

FACT SHEET: Carnivorous Plants-Bog Garden

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Carnivorous plants evolved on very poor soils where nutrients were scarce. As a means of survival, they developed mechanisms to attract, trap, kill and digest insects. Most species in this country grow in wet or low areas such as swamps, bogs or ponds, even in roadside ditches. Some are aquatic, while most are terrestrial.

TRAPPING: Carnivorous plants (CP) trap their prey in one of two basic ways: active or passive.

(1) **Active Trapping** is used by the most famous of all CP, the Venus Flytrap (*Dionea*). It uses its well known “snap trap” to catch its food. Each side of the trap has 2-3 trigger hairs. The ‘meal’ must touch a trigger on each side before the trap will close. The trap, which is a part of the leaf, will only work for about four times (give or take) after which the leaf dies and the plant must grow a new leaf. If the traps are closed repeatedly with no food, the plant will suffer and could die.

(2) **Passive Trapping** is normally divided into two types: sticky traps and pitfalls.

Sticky Traps are used by the Sundews (*Drosera*) and Butterworts (*Pinguicula*). In the sundews, the leaf tip or sometimes the whole leaf is covered with glands with a drop of sticky “dew.” The prey gets mired down in the dew and dies. The plant then secretes digestive enzymes from small pores along the leaf and digests the prey. Butterworts work the same way, but on a much smaller scale catching only very tiny insects.

Pitfall Traps are the mechanisms used by American Pitcher plants (*Sarracenia*) which have a reservoir of fluid into which the prey falls and drowns. The plant then secretes digestive enzymes and digests the insects. Sometimes the pitcher plant gets “indigestion” by catching more than it can digest. The decaying bugs then leach through the side of the pitcher causing a brown blotch to appear.

CARE of CPs:

(1) **Water:** Water quality is very important and is often the reason CP fail to grow. The water must be very low in salts and minerals. Rain water is best, followed by distilled and water from a reverse osmosis unit. The water machines in front of or inside grocery stores use this method. City water usually has chemical additives. Well water has too many minerals (calcium/iron). Soft-water systems use salt, some of which remains in the water you drink. **DO NOT USE THIS WATER** as it will surely kill your plants!

(2) **Light:** Sundews, Venus Flytraps and pitcher plants can take full sun and need a minimum of 4-5 hours a day. Butterworts do better with slightly diffused light.

(3) **Dormancy:** All CP must be allowed to go dormant over the cooler winter months. Leave the plants outside even in a hard freeze! It won't hurt the plant. When the new growth begins to emerge, just cut all the previous year's dead growth off, allowing light and air around the new growth. Plants don't need nutrient when they are dormant.

(4) **Fertilizing:** CP catch all the fertilizer they need.

Types of Carnivorous Plants

Sundews (*Drosera*)

Sundews are small plants with stalked glands on the leaf surfaces. There are a variety of leaf shapes in this genus: spoon-shaped, strap-shaped, even T-shaped leaves. Each gland exudes a sticky, dewdrop-like secretion. When an insect struggles to free itself, more glands bend toward it and the insect only succeeds in trapping itself further.

The secretions reflect sunlight. Linnaeus named these plants for that characteristic; the botanical name means “glistening in the sun.” There are at least four species native to Florida.



Drosera capillaris - Sundew



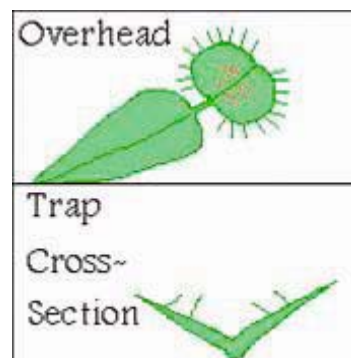
Drosera filiformis – Threadleaf

Venus flytraps (*Dionaea muscipula*)

Flytraps are a one-of-a-kind plant; they have no close relatives. These are probably the most infamous of the carnivorous plants. The leaf is hinged and each side has two or three trigger hairs. A trigger hair has to be touched twice or two hairs must be touched for the trap to close. This way the plant does not waste any energy closing objects that are not food sources. The genus name is for Dione, a Greek goddess; the species epithet means “mouse trap.” This species grows only on the coastal plain of the Carolinas.



Drosera filiformis – Threadleaf



Southeastern Butterworts (*Pinguicula*)

Butterworts are small ground-hugging carnivores. The leaves form a rosette, are pale green and oval. The leaf edges curl upward to form a shallow bowl. The leaves feel greasy; this is the mucilage that traps the insect. Digestive fluids are secreted after prey has been captured. Linnaeus named this genus after the feel of the leaves; the botanical name means “fat, little one.” There are six species that grow in Florida.



Pitcher Plants (*Sarracenia*) – These plants grow wild only in North America. The leaves are shaped like a funnel, have downward pointing hairs and are about half-full of liquid. This liquid contains a chemical that tranquilizes the insect before it drowns. Enzymes in the liquid then digest it. This genus was named for Dr. Michael Sarrazin who discovered them. Seven species of *Sarracenia* grow in Florida.



S. flava – Yellow Pitcher Plants (light green - some red markings)



S. leucophylla – White-topped Pitcher Plants (green with white markings on top)



S. alata – Wood Yellow Trumpets



S. rubra



S. psittacina – Parrot Pitcher Plant



S. purpurea

Adapted from:

<http://www.sarracenia.com/faq.html>

Carnivorous Plants by Bob McMorris

Carnivorous Plants, A Wisely Handbook by Paul Temple

Why Carnivory? by the Tampa Bay Carnivorous Plant Club