GARFIELD PARK CONSERVATORY ALLIANCE

August Plant Highlights: Stem 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.

Teddy Bear Palm

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

We find the teddy bear palm in the Palm House since it is a type of palm tree! Just like other palm trees, the teddy bear palm enjoys the warm, tropical climate that is maintained in the Palm House.

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

The teddy bear palm grows berry-like fruit and reproduces through the seeds of that fruit.

What is its stem adaptation?

Like other palms, the teddy bear palm grows its circumference first, before growing vertically. Once its trunk (stem) has reached its ideal circumference, the teddy bear palm will increase in height. Because of this, if you cut down a teddy bear palm or other palm, you will not see rings the way you would in a deciduous tree, like an Oak or Maple. When a palm tree starts to grow vertically, it will start to grow leaves at the top of its trunk. As the trunk grows taller, leaves will die, leaving scars along the trunk. If you know how many leaves are produced by the palm in a year, it is sometimes possible to estimate the age of a palm tree by counting the leaf scars, though this method is not very reliable. Something unique to the trunk of the teddy bear palm is the reddish-brown layer of matted wooly down where the trunk meets the start of the palm leaves, which is how the teddy bear palm got its name!

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Golden Barrel Cactus

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

The golden barrel cactus lives in the desert house, along with our other cacti. The golden barrel cactus has evolved special adaptations that enable it to survive in the hot, dry desert climate.

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

After about twenty years of growth, the golden barrel cactus will produce little yellow flowers on its top. When pollinated by bees, the cactus will produce fruit. Squirrels disperse the seeds from the fruit, promoting the growth of new golden barrel cacti.

What is its stem adaptation?

The "barrel" of the golden barrel cactus is actually the stem! The stem has evolved to be swollen and round in order to store water. This is a step beyond the stem adaptation of most other cacti; other cacti have thick stems to store water, but the stems maintain the typical long, vertical stem shape. The golden barrel cactus evolved to be round, because the spherical shape allows the cactus to store water even more efficiently!

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Water Lily

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

Our water lilies can be found outside in our water lily pond. Walk to the water's edge or view the beautiful lilies from above on our bridge. Make sure to check them out before the summer is over!

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

Our water lilies can reproduce either through seeds or through their tubers. The flowers on our water lilies can be pollinated by beetles or bees, and the flowers can even self-pollinate; once pollinated, the water lilies develop a nut-like fruit. The seeds from the fruits become new plants! If the water lilies reproduce through tubers (underground stems modified for food storage), the parent water lily will grow its tuber out and send up a new water lily from that tuber.

What is its stem adaptation?

Can you see the water lily's stem? Even if the water were lighter, the answer should be "no"! The stem of the water lily is actually underground and is a special kind of stem called a tuber. The tuber is an underground stem that is filled with food and nutrients! New plants, described earlier, can also grow from the tuber. So if the stem is underground, what is the thing that *looks* like a stem? The stalk that looks like a stem is something called a petiole! A petiole is a leaf stalk and in the case of the water lily, the petiole contains hollow, air-filled channels that keep the water lily flowers and leaves afloat!