

# Holiday Cactus

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Schlumbergera (described by Lemaire in 1858) are sometimes called Thanksgiving or Christmas cactus, and Rhipsalidopsis (described by Britton and Rose in 1923) are often called Easter cactus, because of when they bloom. Both require special attention here in Phoenix, but they can be grown and flowered successfully. They are not as tolerant of forgetfulness as are other cactus, so don't expect great success with these if you're absent-minded, like I am.

This is a long article, and what I write may seem complicated, but it really isn't. It just takes a while to explain the few peculiarities about these plants. Once you realize what these plants want it doesn't seem all that complicated.

Schlumbergera now includes all species previously known as *Zygocactus* and some previously known as *Epiphyllum*. It contains around eight species and several varieties of those species. *Rhipsalidopsis* was separated from *Rhipsalis* by Britton and Rose in *The Cactaceae*. It contains only three species and several varieties; some were previously included in *Epiphyllopsis*, *Epiphyllum*, and *Hatiora*. Few people grow the species; because the plants are easy to hybridize and grow commercially, thousands of hybrids have been developed. The species have red or purple flowers; hybridizers have extended this range to whites, pinks, picotees, and even yellows and oranges. *Rhipsalidopsis* will hybridize with *Aporocactus*, the rat-tail cactus.

Both are South American jungle cactus, growing on tree branches well below the canopy, and normally hanging downward in habitat. They never see sun, frost, humidity under 60% or, periods of drought. Both have stems segmented into flat pads vaguely reminiscent of a prickly pear, except there are no areoles on the flat surface of the stem segments. Areoles are found only on the edges of the segments, at the bases of the small notches. Most in cultivation have no visible spines. Spines are almost microscopic or are contained inside the body of the stem.

*Schlumbergera* often have soft teeth on the edges of segments, and *Rhipsalidopsis* lack these teeth. Flowers are different as well; *Rhipsalidopsis* flowers are radially symmetric, which means the flower has a straight tube bearing petals radiating out from the center equally in all directions, and looks about the same no matter how much it be rotated on the long axis of the flower (which passes through the length of the flower tube). *Schlumbergera* flowers are zygomorphic; they have a swan-neck shape to the tube, and petals are unequal. They vaguely resemble a honeysuckle flower, which is also described as zygomorphic. There is not an axis but a plane of symmetry to them; the right and left halves of the flowers are mirror images of each other, and the flower has a clear top side and bottom side.

*Schlumbergera* are the easier to grow in Phoenix (and most other places). Let's begin with them. They come from wet forests of Brazil where temperatures are not quite as high as here in the summer, frost is unknown, but cool night temperatures are common.

In nature their roots attach to tree bark and may be lightly covered with decaying leaf litter, but then again, they may be bare and exposed. The roots are never dry for long because it rains or mists a lot, and humidity is high, so wet surfaces don't dry very fast. Stems are soft and succulent, but have few adaptations for drought. These plants grow in dense shade under the forest canopy, and stems are flattened side to side to imitate a leaf and maximize surface area for photosynthesis. Stems hang down from the trees. Pieces of stem may break off and root if they land on a suitable branch below.

This all adds up to a plant needing steady moisture, shade, and protection from drying out. Roots will rot if the soil is too heavy or so wet that air is excluded. Roots dry out and die if the medium dries out for more than just a few hours. They tolerate low humidity if they receive plenty of water. They cannot tolerate sun at all. They appreciate plentiful feeding along with plentiful water. These will not tolerate desert conditions.

Commercial growers grow them in humid greenhouses. Cuttings (2-3 segments) are placed in the shade until they shrivel slightly. Three to four cuttings are placed in a 3"-4" pot using almost pure peat moss. The first segment is buried. Rooting and new stem formation occur only from areoles, at the indentations along the segments. They are kept on the dry side until rooted, but not allowed to dry completely or the peat moss would be impervious to wetting. After rooting, they are watered regularly and never allowed to dry out. Dilute fertilizer is applied with each watering. The greenhouses are cooled at night.

The trick in growing these plants is keeping the roots healthy. Roots die quickly if they dry out or lack air. Cuttings will not root in heavy soil or when buried in wet soil; remember they root in habitat on top of branches that are always moist, and roots enjoy great air circulation at all times. Put a cutting into a pot with heavy soil, keep it wet, and you will see it rot in a few days. Sister cuttings left on your tabletop will be viable for months.

I haven't found a great way to root cuttings in soil. If I put them in small pots, they rot. If I lay them on the surface of the soil and put a cut-down plastic bottle over them they rot. A few that dropped unseen into another pot rooted. They root very easily in water. In fact, they will grow and bloom in water.

People who remember to water regularly, but who don't keep plants wet have grown the most successful plants I have seen here in central Arizona in shade, in relatively cool spots. I have seen nice ones outside on patios and inside the house. Interestingly, people who don't even know they are cacti, and who treat them like all their other houseplants on tables several feet from windows grow some of the nicest plants. These people don't get theirs to bloom, however, which I will address soon. I have had my best luck growing them inside the house during hot weather, and moving them outside when night temperatures cool in September. Judy Brody grows hers outside all year under a patio overhang, and it is the best plant I've seen in Arizona.

Soil must drain very rapidly, retain some moisture, and be easily rewetted if it becomes completely dry. The peat used by the growers is not a good idea for hobbyists growing

them outside humid greenhouses; forgetting to water for just a few days leads to totally-dry soil, which is impossible to rewet without an overnight soak under water. I am still experimenting to find a soil mix I like.

Heavy soils exclude oxygen, which is death for epiphytic roots. When the roots die, the stems become grayish-green and shrivel slightly. Rootless plants will not reroot in heavy wet soil, so the plant usually dies at this point unless it is unpotted, has all the soil washed off, and repotted in suitable soil.

The plants should grow vigorously all spring and summer, producing several new stem segments successively, and new branches. They slow down as fall progresses.

To bloom these here, they must receive no artificial light in the fall or, night temperatures must be low but not freezing. Bud formation in *Schlumbergera* is triggered by lengthening nights or, by night temperatures routinely dropping below 55 degrees. In this, they are like *Euphorbia pulcherrima*, the poinsettia. Commercial growers manipulate night length to produce blooming plants at any time of the year. They do this by draping heavy black fabric over the plants in the afternoon and removing it midmorning. Forgetting to place the fabric even once resets the plants' clock and may make the difference between getting rich and going bankrupt for a poinsettia grower.

Inside the house, artificial light for just a few minutes, just one time, will prevent buds from forming. I have heard people tell me they have their grandmother's enormous plant in a barrel. It grows fine but never blooms and it used to bloom heavily for grandmother every Christmas. Grandma didn't have electricity. The plant spent the summer on the porch, then was brought in before frosts, and put in the cool, damp basement under one of the tiny windows where it got only natural light. Now the adult grandkid leaves it in the living room window all year because they don't have a basement and they're too lazy to move it in and out. The artificial light inhibits bud formation because long nights are necessary. Few people allow their homes to drop below 55 degrees at night. Therefore, the plant never blooms.

One more problem with these is that the buds are fragile, and the plant often drops them all if moved while in bud. Best is to allow the buds to open, and then place the plant for display. While blooming, at night, put it outside to stay cool, and the flowers will last longer. However, remember NO FROST.

Most people buy these plants in bloom in November or December. After blooming, the plants will look stressed. They make so many flowers that the stems actually shrivel a little. At this point, in the dead of winter, they need a dryish rest, but don't let them go completely dry or the roots will die. Stretch out watering periods. A water meter will help a lot. I like to put them outside after blooming but don't let them freeze.

After about 4-6 weeks of dryish winter rest, temperatures will start to rise, and the plants will suddenly sprout new growth if you haven't killed the roots by letting them get too dry. For recently-bought plants, now is the time to repot. Wash off all the peat-based

soil with a garden hose, and replant into a slightly larger pot, using a mix with some organic matter but lots of air space. I can't be more specific because I haven't found a potting mix I think is excellent for the way I grow these plants. Some people use orchid bark mixed with pumice or perlite. Some use bagged potting soil, which has never worked for me. I always will forget to water them at some point, which is why I have to get rid of the peat. Besides, peat only lasts a year or two before it begins to break down and the root ball excludes air. Any plant is sure to die if this happens. If you use peat-based soils for these plants, or any other for that matter, you should repot every other year. Commercial growers repot every 1-2 years.

Water immediately after repotting and put in a cool spot. The plant should not be set back at all and should continue growing all summer. In the fall, remember the day length or temperature issue, and your plant is sure to bloom again.

Rhipsalidopsis are harder to grow. To start with, the plants are very fragile. Stem segments drop off with a slight bump. Mail-ordering plants produce a box full of pieces. As if to make up for this fragility, they do root easier for me than do Schlumbergera cuttings. The plants also require higher humidity and die quickly without it. They are sure to die if the soil dries out completely. My best results with these came from growing them in the bathroom where I had to look at them every day, or in the winter in my sunroom, which is quite humid.

To compensate for their greater requirements, they are not light sensitive, and if you can keep them alive until spring, you will be treated to a great show of flowers.

A good time to buy Schlumbergera is at the Desert Botanical Garden plant shop after Thanksgiving. Judy usually has new and exciting hybrids.

If you're cheap, wait until just after Christmas, when the grocery stores are dumping the ones that are done blooming. They usually go for less than \$3.

Try a few this year.