

## May Plant Highlights: Root Adaptations

\*\*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.

### Cymbidium orchid



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

You can find the cymbidium orchid in both the Show House and the Children's Garden! This beautiful orchid enjoys a warm, humid climate, which makes it perfect for the Children's Garden, but it can also survive in cold temperatures, which is why we can also display the cymbidium orchid in our Show House. Also, its bright colors fit into the color scheme of the Show House and are attractive to people of all ages!

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

The cymbidium orchid reproduces through flowers and seeds. Its natural pollinator is a bee!

#### **How do humans use it or interact with it?**

People love orchids! We typically use them ornamentally. People will keep them as houseplants and will also grow orchids for competitions. Large institutions, such as botanic gardens, will often have annual orchid shows, which are very popular. Orchids are also often used in fashion either as hair decorations or inspiration for various types of clothing. In addition to being used ornamentally, some cymbidiums can actually be used in cooking: in Bhutan, the cymbidium is considered a delicacy and is used in curries and stews!

#### **What is its' root adaptation?**

The cymbidium orchid, like other orchids, is an epiphyte. An epiphyte is a special type of plant that grows on other plants. They only rely on the other plants for support and do not actually harm the plants that they grow on! The cymbidium's roots, therefore, attach the cymbidium to other plants and trees instead of rooting the cymbidium in the soil. The roots are also able to absorb moisture and nutrients from the air and rain!

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### Clipped Window Plant



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

You can find the clipped window plant in the Desert House—it has many interesting adaptations to help it survive in the hot, dry, desert climate!

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

Naturally, the clipped window plant will produce through flowers and seeds. However, we can artificially cultivate the clipped window plant through leaf, root, and flower cuttings.

#### **What is its root adaptation?**

When the weather is particularly hot and dry, the roots of the clipped window plant actually shrink, pulling the leaves of the plant down close to the ground. Exposing less of the surface area of the leaves reduces both water loss and sun damage to the plant. When the weather is cooler or if there is rain, the roots become larger, pushing the plant up and away from the ground, giving the plant more access to water and sunlight!

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### Lobed Aroid



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

Our lobbed aroid is found in our Aroid House because it is a type of aroid! All aroids prefer temperate to tropical climates and all have a special type of inflorescence, which you can read about in the question below.

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

The lobbed aroid, as well as many other aroids, reproduces through flowers, fruit, and seeds. What is special about the aroid is its "flower." What looks like the petal of the flower is actually not a flower petal at all! Instead, it is a modified leaf called a spathe; it is usually bright and colorful to attract pollinators to the hundreds of tiny flowers that make up the spike-shaped structure called the spadix. Female flowers are typically found towards the bottom of the spadix, while the male flowers are found near the top. This organization helps prevent self-fertilization! Aroids can also reproduce through rhizomes or cuttings.

#### **What is its root adaptation?**

Do you see anything strange on the trunk of the lobbed aroid that looks kind of like spaghetti? What you are seeing is actually the roots of the plant! The lobbed aroid and other aroids often live in climates where the soil is very loose and moist. Because of this, it can be difficult for the roots of the lobbed aroid to plant the aroid firmly in the ground. To get around this problem, the lobbed aroid has special roots called aerial roots, which grow aboveground and will often latch on to other plants and structures to help stabilize the aroid. These roots will also absorb nutrients from the air!