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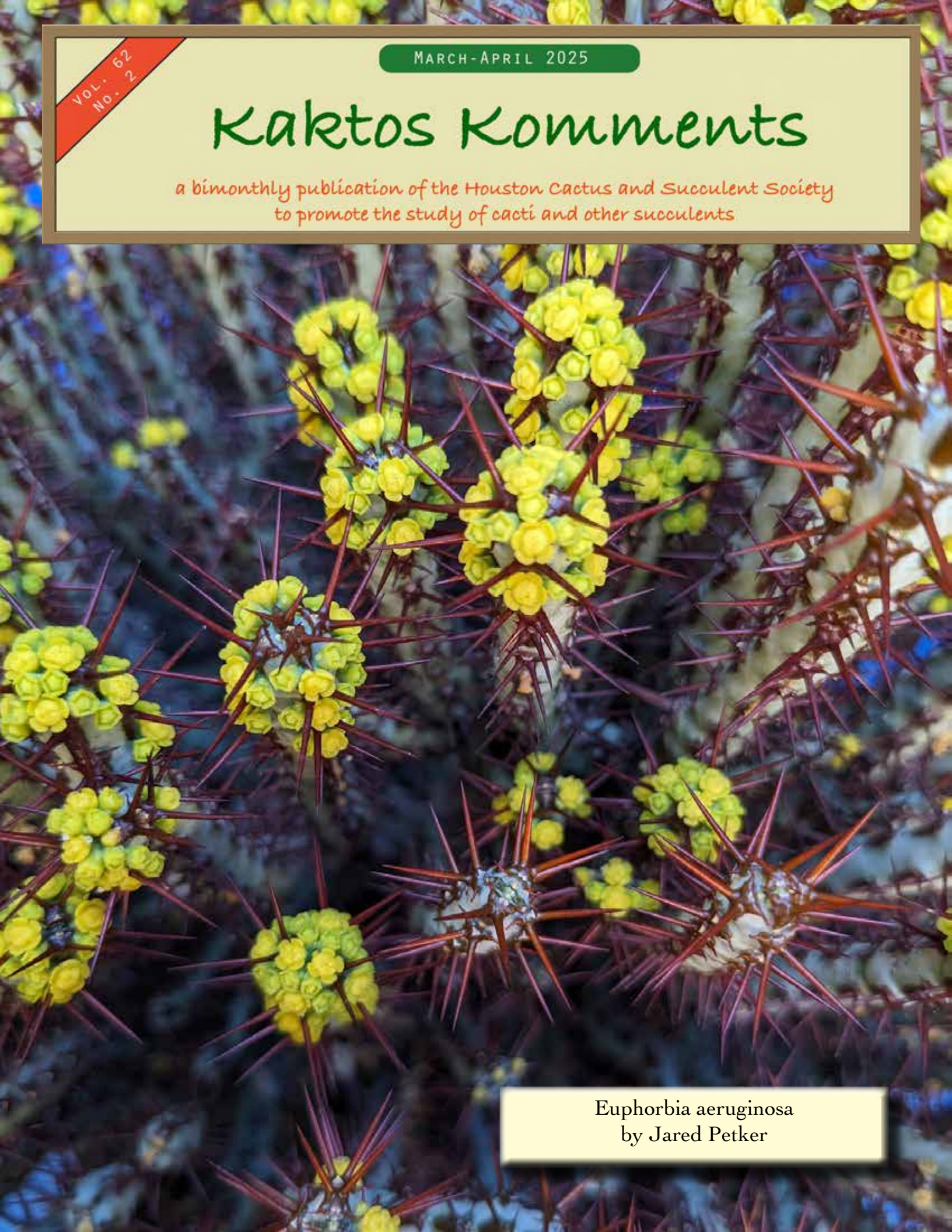
March-April 2025

Kaktos Komments

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



Euphorbia aeruginosa
by Jared Petker

Houston Cactus and Succulent Society
Founded in 1963
Affiliated with the Cactus & Succulent Society of America

From the Editor — Karla Halpaap-Wood

I want to thank everybody who contributed to this edition of the KK, especially Jared Petker from San Diego for his article on euphorbia spines and Liliana Cracraft. I want to encourage all our members to be active in the club. I always need articles about your observations and pictures for the front cover.
New members: If you have any plant related questions you can email Liliana Cracraft or Echo Pang for help.

Membership — Sara Ortiz

On January 22, 2025, we met at the Metropolitan Multiservice Center. We had a huge turnout, with forty-three members in attendance. Richard Stamper's program was called "10 Plants." Sarai Ramirez presented the Cactus of the Month, *Parodia magnifica*. Tequesta Wiggings presented the Succulent of the Month, *Echeveria agavoides* 'Love's Fire'. As usual, we had a lot of fun with door prizes and raffle plants donated by our members.

On February 26, 2025, the meeting was held at the Metropolitan Multiservice Center. Thirty-one members and one guest attended. Karla Halpaap-Wood presented the program "A Leather-Like Product Developed from the Prickly Pear Cactus." Echo Pang presented the March Succulent of Month *Conophytum pellucidum v. terricolor*, Liliana and Mike Cracraft will show their plants in March. We had a great time with the door prizes and raffle plants that our members generously donated.

We at HCSS congratulate Jennifer on the birth of her third child, Rexford Douglas, born February 17th, weighing 8 lbs 5 oz.

Calendar:

March 26, 2025	7:00 pm Membership Meeting, Metropolitan Multi-Service Center Program: "Feed Me - Fertilization strategies for potted cacti and succulents" by Eric Lundberg
April 12, 2025	Field trip to botanical gardens
April 23, 2025	7:00 pm Membership Meeting, Metropolitan Multi-Service Center Program: "Growing cacti and succulents from seed" by Jacob Martin
May 1, 2025	Deadline for submitting articles for the KK.
May 1, 2025	4:00pm Setup for Spring Sale
May 2, 2025	9:00am - 5:00pm, Spring Sale at Metropolitan Multi-Service Center
May 3, 2025	9:00am - 3:00pm, Spring Sale at Metropolitan Multi-Service Center

HCSS March and April 2025 programs

March 26th, 7pm: "Feed Me!" by Eric Lundberg

In this presentation, Eric will teach us the most effective fertilization strategies for our potted cacti and succulents.

About Eric:

Eric earned a B.S. in horticulture from Purdue University in 1977, with a focus on greenhouse production. He spent his career as a wholesale nursery grower, the last 30 years as founder and operator of Blue Mountain Nursery in Pennsylvania. The company specialized in wholesale production of herbaceous perennials and ground covers until closing in 2016. Eric retired to Cave Creek, Arizona where he began collecting and growing cacti and succulents, mostly from seeds.

April 23rd. 7pm (CST): "Growing Cacti and Succulents from Seed"
by Jacob Martin

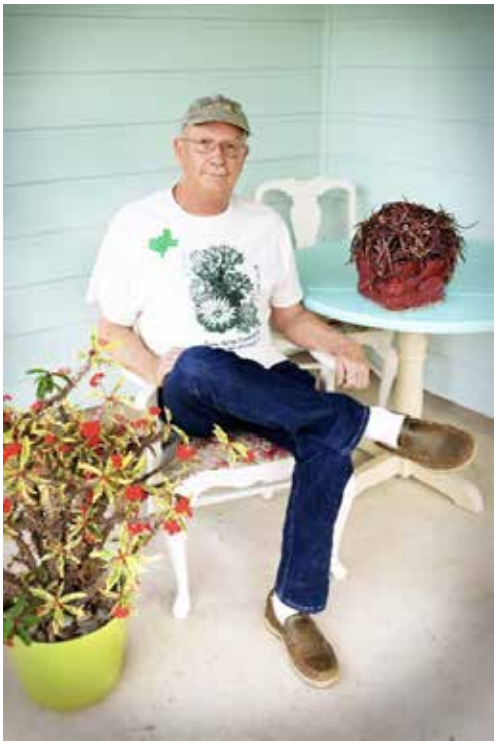
Jacob will help everyone learn the tricks of getting plants from seed through that first delicate year of their little lives. We will learn why growing cacti from seed is so important. Jacob will provide pictures and live examples of different species of cacti in the seedling stage.

About Jacob:
"I am Jacob Martin, the head of horticulture and greenhouse manager at Mercer Botanic Gardens. I propagate thousands of plants a year from every corner of the plant kingdom. I am an avid seed collector and maintain an extensive seed bank. The main plant groups I study are *Zanthoxylum* (prickly ash) and *Quercus* (oaks). I run a nursery in Houston called Old School Produce, that focuses on hard-to-find plants for serious collectors."

****HCSS educational programs will be delivered during monthly membership meetings, held in-person at Metropolitan Multi-Service Center in Houston, TX and virtually via Zoom. Past programs are available on HCSS YouTube Channel: https://www.youtube.com/@HoustonCactusSucculentSociety*
Please email kaktoskomments@gmail.com if you need more information.

January and February Educational Program Recaps

January 29th, 2025: "10 Plants" by Richard "Cactus boy" Stamper



Richard delivered an engaging presentation showcasing cacti and succulent plants from 10 different genera around the world. Ranging from miniature species (i.e. *Escobaria hesteri*) to towering giants (i.e. *Dasylirion wheeleri*), these plants demonstrated remarkable diversity. While some require tender care (i.e. *Haworthia koelmaniorum*), others thrive in harsh weather conditions (i.e. the tough dyckias). Certain varieties boast striking flowers, while others captivate with intricate spines (i.e. *Gymnocalycium denudatum v. paraguayense*), unique stem and leaf markings, and striking textures (i.e. *Drimia dolomitica*).

We hope you learned and enjoyed from this presentation. To watch the full video, visit HCSS YouTube channel: https://www.youtube.com/watch?v=4ky9PoVVHlw

February 26th, 2025: "A Leather-like Product Developed from the Prickly Pear Cactus" by Dr. Karla Halpaap-Wood

Karla gave a very informative presentation to the audience during our February membership meeting. She explained the need for vegan leather - a sustainable alternative to animal leather. One of the newest vegan leathers is made in Mexico by Desserto, a high-end vegan brand, that produces faux leather using cactus-based materials (from Nopal cacti) combined with a polyurethane (PU) base. She explained the production process and analysis of the product. She also introduced an even newer agave-based vegan leather now entering the market, touted as eco-friendly, durable, and fully sustainable. Karla shared her personal enthusiasm for the product, praising its luxurious feel and versatility. She said "It (the cactus leather) has a nice soft feel and is easy to work with, and it is something special for all of us cactophiles."

https://desserto.com.mx

In case you missed the meeting, or would like to revisit Karla's program, it is available on HCSS YouTube: https://youtu.be/iH5bMoeUN00?si=893XRDNV7VSmZX5a

March Cactus of the Month

Alex ZAV

Matucana weberbaueri

• NAME: *Matucana weberbaueri*

• SYNONYMS: *Borzicactus weberbaueri*; *Echinocactus weberbaueri* (Vaupel). First described in 1914.

• HABITAT/DISTRIBUTION: Small area on the north part of Peru – Departamento Amazonas, west part of Río Marañón. *M. weberbaueri* grows at an altitude of 2000-2100 m. Endangered according to the IUCN Red List of Threatened Species because of illegal collection.

• DESCRIPTION: *M. weberbaueri* is a medium-size spherical cactus with a diameter of up to 5 in (12 cm). Old specimens can form a cylindrical shape with a height of 8 in (20 cm). The plant forms 18-30 ribs divided into humps. The long (up to 2 in, 5 cm) and dense spines (up to 30 per tubercle) show golden-yellow to brown (old) colors. They are fragile but not sharp. Bright yellow or orange flowers appears from spring to autumn. They are up 2.4 in (6 cm) long and reach a diameter of 1.2 in (3 cm) and last for a few days.

• CULTIVATION/GROWTH: This is a slow growing cactus, still remains quite rare in collections. Nevertheless, *M. weberbaueri* is a relatively easy-growing plant requiring typical cactus handling procedures. Usually propagated from seeds. Requires bright sun at least 6 hours per day. It grows in a gritty weakly acidic mineral soil with a good drainage. Watering from spring to autumn during growing and flowering season, allowing the soil to dry complete-

ly between waterings. The plant must be kept completely dry during the dormant period from November to March to prevent rot. Fertilize with a K, P-enriched but poor in N substrates is recommended once a year during spring or several times over the growing season if the fertilizer is diluted to ¼ of the recommended strength. Repotting every two years, old plants should be repotted less frequently.

• AVAILABILITY: Not readily available for purchase. Occasionally, a few sellers on Etsy or EBay offer it for sale.

• REMARKS/COMMENTS/MY EXPERIENCE: It is recommended to keep the temperature during winter above 10°C but in my experience it can easily survive a light, short-term frost.

• REFERENCES:

Engler, Adolf (1914). "Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie".

"The IUCN Red List of Threatened Species". IUCN Red List of Threatened Species.

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March Succulent of the Month

Echo Pang

Conophytum pellucidum v. terricolor

Botanical Name: *Conophytum pellucidum v. terricolor*

Family: *Aizoaceae* (subgroup Mesembs)

Genus: *Conophytum* ("Cono-" relates to "cone," meaning cone-shaped; "*-phytum*," comes from "*phyton*," which is Greek for plant. So "*Conophytum*" means "cone plant,"

Species: *Pellucidum* (The Latin root "*pellucid*" means transparent or clear)

Variety: *Terricolor* (Latin: *terra* = "earth" + color = "color") means "earth-colored" or "having the color of soil."

Origin and Habitat:

The species was first described by Edward Brown in 1922, based on specimens collected in South Africa.

Endemic to mountains of Namaqualand in northern Cape province of South Africa. *Conophytum pellucidum*

Figure 1: *Conophytum pellucidum* seedling variabilities from one location. Photo by Steven Brack

The variety "terricolor" is said to grow in similar habitats to the type species, often in quartz fields or rocky outcrops of shallow grit pans.

Description:

Conophytum pellucidum is a clustering perennial succulent named for its translucent apex on the leaf pairs (up to 20 mm long, 12 mm diam., cylindrical, apex convex and usually variably windowed). The plant's epidermis (outer skin) is purple-brown to gray-brown, often with a mottled pattern of opaque brownish 'islands'. Sometimes it has bumpy clusters of cells that look like tiny warts. The dried leaves blend in very well with their surroundings and looking more like small pebbles.

Figure 3: Flowers of *C. pellucidum*. Photo by Echo Pang

lives in rock cracks or shallow grit pans on quartz rock outcrops. The plants grow in winter when there is dew, drizzle, frost, and occasional heavy snow. The grit pans can get very wet, and plants are sometimes submerged in water (with ice forming overnight). During the long dry summer plants pull down under the grit to hide.

There are lots of variations in the colors and patterns on the leaf top. One can never run out of interesting colonies to admire. Figure 1 shows a close-up of a plant growing on the ground. The plants are 1 cm across.

What I have in collection is *C. pellucidum v. terricolor*. described by Steven A. Hammer.

Figure 2: *C. pellucidum v. terricolor* growing in a shallow bowl top dressed in quartz pebbles. Photo by Echo Pang

The scentless tube-like flowers bloom during the day, and their petals are white (some are pink). The filaments form a yellow to bright orange-red ring, and the stigmas stay hidden inside. The flowers (Fig.3) appear in mid to late summer or autumn (from late August to early December in Houston; February to May in South Africa) when day length is less than 12 hours. Hummingbirds pollinate the tube-shaped flowers and small, tan colored fruits. The seed pods form in summer. They are small and capsule-shaped, often hidden between the plant's paired leaves. When mature, they split open into sections (like tiny doors) when exposed to water (dew, rain, or snow in winter), releasing the seeds. Inside, the pods have several tiny compartments, each holding minuscule, dust-like seeds (usually brown or black). This "open when wet; close when dry" seed pod mechanism is common in all Mesembs. It preserves the seeds during in hot dry summer and spreads them during rainy seasons for germination and seedling survival.

Like many other *Mesembs*, *Conophytum pellucidum* plants enter dormancy during summer (in their native Southern Hemisphere habitat), aligning

with the hottest, driest part of the year. This helps them survive extreme heat and drought. The plant's old leaf pair sheds and becomes a protective sheath around itself to conserve moisture and shield it against intense sunlight. Figure 4 shows my plant wakes up from dormancy in fall when the nights are cool again. I started to provide more moisture to the plant at night by misting, to mimic the natural fog or dew. It plumps up to break away from the sheath and produces a flower. (Fig.4)

figure 4: *C. pellucidum* wakes up from dormancy. Photo by Echo Pang

Cultivation and Propagation:

Conophytum pellucidum is a tough little living gem that blooms in fall, grows in winter and enters dormancy in summer. With careful attention to its dormancy cycle and arid needs, C. pellucidum will reward you with its jewel-like form and delicate blooms in Houston.

1. Soil: Use a gritty, well-draining substrate (e.g., 70% mineral grits with 30% coco choir)

2. Watering: Growing Season (Autumn - Spring), mist the plant thoroughly and moisten the soil at night twice a week; reduce frequency in winter if temperatures drop below 10°C (50°F). Dormancy (Summer): Avoid splashing water into the soil once the outer leaves dry into a papery sheath. A slight misting is needed at night if the day is sunny and hot.

3. Light: East facing morning sun or filtered sun in summer; can grow under full sun in winter.

4. Airflow: Ensure good ventilation.

5. Potting: Use shallow pots with drainage holes. Repotting: Every 2–3 years, in early autumn. Gently remove old soil from roots.

6. Fertilizing: optional - Lightly feed with diluted cactus fertilizer (1/5 strength) in autumn/spring. Avoid over-fertilizing - these plants are tiny and slow growing. They thrive in poor soils.

7. Propagation: from seeds and division

8. Pests & Problems: Protect them in summer from caterpillars and grasshoppers.

Key Tips

- Mimic nature: Dry summers, cool winters, and rare rains.
- Ethical sourcing: Buy nursery-propagated plants (never wild-collected).
- Patience: Slow-growing—may take years to form clusters or flower.

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1. Red List of South African Plants- Conophytum pellucidum subsp. Pellucidum: http://redlist.sanbi.org/species.php?species=115-4036
2. Conophytum pellucidum Schwantes: https://worldfloraonline.org/taxon/wfo-0000618982;jsessionid=3C1B9741235262B5AB3A2ADF9B3603A9#synonyms
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April Cactus of the Month

Joseph Rodd

Browningia hertlingiana

Taxonomy: The genus *Browningia* was named in 1920 in honor of Webster E. Browning, an American academic who lived in Santiago, Chile. At the time, the only known species of *Browningia*, *B. candelaris*, had been found in northern Chile. Today, eleven species are recognized, and we know that the majority of them actually grow in Peru. Personally, I think it's a little silly that this genus of mostly-Peruvian cacti is named for an American non-botanist who didn't even live in that country.

Browningia hertlingiana was first identified in 1937 as *Cleistanthocereus hertlingianus*; I can't find out who "Hertling" was. Often these days you also see it as *Azureocereus hertlingianus*, which is the identification preferred by Joël Lodé (2018). David Hunt, CITES, and Kew Gardens continue to use *Browningia hertlingiana*, as do most nurseries and collectors.

The common name "blue cereus" is sometimes applied to this species, but it's best avoided because (a) Cereus is a completely different genus, and (b) this same common name is used for at least three different species across multiple genera, creating confusion.

Description: *B. hertlingiana* is a very pretty cactus, which accounts for its popularity with collectors. It's one of the bluest species of cacti you can find. New growth is a particularly bright, frosty turquoise; older tissue typically turns a paler olive green. Around each tubercle, the ribs take on a chiseled, geometric shape – it really is a handsome plant!

This is a columnar, treelike cactus that can reach over 8m high in habitat, producing multiple branches once it's a meter tall. After decades of growth, the trunk can reach over a foot in diameter, but such massive specimens are exceptional even in habitat. Plants you see in cultivation are typically more like 3 inches wide. Because this is quite a slow-growing species (it's noticeably slower than something like *Pilosocereus*), it's uncommon to see big or branched specimens in people's collections, but they do exist, especially in places where they can be grown outdoors in-ground.

Rib and spine number increase with age; there are 1-3 central spines (that can be up to 8cm long on mature plants) interspersed with anywhere from 5-30 radial spines. Fresh spines are a golden-tan kind of color; gradually they bleach white. Mature plants (over a meter tall) flower in summer, producing stunning and dramatic buds that are super dark purple-brown, almost black. The flowers themselves are nocturnal, up to 5cm in diameter, and whitish. I was not able to find out what its primary pollinators are, but white nocturnal flowers would suggest most likely moths or bats.

Habitat and Conservation Status: *Browningia hertlingiana* is native to southern Peru, in the area generally to the west of Cusco that includes the regions of Apurímac, Ayacucho, and Huancavelica. It grows on semi-arid Andean slopes roughly 1000-3000m (3,000-10,000ft) above sea level. This region typically receives about 20 inches of rainfall per year, almost all of which falls in the summer.

Although the expansion of agriculture does threaten its habitat, *B. hertlingiana* grows abundantly across a reasonably wide range that includes numerous steep valley slopes where development is challenging. So, although its endemic population has dropped in recent years, the conservation risk to the species is considered low enough that it currently does not require any level of protection.

Cultivation:

I have only had mine for two years, so I am no expert on growing these, but I will share what I've read and experienced.

Photo credit: Giovanna Anceschi & Alberto Magli (cactusinhabitat.org).

First off, you should know that *B. hertlingiana* has a reputation as being somewhat rot-prone, and I can confirm this to be true: I had an accident this winter where some of my protective plastic fell down during a storm, exposing plants to rain when nighttime temperatures were below freezing. I thought everything survived without damage, but I recently discovered that one of my *Browningia* has developed some rot at its base. Although a number of cacti got wet, this appears to be the only plant that suffered. So, like with many cacti from this region, it's definitely the right choice to keep *B. hertlingiana* either totally or almost-totally dry for 3-4 months during winter. Assuming it isn't damp, this is relatively cold-hardy species that can withstand a mild freeze.

Once established, they basically want as much sun as they can get. Very young plants do burn and benefit from some shade, but the sooner you can get *Browningia* adapted to full sun, the better. A few sources state that their blue color really benefits from bright light, which makes sense given that the primary function of the farina (the frosty-looking, waxy coating on the cactus's skin) is to protect the plant from UV overexposure. They benefit from gentle to moderate fertilization in the growing season with a typical cactus fertilizer (less N, more P and K), but even with that, this is still a pretty slow-growing species; don't expect it to blow up like some of its fast-growing columnar cousins.

Propagation is typically done via seeds or cuttings, but I suspect they could also be propagated en masse via tissue culture. Some people claim that rooting *B. hertilingiana* cuttings can be difficult, but other sources say that branch cuttings from mature plants root without issue. Sometimes you'll also see these grafted to a fast-growing and robust stock like *Trichocereus*, which would most likely speed up growth and possibly make them easier to cultivate, but I can't find much information about grafting this species specifically. I might have no choice but to graft my damaged one if I lose the battle against rot!

Sources

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- Mauseth, James D., Roberto Kiesling, and Carlos Ostolaza. A Cactus Odyssey: Journeys in the Wilds of Bolivia, Peru, and Argentina. Timber Press, 2002.
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April Succulent of the Month

Lauren Morris

Curio rowleyanus (previously Senecio rowleyanus)

Common name: String of Pearls, String of Beads, String of Peas

Family: *Asteraceae*

Habitat/Distribution: Native to the Eastern Cape of South Africa, where the climate is arid with full sun and dry winds. Today, in many big-box stores we see this succulent available in hanging baskets, but in habitat these succulents can form trailing vines across rocks and will use the shelter of other plants/boulders.

Description: This succulent, originally categorized within the genus *Senecio*, was moved around 2015 into the newly described genus "*Curio*" (from the Latin for "curious"). String of Pearls has adapted to their native harsh desert climate, exhibiting a number of characteristics such as:

- Round leaves to reduce surface area exposed to wind
- CAM photosynthesis (absorption of sunlight and photosynthesis during the day and release of gases at night)
- Translucent slits on each pearl, known as epidermal windows, to help increase the rate of photosynthesis

String of Pearls exhibit weak surface roots that allow them to trail several feet. The 'pearls', from which it derives its common name, are roughly pea-shaped with a small tip at the end. Like its family name suggests, this succulent produces daisy-like white flowers with red and yellow anthers. These blooms are most commonly observed between December and March.

View in bloom (Photo from the author's collection)

Cultivation/Growth: This succulent thrives with well-draining soil, preferably in clay-based containers. They can be planted in deep or shallow containers due to their root structure and trailing nature. In Houston, I have typically found success with growing indoors with a South facing window and infrequent/irregular watering (i.e., not watering until the pearls appear shriveled).

For propagation, one may place stem cuttings of a few inches of length on top of potted soil. Once roots begin to develop, mist the soil every few days. Propagation may also be performed by placing the stem cuttings in clean water, though I have had little success with this latter method.

Close-up view of seed head (Photo from the author's collection)

References:

1. Bailey, M., & Bailey, A. (2021). The Hidden Histories of Houseplants. Hardie Grant Publishing.

2. String of Pearls, Senecio rowleyanus. (n.d.). Wisconsin Horticulture. https://hort.extension.wisc.edu/articles/string-of-pearls-senecio-rowleyanus/

3. Morse, C. (2025). Senecio rowleyanus {Asteraceae} String of Beads. Uconn.edu. http://titanarum.uconn.edu/200000010.html

View in habitat (Picture from: https://hort.extension.wisc.edu/articles/string-of-pearls-senecio-rowleyanus/)

Spiny Structures of the Genus Euphorbia Spines, 'Spines', and "Spines"

By Jared Petker

Reprinted with permission from the newsletter of the San Diego Cactus and Succulent Society, Espinas y Flores, Vol. 59, No 3

One of my first introductions to the Genus Euphorbia was picking up a small *Euphorbia aeruginosa* (KK cover photo) in a 4-inch pot. My wife and I were enamored by the chalky blue-green-toned flesh and rich burgundy colored spines decorating each and every arm from base to tip. Looking closely, I could see the spines grouped into squads of four, with two larger spines below a set of two tinier spines, all emerging from what looked like a small shield of armor. I collected more Euphorbia over time, as one does of course, and realized that not all Euphorbia spines are the same. Some were stiff, while others more flexible. Some plants had 4 spines per group while others two, or one! I then noticed even more Euphorbia with prickly and pokey parts that didn't resemble anything like *E. aeruginosa*'s spination. What a world!

It was fascinating–it still is fascinating.

Come meander with me. Let's try and learn more about these amazing spiny structures of Euphorbia, together.

Swords and Shields

Our spiny Euphorbia are sprinkled with all different kinds of spines. The most notable spiny structures have spines which are found in variably numbered groupings, emerging from a hardened armor-like base called a **spine shield**. These spines can be miniscule in length, or up to several centimeters long, and are actually considered to be modified leaves!

Euphorbia rowlandii (figure 1) can be seen with groupings of paired, robust spines. Its spines are all connected at the base to a protuberance attached to the green flesh of the plant. This protuberance creates woody margins stretching up and down each shoot. These margins are the spine shields. In E. rowlandii, the spine shields are fused together to create one continuous and unbroken line of defense along each shoot where each pair of spines protrudes from.

Figure 1: *Euphorbia rowlandii* is a South African shrub which grows up to 2 meters tall and 2 meters wide. I think this one would like to give you a hug. Plant of Al Klein.

However, not all spine shields are continuous and fused together! On *E. aeruginosa* (figure 2), the spine shields exist as islands instead, which are not fused together. We can denote disconnected spine shields as being discontinuous. Unlike *E. rowlandii*, *E. aeruginosa*'s spine shields and spines are less wood-like, and more jewel-toned (though *E. rowlandii*'s spines are more rubbery and less woody initially). *E. aeruginosa*'s spines do tend to stiffen more over time, however I've never seen them take on a more wood-like or hardened appearance. Maybe I just need to find a particularly old specimen, or see them in their habitat to find out!

Another plant with discontinuous spine shields is *Euphorbia triaculeata* (figure 3), a somalian shrub with shoots around the diameter of a large thumb. The spine shields on *E. triaculeata* more tightly hug its spines compared

to *E. aeruginosa*'s more elongated spine shields. If we take a closer look, we can see that *E. triaculeata* has a single large spine compared to the two larger spines seen on *E. aeruginosa*. This is curious! Why only one spine? Other Euphorbia, such *E. erigavensis*, *E. monocantha* (meaning single spined) and *E. actinoclada* also carry this characteristic! They're not the only ones, but are a few fun ones to check out. As seedlings, these plants are known to develop two separate main spines. Quickly after their seedling stage, the two main spines fuse into one and produce a main spine forever after. Pretty cool!

If you've been paying particularly close attention to the most recent figures, you will have also noticed that there appears to be smaller spines above the larger spines on each spine shield of *E. triaculeata* and *E. aeruginosa*. I've seen these types of smaller spines accompanying larger spines referred to in several fashions: as stipular spines, as secondary spines, and as prickles. I like using the term prickles, so we'll stick with that one. **Prickles**, when they appear, tend to straddle the leaf / leaf scar (which is why they can also be considered as stipular in origin) on a spine shield as clearly seen in *E. triaculeata*. However, not all Euphorbia with spine shields have prickles. Our first spiny friend of this article, *E. rowlandi*, has no prickles.

So far we've seen single and two-spined Euphorbia, not counting prickles. But that's not all there are! *Euphorbia scitula* (figure 4) is a native Angolan spiny shrub with beautifully green and light-green striped four-angled shoots. It also has discontinuous spine shields with four spines. Since each spine of a spine shield is of relatively equal length, I've seen it considered more fitting to consider each spine shield having four spines, or two spines and two stipular spines, take your pick!

But what about spine shields with no spines? *Euphorbia forolensis* (figure 5) is one such Euphorbia from Kenya that fits the bill. *E. forolensis* has no spines, and at best, quite rudimentary prickles peeking through its continuous spine shield lining shoots.

Figure 2: *Euphorbia aeruginosa* is a South African branching dwarf shrub. Aeruginosa is latin for "verdigris", meaning "copper rust"--like the blue-green rust which grows on copper.

Figure 3: *Euphorbia triaculeata* is a Somalian spiny shrub with what I've seen as a white-toned green flesh, and yellow cyathia. It's not terribly common in cultivation, and I've had no luck in procuring seeds from attempts at self-pollinating it.

Figure 4: *Euphorbia scitula*. It's from Angola. That's really all I've got.

Figure 5: *Euphorbia forolensis* is found on Mount forole in Kenya. Mount Forole is just north of 1000 meters tall and sits along the Kenya-Ethiopia border. Plant of Peter Walkoviak.

Figure 6: *Euphorbia schizacantha* has a wide distribution from Kenya to Somalia and Ethiopia. It's noted as quite difficult to keep happy in cultivation which is what generally plays into its rarity even though it's not (historically) uncommonly found in habitat.

The Curious Case of Euphorbia schizacantha

Last year, I was lucky enough to acquire a particularly amazing and rarely found-in-cultivation Euphorbia. I received it in the mail with bare and dried roots. I delicately packed it in perlite to re-root and waited an anxiety ridden few months– but at the end of it, I had a *Euphorbia schizacantha* (figure 6) full of life to adore. What is (not completely) unique to E. schizacantha is it actually has one spine and two spines at the same time on the same spine! To be completely correct, *E. schizacantha* is actually similar to *E. triaculeata* pictured previously, in that it has a single main spine which has fused from two spines, however, the fusion never completely finished! What we are left with is a single spine which splits at the apex into two spines. There are five known Euphorbia species with forked spines like *E. schizacantha*, including a recently described species from Somalia with reddish-brown spines, *Euphorbia buqensis*. If you find one, let me know!

Who Spined My Peduncle?

Lucky for us all, we have more kinds of spines to explore! *Euphorbia loricata* (figure 7) is a hard-to-find-in-cultivation South African shrub which presents **peduncular spines**, as we'll call them. The *E. loricata* pictured has several cyathia (Euphorbia flowering parts) at the apex of the plant, sitting atop pliable burgundy colored peduncles (which are kind of like flower stalks) leading up to each cyathia. As time passes and the cyathia die off, those peduncles will harden and leave us with the spines seen throughout the majority of the bottom three-quarters of the *E. loricata* pictured. They're quite long, over several centimeters in length. They're not delicate, but can easily snap or break off if mishandled during repotting. This feature can also be seen in, but is not exclusive to, *Euphorbia multifolia*, and many of the species in the *Euphorbia polygona* complex. I've also seen these types of spines referred to as spines formed from modified peduncles.

Figure 7: *Euphorbia loricata* can be found on the Western Cape of South Africa, typically growing up to 1 meter high. Loricata is latin for "wearing a breastplate". Plant of Peter Walkoviak.

Another type of spine that can occur which look eerily similar to our recently explored peduncular spines are spines which look like peduncles, minus the flowering parts. I've seen these types of structures referred to simply as spines, non-productive peduncles (as in peduncles without cyathia), or as sterile shoots. *Euphorbia ferox* (figure 8) and *Euphorbia ꞩhoenlanꝺii* (figure 9) are two perfect examples here. *E. ferox* is a South African clumping Euphorbia which exhibits reddish-purple spines. The beautiful coloration tends to fade over time, unfortunately, but do retain some of their original hue as the plant matures. *E. ferox*'s quite long "spines" riddle the entire plant, making it a bit of a pain to repot once it outgrows its current container.

Figure 8: *Euphorbia ferox*, meaning "fierce", is distributed within both the Western and Eastern cape of South Africa. Mine is pictured here, shortly after some winter rainfall ,which it heavily enjoyed.

Figure 9: *Euphorbia ꞩchoenlanꝺii* very rarely branches in its native habitat of Namaqualand, and is currently at high-risk of human caused extinction as per the IUCN. Plant of Peter Walkoviak.

E. ꞩhoenlanꝺii is also native to South Africa, but tends to grow as one single large shoot. *E. ꞩhoenlanꝺii*'s "spines" emerge fleshy, flexible, and green, but do turn very woody as time progresses. I've found that *E. ꞩhoenlanꝺii* provides a bit more space for fingers and thumbs to get into when repotting, unlike our beautiful but pesky friend, *E. ferox*.

Horns and Thorns

To make sure we cover all of our bases, we'll have to go to Madagascar and explore a few of the pointy and prickly Euphorbia found throughout the island country.

Euphorbia milii cv antafikienꞩis (figure 10) and *Euphorbia ꞩakaraenꞩis* (figure 11) are both Madagascaran shrubs which exhibit either stipular spines or stipular thorns, depending on what you read. In either case they are described as stipular structures, as they emerge from and straddle either side of the leaf / leaf scar. These spines range from being quite thin and dainty to a bit thicker and conical.

Euphorbia neohumbertii (figure 12) tends to grow as a single unbranched mainstem and erect within the stone forests of Madagascar. I find *E. neohumbertii*'s spination quite enthralling to stare at as it contains groupings of what look like spines nestled within thinner bristles. These spines and bristles reach up and down the margins in between each of its sides to create very pokey lines of demarcation.

I hope you've enjoyed this tour of Euphorbia spines of all types. Now is a good time to put down this article

and go explore your greenhouse, shade-house, window-sills or gardens, and see what kinds of spiny Euphorbia you have to explore and investigate!

Figure 10: *Euphorbia milii cv antafikiensis* also goes by Euphorbia antafikiensis. In reality however, it is not a recognized species, and antafik(i?) is not a known locale within Madagascar. Very curious!

Figure 11: *Euphorbia sakarahaensis* can be found on the floors of ancient forests within Madagascar near Sakaraha.

Figure 12: *Euphorbia neohumbertii* typically is four to five angled. The base of the leaves can become quite wide, as is seen by the corked leaf scars left over on the one pictured here.

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Dick and Phyllis McEuen

Liliana Cracraft

Last December, Josie Watts and I submitted the nomination for Lifetime Membership in the Houston Cactus and Succulent Society on behalf of Dick and Phyllis McEuen, and we were very happy that it was approved at the January Board meeting. Here is a brief account of their numerous contributions to our club. The McEuens joined HCSS early in 1990, the same year I did, and soon became very involved in many of the Club's activities. The board positions held by Dick include Conservation Committee Chairman in 1991 and 1992. He served an additional year in 1993 as co-chair with Phyllis. He was president of the Club in 1995, First Vice-president in 1994 and 1996, and Second Vice-president from 1997 to1999, in 2004, and from 2008 to 2010. He was the Education Committee director in 2001 and parliamentarian (date not available). Additionally, he was part of a special committee with Hank Andresen and Leroy Kellog to rewrite the by-laws and standing rules (date not available). Because we don't have our library anymore or access to all the previous years books, it is very difficult to cite the exact years when he served on some of these positions.

Phyllis served as second VP in 1994, KK Editor (1994-97), CSSA Affiliate Director a total of 5 years, initially in 2004, then from 2008 through 2010, and again in 2013. She was our historian (1998 and 2001), treasurer in 1999, librarian in 2005, and membership director in 2007.

The McEuens were frequent presenters of Plants of the Month during our meetins, educating us on how to grow and take care of many plants. Between 1994 to 2018, they presented 23 cactus and 18 succulents.

Dick and Phyllis were avid travelers to several continents on plant excursions. And we, as members of HCSS, have enjoyed many great programs they presented throughout the years, providing excellent accounts and photographs of their experiences. From 2005 until 2019, they presented at least one program for most of those years and there were 3 years, (2007, 2009, and 2013) with two programs. Some of those programs interesting titles include "The Plants of Namibia," "Journey to Ecuador and Northern Patagonia," "Antarctica Explorers, "and "Crossing the Andes."

Dick and Phyllis were also avid writers. During the three years that Dick and later Phyllis were in charge of conservation, they published 14 articles in the KK. Between 1992-1994, they wrote 20 articles, between 1997-2000, they wrote 23, and between 2001-2022, they wrote a record of 37 articles. Some of the most memorable articles written by Phyllis in 1992 were: "An open letter to new members," "911 Cactus," and "How to buy a dead cactus." You can access those articles in the newsletter archives Vol. 29, located on our website (www.hcsstex.org).

Another significant contribution to increasing people's knowledge about cactus and succulents was their educational displays during our Fall Show and Sales. In some years, they prepared more than one display, and in 2013 received a CSSA plaque for the best exhibit. A funny contribution by Phyllis was the creation of the Dead Cactus Society display for the 1993 Show and Sale, which has been recently reinstated as part of the show activities for that event.

More than anything, I want to acknowledge and thank them for all the unofficial things they did without any recognition, like hosting some the club's socials, helping people identify and care for their plants, donating

books to our library (when we had one), working at the show and sale and the Home and Garden Show, pricing plants before the sales, helping to teach people how to prepare their plants for the show, and donating plants and other items to be given as door prizes during our meetings.

Of course, all of their plants looked like show plants, and some received awards. Also, many times they opened their backyard for club members to enjoy them.

It is great to still see the McEuens attending our Christmas parties, and they continue to enjoy the zoom presentations of the club's programs.

Congratulations to Dick and Phyllis McEuen!!

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