

## Carnivorous Plants

All plants rely on nutrients taken from the soil in order to survive. However, in areas where the soil does not contain enough vital nutrients, some plants have adapted to supplement their diets from another source: living organisms. Though they are few in number, carnivorous plants are nonetheless fascinating beings that "eat" anything from one-celled organisms to insects in order to survive. They are commonly found in marshlands. Carnivorous plants feature one of several types of "traps" to **ensnare** prey, which they consume to make up for nutrients that may be missing from the soil.

The most well-known of these plants are the snap traps, which includes the Venus flytrap. Snap traps are easily identified by their leaves, which are separated into two lobes that have the ability to fold together. These carnivorous plants capture prey through mechanisms that are not unlike the common household **mousetrap**. Inside the lobes, the surface is covered with tiny hairs that are sensitive to movement. When the plant's prey brushes against the hairs, it triggers a closing mechanism that rapidly brings the two lobes together, trapping the prey securely inside. The response of the traps is phenomenal in regard to speed: the time between triggering the hairs and snapping shut is less than a second. As the prey struggles inside the trap, it only triggers more hairs, causing the leaves to tighten their grip. The plant then secretes liquid chemicals from special glands into the trap to dissolve the prey and absorb all of its nutrients. Besides the Venus flytrap, only one other type of snap trap exists today, referred to as the waterwheel plant. The two share a common ancestor and differ only in a few ways. For instance, the waterwheel is an aquatic plant, while the flytrap is exclusively terrestrial. In addition, the flytrap feeds primarily on arthropods like spiders, while the waterwheel lives off of simple invertebrates, like certain types of plankton.

Pitfall traps are among the most strangely beautiful types of carnivorous plants, though they may also be the most primitive. They function much more simply than snap traps, though the wide variety of pitfall traps means that some are more complex than others. The simplest type of this carnivorous plant is best exemplified by the sun pitcher plant. It consists of tall leaves that are rolled into a tubular shape. The mouth of the leaf, and the opening of the trap, are wider than the rest of the body. The sun pitcher plant simply waits for unsuspecting prey to slip down the sides of the tube, where digestive enzymes wait in a small pool to drown and **devour** it. More complex forms of pitfall traps use basically the same mechanism for killing and eating their prey, but the actual trap can be far more elaborate. The cobra plant features a large, vacant bulb at its tip with small transparent dots that let sunshine in. **When insects (mostly ants) crawl into the bulb, they try endlessly to leave through these "false exits," but eventually they tire themselves out and fall down the tube into the digestive chamber, where they are dissolved by the plant's digestive enzymes.**

A third type of carnivorous plant uses flypaper traps to capture its prey. **[A]** These plants are extremely numerous and vary greatly in appearance from species to species. **[B]** Their leaves contain glands that release a sticky type of mucus which can be used to trap insects that unknowingly land on them. **[C]** One type of flypaper trap is the butterwort plant. **[D]** The butterwort has broad, bright green leaves that are grouped closely together. Flying insects are attracted to the butterwort because the thin layer of mucus on its leaves has the semblance of dew, making the plant look like it is covered in water droplets. When the insect lands, the leaves release more of this sticky substance, which further traps the insect.

21. The word “**ensnare**” in paragraph 1 is closest in meaning to \_\_\_\_\_.

- A. monitor                      B. catch                      C. escape                      D. enter

22. According to paragraph 1, carnivorous plants get nutrients from living organisms because \_\_\_\_\_.

- A. they had to develop protective measures against harmful insects.  
B. they cannot get necessary nutrients from the soil they live in.  
C. they need to protect themselves from harmful nitrogen or phosphorus from the soil.  
D. marshlands are the place where organisms with high protein are abundant.

23. Why does the author mention a “**mousetrap**” in paragraph 2?

- A. To elaborate on the weaknesses of the flytrap  
B. To better illustrate how the flytrap functions  
C. To emphasize the strength of the flytrap's leaves  
D. To contrast the flytrap with other snap traps

24. According to paragraph 2, what is NOT true of snap traps?

- A. They catch their prey by closing their lobes.  
B. They consume their prey by dissolving it with chemicals.  
C. They are all terrestrial plants.  
D. Their tiny hairs sense the existence of prey.

25. According to paragraph 2, what can be inferred about the snap trap?

- A. Once it catches its prey, there is little chance that the prey can escape.  
B. It mostly feeds on insects that are very large.  
C. There are various species of snap traps which differ in hunting mechanism.  
D. Snap traps are on the verge of extinction due to the decrease in their habitat.

26. The word “**devour**” in paragraph 3 is closest in meaning to \_\_\_\_\_.

- A. ensnare      B. utilize      C. expel      D. consume

27. Which of the sentences below best expresses the essential information in the boldfaced sentence in the passage?

- A. The cobra plant captures its prey by luring them into a brightly colored bulb which produces digestive chemicals.
- B. The bulb of the cobra plant tires insects by fooling them with false exits, at which point they fall into the digestive chamber.
- C. Insects become trapped inside the bulb of the cobra plant because bright colors attract them to the plant's "stomach".
- D. When ants crawl into the cobra plant's bulb, it quickly closes the exit and traps them in its digestive chamber.

28. According to paragraph 3, what is true of the pitfall trap?

- A. The basic mechanism for catching and killing its prey is similar to that of the snap trap.
- B. The trap is filled with digestive substances.
- C. It encloses its trap so that the prey cannot escape.
- D. It is the most advanced form among all carnivorous plants.

29. The word "**them**" in paragraph 4 refers to \_\_\_\_\_.

- A. insects
- B. leaves
- C. hairs
- D. species

30. Look at the four squares [ ] that indicate where the following sentence can be added to the passage.

Where would the sentence best fit?

*However, all of them share the same basic trapping mechanism.*

- A. [A]
- B. [B]
- C. [C]
- D. [D]