

## **Borzicactus and Cleistocactus, some of my favorite plants**

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Borzicactus and cleistocactus have now both been lumped into cleistocactus by the experts. I don't think this situation will be permanent, since many cactus botanists I talk to think borzicactus is very different from cleistocactus.

These two genera have many fast, easy-to-grow, easy-to-flower species. In fact, many bloom all summer. Anybody who likes blooming cacti should have at least one. Their only drawback is size--many get past 2-3 feet quickly and many sprawl.

Once you're familiar with these two genera, you can spot them readily when out of bloom. They are all slender-stemmed with a characteristic tuberculation of the stem. They are related to the genera denmoza, haageocereus, loxanthocereus, matucana, morawetzia, oreocereus, and oroya, and hybrids are possible between many of these genera. All come from on or near the Andes Mountains in South America.

All have tubular flowers, often in red shades. Most have zygomorphic flowers, meaning the two sides are mirror images, vaguely swan-necked. A familiar zygomorphic cactus flower is that of the holiday cactus. Most other cactus flowers are radially symmetric, meaning if one rotated the flower along the pistil, the flower would pretty much look the same no matter how many degrees it were rotated. Borzicactus have the typical tubular, zygomorphic, open flower of the group, and are frequently pollinated by hummingbirds. Cleistocactus can be identified by tubular flowers that never open fully, and most pollinate themselves. ("Cleisto" means "closed" in Latin.) Both genera bloom during the day.

They grow at lower altitudes, sometimes in relatively high rainfall areas on cliffs. Many are sprawlers or hanging basket subjects. Most cannot take frost, unlike their high altitude relatives oreocereus and oroya, and some matucana. They take more water during the summer than most cacti--they grow much faster and bloom better if they never dry out--but don't keep them sopping wet. They also like more fertilizer than most cacti. Most plants need to be 18 inches to 2 feet in height (or length, if they're sprawling) to bloom. This doesn't take nearly as long as you might think. If you're trying to keep them small, let them dry between waterings and don't fertilize. They'll stay smaller but also won't bloom as much. I dropped a piece of *B. samaipatanus* in one of the wells around my citrus. It is now a shrub. It loves the frequent watering, fertilizing and mulch.

For pot plants, any potting mix works well. Plain potting soil seems to be okay for many of the sprawlers, but not for the stiffly upright ones. The plants are long and slender and frequently lean, branching from the base, so using a heavy pot with stakes is helpful, or you can plant the incorrigible leaners in hanging pots. The ones with dense spines require strong sunlight to look good; many can even tolerate full sun in Phoenix. Those with more stem showing can tolerate a fair amount of sun if moved there gradually after winter, but will also do well in dappled sun.

Many of the larger ones will survive outside here if protected from heavy frost. They don't need any special soil amendments. They do need much more water than we get in rainfall.

Don't take any risks when frost threatens. Protect the outside plants. You can keep borzicactus and cleistocactus in a sunny window and water most of the winter, though at a reduced rate. They get a head start on growing and blooming for the summer. Some of mine plants start to bud and bloom in early February.

To keep in bounds, you can cut off sprawling stems at the base when they get too long. More branches will follow quickly and soon you won't be able to see the cut. If you keep pruning the plant, you will have branches of several lengths, and you will be more likely to have constant flowers in the summer. If a growing branch tip is damaged, it will probably fork at the tip, which looks a little strange. If that starts happening, just cut the branch off at the base, unless you like the forked branch look.

They are easy from seed or cuttings. Cut the branches you pruned into four inch lengths and let dry in the shade for a few days. Put the tip in potting mix upright, and the other segments right-side up or, better, on their sides. If you forget which way is up on a middle stem cutting from almost any cactus, just put it down sideways. The plant will figure out what to do. If you put it in upside down, you might not get anything. Separate a growth at the base when it is at least three inches long and it may already have roots. If you want lots of plants, take a section of stem and cut it as you would a hot dog into disks as thick as the stem is wide. Let dry for a day and plant sideways, half covered in soil, and water when still a little moist. Soon almost every slice will grow a new plant.

Species include:

- *Cleistocactus aureispinus* (formerly known as *Hildewintera aureispina*), a hanging basket plant with many small soft golden spines and orange flowers (there's a beautiful crest available too)
- *C. ferrarri*, with finer spines than most and green-tipped pink flowers
- *C. smaragdiflorus*, with red flowers tipped bright green
- *C. strausii*, which grows rigidly upright, has stems to three inches thick covered with long dense white spines and has repeat flushes of dark red flowers all summer once over two feet
- *C. tupizensis*, with pink flowers
- *C. wendlandiorum*, with lots of short white spines, and flowers whose petals never open at all, forming red swan necks.
- *Borzicactus samaipatanus* with green stems, small black or brown spines, and lots of red hummingbird flowers through the summer.

If I were space-limited and could only have one, I'd choose *B. samaipatanus* because it is very hard to kill, grows from a one inch cutting to a blooming size hanging basket in six months, and blooms all summer. This plant has also been undamaged outdoors under a tree for the last two winters, including the January 2007 freeze. I would put it in a six inch or larger hanging pot, water and fertilize heavily during warm weather, and cut out

at the base 1/3 - 1/2 of the stems in the fall after blooming to keep it in bounds.

My next ones would be *C. strausii* because of its dense bright white spines and stiff upright growth, which takes less space; and *B. aureispinus* or its crest, because the soft golden spines are so beautiful.