

# Creepy bog plants

– Jérôme Marchildon, Education Program Interpreter/Developer

*Some of the more unusual plants that live in Manitoba are found in bogs. Bog plants have many extraordinary physical adaptations that allow them to survive in very nutrient-poor soil and several of these species are carnivorous. Examples of these carnivorous plants are the sundew, the pitcher plant and the bladderwort. Each plant species has a unique way to lure, catch, kill and digest prey to collect the nutrients missing from their diet. Don't worry, these plants can't hurt you; they only feed on small arthropods, like flies, moths, wasps, frogs and other tiny insects! Here's more information about bogs and the communities they support!*



**The bladderwort (*Utricularia* spp.)** has no roots and just floats freely in water.

A bog is a type of wetland – a low area where water collects and has been filled in by moss. Most bogs resemble a small clearing in a forest or in an open place, like the prairies. Be careful, walking in a bog can be like sinking in a wet sponge! Bogs make an excellent oasis for birds as they can nest on old tree stumps. These birds know they're safe from four-legged predators that might try to cross the dangerous moat.

Other plants that might be found in bogs, like trees and shrubs, are often very small and very old. The soil, mainly moss, has little or no nutrients and minerals. All plants need nutrients, minerals, water and sunlight for growth (to make roots), for maintenance (to make new leaves every year) and for reproduction (to make seeds). Plants that don't get everything they need stay small or die. Some bog plants have

found a way to get nutrients and minerals from an outside source. These are carnivorous plants!

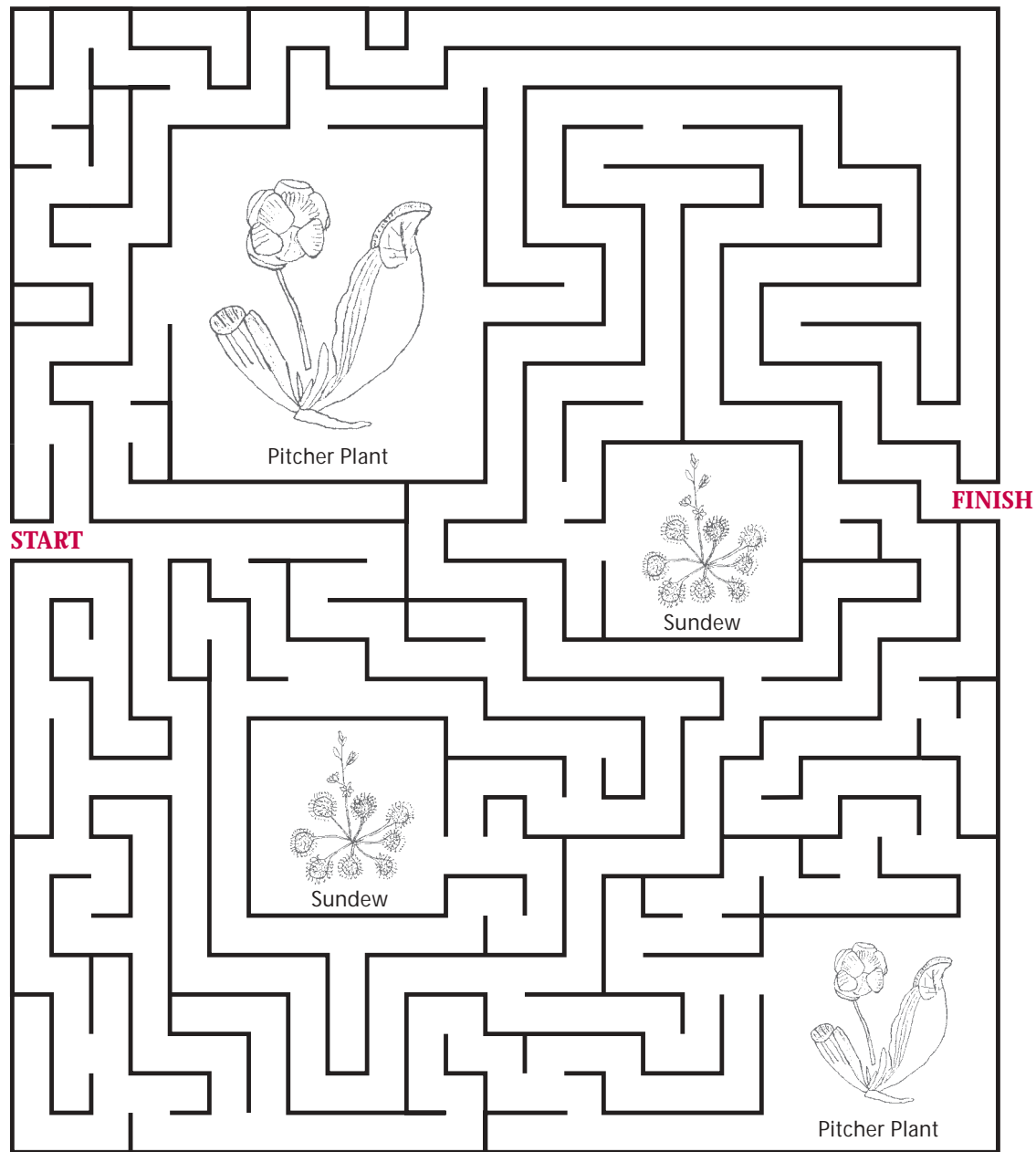
In the bog community, carnivorous plants are also known as insectivorous plants. They are unique to the plant kingdom because they receive nutrients and minerals from insects. These plants have special characteristics that enable them to successfully catch and digest insects. One important nutrient taken from insects is nitrogen. This allows carnivorous plants to live in bogs and places where the soil is acidic and low in nitrogen. Minerals absorbed from insects are used as building blocks to give the plant structure and rigidity. Because few plants can grow in bogs, carnivorous plants have a place they can call home.

The **pitcher plant** (*Sarracenia purpurea*) has a tall tube-shaped structure that holds water when it rains. It produces an odour

that smells sweet and the red-purple colour of the plant is appealing to bug. When a fly comes to investigate, it enters the tube and becomes trapped. The inner wall of the tube has downward pointing hairs, causing the fly to move to the base of the plant. The fly drowns in a mixture of rain water and enzyme solution that the plant has produced. This mixture dissolves the internal organs of the fly and the nutrients and minerals are absorbed into the walls of the pitcher plant. A summer's worth of dead bugs inside a pitcher plant looks like a pile of burned popcorn kernel husks (exoskeletons). Yuk!

**Sundews** (*Drosera spp.*) are much smaller than the pitcher plant. They may grow to the size of a cookie. Three species of sundews occur in Manitoba. The sundew was named after the shining droplets on the plant in the sun. These appear like tiny droplets of water that lure thirsty insects to land on the plant. But the leaves are really covered with many sticky tentacles, trapping the insect instantly. Unlike the pitcher plant, the sundew has moving parts. The tentacles slowly wrap around its prey and cover it with digestive juices (enzyme solution). The insect dies after being sucked dry.

Unlike the other two plants, the **bladderwort** (*Utricularia spp.*) lives in shallow, open water. Manitoba is home to four species of bladderwort. This plant has no roots and just floats freely in water. Like the sundew, the bladderwort also has moving parts. Each tiny bladder has many sensitive bristles. When the bristles feel a very small bug or minnow brushing against it, the bladder



Help this blackfly get across the bog without getting eaten by the carnivorous plants.

suddenly expands and opens a trapdoor. The creature quickly gets sucked inside and the trapdoor closes behind. The plant uses special glands to produce digestive fluids, an enzyme solution, to dissolve its prey.

Bogs are unique and special in Manitoba. Many beautiful and rare plants, like orchids, share this same habitat. Some of these precious plants are also used in medical research to help find cures for serious illnesses.

Peat moss farming destroys a bog forever. We often buy peat moss in large bales to mix it in the garden soil. Composting leaves is an alternative solution.

If you want to learn more about plants and animals in a bog community, check out the bog diorama in the Boreal Forest Gallery.