

Carnivorous Plants

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THE PREDATORY METHODS of carnivorous plants are strangely fascinating. Throughout the world, there are approximately 500 kinds of plants provided with traps, pitfalls or other means for the purpose of capturing animals, chiefly insects, as a source of food supply. While an elaborate and astonishing variety of trap structure is exhibited, each different, yet perfect, the process of digestion is essentially the same. What is even more remarkable is the fact that these plants possess chlorophyll and the carnivorous habit is not essential to their existence. Though, they usually occur where the supply of nitrogen is deficient, animal food is beneficial.

Carnivorous plants display the most sensational power of movement in plants and stand out, unique, as some of Nature's strangest results of special adaption.

Probably the most remarkable of all carnivorous plants is the Venus's Fly Trap (*Dionaea muscipula*), found in the Carolinas. Its success depends upon rapidity of movement. Each leaf is provided with what may be called a "steel-trap" mechanism. So sensitive is this contrivance that when the trigger-hairs, located on the upper leaf surface, are touched, the two halves of the leaf fold upward within less than a second and form a trap holding fast its victim.

In Saskatchewan, carnivorous plants are represented by the Pitcher Plant, Sundew, Butterwort and Bladderwort.

The Pitcher Plant (*Sarracenia purpurea*) is the most extraordinary plant of our flora. Flowering in May and June, the stately purple blossom rises conspicuously above the other bog plants. The leaves are modified into gracefully shaped, tubular, crimson-veined pitchers, usually partly filled with water. The inside of the lobe or spout is coated with a thin film of sweet juice to attract insects. From this surface protrude numerous, slippery, downward pointing bristles. The insects slip down the brink into the water of the pitfall. Every attempt to climb up again is rendered futile by

the sharp bristles. The captured victims soon succumb and their bodies are decomposed by the action of digestive juices secreted from the wall which impregnates the water of the pitcher. Bacteria, which are always present, may assist in the decomposition. The products of decay are absorbed as nutriment by the epidermal cells at the bottom of the pitcher.

The fact that larvae of certain small insects frequently live in the water of the Pitcher Plant and nowhere else, is curious. They seem to be impervious to the digestive juices secreted by the plant.

Three species of Sundew are found in bogs in the coniferous forest. They are: Round-leaved Sundew (*Drosera rotundifolia*), Oblong-leaved Sundew (*D. intermedia*) and Slender-leaved Sundew (*D. linearis*). Sundews are of great interest because of their carnivorous habits. The small, white flowers are borne in a raceme on a slender stem arising from a rosette of leaves which are thickly covered with gland-tipped hairs. The glands exude a sticky fluid which glistens in the sun like dew-drops. Insects become entangled and trapped when they come in contact with the leaf. By stimulus, the whole leaf may fold around the victim. Digestive juices are secreted by glands on the leaf surface. The products of digestion are absorbed and utilized by the plant.

Butterwort (*Pinguicula vulgaris*) is found in boggy spots in the coniferous forest of the Northern Hemisphere but in Saskatchewan known only from Prince Albert. The handsome purple flower, surmounting a 2 to 3 inch scape, is violet-like in form and color. Its leaves are in a basal rosette, the upper surface being greasy to the touch as if buttered, hence the name Butterwort. The leaf bears two types of glands—one secretes a sticky mucilage on which small insects adhere and the other glands secrete digestive juices which also absorb the resulting nitrogenous sub-

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