



Succulent Scoop Conejo Cactus and Succulent Society

CSSA Affiliate

March 2024

Volume 9 Number 3

Mission Statement:

The Conejo Cactus and Succulent Society encourages the study, cultivation, conservation, and appreciation of cacti and other succulent plants.

Email: ConejoCSS@hotmail.com Facebook: Conejo Cactus & Succulent Society Web: ConejoCSS.com

Next Meeting Wednesday March 6th

Doors Open at 6:30 Meeting starts at 7:00

**California Lutheran University - Lundring Events Center
130 Overton Court Thousand Oaks, CA. 91360**

March Speaker - Joe Cahill Ventura Botanical Gardens

Joe Cahill has a Ph.D. in Botany from UC, Riverside and over 30 years of experience working with botanic gardens as well as NGOs and corporations in the agriculture and horticulture industries. Dr. Cahill has held a leadership position at the Ventura Botanical Gardens since 2008 and often teaches as an adjunct at local universities.

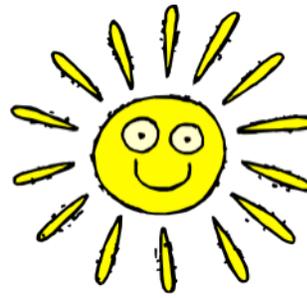


What's new at Ventura Botanical Gardens! Overview of recent construction projects, expansion of collections (especially succulents), recent collection expeditions to Chile, and the vision and planning for future garden areas.

Joseph Cahill, Ph.D., J.D.
Executive Director Ventura Botanical Gardens
www.venturabotanicalgardens.com
567 Poli Street, Ventura, CA 93001



President's Message March 2024



President's Letter March 2024

I don't think we could have asked for a better field trip.

On Wednesday Feb 21st we took a field trip to Joe Ambriz 'Kingdom of Plants Nursery' in Carpinteria. Twenty-nine members showed up, which I believe is the best turn-out we've had.

Joe was a wealth of knowledge. Our first stop was Joe's Tillandsia and orchid green houses. He has some amazing plants and took the time to explain each one in detail that a member asked about. Then it was on to the cacti and succulent green houses. Joe did more talking and then it was time for us to shop. The selection and prices were great. After shopping, we ordered pizzas and had lunch in a little area in the greenhouse with tables and chairs Joe set up for us. Jude baked some tasty chocolate chip cookies and didn't have to worry about taking any home. "Thanks Jude."

One of the highlights for everyone was the drawing Joe arranged. Joe wanted every member to go home with something, so he counted the attendees, left briefly and returned with a cart full of different plants. He asked each of us to put their names on slips of paper that went into a bucket. Joe explained each plant in detail then began drawing names from the bucket. All the plants were special, and everyone was excited to go home with a free plant. **IT WAS A FABULOUS DAY.**

Lisa is in the process of setting up our next field trip (hopefully in March) to Petra Crist's Rainbow Gardens Nursery in Rainbow, CA.

Later in the week the Board of Officers held a meeting, where it was decided to donate \$300 to the CSSA's Conservation Fund. At our March meeting Ann Hopkinson (a member of the CSSA's conservation committee) will give a short talk on 'How our donation will work to pay for the committee's conservation efforts.' This is a very important issue and the CCSS fully supports the CSSA in this matter.

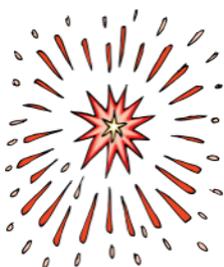
I'm looking forward to seeing everyone at our March 6th meeting.

Linda Holub
President CCSS



Conejo Cactus and Succulent Society NEW MEETING SCHEDULE for 2024

Starting with January 3, 2024 we will now be meeting on the first Wednesday of every month.



February 7th
March 6th
April 3rd
May 1st
June 5th
July 3rd
August 7th
September 4th
October 2nd
November 6th
December 4th

Ambriz Kingdom of Plants Carpinteria, California
Field trip February 21st
Cacti, Succulents, Orchids, Bromeliads, Tillandsias



Joe Abriz educating us about orchid and tillandsia propagation



Joe was so generous to do a raffle where everyone left with a pot or plant. Thank you Joe!



Pizza lunch provided by the club

Refreshments 2024

March 2024 - members whose last names begin with E and F, please bring refreshments to share with the club.

In every monthly newsletter there will be a posting on who's turn it is to bring refreshments. We go alphabetically by last name.

Thank you for your participation by bringing in refreshments!

Even if it is not your month to contribute feel free to bring snacks anytime.



CCSS 2024 Officers

President
Linda Holub

Treasurer
Chris Gailey

Director II, Education
Terry Wilson

Website
Tim Alvord

1st VP, Programs
Donna Pachorek

Secretary
Ryan Ripley

Scoop Editor
Ann Hopkinson

Librarian
Glen Smith

2nd VP, POM & Education
Kyle Williams

Director I, Membership
Glen Smith

Hospitality
Julie Cox & Liz Gollner

Propagator
Terry Wilson

3rd VP, Special Events
Lisa Gailey

Assistant to Director I
Pam Smith, Membership

Drawing Coordinator
Gerry Caruso

Event Publicity
Lisa Gailey

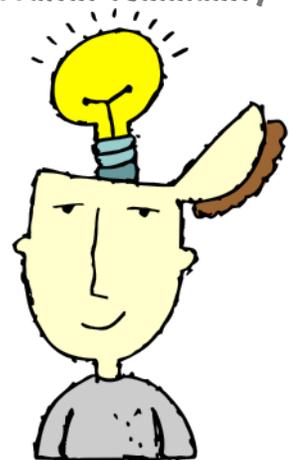


Volunteering is necessary to the well-being of any club or organization.

Conejo Cactus and Succulent Society needs volunteers to keep the club going since the club is run exclusively through volunteer efforts. Volunteering allows you to connect to the Conejo Cactus and Succulent Community and help make a better club for all.

5 personal benefits of volunteering

- 1) Gaining new skills
- 2) Making new friends
- 3) Mental and physical health and well-being
- 4) Giving something back
- 5) Improving your confidence



Please contact Linda Holub cactuscougar@icloud.com
or Ann Hopkinson HopkinsonAC04@gmail.com



Cactus & Succulent Spring Sale Sunday, April 14, 2024

9:00 am - 4:00 pm

558 North Ventu Park Road
Thousand Oaks, CA, 91320
SE corner of Ventu & Hillcrest

Vendors will be offering
Cactus, Succulents, Bromeliads & Tillandsia

Along with Pottery
and Jewelry



Experts will be available for
questions regarding plant care



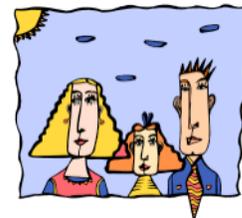
Please bring boxes or bags to carry home your purchases.

For more information: Facebook: Conejo Cactus & Succulent Society
Web: ConejoCSS.com Email: ConejoCSS@hotmail.com

Please don't miss out! Renew your CCSS Membership today.

After April 1st, we will remove non-renewing members from our roster and club emailing list. Thank you!

FREEBIE Table - Etiquette



The freebie table is a popular part of our monthly meetings and we want to continue sharing our cuttings.

We are lucky to have such a nice room for our meetings. We need to endeavor to keep it clean and tidy.

- * **If you bring plants for the freebie table and no one takes them, PLEASE take them home.**
- * **There are no trash cans available for plant material, especially spiny and thorny cuttings.**
- * **Clean your cuttings before bringing them in for the freebie table. Wash off any dirt or dead leaves.**
- * **If we all follow this simple etiquette, the freebie table cleanup will not be left to other members.**
- * **Be courteous to others bring in clean plants and take home all the plants you bring.**

Plant of the Month 2024

	Cactus	Succulent
January	Echinocactus/Ferocactus	Gasteria
February	Columnar Cacti	Aloe
March	Astrophytum	Tylecodon
April	Gymnocalycium	Mesembs
May	Copiapoa	Adenia
June	Eriosyce	Pachypodium
July	Parodia	Senecio
August	Mammillaria	Euphorbia
September	Variegates	Variegates
October	Echinopsis	Sansevieria
November	Crested/Monstrose	Crested/Monstrose

Plant of the Month (POM) What is this all about?

Each meeting of the CCSS will feature a friendly plant show/competition (POM). The goal of the POM is to introduce the membership to the various cactus and succulent genera and to open up a discussion of the culture, care and display of these plants. We encourage members to share their plants with the other members of CCSS.

POM Submissions

Members may submit up to (3) three plants in each of the two categories (Cactus and Succulent). Plants entered in the intermediate and Advanced Divisions must have been owned and maintained by the member for a minimum of one year. Plants entered in the Novice Division may be newly acquired plants.

POM Divisions

Novice: 0-25 Total points

Intermediate: 26-100 Total Points

Advanced: >100 Total points

When a member has accumulated the total number points in their Division, they will be moved up to the next higher Division in the following calendar year.

POM Judging Criteria

Plants are evaluated according to the following criteria.

Condition (health, form, damage) – 50%

Maturity and Size – 25%

Staging (artistic composition – container, stonework, etc) – 20%

Nomenclature (proper plant identification) – 5%

Additional criteria may include rarity, difficulty in growing, and whether the plant is in flower.

POM Judging

1st Place – 6 points 2nd Place – 3 points 3rd Place – 2 points

All other entries will be awarded 1 point. Entry slips will be collected by the POM Coordinator for tabulation, record keeping and publication in the CCSS Newsletter.

We encourage all members to participate in the POM. This is your opportunity to show off your prized treasures or to possibly learn how to better care for your plants.

Tylecodon



Tylecodon wallichii

Tylecodon is a genus of approximately 46 species distributed in western South Africa and Namibia. In general, the plants in this genus have white to golden stems with succulent green leaves which can be short and rounded to long and shaped like a green bean and range from a few inches tall to shrubs that can reach six feet or more.

All species of *Tylecodon* are winter growers which love cool wet winters, making them fantastic for our climate. In the fall they start leafing out, which is the signal to water them more regularly. In fact, they really appreciate being left out in the rain, which is opposite of what you should do for most other cacti and succulents. They continue to grow throughout the winter and in the spring produce white, yellow, or greenish flowers (depending on the species) which set fruit just before going dormant in the summer. Most of the time the plant will drop all its leaves in the summer. Keep it dry then. You can give a little water from time to time in the summer if you really want, but too much moisture can cause rot. It is important to learn the requirements of the species you have as some like more moisture than others. In general I've found the larger species to be easier to grow as the smaller ones can be more sensitive to overwatering.



Tylecodon has an interesting taxonomic history. It belongs to the Crassulaceae, a large succulent family which contains such familiar plants as *Sedum*, *Crassula*, *Aeonium*, *Echeveria* and our native *Dudleya*. Originally these plants were described as members of the genus *Cotyledon*, another South African genus with many plants in cultivation. However, in 1978 it was determined that these species belonged in a genus of their own due primarily to details of the flowers and the leaves being deciduous (dropping off) in the summer as



Tylecodon schafferianus

well as how they are attached to the stem (*Tylecodon* has spiral arrangement while *Cotyledon* has opposite leaves). The botanist who established *Tylecodon* as a genus decided to play a clever word game as the letters in the name can be rearranged to spell *Cotyledon* (i.e. an anagram).

A final, very important note about *Tylecodon*. The plant is quite toxic if ingested so keep away from very young children or pets prone to gnawing on your greenery. You don't need to worry about merely handling the plant, which can be done quite safely with no special precautions.

-Kyle Williams

Photo credits: Kyle Williams & Brita Lomba

Cactus of the Month: *Astrophytum*



Astrophytum ornatum

Astrophytum are often one of the first cacti that a novice cactus grower buys, yet a well grown, mature specimen will impress even the most experienced collector. There are a small number of species in the genus, but numerous cultivars of those species give the serious collector new plants to add to their wish list all the time.

Astrophytum contains 5-6 species that are native to Northern to Central Mexico, with one species (*A. asterias*) extending into the Big Bend region of Southern Texas. Four species, *A. asterias*, *A. capricorne*, *A. myriostigma*, and *A. ornatum* are very common in cultivation and can often be seen for sale at local nurseries and big box stores. Another species, *A. coahuilense*, is not recognized as a species by everyone because the plant looks nearly identical to *A. myriostigma*. However, the flowers are different (*A. coahuilense* has a red throat while *A. myriostigma* does not) and crosses between the two are extremely difficult to make due to a high degree of sterility. Plants of the same species should cross easily which these

do not.

The most unusual species of *Astrophytum* by far is *A. caput-medusae*. Described only a decade ago (2001) this species has numerous long, thin, tubercles that look like arms emanating from a central point. Another interpretation of its appearance is that it looks like a bunch of snakes. In fact, the Latin name "caput-medusae" means "Medusa head" which is a very apt description! This is so completely unlike the rest of the genus that the first taxonomist to name it called it *Digitostigma caput-medusae*, believing it to be a brand-new genus. However, once you get past the bizarre shape of the plant you start to notice the arms are covered in soft white scales or hairs just like the rest of *Astrophytum*. When the plant blooms the flower is indistinguishable from other *Astrophytum*, and the seeds are identical to those of that genus.



Astrophytum myriostigma 'Onzuka'

Astrophytum grows in very arid regions, with porous mineral soils. Their adaptation to this environment can lead to cultivation difficulties as they have a tendency to split open from sudden increases in soil moisture level. To avoid this, keep them in soil that is very quick to drain, and which has little organic matter. A mixture of pumice and gravel or very coarse sand, with only a little potting soil is best for these plants. The roots are designed to pump up as much moisture as possible in as short a time as possible from infrequent rains. In a slow draining potting mix, they will do this very effectively, and the body of the plant will swell, but the skin will not. Eventually the body pressure gets too great and the skin cracks. Despite this, most species will grow well under normal cactus culture. One notable exception is *A. asterias*. This species is extremely rot prone when overwatered or watered at the wrong time. It comes from a region with essentially no winter rainfall. Rain is concentrated in the summer months (just the opposite of us in California).



Astrophytum asterias

Growers in Japan and more recently in Thailand have developed some spectacular clones, cultivars and hybrids, particularly with *A. asterias* and *A. myriostigma*. The most popular cultivars of *A. asterias* are sold under the name of *A. 'Super Kabuto'* and *A. 'Miracle Kabuto'*. Some of these special clones with intricate patterns can sell for hundreds of dollars when first developed. After a few years of propagation, the price drops to levels that most can afford.

-Kyle Williams
Photo Credits: Kyle Williams

CCSS PLANT OF THE MONTH (POM) February, 2024

Cactus - Columnar Cactus

Novice:

1st <i>Cephalocereus senilis</i>	Faith Mori
2nd <i>Myrtillocactus x Gymnocalycium</i> Chimera	Chris Biehl
3rd <i>Lophocereus schottii monstrosus</i>	Jonathon Zhu

Intermediate:

1st <i>Oreocereus trollii</i>	Susan Krevitt
2nd <i>Parodia leninghausii</i>	Cheryl Norris
3rd <i>Cereus tetragonus</i>	Cheryl Norris

Advanced:

1st <i>Echinopsis sp.</i>	Ann Hopkinson
2nd <i>Oreocereus sp.</i>	Linda Holub
3rd <i>Thelocactus macdowellii</i>	Linda Holub

Succulents - Aloe

Novice:

1st <i>Aloe ramosissima</i>	Chris Biehl
2nd <i>Aloe sp.</i> Variegated	Debby Doolittle
3rd <i>Aloe</i> 'Pink Blush'	Faith Mori

Intermediate:

1st <i>Aloe sp.</i> Variegated	Cheryl Norris
2nd <i>Aloe x</i> 'Oik'	Susan Krevitt
3rd <i>Aloe sp.</i>	Lisa Gailey
HM <i>Aloe polyphylla</i>	Yuen Wong

Advanced:

1st <i>Aloe aristata</i>	Ann Hopkinson
2nd <i>Aloe x</i> 'Sean's Red'	Linda Holub
3rd <i>Aloe x</i> 'Secret Agent'	Bryan Chan

In spite of the rain, we had an excellent showing for the February POM display. There were 12 Novice, 18 Intermediate, and 12 Advance entries for a total of 42 plants. Congratulations to the winners and thank you to all who participated.

POM is one of the educational segments of our club meetings. The POM mini show allows the membership to become better acquainted with the different succulent plant genera and how to effectively care for and stage them. Get involved and enter your plants.

February Novice, Intermediate, Advanced Succulent - Aloe



Faith Mori
3rd Place Novice
Aloe 'Pink Blush'



Debby Doolittle
2nd Place Novice
Aloe sp. variegated

Chris Biehl
1st Place
Novice
Aloe ramosissima



Lisa Gailey
3rd Place Intermediate
Aloe sp.



Susan Krevitt
2nd Place Intermediate
Aloe 'Oik'



Chery Norris
1st Place
Intermediate
Aloe variegata



YuenWong
HM
Intermediate
Aloe polyphylla



Bryan Chan
3rd Place Advanced
Aloe x 'Secret Agent'



Linda Holub
2nd Place Advanced
Aloe x 'Sean's Red'



Ann Hopkinson
1st Place Advanced
Aloe aristata



February Novice, Intermediate, Advanced Cactus - Columnar

Jonathon Zhu
3rd Place Novice
Lophocereus schottii monstrose



Chris Biehl
2nd Place Novice
*Myrtillocactus x
Gymnocalycium
chimera*



Faith Mori
1st Place Novice
*Cephalocereus
senilis*

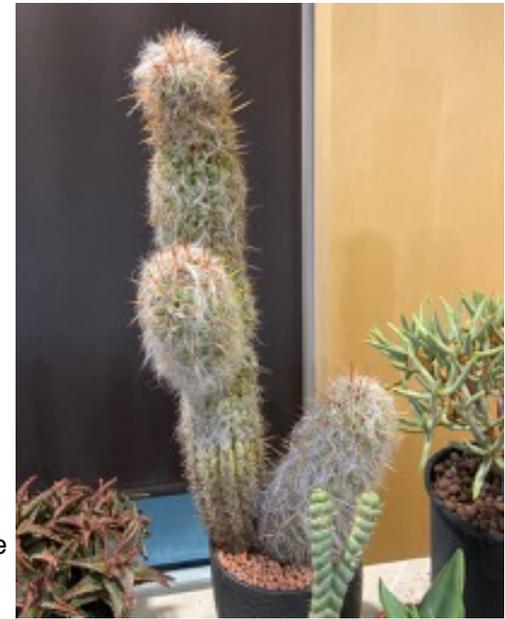


Cheryl Norris
3rd Place Intermediate
Cereus tetragonus

Cheryl Norris
2nd Place
Intermediate
*Parodia
leninghausii*



Susan
Krevitt
1st Place
Intermediate
*Oreocereus
trollii*



Linda Holub
3rd Place Advanced
Thelocactus macdowellii

Linda Holub
2nd Place Advanced
Oreocereus sp.



Ann Hopkinson
1st Place Advanced
Seed Grown
Echinopsis sp.



**CSSA President's Message to the CSSA Membership
February, 2024**

Greetings to all CSSA members:

2023 has been a year of significant change for the Cactus and Succulent Society of America. Gunnar Eisel's retirement and the hiring of our new Business Manager, Julie Taber in December, is the first major change in CSSA's day-to-day operations in over 14 years.

Certainly the transition to our new membership management system, Join It, is a very necessary enhancement to establishing an accurate, easy to use system for our existing and new members to access all of CSSA's services. Join It has also been linked with Mailchimp allowing, among many other functions, creation of membership subsets for email reminders and events. Please, if you have not tried the new membership system as yet, and taken a look at the new website, <https://cactusandsucculentsociety.dreamhosters.com/>



The CSSA website will continue to be enhanced; committee members and the work of the various committees will be posted; table of contents for *CSJ*, *TTP*, and *Haseltonia* will also be posted. We hope to have complete full-text access to the *CSJ* from 1929 to the latest issue of 2024 on the site by year's end.

The Zoom meeting option has allowed CSSA to expand the national representation of its board members (Colorado 2, Arizona 2, Texas 2, New Mexico, and New Hampshire), bringing new talent and ideas.

Webinars will continue on a monthly basis. Please forward any webinar speaker or program suggestions to VP Irwin Lightstone, irwinlightstone@att.net.

Planning for the 2025 Convention in San Diego is well underway. The Marriott Mission Valley will be the convention hotel. We have verbal commitments from an outstanding cast of international and U. S. speakers and contracts will be sent out soon. Please save the dates: April 24-27, 2025.

Dick Schreiber has worked tirelessly to resume CSSA international tours; the September 2024 Karel du Toit and Steven Brack led tour of the Western and Northern Cape regions is full. Future tour locations are under consideration.

The Conservation Committee is very active and will have announcements about recently evaluated projects to be funded in the near future.

Online meetings for CSSA Affiliates are planned to now take place twice a year.

Finally, the CSSA is becoming much more focused on proper use of social media to promote conservation and research, affiliate shows and sales, the CSSA show and sale, and the CSSA biennial convention, among other things. I believe we have a proactive, detail-oriented Business Manager and board of directors.

We still have a great deal of work ahead of us but we have the will, desire and talent in place to make the CSSA the leader in all things concerning our hobby and our passion.

Rod Haenni
President, Cactus and Succulent Society of America



Conservation Committee

In order to address the increased pressure for field-collected plants, our board of directors has adopted a Code of Conduct for CSSA members as follows:

Suspension provision regarding recent trading in habitat collected plants

It is known that like many plant groups and arboretums, the CSSA lacks the resources and expertise to determine on its own whether any of its members are participating in the commercial trade of plants recently collected (within the last 2 years and going forward) from habitat. The IUCN and law enforcement agencies, on the other hand, regularly perform these important investigations. To facilitate the protection and conservation of cacti and succulents, we will promote seed grown and ethical practices in our hobby. CSSA will rely upon IUCN and law enforcement agencies to determine if a person or business engaged in the commercial trade of plants recently collected from habitat. Once the CSSA is informed of a party's participation in trading plants recently collected from habitat, that party will be suspended for a two-year period from participating in certain CSSA activities, such as:

1. Being a vendor at CSSA sponsored events;
2. Being a presenter at CSSA sponsored webinars, conventions, or other events;
3. Being an officer, director, employee or contractor of the CSSA;
4. Participating in the organization or running of a CSSA event;
5. Participating in a CSSA field trip;
6. Contributing to any CSSA publication

The suspended party may attend conferences and webinars and receive CSSA publications during the suspension period. After the expiration of the two-year suspension, the CSSA will consult with the IUCN to determine whether any unethical trade continued during the suspension to determine whether the suspension should be continued or terminated. The suspension will be extended in accordance with the gravity and nature of the conduct. Participation in the unethical commercial trading of plants recently collected from habitat includes aiding the sales, brokering, transit of such plants or the use of such plant to sell other items such as pottery. This provision expressly does not apply to legitimate plant rescue programs, like that engaged in by the Tucson club, provided the plants are tagged as required by state law.

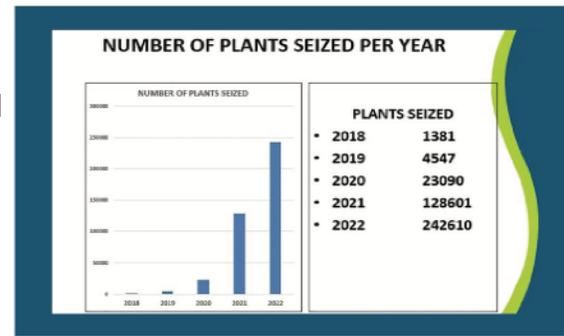
Please feel free to use this Code of Conduct as a template, as we hope that Affiliates might adopt a similar policy.

Rod Haenni
President, Cactus and Succulent Society of America

Why Conservation?

A statement on behalf of the CSSA Conservation Committee. Reprinted from the Cactus & Succulent Journal - Fall 2024 Conservation Special Issue.

Irwin Lightstone IRWIN LIGHTSTONE2023-09-01 C&S JOURNAL, CONSERVATION



The above is a visual representation of the trend in number of plants seized by law enforcement in the Western Cape region of South Africa. By Paul Gildenhuys, CapeNature. Used with permission.

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CACTUS AND SUCCULENT JOURNAL

The above is a visual representation of the trend in number of plants seized by law enforcement in the Western Cape region of South Africa. By Paul Gildenhuys, CapeNature. Used with permission.

Many of the plants we love are in for a rough time. The cactus family is one of the most threatened groups, as 416 cactus species (31%) are considered threatened by the IUCN as of 2015. The most significant threats are habitat destruction, collection, and climate change. A 2022 study in Nature Plants, with conservation committee member Michiel Pillel as lead author, predicts that 60% to 90% of cactus species will be negatively impacted by these threats in the future.

The succulent side of our hobby is also under increasing risk. Karel Du Toit, law enforcement officer in Namaqualand, South Africa: "Since May 2019, we have confiscated a total of 407,244 plants, which we keep at four nurseries. Of those, 371,812 are in the genus Conophytum." (For more on the alarming situation in South Africa, see the interview with Du Toit in this issue of the Journal). Realizing that the number of plants successfully poached far exceeds the number of plants seized, the magnitude of the problem becomes apparent.

All Conophytum species are now threatened, which is reflected in the IUCN Red List for Conophytum, updated in 2020/2021 to reflect the increasing wave of poaching (iucnredlist.org). Moreover, poaching does not exist in a vacuum. Its impact adds to the dangers caused by climate change and development.

Although it is certainly easy enough to dwell on doom and gloom threatening the plants we love, it would mistake to do so. Hand wringing does nothing to protect the plants we love. After acknowledging the nature and complexity of the problems, concerted effort is required. The Conservation Committee has written a new initiative, listing its goals and actions. Focusing on education, we will use all of our forums, including the Cactus and Succulent Journal, To The Point, Haseltonia, webinars, and our biennial Conventions to raise awareness of the importance of plant conservation. Funding the printing of Stefan Burger's chart on how to know if a plant was habitat collected and the inclusion of the chart with the Journal is just one of our projects. Featured in this issue of the Journal are several conservation and research projects that the CSSA has funded, thanks to the generous and essential support of the membership.

The conservation committee is also networking with similar committees from several European cactus and succulent organizations in an effort to coordinate and cooperate on conservation issues.

Ultimately, cactus and succulent conservation is a complex set of international problems. The Conservation Initiative, Goals and Actions states:

Conservation Initiative Goals and Actions

- Promote preservation in habitat and cultivation through conservation efforts
- Establish guidelines and best practices for ethical seed collection and distribution
- Encourage and expand seed distribution networks
- Strengthen alliances with like-minded organizations focused on biodiversity and plant conservation
- Facilitate knowledge exchange and resource sharing among researchers, horticulturists, and conservationists
- Foster educational programs to raise awareness on the importance of plant conservation
- Encourage citizen science initiatives to involve the public in conservation efforts
- Monitor and evaluate the effectiveness of conservation projects to ensure ongoing improvement
- See ongoing projects as described in this issue of the Journal

In addition, the members of the conservation committee drafted this statement on seed collection and cultivation:

Present-day poaching, as well as climate change, and habitat destruction are of principal concern wherever rare species of cacti and other succulent plants are found. International trade restrictions pertaining to endangered species were primarily designed to protect animals. However, plants produced by seed in cultivation have no impact on wild populations and are significantly different from animal offspring. Indeed, the availability and free exchange of seeds can lessen the pressure on populations of rare species of cacti and succulents and their habitats.

Therefore, the conservation committee of the Cactus and Succulent Society of America proposes lifting existing international import/export restrictions on cactus and succulent seed produced in cultivation.