

## July Plant Highlights: Symbiotic Relationships

\*\*Please note: due to the ever-changing and growing nature of the Conservatory, plants may move locations and flowers and fruit may not always be visible.

### Ant Plant



#### **Where do we find it in the Conservatory and why do we find it here?**

Our ant plant can be found in the Children's Garden. Not only does this plant have a fun, rhyming name, but it also is an example of a unique relationship between plants and insects that is fascinating for kids and adults alike!

#### **How does it grow or reproduce and what is special about it?**

The ant plant reproduces through seeds, but it grows differently from most other plants: it has internal structures called "domatia," which are like little caves inside the ant plant's stem! This is why the stem is so swollen and round. The plant grows this way so that ants can live inside of it!

#### **What is its symbiotic story?**

There are ants in this plant! The ant plant has a very special relationship with the ants. The ant plant provides shelter and food for the ants and in return, the ants provide protection for the ant plant from insect invaders that try to eat the ant plant. The ants also give the ant plant nutrients through their waste. The relationship between the ants and the ant plant is called "mutualism" because both organisms in the relationship benefit...it's mutual!

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### Popcorn orchid



#### **Where do we find it in the Conservatory and why do we find it here?**

You can find the popcorn orchid in Sugar from the Sun, where we find many plants that we use for food. While we do not get popcorn from the popcorn orchid, its beautiful, frilly, yellow flowers look like popcorn! The popcorn orchid is also a type of epiphyte, or, a plant that grows on other plants, and Sugar from the Sun houses many epiphytes including pitcher plants, Spanish moss, and the vanilla vine.

#### **How does it grow or reproduce and what is special about it?**

The popcorn orchid can produce through seeds and also through rhizomes. It grows differently from other plants in that it is an epiphyte, which, as mentioned previously is a special type of plant that grows on other plants instead of putting down its own root system in the ground!

#### **What is its symbiotic story?**

The popcorn orchid has a unique relationship with the plants on which it grows. Since it does not grow a root system in the soil, the popcorn orchid, as an epiphyte, relies on other plants for structure and support instead of the ground. The popcorn orchid benefits immensely from these other plants. These plants, however, are neither harmed nor benefited by the popcorn orchid. The popcorn orchid does not give the plants anything in return for using them for support, but the popcorn orchid also does not harm the plants by growing on them. This type of symbiotic relationship is called "commensalism." In commensalism, one organism benefits while the other organism is unaffected.

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### Venus flytrap



#### **Where do we find it in the Conservatory and why do we find it here?**

Our three Venus flytraps can be found outside in our Sensory Garden with our other carnivorous plants!

#### **How does it grow or reproduce and what is special about it?**

The Venus flytrap reproduces with flowers and seeds. Because the Venus flytrap can do what most plants cannot—eat other organisms for energy—it has developed a very unique structure. At the top of the stems, there are two lobes that create a taco-like shape. On the inside of the “taco shell” are little hairs that help sense when prey lands, and also helps to ensnare the prey.

#### **What is its symbiotic story?**

When an insect or spider lands on the Venus flytrap and brushes up against the hairs, the flytrap will snap shut! Interestingly, the insect or spider must touch three individual hairs in quick succession before the flytrap will close. This mechanism helps the flytrap distinguish between a big, juicy insect and a raindrop or tiny piece of debris; only a big insect would brush against distinct hairs in a short time span. Once the flytrap has closed and the insect is trapped by the lobes and hairs of the plant, the plant will release acidic chemicals that will digest its prey. In other words, the Venus flytrap eats bugs alive! This is incredibly unusual for a plant, as most plants make their own food through photosynthesis. This is a rare example of the symbiotic relationship, “predation,” among plants where the plant is the predator!