Rita Gosnell took this photo of the unusual February snow on Four Peaks. Parts of the Phoenix area had two inches of rain, hail and/or snow that stayed on the ground. Large areas of the desert were covered in several inches of snow! A rare occurrence indeed.
Join Scott for our program on March 24, at 2 p.m., at the Scottsdale Civic Library Auditorium.

The second part of the Baja presentation covers Baja California Sur, south of the Vizcaino Desert and down the main highway to Cabo San Lucas.

We also went to the islands Carmen, Magdalen and Cerralvo to look at the unique plants there. Still miles of cardons and organ pipes with *Jatrophas*, *Fouquierias* and *Burseras* in abundance. Although still in the Sonoran Desert, different plants began to appear, such as *Pachycereus pecten-arboriginum*, and at the Cape Region, *Stenocereus thurberi ssp. littoralis*. The climate becomes warmer and more humid with some of the plants too frost tender to grow in the Phoenix without protection. Many people come here to enjoy fishing, scuba diving and whale watching.

*From the top: Mammillaria cerralbo, Echinocereus barthelowanus and Ferocactus diguetii.*
The Baja peninsula is a magical place with paved roads, friendly people and many endemic plants. To plan a trip, read the articles below that are found on the club website in the Newsletter Index, then Miscellaneous Index, then Places to Visit heading.

- *Baja Adventures Personal Perspectives* by Sue Hakala, Tom Gatz, Monte Crawford, and Steve Plath, 10/09
- *Trip by Minibus to the Tip of Baja California* by William Tucker, 9/75

Many club members have ventured through this wonderland that is in our near backyard. Talk to me, Rita Gosnell, Wendy Barrett, or Lois Schneberger. We went on a personalized organized trip with Baja Adventures. Chris Ginkel, Javier Guerra, Sue Hakala, Tom Gatz, Monte Crawford, Greg Starr, and Steve Plath have explored the peninsula. Sue even got to pet whales! Ask them about their adventures.

The Catavina Desert, in central Baja, is gorgeous beyond belief with thousands of boojums and cardons, and lots of other amazing plants. Something not to miss.

*From left: A giant cardon in the Catavina Desert, Sue Hakala with Stenocereus eruca, and petting whales. Photos by Sue.*
A member asks: How do I identify different species within a genus?

There is no magical way this will happen. You will need to take time to look at plants and educate yourself. Just when you think you’ve got it, taxonomists will change the name!

Enter your plants in the Annual Show and get them identified by the club experts there to help you. Attend the show and look over the plants with an eye for recognition of genera/species. Visit the vendor tables, and without looking at labels, guess what the plant is. Dialogue with the vendor about discerning who’s who on their table.

A digital camera can be a valuable friend. Try to photograph the plant overall, when a bloom bud just emerges, and through its development to a fruit. Post on the CACSS Facebook page and ask for an identification. Take the photo or printed image to a club expert or anyone wearing the ASK ME button at a meeting for help.

Purchase a few cactus books containing many photos, and go through the book again and again. The CACSS library is an excellent source for books. Ask one of our librarians for assistance. Some to consider:

- *Cacti, the Illustrated Dictionary* by Rod and Ken Preston-Maugam
- *Name that Succulent* by Gordon D. Rowley
- *Mammillaria* by John Pilbeam
- *The Cactaceae* by N. L. Britton and J. N. Rose (4 volumes)
- *The New Cactus Lexicon* by Hunt et al.

Visit the Desert Botanical Garden, and familiarize yourself with the areas where your plant grows. Visit it throughout the year to notice how the plants change.

Visit nurseries and while there, observe lots of live examples of plants in the various genera and species.

Occasionally choose another genus, and learn the characteristics to help with identification.
NEW MEMBERS

By Rita Gosnell

New members only, mark your calendars for Saturday morning, March 30, for a Meet and Greet garden tour of a member’s home garden located in north central Phoenix.

This is an opportunity to meet one of our long-time members who happens to have a fantastic garden. You will meet other new members, as well as learn more about the club's resources and activities. An email will be sent to new members only, approximately two weeks earlier, requesting an RSVP to the host no later than one week prior to the event.

SAVE THE DATE

The Cactus and Succulent Society of America is holding their convention July 17-20, 2019, in San Luis Obispo, California (about 150 miles north of LA), with 14 speakers and 6 field trips. The theme this year is Succulents: Conserving Our Treasures. You must be a CSSA member to attend. Visit their website for information: cssaconvention.com. Flyers will be available at the March meeting with information.

Be sure to visit CACSS on the web at: centralarizonacactus.org the Society’s website.
Facebook Central Arizona Cactus and Succulent Society
CACSS Swap and Shop, a place to connect with members.

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At the January meeting, members submitted questions to be answered by an expert. The Newsletter Indexes contain answers to many of these questions. Go to centralarizonacactus.org, choose the Newsletter tab, then choose Newsletter Index. Become especially familiar with the Plant and Miscellaneous Indexes as these contain an enormous amount of information to help make you a better grower.

Here are some of the questions posed and where to find answers:

- I’d like information on *Fouquieria* varieties and planting. See the Plant Index, and read articles under the *Fouquieriaceae* heading.

- What’s the fertilizing schedule for cactus? See the Miscellaneous Index, and read articles under the Fertilizer heading.

- I’d like information on *Stapelia*. See the Plant Index and read articles under the *Stapelia* heading. These plants attract mealy bugs so also read articles under the Insects heading in the Miscellaneous Index.

- Information on *Ariocarpus, Echinopsis* and *Agave Queen Victoria* can be found in the Plant Index under the plant name heading.

- Various questions were asked on watering. Visit the Miscellaneous Index, and then Watering heading. Read all these articles many times, and keep your own notes on your plants to help you figure this out. It is tricky in Arizona.

- Information on starting from seed can be found in the Miscellaneous Index under the Propagation heading.

- Information on growing lithops successfully in Phoenix can be found under the Plant Index, *Mesembryanthemum* heading.

- What is the best soil for *Adenium*? Visit the Plant Index, *Adenium* heading for answers. Also, member Dan Smith, *Adenium* guru, has an excellent website that provides the answers to lots of questions: PlantsbyDan.com.

- How do I keep birds from digging in and tearing up potted plants? Visit the Miscellaneous Index, and the Problems heading.

- When do I take plants in for the winter? See the Miscellaneous Index, and the Winter heading. Lots of good information here on winter protection.
Epiphytes grow on branches, with roots exposed to the air. Few tolerate dry roots for more than a few days. Some die if they dry out just once. Bagged potting soil is too dense for most. It doesn’t have enough air for the roots. Under the tree canopy they get bright shade only. They usually die quickly in sun. In growth they want a lot more fertilizer than most people give them.

They grow from south Florida to southern Brazil, with one species in tropical west Africa, Madagascar and Ceylon. Species have widely varied temperature and humidity tolerance. Even very expert growers can seldom grow all of them. The cool loving plants will not tolerate even a few days of heat, and warm loving plants will not tolerate cool winters.

NOMENCLATURE Taxonomists are not done moving things around. Expect everything to have multiple names. Epiphytic cacti can look almost identical and not be related. They can look completely different, yet be in the same genus (for now). It turns out the old, old, old cactus botanists made good decisions most of the time. You will learn some confusion and conflicting dogma at rhipsalis.com.

*Rhipsalis* Areoles in *Rhipsalis* are the small pits on the edges or surface of stems. Even species appearing spineless have tiny spines at areoles. All have very small, whitish flowers. Some can be differentiated by stem form. Some have beautiful, long-lasting fruits.

Many *Rhipsalis* have two stem growth forms. The first are called primary shoots: long, cylindric, often upward-arching growth, with few to no spines. They grow from the base, from old, woody parts of the plant. They, too, turn woody. They don’t begin forming until the plant is fairly large and established. These are called primary shoots because they are the main way the plant enlarges once it reaches mature size. Primary shoots look pretty much identical from species to species.

Some species, like *R. paradoxa*, don’t make primary shoots. Most do. Plants in small pots, or those struggling to survive, may not make them. If you damage the growing tip of a primary shoot, it stops growing.

Secondary shoots are the dangling stems with the appearance we expect for the species. They may have spines. They usually look completely different from primary shoots, and species can often be identified from secondary shoots. These shoots may flower when larger. These can become woody with age, but in some species they never become woody. A few species make only this form of growth. Remember areoles that flowered have spent their meristem and cannot form new growth. The tips of growths usually have several meristems in reserve.
Primary shoots form whorls of secondary shoots at the ends. Secondary shoots may form more ranks of secondary shoots from areoles. In many species secondary shoots have determinate lengths. In others, they can grow for years.

Both types of shoot may form air roots. This can be anywhere on a primary shoot, and often from midribs of species with flat secondary stems.

Immature *Rhipsalis* shoots usually won't root. Mature segments already having air roots are ready to go. Full segments, including the point of attachment to the previous growth, root better than mid-stem cuts. Mature primary shoots with some attached secondary growth root best. Mature secondary growths with the base attachment root next best. Only take mid-stem cuttings if you have no alternative.

Many *Rhipsalis* only grow once a year. The season varies with the species. Others may grow throughout the year. Cuttings root and grow better during the natural growing season.

Many epiphytic cacti struggle in Phoenix heat and low humidity. If you maintain your house at a maximum temperature in the mid-70s, most *Rhipsalis* will be fine. If your summers are warmer you will have trouble with some. A few tolerate our outdoor temperatures. Temperature is even more important when rooting cuttings. Cooler is often better. Some species are very easy to root under any conditions, while others are very difficult if conditions are not perfect. The higher the humidity you can provide, the more cuttings will root.

I would guess most viable *Rhipsalis* cuttings that fail have been kept too wet. This is very likely in potting soil. In a very high humidity environment, a cutting can sit without water for many weeks to months, and it will form roots. Remember these are epiphytes accustomed to growing with roots exposed to air. Sticking a cutting into potting soil is not the best way to root them.

The Huntington Botanical Garden in Pasadena, California, sticks cuttings into small-grain pumice with good results. The pumice allows plenty of air to the roots. You need to water often, or have a high-humidity environment.

In nature, pieces fall onto tree branches, and root on the surface. You can mimic this by setting a cutting horizontally on the surface of just-damp soil or sphagnum moss in a terrarium. You can use lidded jars laid on their sides, plastic take-out food containers, or old aquariums. People who grow epiphytes often have a 5 or 10 gallon aquarium near a window, for rooting, with a bed of sphagnum moss kept barely moist. Cover it with a piece of glass measured to leave a 1/4" gap at one short end.

I have found the best way to root and grow *Rhipsalis* species in my warm Phoenix home is in a bottle of water. Take a mature cutting. Stick the bottom few inches in water in a tall bottle. Even heat-sensitive species root and grow for me this way.
SCHLUMBERGERA  Thanksgiving cactus and Christmas cactus were known as Zygocactus in the past because they have zygomorphic flowers. All came from higher elevation mountains around Rio de Janeiro, and many are long extinct due to city expansion. There are lots of hybrids. Note many hybrids are patented, and it is illegal to propagate them without a license.

They have flat stem segments with areoles at edge notches. Some have long, claw-like projections at the edges. They have only one growth form. They branch from the tips of segments, not from lateral areoles, which produce flowers. Stems become thick and woody with age. Even very old segments retain areoles at the tips, and can usually regrow. They only root from the bases of segments.

They don't like heat. They are all house plants here. They need heavy fertilizing for best growth and blooming. Flowering requires one of two things: Either complete absence of artificial light in fall and early winter, or six weeks of nights down to 55 F. With either treatment, even tiny plants flower.

Commercial growers propagate in spring by sticking 3, 3-segment cuttings in 3” round pots, and keeping them barely moist in a very high humid environment. If you get the soil completely wet before rooting, they will rot. Once they start growing they take much more water and fertilizer. They are large, flowering and marketable by December. If your plant isn't growing so fast it surprises you, it needs more fertilizer.

A friend of mine roots single-segment cuttings in water in plastic milk jug caps. The water is so shallow it is always full of oxygen. She gets almost 100% rooting. I think water rooting works best in our warm climate for these, but they are happier long-term in loose potting mix than water.

EASTER CACTUS These plants look just like Schlumbergera but have no edge claws. Flowers form in spring, in the same color range as Schlumbergeras. But, they are actinomorphic, not zygomorphic. They used to be called Rhipsalidopsis, but now they aren't. They're called Hatiora gaertnerii. There are many hybrids. They are not related to Schlumbergera. They're hard to root if it's warm.

These don't require any special winter treatment to flower. They tend to die quickly if temperatures get near 80 F.
**EPIPHYLLUM** All are medium to very large, mostly flat-stemmed plants with white, nocturnal flowers. They tolerate a lot of heat but no sun. They are easy to root in most very loose, barely-damp media. They need to be large to flower. The DBG plant shop has sold something the label called *Cryptocereus anthonyanus*. The plant has long, soft, pointed side lobes along the stem, and is bright green. This plant is really *Epiphyllum chrysocardium*, now called *Selenicereus chrysocardium*. It won't bloom until enormous, say eight feet across. It roots easily. *Cryptocereus anthonyanus* is also now a *Selenicereus*. It has very stiff, dark green stems.

**HYLOCEREUS** This plant has 3 or 4 angled stems and tiny spines. Almost bulletproof even outside in Phoenix if you avoid full sun and frost. Just stick a piece in a pot of something, and water occasionally. They climb with clinging roots. They need to be big to flower. This is the source of most dragon fruit.

*Hylocereus triangularis from Smartseedsstore.com.*
**EPIPHYLLUM** or EPI hybrids  These giant-flowered plants have almost no *Epiphyllum* in their background. Ancestors tend to be higher-elevation, cool-growing genera. Most hybridization was done by Germans before WWII, and in San Diego afterwards. German hybrids are often smaller in plant and flower, and often bloom more than once a year. They are house plants here. They get big before they flower. Some are upright growers that can be grown in one gallon pots by continually tying the stems together into a top-heavy column. The remainder make wide hanging baskets.

Epis take special rooting care. You can use entire segments, or 3-6" tip cuttings. Let them dry for a week inside. Use potting soil or peat moss at 1:1 with perlite. Fill a three-inch pot with this mix and keep dry. Stick the cutting into the dry medium, all the way to the bottom of the pot. Don't water it. Now leave it dry for six weeks in bright shade, ideally with high humidity. After six weeks, sprinkle a little water in the pot, but don't soak. It will send up a growth from below soil level. Whenever it does this, start watering. If you water too early, the cutting might rot. For more information look up the San Diego *Epiphyllum* Society.

**SELENICEREUS**  These are jungle plants with cylindric, vining stems, rooting along the stems with huge nocturnal flowers. Many grow outside here just fine, like the plant on Webster patio at the DBG has for years. Very easy to root and grow, even taking a fair amount of sun. Avoid frost.

**RAT-TAIL CACTI**  This plant used to be called *Aporocactus*. Now it's called *Disocactus*, which seems bizarre, because core *Discocactus* are high-elevation, cool-growing plants and very difficult in Phoenix. Rat-tails don't like extreme heat, but tolerate a fair amount of sun. They have cylindric, spiny stems, and will dangle many feet. Bright orange to magenta flowers form throughout the summer. Hybrids have been made with other genera.

To root, take a cutting a foot long or so. Use a circular pot for hanging, and fill it with 50%-75% pumice with potting soil. Coil the cutting on the medium surface inside the rim. Water lightly once a week. If you can't get a nice cutting, lay pieces sideways on the surface of medium in a pot, and gently press to ensure soil contact.

It's hard to transplant a mature plant, so use a high-quality pot from the start. As the potting soil disappears the pumice remains. You can put a little leaf litter or potting soil on top once a year.
Rick and Barbara Rosenberg are hosting an open garden and studio tour for the club. From 10 a.m.-noon on May 4, you have the opportunity to tour over one acre of desert trees, shrubs, cacti, succulents, and sculpture. Gather garden design ideas and talk to experienced growers who successfully garden here in the Sonoran Desert.

Directions: 5916 E. Caballo Drive, Paradise Valley. Go South on 56th Street off of Doubletree Ranch Road, past Cherokee Elementary School, then a left on Caballo Drive. Contact info: 480-483-5630 or email DrRikRok@cox.net.
We are now in the home stretch with less than one month to go for the 2019 Central Arizona Cactus and Succulent Society’s (CACSS) Annual Show and Sale. This show is the Society’s most popular educational and social activity, drawing crowds to the Desert Botanical Garden (DBG) and the CACSS, and giving our members an opportunity to exhibit their favorite plants, and present educational displays on horticulture and conservation. Our Show and Sale helps spread the word about the joys of growing unique cacti and succulents while serving as a forum for discussion and learning the latest horticultural trends.

As a reminder, the 2019 CACSS Show and Sale will be held in Dorrance Hall and Boppart Courtyard on April 5, 6, and 7. Daily event times are 9 a.m. to 5 p.m., Friday and Saturday, and 9 a.m. to 4 p.m. on Sunday.

Plants need to be brought to Dorrance Hall on Wednesday, April 3, between the hours of 7 a.m. to 6 p.m. (firm) for entry and staging. Judging takes place on Thursday, April 4, with the Show and Sale open to the public April 5–7. Our event concludes Sunday, April 7, at 4 p.m., at which time show plants and educational exhibits may be removed. Please share this event with friends, family and other clubs you might be part of.

During the show weekend, Dorrance Hall will be full of our member’s amazing, unique and (sometimes) bizarre plants. Visitors will get to view all the wonderful plants and see a diversity of plants that they might never have known existed. Visitors can look to these plants, and the growers, for inspiration and motivation for their own collections.

For those that are still thinking their plants are not worthy of entering a show, please reach out to a fellow club member to take a look at your collection. I find we are our own worst critics, and more than likely, your collection contains plants that are either worthy of a ribbon or a plant that many will look at in awe over its unique or bizarre looks. Do not be shy, do not be intimidated, do not think your plants are not good enough. Think of this event as an opportunity to share the plants you are passionate about. This is why visitors come to our show.

There is still time for registration. Exhibition number and exhibition cards can be picked up at the March CACSS meetings, or contact Jeanne or Chuck Brush at 480-982-3899 or email at jabmom2@hotmail.com. Remember, both sections of exhibitor cards must be filled out completely with your name, exhibition number and plant name. If you are unsure of the plant name, leave it blank. Plant experts and references will be available Wednesday, April 3, to assist you with identifying your plants and the category they are to be placed in.

Exhibitors will register as Junior Novice, Novice, Advanced, or Master division. Ribbons are awarded within each division and plants are exhibited in divisions based on the number of blue (first place) ribbons previously awarded. Plants are considered only in the same division and judged at the same level.
Non-competitive exhibition is also an option for those wishing to share their plants without having them judged. Just let us know when you register for an exhibition number.

Education is an important part of our society’s mission. An educational display is a visual presentation of information that can excite and engage the viewer’s interest, stimulate thought and motivate the viewer to learn more about the subject. We would love to have members present educational displays showcasing cacti and succulents. This would be an ideal way to show off your creativity and passion. While it does take work, it is fun and always a betterment for our society.

In addition to our show is the sale event, with many vendors selling their unique plants, pottery and art items. This is one of our main money-makers for the club, and a terrific opportunity to find that special plant or unique pottery that might have been alluding you. Remember, we are always in need of newspaper and various sized boxes for customer purchases and to transport their plants home. If you can start collecting boxes, it will be much appreciated. You can bring them in anytime during the setup or the show. Volunteer positions are still available and can be found at: https://signup.com/client/invitation2/secure/2623229/false#/invitation. A special call-out is going for help with food and beverage Friday- Sunday. This event takes a large community effort. If you volunteer your time, we ask that you please fully honor your commitment.

Some final notes:

- We are asking members who have won trophies in 2018 to please return them. They can be brought to either the March CACSS meeting, or contact Lois Schneberger at 480-946-8373 to make other arrangements.

- Please remember the Garden’s policy with regards to dogs is: “Pets and therapy animals are not permitted in the Garden. Certified service dogs only.” The DBG rangers will be enforcing this rule.

- And, as always, if you have any questions, please reach out to the co-chairs: Thom Young (c) 480-460-0782 | te.77@q.com or Nick Diomede (c) 602-772-8282 | nich.diomede@gmail.com. If we cannot answer them, we will get you in touch with someone who can.