

THE XEROPHILE

April-June 2020

Cactus & Succulent Society of New Mexico



Conservation

Matters



The threats to cacti and succulents, to say nothing of other plants, are many. Poaching for a high-dollar black market, climate disruption, and habitat loss. This October 2019 image (clipped out of a short video), shows the wanton destruction of a large cactus in Arizona's Organ Pipe Cactus National Monument for the construction of the border wall.

Upcoming Events

Friday 3 April, Saturday 4 April, & Sunday 5 April

CACSS annual plant show and sale
Phoenix, AZ. **Cancelled**

Cancelled Saturday 11 April & Sunday 12 April

CSSNM annual plant show and sale

Cancelled Saturday 9 May

Members only garden tour - details online

Friday 15 May

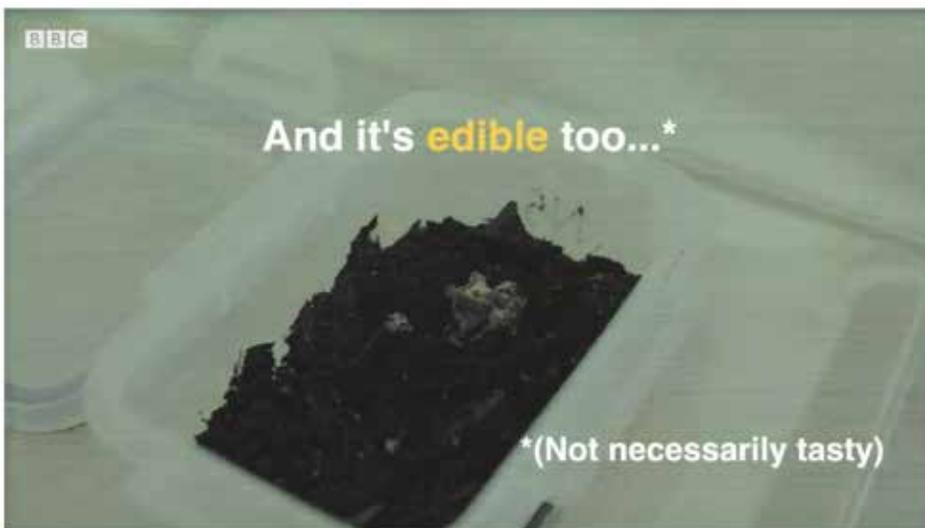
Ralph Peters **Cancelled**
Springtime flowers in SE New Mexico

Friday 19 June

David Salman
Landscaping with hardy succulents

Check the website for updates and changes.

Yum or Yuck???



How to make biodegradable 'plastic' from cactus juice

This Mexican researcher has discovered a way to turn cactus leaves into a material with similar properties to plastic.

She says it's not toxic and is biodegradable.

A film by Tom Heyden for **People Fixing the World**.

© 04 Jun 2019

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The Cactus and Succulent Society of New Mexico (CSSNM) is a non-profit organization dedicated to interest in, preservation of, and education about cacti and succulents from all over the world. We are an affiliate of the Cactus and Succulent Society of America.

Regular meetings are held at 7 pm on the third Friday of most months at the Albuquerque Garden Center; 10120 Lomas, NE. Details about programs and schedule updates may be found on the website: new-mexico.cactus-society.org.

The CSSNM may be contacted by email at: CSSofNM [at] gmail.com or by snail mail at: P.O. Box 21357

Albuquerque, New Mexico 87154-1357

“The object and purpose of the Society shall be exclusively for the study, appreciation, propagation and promotion of cacti and succulents among growers and collectors; the conservation and cultivation of native cacti and succulents; and the exhibition of said materials whenever and wherever possible.”

Officers

President	Margaret Todd
Vice President	Becky Wegner
Recording Secretary	Cheryl Haaker
Treasurer	Pia Louchios
Executive Board Members	Penny Hoe Lee Graham Ralph Peters

Appointed Positions

Program Chair	Steven Brack
Webmaster & Show PR	Ralph Peters
CSSNM Email	Steven Brack
Garden Maintenance	Robert Perz
Librarian	Judith Bernstein
Representatives to CAGC (4)	Steven Brack Judith Bernstein Becky Wegner Sig Lodwig
Affiliate CSSA Representative	Oleg Lagutin
Membership Chair	Lee Graham
Newsletter	Margaret Ménache
Spring Show	Daniel Finley
Spring Sale	Steven Brack
Fall Show–State Fair (info only)	Margaret Todd
Fall Exhibition–Botanic Garden	Margaret Todd

The newsletter is published on a quarterly schedule with issues being emailed to members and posted on the website on or near the first of January, April, July, and October.

If you are interested in submitting an article, please contact the editor, Margaret Menache (margaret [at] margaretmenache.com) on or before the 20th of the month preceding the publication date (December 20, March 20, June 20, and September 20).

Submissions for the July issue should be sent to Margaret on or before 20 June.

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Yum or Yuck???, Continued from page 1

Go to this BBC link: <https://www.bbc.com/news/av/stories-48497933/how-to-make-biodegradable-plastic-from-cactus-juice> to listen to the 2-1/2 minute video about the work of Mexican researcher, Sandra Pascoe Ortiz. You probably don’t want to try this at home in your kitchen although the music accompanying the video is pretty upbeat and might have you dancing while you watch it. She does insist that it’s edible although it might be more palatable to wildlife than to humans. At the very least, ingestion should be nontoxic for any who might get a mouthful. Unlike conventional plastic, it should biodegrade inside or outside your digestive tract quickly. For those who are of a more serious bent, and who are comfortable reading Spanish, she has published several articles that can be found on, and downloaded from, her researchgate web page: https://www.researchgate.net/profile/Sandra_Pascoe. ✨

President's Letter Margaret Todd

Spring is here, and I had hoped the virus would be on its way out, but alas.

It was so sad to be compelled to cancel this year's Show and Sale as a result of the impact of the COVID-19 pandemic. It is one of the two major CSSNM events that I look forward to each year, as I hope all of you do. I especially enjoy the interaction with customers in the spring, not to mention spending more money than I should on all the great plants for sale.

For those of you who enter your prize-winning plants in the April show, I encourage you to keep in mind our Labor Day Exhibit at the Botanic Garden. They will be most welcome there in September.

Normally when our Program Chair schedules an outdoor event in May, we cancel our regularly scheduled May meeting. However, this year since our March meeting and April event were cancelled, I remain optimistic that we will have the opportunity to enjoy the two gardens on May 9th as well as a presentation on May 15th following a business meeting. The t-shirts should also be available then. As we "go to press," the Governor has extended our stay-at-home order so the two May events are cancelled as well.

You voted to participate in the Council Exposition on 21 March which was also cancelled. In preparation for that event, I asked Penny Hoe to create a recruitment poster for our Kactus Kidz, since I'm artistically challenged. She did a bang-up job, and I plan to share it with you in May. It should be a great new addition to our Kactus Kidz table at the Labor Day Exhibit.

Since we didn't have our March meeting, most of you are unaware of some changes for posting to the Garden Center Facebook page. Our own CSSNM member Matthew-Ryan Morrell volunteered to help Council create a streamlined process for submitting club information for Council's page, www.facebook.com/albuquerquegardencenter. The public can post to the facebook page but Matthew-Ryan has also offered to be the official poster in the Council's name. Check it out. He has agreed to brief members on it at an upcoming meeting.

In the meantime, stay well. And I hope your wonderful plants and gardens help fill your time and relieve the stress of this difficult period.

A reminder—visit the CSSNM website for information about upcoming meetings, as well as details of past events. And, if you aren't aware of the CSSNM facebook page (<https://www.facebook.com/groups/420722088282106/>), you should check it out. Some beautiful photographs have been posted recently by our members. ✨

Editor's Letter Margaret Ménache

Woody Minnich's February presentation on conservation of cacti and succulents was extremely thought-provoking. Claire has dedicated her Kactus Kidz Kolumn to a heart-felt response and exhortation for those of us who love these plants to step up to the plate. As I wrote back to her upon receiving her submission, I feel energized and inspired by her words. I hope that you will as well. She is encouraging us to engage in a conversation, as well as to take action, to protect these plants. She is serious in her request for you, the readers of our newsletter, to respond in the next newsletter. I hope to receive comments and ideas from many of you to continue the conversation. The deadline for comment and article submission is 20 June.

And, in other conservation news.... Personally, I would have hoped that all lovers of cacti and succulents would be well aware of the problems of plant theft for resale online. This is illegal, but like many illegal things, enforcement is lacking. I recently read a book review of Vicky Ramakka's *The Cactus Plot* in the CSSA *Cactus and Succulent Journal* (Spring 2020, Vol 92, No 1). The reviewer clearly did not like the book but her most sobering criticism was that she found the way the endangered plants were taken from New Mexico was "suspect." She added: "What were they writing on the customs forms that no box was ever opened and the contents checked?" If you, also, are un-

aware of the seriousness of cactus and succulent theft, please investigate the extent of the problem by some online searching.

How realistic was the description in *The Cactus Plot*? An article in *The Atlantic* describes plant thieves and their methods. Perhaps most interestingly to our community, Steven Brack contributed comments to the article. The Council Library's Book Club discussed the book at our March meeting. I have included an article in this issue of our newsletter based on the information I sent out to the book club members following our discussion. If all this discussion has piqued your curiosity, copies are still for sale in the Council Garden Shop. ✨



Cintia knitzii, these Bolivian plants are endangered due to large scale commercial collecting. Woody Minnich

Where'djaget That Cool Looking Plant?

Margaret Ménache

The Cactus Plot is a light read about cactus theft and murder. Set in the northwest corner of New Mexico, the novel addresses the complex land use issues this state faces that make the protection of flora and fauna difficult. The story provides a number of opportunities to delve deeper into land use and environmental protection in a non-academic way.

Rather unusual in a novel, the book also includes a bibliography. Several of the books are available in the CAGC Library and some may be available in our CSSNM Library as well.

The CAGC book club (Reading @ the Garden Center) discussed the book in March. And, yes, should you be interested, copies of the book are still available at the Garden Shop. Remember that the proceeds from your purchases at our tax-exempt store all go to support the CAGC mission.

As usual, I prefaced our group discussion with some supplemental material related to the topics in the novel. With conservation being the theme of this newsletter, I thought it might be helpful to provide some of that information on plant theft and recovery here.

Before you even think about walking through an arid landscape to look at, let alone “harvest” the local flora, you should know about **cryptobiotic crusts**. These living soil crusts, a complex of cyanobacteria, lichens, mosses, microfungi, and other organisms, are essential for desert health. Their functions range from existing as a sticky sheath that “glues” the soil in place, to serving as a sponge for the rare but often intense rain storms, to providing nutrients for desert vegetation (more at: <https://www.nps.gov/jotr/learn/nature/cryptocrusts.htm>).

A thoughtless footstep can create damage that may expose underlying soils to erosion. It has been estimated that such desert soils may take 5,000 to 10,000 years to form. The protective cyanobacteria crust may take half a century to a few hundred years to replace (more at: <https://geochange.er.usgs.gov/sw/impacts/biology/crypto/>).

I remember stopping at a desolate roadside “scenic view”



<https://www.kcet.org/shows/artbound/desert-deployment-southern-californias-world-war-ii-desert-training-center>

in the Mohave desert in the mid-1990s and reading that damage from the tank tracks from Patton’s 1940s desert training (see image) could still be seen (and it could!) Although it was many years before I learned about cryptobiotic crusts, I’m sure that damage to them was a key component to the long lasting damage still clearly apparent after half a century.

If you want to watch one of many short videos, about cryptobiotic crusts, check out this four-minute video that I showed to the book club: <https://www.youtube.com/watch?v=cqaR8xkJ8es>

As for cactus and succulent theft, it’s big business although probably not really big enough to include murder... This image, copied from a 2016 Atlantic article (<https://www.theatlantic.com/science/archive/2016/02/cactus-thieves/470070/>) some-



https://cdn.theatlantic.com/assets/media/img/posts/2016/02/Screen_Shot_2016_02_19_at_12.11.13_PM/0f0949649.png

how epitomizes for me the idea that stealing cacti and succulents is about making money and has nothing to do with the fascination with the plant families that our members feel. One problem is that the plants have a high likelihood of dying. Which is doubly horrifying when you realize that the thievery itself is decimating populations in the wild.

A refreshing contrast to the cutthroat nature of the business is an interview with our own Steven Brack, interwoven with the tales of devastation in the Atlantic article. Steven makes the case that we cactus and succulent hobbyists do care about the plants. Thank you Steven!

And, while it’s definitely not a fairy tale ending, recovered plants (not just cacti and succulents) are sent to rescue centers to be rehabilitated and returned to the environment if possible or at least placed with responsible caretakers like botanic gardens. ☀

KACTUS KIDZ COLUMN

Claire Ross

A Young Person's Perspective on Global Conservation of Cacti and Succulents

I have been in the Cactus and Succulent Society of New Mexico since I was eight. I have grown up in a world where species are going extinct or becoming endangered all the time. Currently, I am a Junior Docent at the Museum of Natural History and Science. I was selected to be a teen leader for the Earth Optimism event for teenagers in New Mexico sponsored nationally by the Smithsonian Foundation. The idea behind the event is being optimistic about environmental issues and having solutions instead of dwelling on what hasn't gone well. After thinking about the work I was doing for the Earth Optimism event, I realized I could apply the same principals to conservation of cacti and succulents.

The problem is twofold: cacti are being overcollected AND there is a huge demand for them. *Copiapoa*, *Astrophytum* and *Sclerocactus* are just a few affected species. According to Woody Minnich, areas with cactus overcollection problems are primarily South Africa and South America, although there are some areas in the United States as well.

Wikipedia states that an endangered species is "a species of animal or plant that is seriously at risk of extinction." A candidate species is a species that may be put on the endangered or threatened lists. The Endangered Species Act states that a threatened species is, "any species which is likely to become an endangered species within the foreseeable future."

The Endangered Species Act only applies to the United States, which is a huge problem. As we cactus and succulent enthusiasts know, most cacti are not native to the U.S. To my knowledge, the only international agreement to protect cactus species is CITES. Its goal is to, "ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species in the wild." According to Wikipedia, CITES is an international conservation agreement that was created in 1973 and participation is



Jessie Byrd, manager for the Pima County Native Plant Nursery in Tucson, holds an *Ariocarpus fissuratus*, a rare plant that was confiscated from someone crossing the border. Photograph: Eirini Pajak/The Guardian. <https://www.theguardian.com/environment/2019/feb/20/to-catch-a-cactus-thief-national-parks-fight-a-thorny-problem>

voluntary; funds are not available for countries to implement CITES at the national level unless they are donated. This may not be an option for African and South American countries.

In order to solve the overcollection problems in Africa and South America, we have to collect data to know just how bad the problem is. The only way people will care about the issue is if we have data to prove there is a problem. To my knowledge, there have been no comprehensive studies on international cactus populations in the wild and the effects of

overcollecting. The only way these studies will be done is if we (cactus and succulent enthusiasts) fund them. The cactus and succulent societies of America have enough members combined to fund studies on these cacti. The first step to solving the problem is having documentation of cactus overcollection. When we have data, we have power and all cactus enthusiasts will be more willing to implement solutions.

Please join the conversation and respond to this article. In the next issue, look for an article on how we, as cacti and succulent enthusiasts, can work together to create solutions to the problem of cactus overcollection. ✨

About the Author: Claire Ross is thirteen years old. Despite a busy 7th grade schedule this year, she finds time for the Kactus Kidz Column and the Kactus Kidz event at the annual CSSNM Exhibit at the Botanic Garden. She says, "I first got interested in cacti and succulents when I was eight. I saw the cactus and succulent display at the State Fair. I got a membership to CSSNM for my birthday because of my interest. Now I enjoy growing cacti from seed."

January

Steven Brack presented “Out of the fire and into the pan.” In South Africa there are millions of places where flat exposed rock surfaces erode to create broad flat shallow pans that fill up with a thin layer of rock grit. Many plants have adapted to survive in this harsh environment. During the cool months in winter and spring there is often overnight dew or frost that collects on the rocks to give a steady supply of moisture to the plants. Sometimes there is a long drizzle or even rain that can fill the pans with water. At times the plants can be submerged. During the hot dry summer months there is very little moisture so the plants go dormant: some pull down under the rocks to hide, while others endure the heat.

Steven spoke about many species - *Cheiridopsis*, *Conophytum*, *Crassula*, *Lithops*, *Othonna*, and *Tylecodon* (images on the CSSNM website) but my favorite image is this one of the *Othonna caclioides*. With a stem the size and shape of an extra large egg or a tennis ball, this succulent is a member of the Asteraceae family. Hard though that might be to believe, the yel-

low flowers (one or two of which can be seen at the top of the photograph - in the distance relative to the foreground plant) have been described as looking much like dandelions. According to Steven, this plant that would fit in the palm of your hand, might well be 30-40 years old.

One succulent I specifically remembered Steven talking about was the *Conophytum pageae*. He mentioned that this little plant is frequently smuggled and can sell on the black market for on the order of \$2,000! It appears not to be endangered at the moment but with a value like that, I’m sure poaching will be a temptation for some.

Interspersed with his knowledgeable discussion of plants, habitat, and their cultivation in the greenhouse, Steven expressed his wonder at these amazing plants, “I’ve been there over the past 40 years and I still get surprised.” ✨



This *Othonna caclioides* is rooted on a rock on the side of a pan. Plant is about the size of an extra large egg.



CAGC website and FB page, CSSNM website and FB page

CSSNM’s Margaret Ménache is Chair of the Council of Albuquerque Garden Clubs (CAGC) Communication Committee where she is working with other Council members to ensure Council’s website, facebook (FB) page, and direct email contact meet the needs of all the member organizations. If you haven’t visited the Council website recently, stop by and visit: albuquerquegardencenter.org. Matthew-Ryan Morrell, also a CSSNM member, has stepped up and volunteered to manage Council’s FB page. He has a plan for highlighting each of the 17 Council organizations in turn and posting regularly. There’s a format for providing him with event information to post on Council’s FB page. He did a presentation at the March Executive Committee meeting and will be providing CSSNM with a brief presentation on his plans at one of our future meetings. If you’re a FB sort of a person, check it out on FB - [albuquerquegardencenter](https://www.facebook.com/groups/420722088282106/). It’s a public account although FB will nag you to sign in or sign up!

CSSNM, of course, also has a wonderful website, ably managed by Ralph Peters with photographs from all the presentations as well as images and articles by various members. The address is at the bottom of this, and every, page in the newsletter. We also have a FB page (<https://www.facebook.com/groups/420722088282106/>) with posts of beautiful flowers. Steven Brack often comments and provides interesting cultivation information. Another great resource for learning to love these cacti and succulents even more! ✨

February



Piles of *Copiapoa cinerea* after being removed for urban development near Taltal, Chile. (Photo: Wendell 'Woody' Minnich). Published in: Why the black market for cacti and succulents is boom | MNN - Mother Nature Network.

Woody Minnich's presentation in February was a wake-up call for many of us. His numerous trips around the world, visiting some locations repeatedly over many years, have convinced him that the (second-best) time for conservation is now. (The best time for conservation was probably about a hundred or so years ago!) He underscored that the threats are many: habitat destruction, over-collection, and climate change. In material he prepared for our website, he wrote: "When traveling around the world in succulent rich regions, I have observed an amazing increase in the devastation of habitats and the illegal removal of many rare and endangered species of cacti, succulents, and other plants and animals. Not only are we losing these very special and unique plants, sadly enough, we are aggressively destroying many valuable and irreplaceable habitats. Our desires to urbanize and agriculturally develop great numbers of virgin environments have only produced severe ecosystem imbalances, thus the extinction, at a most rapid rate, of many of the world's most beautiful and fascinating plants and animals." As usual, his images to accompany his statements were stunningly beautiful and sometimes heartbreaking.

He concluded with the following words of encouragement: "Although, it may appear as if there are many difficult problems on the horizon, we shouldn't give up! It is really encouraging to know, there are many positive things we can all do to help resolve our current plant and animal issues. A few simple efforts we can make are: do not buy field collected plants or animals, support the artificial propagation of rare or endangered species, support our nurseries who produce artificially grown material, modify our current international treaties to become modern, demonstrate our appreciation for artificially produced plants, and help our enforcement agencies to better stop illegal collecting and the sale of wild grown plants.

Our world is getting smaller and smaller, and as our human population continues to increase, we ALL need to do our part to help protect our amazing world of plants, animals, and habitats. Conservation is not a spectator sport. Please speak out when and where you can, as the future generations of all things depend on us." ✨

Online Resources on Threatened Plants and Rescue Efforts

- Cactus and succulent theft: <https://www.youtube.com/watch?v=Wd094hPkh4o> youtube 2:02
- Saguaro micro-chipping: <https://www.youtube.com/watch?v=dkI3xJ9jAGI> from 0:15 to 2:25 (about 2 min)
- Article on smuggling: <https://www.theatlantic.com/science/archive/2016/02/cactus-thieves/470070/>
- Article on why plant smuggling is such big business: <https://www.mnn.com/your-home/organic-farming-gardening/stories/why-black-market-cacti-succulents-booming>
- NM State Forestry in EMNRD threatened and endangered plant list: <http://www.emnrd.state.nm.us/SFD/ForestMgt/Endangered.html>
- General article touching on the extent of the problem, the micro-chipping, and rescue efforts: <https://www.theguardian.com/environment/2019/feb/20/to-catch-a-cactus-thief-national-parks-fight-a-thorny-problem>
- Rescue plant centers: <https://www.fws.gov/international/pdf/factsheet-plant-rescue-center-program.pdf> - information from fish and wildlife service (FWS)
- https://www.youtube.com/watch?v=RlMTM9_Dx3Y youtube 2:34

MEMBERSHIP APPLICATION

Name: _____

Address: _____

City/State: _____ Zip: _____

Tel No.: _____ E-Mail: _____

How do you grow? Greenhouse _____ Yard _____ Window _____ Other _____

Favorite genera: _____

Suggestions for a program: _____

Volunteer to give a program? _____

Volunteer for: Officer: _____ Co-Chair an Event: _____

Other: _____

Do you: Buy plants locally _____ Mail order _____ Raise from seed _____ Buy at our sale _____

For current information about the Society, including our email address, go to the Society's website:
<http://www.new-mexico.cactus-society.org>

Complete this application and send it to the address below with your check for \$10.00
made out to the CSSNM.

For more information, contact:

CACTUS and SUCCULENT SOCIETY of NEW MEXICO

P.O. Box 21357

Albuquerque, New Mexico 87154-1357

T-Shirt Updates

In February, Doris described the way the graphic artist worked on stylizing Penny Hoe's watercolor to make it easier to print. Doris told us how the graphic artist minimized the number of colors while retaining the feel of Penny's art work. She brought some sample t-shirts (short sleeve and long sleeve) to help people visualize what they would like to order.

And then, she sent it off for production, with every intention of having the shirts available for distribution at the March meeting. Alas, there was no March meeting. Doris sent out an email that you should contact her to pick up your order.

Clearly there were plenty in early March, although they might all be gone by now. When we're all out and about again one day soon, we hope to see many of you sporting CSSNM's latest and finest fashion.

