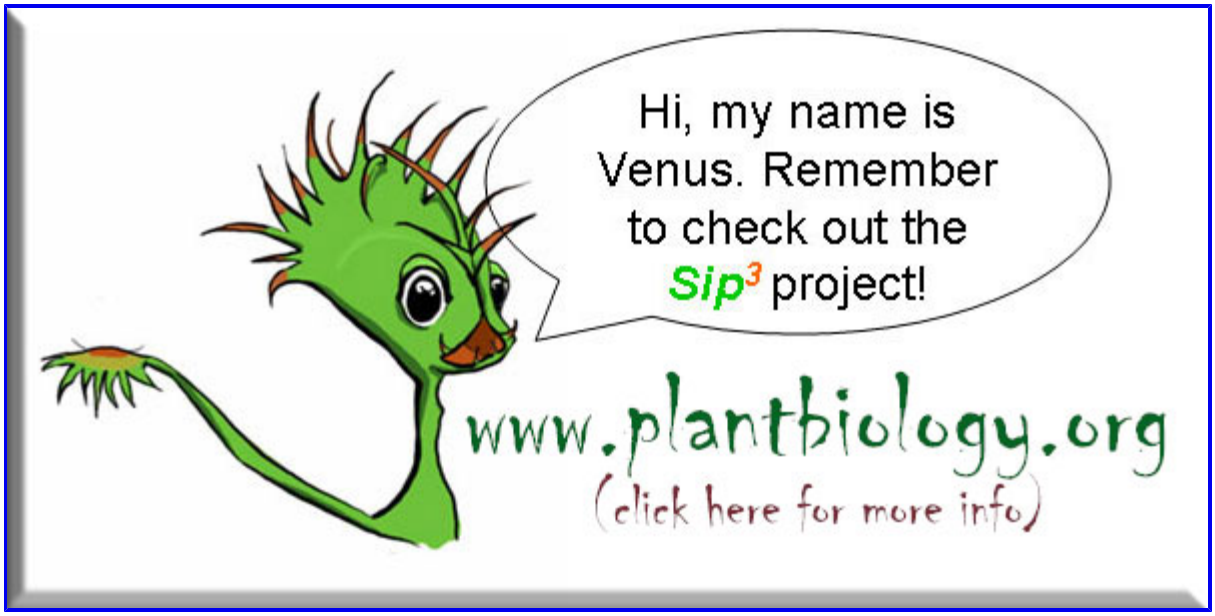
Vegetative propagation of Venus' flytrap from leaf bases

Venus' flytrap flower with stigma, anthers and ovary

Venus' flytrap flower with leaf rosettes barely visible

Some other links on the WWW:

Carnivorous Plant Index | *Aldrovanda* | *Brocchinia* | *Byblis* | *Catopsis* | *Cephalotus* | *Darlingtonia* | *Dionaea* | *Drosera* | *Drosophyllum* | *Genlisea* | *Heliamphora* | *Nepenthes* | *Pinguicula* | *Roridula* | *Sarracenia* | *Triphyophyllum* | *Utricularia*


Hi, my name is Venus. Remember to check out the Sip3 project!
www.plantbiology.org
(click here for more info)