

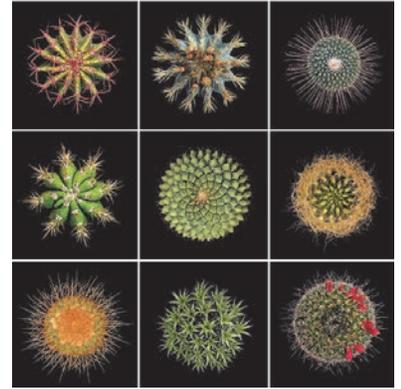
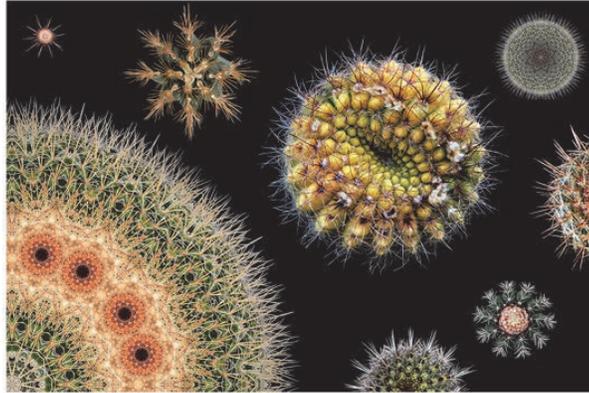


DESERT BREEZE

Newsletter of the Tucson Cactus and Succulent Society

March 2019

Thursday, March 7, 2019 at 7:00pm
Arriving at Symmetry
 Presented by Steven Derks



Throughout the 1980s, I worked as a Native Plant Specialist (cactus cop) for the Arizona Department Of Agriculture. I enforced the Endangered Species Act for threatened, rare and endangered plants in Arizona. This resulted in my appreciation for the aesthetic diversity of cactus and succulents. In 2001 I photographed a saguaro cactus at night from an overhead perspective. After numerous failed attempts, I was able to align the spines of the plant in such a way that its symmetry was revealed. The resulting pattern resembles a snowflake. Recently I began thinking about other structural similarities found in nature. For example, the comparative pattern of a spiral galaxy and a spiral tubercle and spine pattern of a cactus. This interest inspired me to return to photographing cactus with an intent of isolating the plant in black background for the purpose of highlighting its bio-symmetry. I want to make a photo that

illustrates a close-up intimacy with the plant. The paradox in this is that the cactus, by its own spiny nature, defies intimacy. As I processed the images in Photoshop, I discovered that the shadows cast from the textural patterns were of special interest. My curiosity got the best of me and I had to research why the plant produced these shapes. To my delight and surprise, I learned that the shape of then cactus or succulent for all intents and purposes is simply a complex and beautiful water container. The patterns have evolved to allow the plant to regulate its temperature. While editing photos, I continually encountered imperfections. These anomalies could dominate the image based on their ability to disrupt the patterned balance of the image. As a solution I would attempt to repair these portions of the pattern by cutting and pasting selections from other areas of the image. This proved to be a sporadically
Continued on page 1



Sky Islands Public High School • 6000 E. 14th St.

TCSS Program Presentation
Thursday, April 4, 2019 at 7:00pm
 The subject will be: Sansevieria
 Presented by Bob Webb

March Meeting Refreshments

Those with family names beginning with U - D, please bring your choice of refreshments to the meeting. Your generous sharing will be greatly appreciated and enjoyed!

effective solution. One day in a fit of frustration while attempting to repair particularly stubborn area of a photo, I resorted to a radical solution. I cut the subject in half, then I discarded the bad half and copied and pasted the good half mirroring the other side. The result was much more natural looking than I anticipated. I began to wonder about the perception of symmetry, in particular something I read that indicated humans prefer slight asymmetry in faces. To study

this, I started to pay attention to the reactions of images I received from the samples I posted on social media. So far my findings indicate that people prefer the (Spherical Symmetry) reconstructed images over the natural images. Now as I make editing choices, I keep in mind these three basic forms of symmetry.....

- Radial symmetry: The organism looks like a pie. ... Rotational symmetry, also known as radial symmetry in biology, is the property a shape has when it looks the same after some rotation by a partial turn. An object's degree of rotational symmetry is the number of distinct orientations in which it looks the same.
- Bilateral symmetry: There is an axis; on both sides of the axis the organism looks roughly the same.
- Spherical symmetry: If the organism is cut through its center, the resulting parts look the same.

Another major consideration when editing cactus is emphasizing patterns keeping in mind the Golden Ratio. This is a common mathematical ratio found in nature that can be used to create pleasing, natural looking compositions in design work. We call it the Golden Ratio. Biologists, artists, musicians, historians, architects, psychologists, and even mystics have pondered and debated the basis of its ubiquity and appeal. In fact, it is probably fair to say that the Golden Ratio has inspired

thinkers of all disciplines like no other number in the history of mathematics. Although I don't understand the math, I can appreciate the aesthetic choices I'm obliged to sacred universal patterns used in the design of everything in our reality, most often seen in sacred architecture and sacred art. With these concepts in mind I continue to experiment with the geometry of these plants. As I developed my methods of exaggerating the symmetry I realized that they were essentially " Digital hybrids" of the original natural composition. The cactus in particular, seem intrinsically suited to bridge natural selection and modern design. Cacti are so remarkable in their symmetry that it is difficult to believe they are living things. I'm endlessly fascinated by these expressions of nature.

Steven was born in Dubuque, Iowa in 1957. He is a practicing full-time self taught artist focusing primarily in metal sculpture with an emphasis on as is found object art, and a minor practice in non-objective painting and photography. His work can be found in numerous public, corporate, museum and private art collections both in the United States and abroad. Notably a six year exhibition in the oval office / white house during the Clinton administration, and an ongoing residency exhibit at the University of Arizona Bio 2 in Oracle Az. He is currently represented by eight commercial art galleries and four private and corporate art consulting companies. He maintains a prolific studio practice that is influenced by such artists a Jim Dine and Sir Anthony Caro. Steven is currently working in Tucson, Arizona. Steven G. Derks, 801 N. Main Ave., Tucson , Arizona 85705, 520.370.1610 www.stevenderks.com

Please come and enjoy a special program that will truly open your eyes to looking at cacti. You will enjoy an excellent evening with friends, fun, books, raffle plants, free plant offerings and a large selection of really great refreshments. Also, be sure to stay until the end of the meeting and get your free plant offered by the TCSS.



President's Message

I am sure glad that February is over. Cold, wet, snow but now it's spring. The leaves are popping out on the Ocotillos, wildflowers are blooming it's time to get into the garden and enjoy. You might want to wander over to Pima Prickly Park and see what we have been doing all winter. We are making a lot of progress and have planted hundreds of plants. It will still be several years before the garden is

fully planted and then a decade or more to watch it mature. Come and enjoy!

We will be starting a new feature at our monthly meeting. It is called; "Ask the Expert". Starting in April this newsletter will give you the topic for the expert. If you come to the meeting there will be 3 x 5 cards on which to write your questions. We will pick out the question of general interest and have our expert respond. Since there is limited time, this will be about a 15 minute segment. We hope to expand the responses and put them on our website. Should be interesting.

We are also planning new member orientations. We have grown so much that it is difficult to engage new members in everything we do. This will be by invitation and representatives of committees will explain what they do and how to get involved. There will be several during the years since it is almost impossible to find a date convenient for everyone. If you are new to the Society in the last 6 months or so expect to hear from us.

We will also have at the monthly meetings an additional badge for new members and guests. New members will be goldenrod in color and guest will be magenta. The purpose for this is simple. When you see someone wearing one of these colored badges; say hello; introduce yourself; answer questions; make everyone feel welcome. We have a lot going on at meetings and someone who is new or visiting needs to know how to navigate the process. I know you will help.

Thank you for your support

Dick Wiedhopf, President

Plant Sales before the meeting 6:00pm to 6:50pm

Matthew Lutheran
UA ASLA Student Chapter Treasurer
Master's of Landscape Architecture '19

Spring Plant Sale

Boyce Thompson Arboretum is a 320-acre Arizona State Park located at highway 60 milepost #223 near the historic copper mining town of Superior; just 45 miles due east of Mesa or about 90 minutes drive northeast of Tucson via Oracle Road to highway 79 north to highway 60 east. The sale continues daily during business hours from 8:00 a.m. to 5:00 p.m.

Tohono Chul Spring Plant Sale

Open to the general public on Saturday, March 18 from 9 a.m. to 5 p.m. and Sunday, March 19 from 10 a.m. to 4 p.m. Tohono Chul's Propagation Area, 7211 N. Northern Ave. Event is free to attend. Bring money to buy plants.

Desert Botanical Gardens Spring Plant Sale

1201 N. Galvin Parkway
Phoenix, AZ 85008

SATURDAY, MARCH 16 | General Public 7 a.m. – 5 p.m.

SUNDAY, MARCH 17 | General Public 7 a.m. – 3 p.m.

No admission charge to enter the Spring Plant Sale. Don't let 30,000 plants intimidate you! Our on-site horticulture experts will help you find the perfect cactus, agave or ornamental to plant in your own garden.

FROM THE FLORILEGIUM

“Legumes of Arizona: An Illustrated Flora and Reference” – Publication expected later this year.

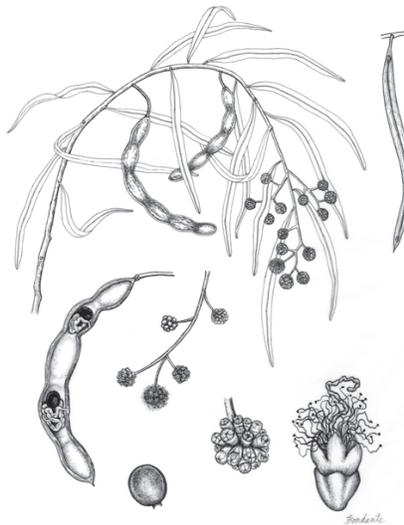
One of the non-native plants included in “Legumes of Arizona” is *Acacia salicina*, Australia's willow acacia. Growing to 40', this tall, graceful tree with a willow-like canopy has been planted in many arid regions of the world for its value as a shade tree, screen, windbreak, and soil stabilizer. In our desert, it tolerates heat, poor soil, and dry conditions while providing abundant grey-green foliage that needs little tending—as long as it's allowed to keep its lovely pendulous form. The main landscaping concern is the tree's tendency to blow over if given too much water.

Acacia salicina was first named and described by the British orchidologist John Lindley (1799–1865) in “Three Expeditions into the Interior of Eastern Australia” by Thomas Livingstone Mitchell. This fascinating account of Mitchell's travels in Australia from 1831 to 1836 includes Lindley's botanical descriptions of 77 new species, including the willow acacia.

The name of the genus *Acacia* is taken from the Greek word *akis*, or “sharp point”, a reference to the many acacia species bearing thorns. It was first used, in 1754, by the Scottish botanist Philip Miller and later applied by Linnaeus to the African gum arabic tree, *Acacia nilotica*. The species name “salicina” is based on the Latin word “salix”, or willow.

Willow acacia is now classified in the legume subfamily Caesalpiinoideae, the peacock flower family. Not too long ago it was in the subfamily Mimosoideae, and its flowers resemble those of the mimosa and fairy duster, with very prominent, long stamens.

The illustration here of *Acacia salicina* is by Chris Bondante, whose drawing of *Dalbergia sissoo*, another non-native legume tree, was included in last month's “Desert Breeze”. The top half of the drawing shows the habit of the plant, a branch with both seed pods and flowers. The flat leaf-like structures on the branch are called phyllodes, which are expanded and flattened petioles that function as leaves. As a seedling, willow acacia has true leaves growing from the petiole, but these soon drop off, leaving the phyllode to serve as a leaf. Phyllodes are common among the Australian acacias.



Acacia salicina, Willow acacia
© Chris Bondante, pen and ink



Seed pod with seed and aril,
© Chris Bondante

In the bottom half of Chris's drawing are three floral structures: an inflorescence with several globular flower heads, a single flower head containing 15-25 pale yellow to white flowers, and, at far right, a greatly enlarged mimosa-type flower with numerous stamens that extend beyond the petals, or corolla.

At the far left of the illustration is an open seed pod that contains a very interesting structure. Note that the black seeds are surrounded by folded fleshy outgrowths. This is an aril, a sort of umbilical-like appendage that attaches the seed to the pod and helps in seed dispersal. In the case of willow acacia, the aril is a brilliant scarlet color that is attractive to birds who in turn eat the seed. Chris's photo of the seed shows the beautiful red color of the aril.

If you're wondering why *Acacia salicina* remains in the genus *Acacia* while our marvelous catclaw acacia must now be called *Senegalia greggii* and our whitethorn acacia has become *Vachellia constricta*, it's because, in 2011, the Australian acacias emerged victorious from the Acacia Wars that roiled the world of botanical taxonomy for several years. The acacias in Australia got to keep their name, and acacias elsewhere in the world got new ones.

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Deadline for newsletter text or photos:
Thursday, March 28, 2019

TCSS Web Page:
www.tucsoncactus.org

Webmaster: Keimpe Bronkhorst • webmaster@Tucsoncactus.org
For additional information call: (520) 256-2447

Everyone is Welcome!
Bring your friends, join in the fun and meet
the cactus and succulent community.

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Cacti Rescued - Since 1999
416 Rescues - 32,866 Volunteer Hours (updated 12/22/18)

Please see our **Website Calendar** for the next rescued cactus sale. They are scheduled at various times during the year based on our inventory.

TCSS Club Members receive a 10% discount

We need your "Eyes and Ears" to help us find new Cactus Rescue sites. Please email us as much information as you can from new project signs or from other sources to **Site@TucsonCactus.org**. Attach a photo of the sign if you can. Note, we do not remove plants from residences.

March 2019

Thursday, March 7, 2019 at 7:00pm

Arriving at Symmetry
presented by Steven Derks

Tuesday, March 12, 2019 at 7:00 pm

Board meeting, Ward 3 Council office at
1510 E Grant Rd. Tucson, AZ

Acknowledgement Of Contributions

The Names below represent the Tucson Cactus & Succulent Society members and friends whose donations helped make this year a success.

We extend our sincere thanks for your support.

Education

David Bishop
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