

Central Spine

March, 2011

*Newsletter of the Central Arizona
Cactus & Succulent Society*

An Affiliate of the Cactus & Succulent Society of America

On the Web at www.centralarizonacactus.org

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Dudleya saxosa collomiae. Barnhardt, Trail March, 2010--Photo by Doug Dawson

Growing *Dudleya* in the Low Desert

by Leo A. Martin

Luscious, mouth-watering rosette succulents, too perfect for this vale, fleshy cabbage roses, white as a nymph's thigh, impossibly thick, spiraling leaves sprinkled with powdered sugary wax. An Elizabethan collar of reflexed, rusty brown dry leaves. We drool zombie-like before them, bereft of will, bewitched, entranced, powerless... we... must... TOUCH! Show Chairs in vain hide them on the far side of the table, guarded by impotent signs. After touching, the next impulse is always to possess one (or more.)

They can grow here. They require extra care.

(Leo's article continues on Page 5)

April Newsletter Deadline: April 16, 2011

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LAST REMINDER--DUES ARE DUE

The 2011 membership dues for the CACSS are \$20 for individuals and \$25 for households. The monthly newsletter is emailed to members as part of their dues; the additional charge for post-office delivery is \$5.

Please send your dues-checks along with any changes in mailing addresses, phone numbers and email addresses to CACSS, P.O. Box 63572, Phoenix, AZ 85082-3572

PLEASE NOTE—NON-PAYERS will be dropped from the member list at the end of March and will no longer receive the newsletter.

March 27, 2011 Presenter—Petra Crist

Travel to Baja California with Petra Crist. One of California's finest succulent growers, Petra is known for her expertise in African plants. However, she has visited Baja California many times and is an enthusiastic collector of the weird and wonderful

Contact the *Central Spine* Editor for article and photo submissions, questions or comments: Diana Decker
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plants found there. Petra last spoke at a CACSS meeting in 2006.

2011 Meeting Schedule

There are changes to our normal meeting schedule due to a holiday and the CSSA National Convention in San Diego. Barring any unexpected event, the schedule is:

May 1 (in place of April 24th)
June 5 (in place of May 29th)
June 26
July 31
August 28
September 25
October 30
November 20 (in place of November 27th)

Welcome to New Members

Dan Dobbin	Patrick Yeates
Linda O'Conner	Suzanne Starr
Jackie Vasquez	Christine Willis
Javier F. Gurrola	Marianna Hancin
Vince & Barbara Hall	Elizabeth Welsh
Frances Colley	
Joe Youssefi /Sue Weinert	
Gundel Barnard/ Heidi Joplin	
Chuck/Jeanne Ann Brush	

President's Letter February, 2011

Well I'm finally ready to believe winter is over and I have moved some of my adeniums outdoors. Many of my plants that have a winter rest period are also showing signs of waking up with new leaves or flowers forming. I was just back in St. Louis visiting my daughter, and while I was there I visited a member of the local club there. He was quite the collector with many rare plants, and well grown. He of course had a greenhouse, but his plants were a ways from getting going. Likewise for another collector/grower in New Mexico- he still has weeks of winter left. (P.S. St. Louis had heavy snow the other day....., mid-March.) Once again I have to appreciate our climate for the longer growing season and the ability to put many plants outside for most of the year. The good air movement provided outdoors is an important factor for good growth, and this is equally important in enclosed

conditions. We are always discussing light, water, soil, fertilizer, but It seems that I don't here air movement mentioned as much. Good fans are important, sized to match your conditions, of course. So with these wonderful growing conditions we are able to raise fabulous plants, and that is a good thing with our annual Show and Sale fast approaching. I am looking forward to a great show this year with more of our members participating both by entering plants and by volunteering at the event. We also have another great program this month (I must say I sure enjoyed seeing the soil and plant parts fly as we learned about staging plants for display!) The CSSA convention takes place the last week of April so for many of us this will be a busy month. Happy hobbying!

See you at the meeting.

Steve M

**CACSS Plants of the Month
is on hiatus.**

Bring any cactus or succulent that looks fabulous!

Liz Williams Wins CSSA Membership

The first drawing for a one-year membership in the CSSA (Cactus and Succulent Society of America) was held at the February meeting.

The drawings are open to those members of CACSS who have not been a member of CSSA during the last five years.

Three more drawings will be held. Doug Dawson and Gard Roper funded two of the drawings. The club will fund the other two.

Congratulations, Liz

LATEST NEWS ON OUR SHOW AND SALE

By Lin Leivian, Gard Roper and Lois Schneberger

JUDGES

We are fortunate that Julie Plath has agreed to be our fourth judge. As anyone who has attended shows in the past few years is aware, Julie and her husband Steve are master growers who have received many trophies for their exquisite plants.

Julie is presently co-owner of Signature Botanica, LLC, but she has also held positions as a research gardener at Longwood Gardens in Pennsylvania and as greenhouse manager at the Bellagio Hotel in Las Vegas. Julie holds a B.A. in Horticulture from the University of Wisconsin-Madison and a master's in Horticulture from the University of Minnesota in St. Paul.

VOLUNTEERS and PROSPECTIVE VOLUNTEERS – *****PLEASE READ!

Volunteers at the Show and Sale must wear ID tags and wrist bands. The wrist bands are supplied by the Garden. The bands can be obtained from Jo Davis or Lois Schneberger on show and sale days.

We still need volunteers for the show and sale. Please consider giving your time as it's really a great way to meet other club members, and it's fun talking to the visitors. Call Lois at 480-946-8373 or e-mail her at lschneberger@cox.net

We will be having a party for all volunteers at Beth Kirkpatrick's house on April 17th to show the club's appreciation. We already have many volunteers preparing for the show, and we want to give a special thank-you to Carol Clapp for her excellent help in hemming black burlap tablecloths. It was an arduous task.

OTHER GENERAL INFORMATION AND REQUESTS

- The Garden is making a big effort to help our show, by providing early set up of the tents for the sale area and by assigning a ranger for all hours of the show and sale.

Grocery carts will again be available to those customers that need assistance in getting purchases to their vehicles (Thank-you DBG).

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- **CACSS MEMBERS - please bring some pop flats and small boxes. We do not need large boxes. Bring them to the March general meeting or to show and sale, when plants are brought in. Notify Gard and he will take the boxes.**
-

The ceremony to recognize individuals who have been awarded trophies and prizes is presently planned for the General meeting on Sunday, MAY 1.

BRINGING YOUR PLANTS TO THE SHOW - INSTRUCTIONS AND TIPS

- Entry cards can be obtained at the March general meeting and at the show; if at all possible fill them out prior to bringing in the plants to the show.
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- Clean plants before bringing them to the show. If some last minute work is needed, do it in the kitchen, not the show area.
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- Check your plants for bugs. Infested plants should not be entered in the show.
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- Relax about small plant damage. Bring interesting plants. Remember that entering plants is a way to share your joy and knowledge of cacti and succulents by displaying your favorite plants in the show.
-
- DBG has asked that we better manage the use of the parking lot behind Dorrance. Remove your vehicle immediately after unloading plants and move your vehicle to one of the Garden's parking lots. We may have a big sign reminding everyone of this. In the past 30 years we have tended to ignore the DBG's regulations for this parking lot. A DBG ranger may be stationed behind Dorrance to aid in compliance for the regulations.

(Plant entry form instructions – next page)

INSTRUCTIONS FOR FILLING OUT THE PLANT ENTRY FORM FOR THE 2011 SHOW

Determine the appropriate color of the entry form. Club members entering for the first time and others with a few years of experience entering plants should use the yellow form. Copies of the plant categories document will be available in Dorrance for your use. A copy can also be found on the Society's website. Plant entry forms will be available at the March general meeting and in Dorrance if needed.

When bringing in plants into Dorrance for the show, look for the sign-up sheet and get your exhibitor number. Sign your name on the first available blank line. Note the number because it is needed on the plant entry form.

Exhibitor lines at the top of the form: write your name

Plant name: Provide the name of your plant, family and then the species. If needed, check with the more experienced growers for advice on the

name. When entering a group, list the names of all the plants. The plant categories document also has a plant name index at the back.

Section: There are 7 sections in the plant category document. Most entries will fall into I for Cacti or II for Succulents other than Cacti. The other sections are: Seedlings, Large Specimen Planters, Decorative Planters, Educational Exhibits and Allied Interests.

Class: Locate the class number within the section for your plant.

Division: Locate the correct division within the section to match your plant. Note that some divisions are divided by growth pattern and/or size of the pot.

Exhibitor #: Enter your number on the card.

The above information is repeated at the bottom of the entry card.

Growing *Dudleya* in the Low Desert

(continued from page 1)

by Leo A Martin

As with any other plant, it is useful to know something about them and their native habitat. There are about 40 species, all New World members of the Crassula family, signaling to a succulentist they cannot tolerate hot summer nights. There are three divisions of the genus: the rosette succulents most of us know with flat leaves, rosette succulents most of us know with pencil-like leaves, and unusual, small shrubby plants with thick, cylindrical leaves, often growing from tubers. Of course, at one time these were three different genera. The shrubby ones are found from southern California south, along coastal headlands, and are little cultivated. The rosette types sometimes are solitary, but some species split by dichotomizing, as do some *Mammillaria*. These species can form mats of rosettes.



Dudleya saxosa collomiae, with *Graptopetalum rusbyi*, Barnhardt Trail April, 2009- Photo by Doug Dawson
Nearest relatives to *Dudleya* are genera *Echeveria*, *Graptopetalum*, *Sedum* and *Villadia*. This list will raise a red flag for those of us who have tried to grow these genera in the low desert and found them succumbing rapidly as the weather warms in spring.

Most *Dudleya* are found inside the USA, with some species straddling the border with Mexico. A few are Mexican endemics, found along the Baja California peninsula. All but a handful are strictly coastal, not occurring outside the coastal fog belt, seldom more than 20 miles inland. Some, like *D. pulverulenta*, found from Orange County, California south to El Rosario in Baja California, prefer sandy soils a few miles inland, often along watercourses. On the flats it can develop 2-foot diameter rosettes, too heavy to hang from coastal cliffs. We have two outliers here in Arizona, a surprise to many people; they have the same growth cycle as their coastal relatives. Almost all live in a winter-wet, summer-dry Mediterranean climate. This is the key to growing them in captivity.



Dudleya saxosa collomiae, (right) with *Mammillaria grahamii*, Apache Trail, March 2010) Photo by Doug Dawson

The coastal dwellers receive water as dew, fog or rain on most nights during their cool winter growing season. Frost is rare to nonexistent for most species. As fall rains begin they unfurl from long summer dormancy and grow luxuriantly and lasciviously, looking like small to enormous cabbages, nestled in the coastal scrub or growing on sea cliffs. New leaves are produced from the center throughout the growing season, and live 1-3 seasons before reaching the outside of the rosette, curving back while dying and drying to form a collar. Flowering begins late spring, well after rains have ended, when surrounding vegetation is dry and brown. Inflorescences emerge from the outsides of rosettes and grow far into the air, up where pollinators can see them above the surrounding grasses, or well away from cliffs. Many *Dudleya* have red flower stalks and yellow or white flowers, which stand out against the surrounding sea of brown plants, making it easier for pollinators to find them. Our native *D. saxosa* ssp. *collumiae* is acknowledged to have the most beautifully-colored inflorescence.

As the dry, cloudless summer progresses and temperatures rise, fruits mature and split, allowing powdery seed to be blown to new sites. Inflorescences dry to a crisp, but remain standing to attract succulent and native plant enthusiasts. Plants curl inward and old leaves shrivel slowly as they transfer their water back to the stem. In late fall fires are possible. Dry inflorescences burn, but the collar of old dry leaves protects the stem and living rosette much as a fire jumper's beard protects his face. With fall rains growth resumes and seeds sprout.

Our two Arizona natives (the other being *D. pulverulenta* ssp. *arizonica*) also grow exclusively during the winter. They may be found on north-facing mountain peaks throughout the low desert, or on west-facing cliffs at higher elevations in the Salt River canyon. During the summer they shrivel away to nothing visible and often cannot be found except by their inflorescences. With winter rains they resume exuberant growth. Being higher-elevation plants, they struggle in captivity during low desert summers.

With this in mind we can grow them better. If you're tired of reading by now, here's the brief summary: Keep them outside in the winter, in full sun, and keep them moist from the time it cools down in November until it begins warming in the spring. Protect most from frost. When nights begin warming, **take them into the house** and put them in a bright window. Don't water them all summer. Don't even mist them unless on a cool night. If you don't take them into the house they will almost always die even if you keep them in the shade. Nights are just too hot here in June and July.

If you want more detail, read on. Recall they live on cliffs, cracks in rocks, and shallow sandy soil. Their roots are very shallow, which eventually leads to problems in cultivation. More on that later. They need very loose soil for the tiny yellow roots and it doesn't need to be very deep. Roots emerge between all the old leaves at most times during the growing season. This is why they are so easy from cuttings. The small rosette types like *D. gnoma* (often sold as 'Green Sprite' or 'Twinkle') may form mats on cliffs; they are so close to the rock that detritus accumulates around the old dried leaves, and roots grow into it, attaching the plant to the new soil.



Dudleya pulverulenta arizonica, Saddle Mountain near Tonopah, AZ, November, 2004, Photo by Doug Dawson

In cultivation stems may grow longer and longer until they are quite exposed to our summer heat and aridity, even in the house. These old stems may die near the soil due to our abnormal conditions. The rosette remains alive, madly trying to grow new roots from the stem nearer the living leaves, but the new roots can't reach the soil in the pot. The plant withers away and dies. In habitat the stem would be near the soil and new roots could reach the soil. Or, as the plants dichotomize, stems would bend horizontally and continue rooting and dividing, to form the mat. Before I figured this out I lost several that looked like they should have been growing during the winter but gradually shriveled away and died. I now realize the stem base was dead and the rosette was trying to grow new roots but couldn't reach the soil. I think this may be why people think *D. pulverulenta* is hard to grow. Or, maybe it's just short-lived.

The upshot is that I think it best to unpot dudleyas every 2-4 years during the growing season, remove old stem, remove some old leaves, split the clumpers if desired, and reroot them. They never grow in habitat like a cabbage on a stick, so they shouldn't look like that in cultivation. My *D. gnoma* fell apart over the summer. You may have seen it in the show in years past; hundreds of 1/2 inch rosettes in a very shallow, 4" oval, blue glazed container. The stems just got too long and died. I have separated the remaining rosettes, all of which

were rooting prodigiously just below the green leaves, and am rooting them up. I put one rosette back into the original container. It will be a few years before I enter it again.

They are easy from seed. Just crumble dried flowers into a seed packet to harvest. Even if it's a very old inflorescence, there will probably be a few viable seeds left. In the fall sprinkle the dust onto the surface of any soil and keep moist and bright. I have seen carpets of *D. pulverulenta* seedlings on the wet banks of an Orange County stream during the winter. Drying out is fatal to seedlings in the first few months. The main trick is to get them big enough to survive that terrible first summer, so start early, and water and fertilize heavily. And, every time your plants flower, save some seed. They are self-fertile, and if you unexpectedly lose a plant during the summer, you will have its progeny.

Reading

There aren't many books on *Dudleya*. You can look for Paul Thomson's self-published 1993 book *Dudleya and Hasseanthus Handbook*. They don't do well in hot, humid greenhouses in the east, midwest or Europe, so lots of succulentists give up on them quickly and aren't interested in reading about them. If you peruse old issues of the CSSA Journal you will stumble on articles published by Reid Moran, formerly at the San Diego History Museum, who was an expert on, among many other kinds of plants, the Crassulaceae of North America. And there was a special CSSA issue featuring *Dudleya* in 2004 (was it that long ago?), Volume 76, #5, with two articles by your fellow CACSS members.



Dudleya saxosa collomiae, March 2008 - Photo by Doug Dawson

Some species

Easiest to grow here (in order of most to less ease)

D. saxosa ssp. *collumiae* is our native and is quite easy to grow here. Each of us needs at least one. It has been spotted growing on the north side of Squaw Peak, and luxuriates in the Salt River Canyon. It is probably in full glory right now. Looks like a miniature, very white octopus agave, with rosettes to perhaps 5" maximum. It dichotomizes to form clumps. The flowers are really something, bright red stems with bright yellow petals. Doug Dawson has been growing this from seed for years and trying to get all of us to grow it, so if you don't have one yet, shame on you. And call Doug to get one. Only this one may you leave outside in the shade in the summer, but it may lose its leaves. Better to bring it in with the rest.

D. gnoma is from the California Channel Islands. It forms a mat of 1/2" diameter rosettes, featuring several dozen stiff, firm, pointed 1/4" leaves. They are covered with white powder and nestled into a collar of old grey

leaves. It's a dramatic miniature and quickly fills a shallow dish, each head splitting at least once and often twice or thrice annually. Mine came from Steve & Rowena Southwell in 1997 under the name 'Twinkle'. It doesn't flower as often as my other species.

D. brittonii is a larger, solitary plant, to a foot in diameter, growing on cliffs overlooking the sea from Tijuana south. Most plants are chalky white but, there are always a few pure green plants, which are especially beautiful. I used to have a green one with red tips that looked exactly like *Echeveria agavoides* until it bloomed. I lost that plant before I understood the old, elongated stem problem. My plants came from the old DBG sales house and was one of a group of seedlings in a 1-gallon pot. I have one adult left. They were labeled *D. anthonyi*, which may be the same species, though what is called by that name has narrower leaves than *D. brittonii*.

D. candida has longer, thicker leaves than most and forms more of a stalk. Still, I don't let it get too tall before beheading and rerooting. My plant, from Tom Steuber, forms 4" rosettes on stilts.

D. guadalupensis is a mat former from Guadalupe Island off the west coast of Baja California. The island is no longer accessible to hobbyists. It was a botanical wonderland until goats arrived. With goats now gone, an amazing variety of once-thought-extinct plants is coming back. This is a beautiful plant with 3" rosettes of thick, waxy, green-purple leaves without powder. Each rosette dichotomizes once per winter. I lost mine when it fell apart as hot weather approached and I wasn't able to keep the remaining pieces, trying to root, alive until cool weather. If I had understood then about the stem length issue I would have rerooted it at the start of the previous growing season, and kept it. It came to me from John & Dorothy Pasek, and until recently the Huntington had a very large bed of it, which I didn't see the last time I was there. I hope it's still around.

Worth trying

D. pachyphytum is one everybody wants. The name means "thick leaf" and it is fitting. Imagine a stem with a rosette composed of 30 leaves, 3" long, 1 1/2" thick, cylindrical and blunt-ended, powdery white, like giant jelly beans rolled in powdered sugar. It's from a tiny island off Mexico and really doesn't like summer heat. It forms mats in habitat. I also got one from Steve & Rowena but didn't know how to grow dudleyas back then.

D. pulverulenta is breathtaking in the field. Imagine a winter stroll through the boojum desert near Rosario or the green grasslands in Orange County, California, and stumbling on an acre of bushel-basket-sized, powdery white cabbages. Has a reputation for being touchy and dying for no known reason. I wonder whether maybe it's just short-lived. Grow it if you can. If you're headed to Orange County and want to see a population, call me, and I'll tell you where they are. You park 10 minutes from Interstate 5 at a public parking lot extorted from a famous megachurch when it wanted to build next to an environmentally sensitive creek, walk downstream 5 minutes (if the creek ain't risin') and there they are. Along the way watch for rocks bearing fossils of long-extinct sea mammals. I grew up less than 5 miles from the spot.

D. pulverulenta ssp. *arizonica* is our other native. It grows on a few mountaintops between here and California. It doesn't look anything like the California *pulverulentas*; much smaller. But the flowers are almost the same. It's much touchier about summer heat than is *saxosa*. Doug also grows this one.

Sources

I told you where I got mine. Maybe some of our members will bring seedlings into the next meeting. Steven Brack at Mesa Garden (mesagarden.com) often lists a few on his Other Succulents page under both *Dudleya* and *Hasseanthus*, which was once a genus, now considered a subgenus of shrubby tuberous dudleyas. You don't need to uproot plants in the field. There are almost always old inflorescences at hand, loaded with seed, which is how you should start. Current season's seed doesn't ripen until early summer. Collect dead flowers and crumble into a seed packet. Take a lot in case there are only a few seeds

PLANT QUESTIONS??? WHOM TO CONTACT!!!

Many CACSS members have experience with different kinds of succulent plants. I hope they will add their names to the following list (Just call or e-mail Bob Torrest—480-994-3868; robertst9114@msn.com).

For now the list is simply alphabetical with principal interests. When more members add their information, the list will be cross-referenced by topic.

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STEVE PLATH

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Specializations include *Ariocarpus*, *Astrophytum*, *Cyphostemma*, *Echinocereus*, *Fouquieria*, *Thelocactus*,

General Propagation, and Desert Revegetation.

BOB TORREST

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Specializations include Desert Landscaping, Unusual (including Rare Fruit) Trees and Shrubs, Aloes, Agaves,

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