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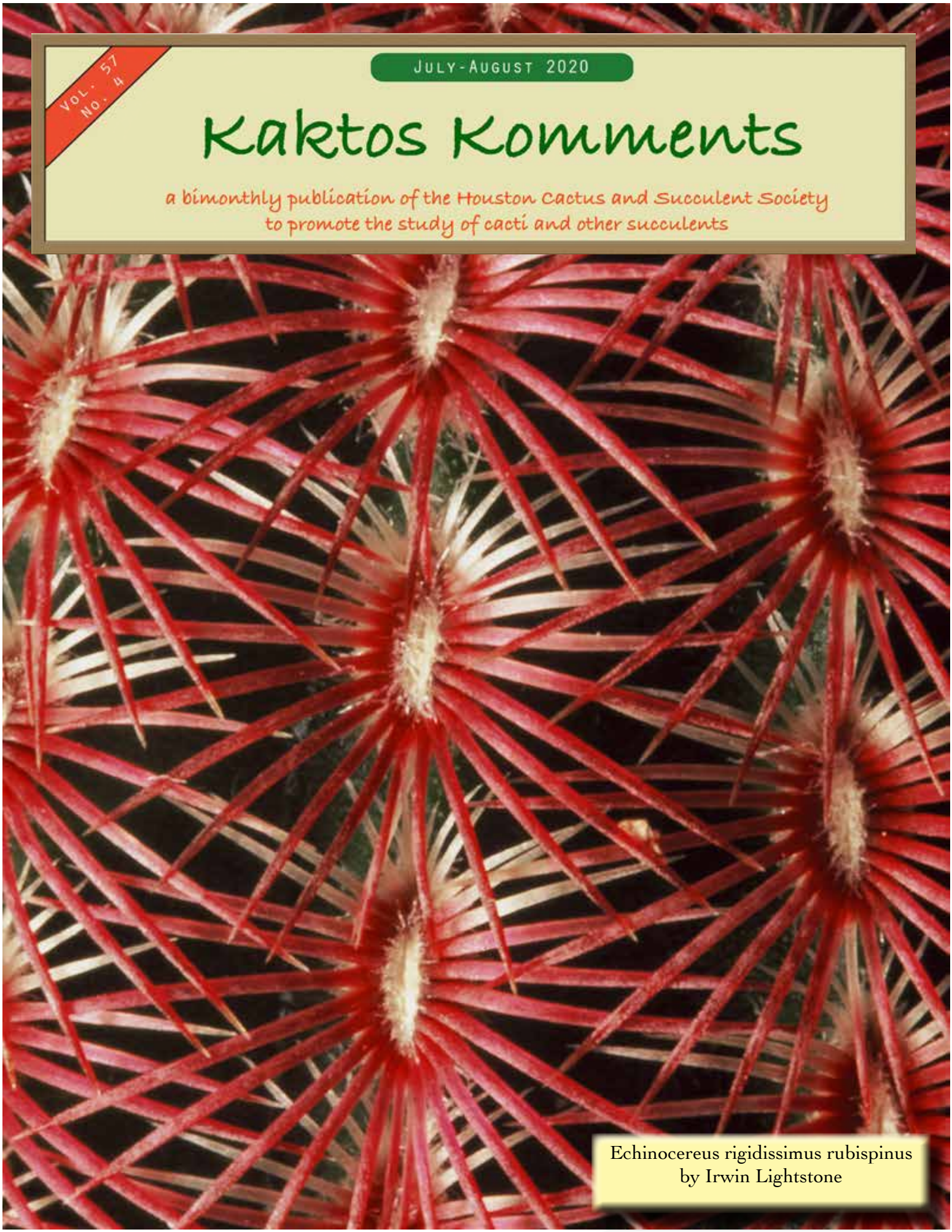
July-August 2020

Kaktos Komments

a bimonthly publication of the Houston Cactus and Succulent Society
to promote the study of cacti and other succulents



Echinocereus rigidissimus rubispinus
by Irwin Lightstone

From the editor

Karla Halpaap-Wood

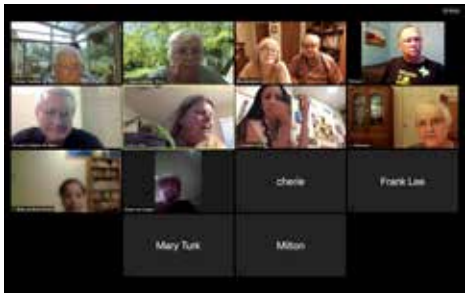
I want to thank everybody who contributed with an article and especially Irwin Lightstone for the beautiful cover photo.
Contact me for instructions if you need assistance joining our Zoom meetings. It's quite easy and works well. Of course, we miss the camaraderie and the plant exchanges from the in person meetings, but Zoom meetings have advantages too. Just think of the time you don't have to spend in traffic driving!

MEMBERSHIP

KATHY FEWOX

Once again, the pandemic forced HCSS to cancel in-person meetings at the Metropolitan Multi-Service Center and opt for meetings via Zoom.
Ten people attended the May 27th Zoom meeting. We had a program on astrophytum
StarAstrophytum 1
https://www.youtube.com/watch?v=1A0flwSNyLU
StarAstrophytum 2
https://www.youtube.com/watch?v=G-1OGYDyc-M

Sixteen people attended the Zoom meeting on June 24th. Richard Stamper presented the program, "Adventures with Seeds."



I hope everybody is staying safe at this strange and difficult time. Wear your mask, keep a safe social distance, stay home (if at all possible), and enjoy your cactus and succulent collections!

Please send news of HCSS members or their families to kathyfewox@gmail.com or Saint.juniper@gmail.com

Calendar:

July 8, 2020	7:30 pm Board Meeting via Zoom
July 22, 2020	7:30 pm Membership Meeting via Zoom. Program on tissue culture
August 26, 2020	7:30 pm Membership Meeting at Metropolitan Multi-Service Center (or Zoom) Program: Rooting from leaves in leave succulents by Wally Ward
September 1, 2020	Deadline for submitting articles for the KK.

July Cactus of the Month

Kathleen Canty

Opuntia abjecta (formerly O. triacantha or triacanthos)

Photo credit: Rufino Osorio

Note: Florida's population was thought to be an outlier of the Caribbean (Puerto Rico or Lesser Antilles) species, O. triacanthos, but DNA analysis proves it is a distinct species. John Kunkel first recognized that the plant is endemic to the Monroe County Keys. From R. Osorio.

Description: shrubby, low growing & spreading about 2 ft wide and growing 3-6" tall. Has several clambering, strongly spiny, barbed stems. Stem segments elongate oval to oblong, pale green, smooth, some detaching readily. 4-8 cm (1.6 to 3.1 in). The pads are very weakly attached to one another and this, in combination with the barbed spines, means that they will almost leap onto the shoes, clothing, or fur of anyone or anything that brushes against the plant. (Osorio).

Flowers: bright lemon-yellow fading to reddish brown.

Fruits: red, spineless to 1 in long.

Distribution: Florida Keys (Monroe County)

Cultivation: Due to the easily detachable (and vicious) stems, plants should be placed outside of walking areas to protect both plants and animals. It grows on bare limestone or where a bit of sand or humus has accumulated.

I**UCN Red List status:** critically endangered due to human activity and/or development. In 2016, only ~100 plants were thought to exist in the wild.

References:

Anderson, Edward F. 2001. The Cactus Family. Timber Press. Portland, OR. p. 523.

https://www.opuntiads.com/opuntia-abjecta/

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July Succulent of the Month

Sarai Ramirez

Sansevieria Parva

Genus: Sansevieria now included in the genus Dracaena
Family: Asparagaceae
Synonyms: Guilt Edge / Kenya Hyacinth / Dooneri / Bequaertii

Sansevieria Parva is a slow growing succulent with narrow, dark green reflexing leaves 40 cm long and 1 inch wide. Flowers are small, white and appear in a spikes.

Light: Best in moderate to bright, indirect light but will adapt to low light conditions too. If you want sansevierias to thrive Ive notice they do best outside, indirect sun light if possible.

Soil + fertilizer: Treat like your typical sansevieria. They'll grow in almost any potting medium. But if you want to give your snake plant the best environment, a well-draining soil is key. You can use any store cacti/succulent mix , or I use a 1/3 mix of potting soil, perlite and turfice. The best planter would be one with drainage hole, the bigger the drainage hole the better.

Water: Allow the soil to dry out before watering, then water thoroughly and allow to drain freely. Do not allow the plant to sit in water as this will cause root rot.

Temperature: Snake plants tolerate dry air quite easily and don't need any additional humidity. However, they aren't cold hardy plants and won't tolerate temperatures below 50-60 degrees Fahrenheit for very long.

Feed: Overall sansevieria are low maintenance plants and do not require a lot of supplementary feeding. However if you want a fast growing season, feed your plant with a balanced fertilizer about once a month. Cease fertilizing all together during winter.

Air Purifying: According to a NASA Clean Air Study Sansevieria are capable of purifying air by removing some toxins such as formaldehyde, xylene, and toluene. Sansevierias use the crassulacean acid metabolism process, which absorbs carbon dioxide at night, although oxygen is released during daylight. Nighttime absorption of CO_2 purportedly makes them especially suitable bedroom plants. However, since the leaves are potentially poisonous if ingested, they are not usually recommended for children's bedrooms.

Height and Growth Rate: Ultimate height 2-3 feet. Slow growing.

Toxicity: Mildly toxic if eaten. Keep away from children and animals.

Origin: Tropical East African Region.

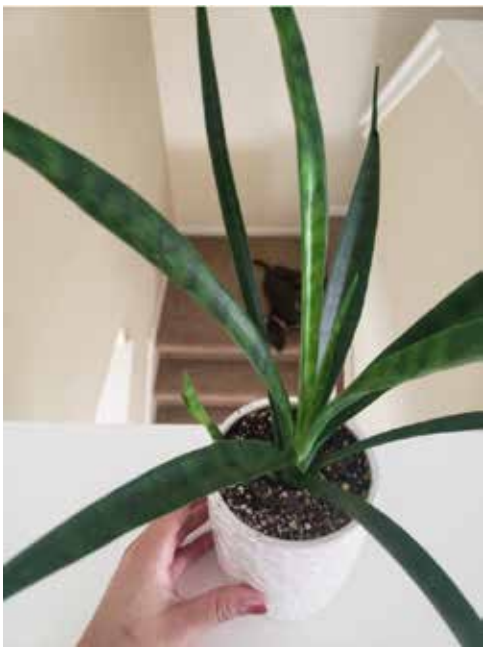
My Experience: When I first saw this plant at small plant shop in the Heights (TX), I fell in love. We all know the popular Laurentii but this plant was so much smaller and cuter, I had never seen a sanseveria like it, but I knew it was one, because of the leaves; it looked like compact thin version of the Laurentii. So I brought it home with me. I'm so excited to add this to my growing Sansevieria collection. I have had it now for about four months, and I already see new growth. The color has remained the same a really dark green. It has been

happy in a tall cylindrical ceramic planter. We keep it in our bedroom. I like looking at it every morning, but I'm probably going to move it outdoors in the patio soon. I feel Sanseverias do best outside. Overall, this is a carefree succulent, my favorite kind of all!

Funny story about this plant is that I had the hardest time trying to find its name. According to Wikipedia there is over 70 species of Sansevieria, after much research I am convinced this is a Parva, but if I am mistaken please let me know. I currently have about 12 of the 70 species, so I have much collecting and learning to do.

References:

https://worldofsucculents.com/sansevieria-parva-kenya-hyacinth/#prettyPhoto
https://plantingman.com/sansevieria-parva-kenya-hyacinth-indoor-plants/
https://en.wikipedia.org/wiki/Sansevieria



August Cactus of the Month

Chaden Yafi

Copiapoa tenuissima

Scientific name: *Copiapoa humilis subs. tenuissima*

Family: Cactaceae

Name origin:
Copiapoa: from Copiapó, a city in northern Chile surrounded by the Atacama Desert.
Tenuissima: From Latin *tenuis* meaning thin, also could mean slight or small as in *In tenui labor et tenuis gloria*. "the object of the labor was small, but not the fame" (Virgil)

Synonymous: *Copiapoa humilis, Copiapoa humilis tenuissima*

Habitat: The Atacama Desert in Northern Chile.

The *Copiapoa tenuissima* has a very striking look, its body is dark purple or brown in color with contrasting short white pines. It stays small in size, the mature plant grows to a maximum of 3 inches high and 2 inches wide. The *Copiapoa tenuissima* blooms with beautiful yellow flowers that have an exquisite strong fragrance. Another striking feature of this cactus is its root! This cactus has a very large, solid, white root, sometimes double the size of the stem above ground, this root serves to store water.

The most remarkable feature of this cactus is its ability to survive in extreme harsh and arid environment. In 1980, during the unprecedented sever draught that happened in northern Chile, not a drop of rain fell for six years in a row, the only plants that survived were the Copiapoa cacti. In addition to the regular methods cacti use to conserve water, the Copiapoa can trap moisture from fog by using wool like material that it develops on its spines. Also, it can pull itself almost entirely underground during prolonged drought periods.

CULTIVATION/GROWTH/COLD HARDINESS

The *Copiapoa tenuissima* likes to grow in full sun, Zone 10 (30F) but cannot survive frost. Despite the fact that it might be hard to imitate its original extremely harsh environment, *Copiapoa tenuissima* cactus is easy to grow in nurseries and as a house plant in pots outdoors or indoors. It requires, like most cacti, well-drained soil and pots, strong light, and infrequent watering.

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Nobel, Park S. Desert Wisdom Agave and Cacti: Co2, Water, Climate Change. New York: iUniverse, 2010
Torre, Dan. Cactus. London: Reaktion Books LTD, 2017

Websites:
https://cactiguide.com/cactus/?start=10&genus=copiapoa&species=
http://www.llifle.com/Encyclopedia/CACTI/Family/Cactaceae/1138/Copiapoa_tenuissima

Blooming beaucarnea recurvata
by Karla Halpaap-Wood

Compliments for our newsletter

Your publication is top-notch
Linda Tamblyn
Editor, CSSA To The Point

As always, a wonderful (upbeat, informative and "easy on the eyes") newsletter. Thank you.
Rick Herrman, CDRI

Lisa, the Team and CDRI greatly appreciate y'all's support & friendship.

August Succulent of the Month

David Van Langen

Echeveria strictiflora

Echeveria strictiflora is a little known and seldom grown succulent that should at least be famous for one reason ! It is the ONLY Echeveria to be found in the United States-- and even better than that-- Texas is the only state it is found in !!!

It is a small plant, only a few inches tall and wide, with leaves arranged in a rossette around a very short stem. Usually a single stem, it can form small clusters of attractive silver to grey leaves . Each leave is fairly flat, long oval shaped with a pointed tip ! Most specimens have red to pink edging in each leaf which can make it very nice looking. The flower stalks appear in summer and are a up to 6-8 inches tall. The stalks are colorful-- either being red or pink- depending on location. Each stalk is curled at the top and the yellow/ red flowers are arranged in a nodding fashion.

While Texas is the only location in the US, this little Echeveria can be found in scattered locations in the Mexican states of Coahuila, Chihuahua, Durango and Nuevo LeÛn. As with most Echeveria, it is found in fairly high elevations in dry grassland/ oak wooded habitats of 3,000 to 6,000 ft elevation. In Texas it is found in the Chisos Mountains of Big Bend and throughout the Davis Mountain complex-- and maybe other lesser ranges in Texas. It is usually seen in rocky crags and ledges growing among mostly rock and boulders with pockets of leaf matter and soil. Since it grows in such locales,I have to assume it will be cold hardy here in muggy Houston if kept dry. In habitat, it can see snow and ice but for the most part-- winter is a dry season.

Now this is one plant I have never seen in habitat !! And I do realize it hates being here in Harris County ! It hates the Upper Gulf Coast also from what I read !! But I have always wanted to see this plant-- and always wanted to attempt to grow this lovely little creature !! With all that in mind there was nothing else to do but order one-- and it was the last one in stock !!! I had no choice !! I had to write this article while it was still alive too-- as of this writing I have kept it alive for one 24 hour period !! It will get sparse waterings and will be grown in a mix of volcanic gravel, granite gravel and mineral soil.

So the next time any of us go visit the mountains of West Texas-- keep your eyes peeled out on the rocky ledges and cliffs- you just might find the one and ONLY Echeveria that grows in the country !!

Photo on right by Josie Watts

When Cactus Inspired a High-Tech Skyscraper! A Case of Biomimicry

By Chaden Yafi

In his famous poem, Tables Turned, the British poet William Wordsworth (1770-1850) advised people to relinquish their books and learn from nature, not from science or art, for only in nature can one find true wisdom and knowledge:
"Come forth into the light of things,
Let Nature be your teacher."
Throughout the history of humanity people were inspired by nature, borrowed ideas from it, and at times tried to imitate it. Later in the twentieth century the term "biomimicry" appeared, referring to designed systems that imitate nature and biological entities to try to solve human problems.
Perhaps one of the first examples of biomimicry in history occurred when the Andalusian scientist Abbas ibn Firnas (809–887 A.D) tried to imitate the flying of birds after observing them for a while. At age 70, he was inspired to attempt to fly himself. He manufactured two large wings made of feathers and silk among other materials, glued them to his body and jumped off a cliff. His attempt didn't end his life but left many fractures in his bones.

A much more recent, and cactus related, example of biomimicry happened in 2009. A group of architects based in Bangkok and calling themselves Aesthetics Architecture GO Group were hired by the Qatar government to design a tall new building for the Ministry of Municipal and Agriculture Affairs in Doha, Qatar. The hot and dry climate always poses a high demand for energy consumption in the tall buildings there. Doha is a desert city where the annual rain fall reaches 3 inches at most. The well reputed architects found no more reliable recourse to consult and learn from than that patient, long surviving, desert dweller: the cactus! In fact, they called their project The Cactus Project.

The ability of cactus to live in the most arid environments have always fascinated scientists. All plants live by the process of photosynthesis. For regular plants photosynthesis occurs when plants open their stomata to let in carbon dioxide and release oxygen. The carbon dioxide is turned into sugar, and this happens always during the day.
However, the opening of the plants' stomata causes the evaporation of the water the plant has. This stress is greatest in hot and dry climates especially during the day when the heat is usually highest. Cacti have altered the photosynthetic process to minimize this water loss. They do that by opening their stomata at night when less stored water would evaporate and be lost, but the carbon dioxide is stored. The next day they turn the carbon dioxide into sugar. Cacti have developed this maneuver to insure losing the least amount of water possible while living in arid and dry environments.
The cactus- inspired skyscraper building tried to mimic the energy efficient construction of a cactus. This was accomplished by utilizing sunshade panels on windows, and controlling them to open or close in accordance with the intensity of the sun and the prevailing temperature during the day and night.
Also, the building itself borrows its shape from the columnar shape of cactus which minimizes surface water loss and heat intake while maximizing water storage.
At the base of the cactus skyscraper, a dome was created to host a botanical garden that would be the source of further research studies on waste-water management techniques and water conservation, with the hope of reducing water purchases and costs of water treatment.

We could link the idea behind the Cactus Project to a new branch of science that emerged in the last 15 years or so and is now developing fast: Plant Neurobiology. This field of science focuses on plants' behavior, reactions to environments, ability to store information (memory), plants' intelligence, etc. One might immediately question the term "Neurobiology". Plants do not have a nervous system or a brain. However, in recent decades researchers found that every cell in plants can carry and transmit electrical signs just like neurons in animals and humans! Also plants make proteins that are similar to the ones found in neuron systems of many mammals such as the Glutamate Receptors and GABA receptors.

Perhaps this all will inspire us to look at plants, cacti and succulents in our case, in a different manner, with curiosity and thirst to learn from them, and not just admire their beauty or think about their usefulness. Plants have been on earth before us, and most likely will remain after us. It is likely that they possess higher forms of organization, network systems, and adaptation capabilities which have enabled their survival. These structures and systems developed throughout centuries might provide us with answers to many human- related issues in a world that is getting more complex every day.

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Torre, Dan. Cactus. Chicago: University of Chicago Press, 2017.

E-sources:

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Interview with Stefano Mancuso on France Culture Radio, April, 20, 2019.
Stefano Mancuso: "Les plantes sont les vrais moteurs de la vie sur terre https://www.franceculture.fr/emissions/linvite-culture/stefano-mancuso"

A Leather-Like Product Developed from the Prickly Pear Cactus

by Liliana Cracraft

Last year, during Lineapelle, the most famous International Leather Fair in Milan, Italy, a new product made from the prickly pear cactus (or Nopal) was introduced by two young Mexican entrepreneurs. Adrían López Velarde and Marte Cázares have developed a synthetic leather aiming to reduce the current ecologic footprint associated with the textiles industry, as well as eliminating animal cruelty.

The vegan leather was developed after two years of research and marketed under the brand name Desserto, and it received many accolades in Milan because it is a sustainable product, it's free from toxic substances used to treat leather such as phthalates, and it's also partially biodegradable.

Desserto vegan leather is soft, flexible, and breathable. The material feels like animal-based leather, and it can be used for manufacturing clothing and accessories, as well as in furniture or car seats. About its quality, it is estimated to last about 10 years making it ideal to replace leather in many items.

The 27-year old pair opted for cactus due to their sustainability. "The idea of using this material was conceived because prickly pear cactus require very little water to grow, and they are abundant throughout México," López Velarde explained. "Additonally, the nopal represents all the Mexican people and everybody is familiar with it.

This vegan leather is a better solution than faux leather made of plastic as it's more eco-friendly. What is even better is that the process doesn't kill the cactus. The leather-like product is made by cutting, cleaning and mashing mature pads, then leaving them out to dry for 3 days. After that, the material is mixed with non-toxic chemicals, shaped, and dyed. Companies that incorporate the cactus-based leather into their products could lower water consumption significantly.

The best part? It looks and costs the same as animal leather, but is biodegradable.

Adrián and Marte hope that their product will significantly reduce the use of animal leather in the future. They have created jobs in the process, and some brands have already started using Desserto to create wallets, purses, and other accessories.

Collecting Frankoma Cactus Pottery Artware by Tom Cardinal

Frankoma is an American pottery company located in Sapulpa, Oklahoma. The company is widely known for its sculptures, dinnerware figurines, trivets, and vases. All Frankoma pottery is made in the U.S. from locally dug clay. Frankoma was founded by John Frank in Norman, Oklahoma, in 1933. Still making pottery today

Popular colors. Desert Gold, Prairie Green, Plainsman Brown

Pieces of pottery made from the cactus mold designs.

The line of cactus planters is becoming difficult to find. Very heavy weight and well made glazed planters. Many have the popular Opuntia cacti pads and Saguaro cacti. Planters, candlesticks and Roadrunner mugs.

Most pieces were made in the 50's and 60's.