

# San Gabriel Valley Cactus and Succulent Society

## Cactus of the Month March 2003 – *Crests and Monstrose*

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In both crests and monstrose plants something has gone wrong with the cellular structure of the growth tip (apical meristem) of the plant. In normal plants the growth tip is a point, and the biochemistry of the plant forces one tip to be dominant or at least locally dominant. In crests genetic mutation removes this dominance, and instead of a single growth tip the area of active cell growth degenerates into a line. In monstrose plants, the chemistry that controls the dominance of one growth tip is missing, so that all potential apical meristems try to grow as quickly as possible.



***Parodia aurens* crest. Note two normal heads compared to the linear growth of crested areas.**

Crests and Monstrose growth are often combined with variegation, another mutation of the apical meristem. The three forms are sometimes combined in a single plant. For this month, any combination of crests, monstrose growth, either plain or combined with variegated growth is acceptable. Grafted plants are also welcome.

Crest and monstrose growth are not unique to cacti or even succulent plants. Both are found in many genera of non-succulent plants, including conifers and many common garden plants.

### Culture of Crests and Monstrose Plants

Both are grown exactly as normal plants of the same species. Some have weak roots, and only grow well as grafts. However, others are robust growers, and do perfectly well on their own. Careful observation of the health of the plant, and comparison to healthy non-crested plants of the same species will quickly show whether grafting is necessary. Crests tend to be more sensitive to poor growing conditions, getting sunburn quicker, and getting unsightly brown spots more easily than normal plants of the same species. This is one of the many reasons they are often grown as grafts. Monstrose plants are generally more robust.



***Astrophytum myriostigma* monstrose cv. "Lotusland"**

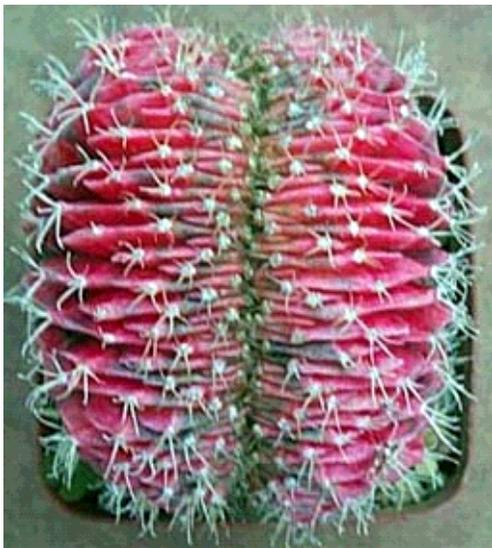
For the same reason, they are more attractive to spider mites and mealy bugs than normal plants, and a careful eye must be kept on them to keep good growth.

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### Propagation

The most common method of propagation of mutant plants is vegetative. Cuttings are often grafted to speed growth and to preserve special growth forms.



***Gymnocalycium* variegated crest**

Crests and Monstrose plants flower and produce seed, just as other plants do, but less often. Some plants crest as juveniles before they are mature enough to flower and thus remain unable to flower. Good strong growth is probably the best way to encourage flowering but excessively rapid growth can cause some crests to revert to a row of normal heads that may or may not crest again. Monstrose plants generally do not revert due to rapid growth but will occasionally produce normal offsets.

Mutations are not generally transmitted by seed; however, seed from a mutant plant is much more likely to be a genetic mutant than that from a normal plant. The genetic mutation is more likely to be the same as a parent, but surprises are common.



***Mammillaria bocasana monstrose* cv. "Fred"**

All Mutants are unique, so there is no list of recommended species this month.



***Myrtillocactus cochal* crest**

Photos by Tom Vermilion & Tom Glavich

Tom Glavich February 2003