FROM YOUR PRESIDENT—

REMEMBER: The March meeting is being held Sunday, April 1, 2001, at ONE in the afternoon in Webster Auditorium. The Show and Sale will follow THAT SAME WEEK with check-in on Wednesday, April 4.

Doyt G. was a long-time member of our club and an Agave lover. A celebration of his life was held Tuesday, March 20, 2001. Our thoughts are with Rosemary.

Volunteers needed to help with show:

We need volunteers to help setting up Wednesday April 4 from 8 a.m.–10 a.m. This will involve carrying in folding tables, positioning them, and putting down division cards and yarn separators. And, we need volunteers to help with check-in the rest of Wednesday clear through to 7 p.m. We need a couple of strong volunteers Friday April 6 at 8 a.m. to help bring in plants and pots. We need volunteers to staff Webster Auditorium Friday, Saturday, and Sunday April 6, 7, 8 from 9-5; this is to help answer questions from the public, to sell raffle tickets, and to keep an eye on the plants. We need volunteers to stay late Sunday cleaning up. Contact Jo D to volunteer. Our most critical need is for Wednesday volunteers and Sunday cleanup.

The 2001 Convention of the Cactus and Succulent Society of America is coming up July 1–5 in Los Angeles. Many of our members will be there. Will you?

Cathy B held a wonderful open garden and got rid of many cuttings in the process. Who’s next? [See on page 5.] Photos from Cathy’s open garden, provided by Jane S, appear throughout this issue.

Show

A new show division has been added to Section II (Succulents other than cactus), Class A (Individual specimen plants): Division 45, Other Euphorbias. This division will be exhibited next to the other Euphorbias in divisions 32–36.

At the Show and Sale we will have, for the first time, vendor offering pottery, dish gardens, and plants from our own J&R Desert Plants and from Plantas del Sol in Tucson. Saturday and Sunday only, on the patio (J&R will be there only on Saturday).

Bring your plants in Wednesday April 4 from 10 a.m. to 7 p.m. PLEASE have tags filled out before arrival if humanly possible. There will be little or no room to sit to fill out your tags. Many people put finishing touches on after arriving, which is understandable—top dressing, polishing the pot, removing yellowing leaves—but you can have your labels filled out in advance. If you are unsure of the name, fill out as much as you can and ask when you arrive. You can remove your plants after 4:30 p.m. on Sunday April 8.
Steve Southwell is out of the hospital and looking forward to visiting us next season.
This month’s speaker is our own Dr. Edward (Ted) Anderson, Senior Research Botanist at the Desert Botanical Garden. He will be talking about The Cactus Family, which also happens to be the title of his just-published book. It will be available at the meeting at a list price of about $99.00. Garden members get a 10% discount and official garden volunteers a 20% discount, so be sure to bring your membership card. I have previewed the book. It is very much larger than I expected for the price, and well worth it. The paper is glossy and heavy, just shy of 800 pages, has many color photos, and is a complete treatment of the entire cactus family reflecting modern understandings of relationships between all genera.

*Leo M*

**PLANTS OF THE MONTH: Borzicactus/Cleistocactus**

These two genera have many fast, easy-to-grow, easy-to-flower species. In fact, many bloom several times during the summer.

Anybody who likes blooming cacti should have at least one. Their only drawback is size—many of the columnar types get past 2–3 feet in just a few years and many sprawl.

Once you’re familiar with these two genera, you can spot them readily when out of bloom. Most are slender-stemmed with a characteristic tuberculation of the stem. But, you can’t tell whether it’s a *Borzicactus* or a *Cleistocactus* until it blooms.

They are related to the genera *Denmoza, Haageocereus, Lox/anthocereus, 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. 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* has the typical tubular, zygomorphic, open flower of the group, and is frequently pollinated by hummingbirds. Genus *Cleistocactus* can be identified by tubular zygomorphic flowers that never open fully, and most pollinate themselves. (“Cleisto” means “closed” in Latin.) Both genera bloom during the day and often have swan-necked flowers. Current botanical thinking has lumped *Borzicactus* back into *Cleistocactus,* finding the differences in flowers not big enough to justify a separate genus. Since *Cleistocactus* was described first, it takes precedence. However, if you call a plant *Borzicactus,* everybody will still know what you mean.

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. (Some will take quite a bit of frost.) 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 of the columnar types need to be 18 inches to 2 feet in height (or length, if they’re sprawling) to bloom, but this doesn’t take nearly as long from a small plant as you might think, and the plants will normally be in 4” pots when they bloom. In the ground they will make enormous clumps if you let them. 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.

*Cleistocactus straussii*

For pot plants, any potting mix works well. Plain potting soil seems to be OK 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. However, 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 were already starting to bud and bloom in early February.

To keep in bounds, treat the columnar ones like rose bushes: Prune them to the ground periodically, or prune off a third of the stem at ground level each year. More branches will follow quickly and soon you won’t be able to see the cut. Plus, you’ll have many cuttings to distribute, like I will at the May silent auction. 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 4” lengths; 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 new growth from the base of the sideways cutting when it is at least 3” long, and it may already have roots. Plus, the sideways cutting will make more shoots. If you want lots of plants, take a section of stem and cut it as you would a hot dog into discs as thick as the stem is wide. Plant them 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* and *Borzicactus a*), a hanging basket plant with many small soft golden spines and orange flowers (there’s a beautiful crest available too)
- *Cleistocactus* or *Borzicactus samaipatanus* with green stems, small black or brown spines, and lots of red flowers through the summer
- *C. ferrari*, with finer spines than most and beautiful flowers with pink tubes and green tips
- *C. smaragdiflorus*, with red flowers tipped bright green
C. strausii, which grows rigidly upright, has stems to 3" thick covered with long dense white spines and has repeat flushes of dark red flowers all summer once over 2'.

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.

If I were space-limited and could only have one, I’d choose C. (or B.) samaipatanus because it is very hard to kill, grows from a 1" cutting to a blooming-size hanging basket in 6 months, and blooms several times during the summer. I would put it in a 6" 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. Then stand back and watch it attract hummingbirds all summer. My next choices would be C. strausii because of its dense bright white spines and stiff upright growth, which takes less space; and C. (or B.) aureispinus or its crest, because the soft golden spines are so beautiful.

Leo M

TREATING AGAVES TO PREVENT AGAVE SNOUT WEEVIL INFESTATION

Over the past 6 years, I have acquired a small, but growing, collection of Agaves. Soon after I joined the Central Arizona Cactus and Succulent Society, I was warned about the deadly and irreversible effects of attacks by agave snout weevils (Scyphophorus acupunctatus). According to information provided through the Internet by the University of Arizona, College of Agriculture, Cooperative Extension in Maricopa County (1998), these inch-long, dusty black, wingless insects are most active starting in March. Adults lay their eggs between the leaves of Agaves, and the hatching larvae burrow into the plant. Larvae are similar to white grubs without legs. Infested Agaves collapse into a putrid, rotting mess during late summer.

I contacted eight people in Phoenix and Tucson that raise or deal with Agaves either as part of their livelihood or as a hobby, to try to determine what is the best method to prevent the loss of my Agaves to this insect, while also minimizing the amount and frequency of pesticide use in my landscape.

I discovered that the chemicals used, the season of application, and the frequency of application varied from person to person. Some used liquid chemicals, others used granules, and some used both. Chemicals applied included Diazinon, Disyston, Oftanol, and Cygon. Apparently the last two may no longer be available commercially. Some recommended alternating between two or more chemicals to prevent the insects from developing resistance to any given chemical. Some applied chemicals monthly from spring through the summer, others only spring and fall (once each season in April and September or monthly in March, April and May and again in October, November and December), others in April, July and September, and still others in the spring months only. Some believe that weevils don’t normally attack young Agaves, and usually only go after mature plants that are ready to “bolt” (send up a flowering stalk), and don’t recommend any treatment since these Agaves will perish soon anyway. However, several people I contacted had the opposite experience and lost Agaves of all ages to this insect including small individuals in one-gallon containers.

Some people treat all new Agaves before they introduce them to their collection or recommend using only bare-root specimens to avoid inadvertently bringing in weevils in soil. If they find signs of weevil activity in their collection, some also treat all Agaves (or at least nearby ones) in their collection regardless of the time of year. Possible early signs of weevil activity include bruise marks the size of a thumbprint or pencil-sized entry holes, both at the base of the leaves. Advanced signs are shriveling, drooping lower leaves that rapidly collapse with only the central spine-like bud remaining upright. It is too late to save plants at this stage, and they should be promptly removed. Some recommend treating the ground under a weevil-killed agave for several months after removing it, before planting another agave in that spot.

Many people believe that Agave americana is more susceptible to the weevil than other species and may actually act as a weevil “magnet” to your garden, and they recommend avoiding this species. Other large, broad-leaved species such as A. weberi, A. chrysantha, and A. palmeri are also reported by some to be more susceptible to attack. Most believe that the small to moderate-sized, stiff, narrow-leaved species are much less susceptible to this insect. Other species reported
by some to be less susceptible to weevils include *A. vilmoriniana*, *A. desertiana*, *A. geminiflora*, *A. murpheyi*, and *A. parryi*. These species may be better landscape choices if you want to minimize the chances of weevil losses or the need to use chemicals. However, none may be totally immune to this weevil, and even some species of *Yucca* have been attacked (*Yucca brevifolia* and *Y. elata*).

I have decided to follow the preventative treatment method used by Diane Barker, *Agave* horticulturalist at the Desert Botanical Garden in Phoenix. Diane probably works with more agave species and likely more individual plants than anyone else. She definitely has weevils on the DBG grounds and she has lost *Agaves* to the weevil. However, and most importantly, she has rarely lost an agave that was treated using the following method.

Diane pours a liquid solution of Diazinon over the rosette of each treated *Agave* once a month each year in March, April and May. She uses 1½ gallons of liquid (diluted with water following directions for ornamentals) for medium-sized plants and 2½ gallons for large plants. As a less-messy alternative, she sometimes uses granular Diazinon sprinkled into a shallow trench dug around the drip line of the agave, then buried and watered in. She does not treat in the summer or fall and believes that treatment at that time of the year is only wasting time and chemicals. *Agave* damage discovered in late summer or fall is likely caused by untreated weevil infestations that occurred in the spring of that year.

Diane stresses that we should be sure to follow all the precautions on the chemical labels and to wear appropriate skin and eye protection. Most of these chemicals can be harmful to pets and wildlife, as well as people, if used inappropriately. Although it has low to moderate toxicity to humans, and is not believed to increase the risk of cancer, Diazinon is highly toxic to birds, fish, bees and aquatic insects, and cats are more susceptible than are dogs. Perhaps disappointing to some, it has only low toxicity to rabbits. Diazinon has an average half-life of 40 days and a foliage half-life of four days (National Pesticide Telecommunications Network [NPTN] Diazinon Fact Sheet, 1998). I recommend rinsing plants after application to avoid ponding of harmful chemicals in the leaf troughs and covering the treated areas with untreated soil or mulch. According to NPTN, Diazinon has a low potential for movement through the soil to the groundwater.

Mary and Gary Irish had a good suggestion in their outstanding book, *Agaves, Yuccas and Related Plants: A Gardeners Guide* (2000, Timber Press). If one of your *Agaves* dies from weevils, DON’T use its surviving pups in your landscape. Instead, try to locate pups or bulbils from an *Agave* that successfully flowered and may have had some genetic resistance to weevils and likely passed that resistance on to its offspring.

I would appreciate hearing from others regarding their successes and failures in treating (or not treating) their *Agaves* to prevent weevils at 602.863.2553.

I thank Diane Barker, Mary Irish, Gene Joseph, Gard Roper, Greg Starr, Christine Ten Eyck, Jack Kelly and Jim Elliot for sharing useful information with me on agave snout weevils and their treatment.

*Thomas G*

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**Scott McM’s Open Garden**

Scott opens his garden on Saturday, April 22, from 12–3 p.m. Scott will provide beverages but asks guests to bring some type of party snack.

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**CENTRAL ARIZONA CACTUS AND SUCCULENT SOCIETY 2000**

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CALENDAR

April 1 at 1:00 p.m. Dr. Ted Anderson of the DBG.
April 4–8 Annual Plant Show
May 20 Awards & Silent Auction

All meetings at 2 p.m. unless otherwise noted.

On behalf of the Desert Botanical Garden, I would like to thank the many members of the Central Arizona Cactus and Succulent Society for helping with the Spring Plant Sale Festival. Your help is of immense value to the Garden.

Cathy