Haworthia truncata in habitat in South Africa. Notice how it is pulled into the ground.

By Sue Hakala.
It is no secret that a large portion of the world’s biodiversity is in an extremely perilous position. The variety of threats facing wild organisms requires a corresponding variety of solutions. One of the most critical threats, the loss of habitat, can be addressed through the preservation of wild lands (*in-situ* conservation). This alone cannot protect rare species from extinction. *Ex-situ* conservation seeks to protect individual species by maintaining and augmenting their populations outside of their natural habitats. Join Evan as he discusses how these efforts are being carried out in Southern California, and why groups like the Central Arizona Cactus and Succulent Society are so important to the future of plant diversity.

Evan Meyer is the assistant director of Mildred E. Mathias Botanical Garden at UCLA. Prior to this, Evan was the manager of the Rancho Santa Ana Botanic Garden Seed Bank. Originally from Massachusetts, Evan worked at the New England Wildflower Society, Arnold Arboretum of Harvard University, and Harvard University Herbaria before relocating to Southern California.

*Hesperocyparis forbesii* A genetically diverse grove of Tecate cypress (*Hesperocyparis forbesii*) at Rancho Santa Ana Botanical Garden in Southern California.
Haworthia, along with Aloe and Gasteria, are part of the Aloaceae family. Almost all Haworthia come from South Africa and most from a Mediterranean environment not that different from Southern California. Most species are easily grown, preferring some shade and growing mostly in the winter and spring.

Haworthia, in general, are tolerant of varying potting mixes and success has been reported with everything from straight pumice, to potting soil, to pumice or perlite mixes, to plain potting soil, and even garden soil. They like light fertilization when growing. Any balanced fertilizer will do.

Haworthia can be naturalized as a ground cover if placed under shrub cover in shadier parts of California gardens. They really appreciate natural rainfall, the low pH of the water helps wash any residual salts from the potting mix. Control of the pH (acidity of the water) and regular fertilization during growing periods will really pay off in the quality and speed of growth.

Most of the plants in this genus offset easily, and propagation is simple from offsets. Seed is sometimes available, and easily germinates in cool weather with best results coming in November and December. Seed is not long-lived and can be planted any time it becomes available, except in the hottest months of summer. The plants do most of their growing in the spring and flower mostly in the spring, but sporadically all year-round.

Some genera and some species tend to lose roots easily. If these species are grown in pure pumice or pumice-perlite mixes, most root loss...
will stop. Plants grown in pure pumice or pumice perlite mixes need steady fertilization during peak growing periods. Most species have a summer dormant period, with low to no growth during hot weather. They are more sensitive to warm night time temperatures than day time highs. (Editor’s note: I bring my Haworthias in any night over 90F, and put them out early the next morning.)

A Haworthia in habitat near Port Elizabeth, South Africa by Sue Hakala.

_Haworthia_ morphology ranges from grass-like plants, to thin-leaved plants, to those that grow in flat rosettes with hard, nearly shiny leaves. These are the retuse plants. They are the ones most favored by collectors, and have been used to make many hybrids and cultivars.

Two of the most popular species, _Haworthia truncata_ and _H. maughanii_ (really a form of _H. truncata_) are not botanically retuse, but are often shown as if they were. The cultivation is the same. The species most often seen as retuse _Haworthias_ are, _H. retusa, H. emelyae, H. magnifica, H. pygmaea, H. truncata, H. mirabilis, and H. mutica,
all of which have numerous forms and cultivars, and many of which have been used to produce very interesting hybrids.

To read *Haworthia* articles previously published in the *Central Spine* go to the club web site at centralarizonacactus.org, select newsletters at the top, then the archived newsletters on the bottom left and find the articles by month and year.

- *Haworth and His Study of the Genus Haworthia* by Vera Gamet, 1/89
- *Haworthia* (no author), 1/94
- *Haworthia Leaf Propagation* by Bob Wagner, 7/89, 4/87
- *Observations and Rambling of an Avid Haworthia Fan* by Bob Wagner, 7/89, 4/87

CASSA library materials available on *Haworthias*:

- *Haworthia Drawings of John Thomas Bates* by John Bates
- *Haworthia for the Collector* by Rudolf Schulz, big color pictures
- *Haworthia Handbook* by Bruce Bayer
- *Haworthia Revisited* by Bruce Bayer
- *Beginner's Guide to Gasteria, Haworthia, Agave and Other Succulent Monocots* by Tom Glavich
- *First Fifty Haworthias* by John W. Pilbeam
- *Haworthia and Astroloba* by John W. Pilbeam
- *Second Fifty Haworthias* by John W. Pilbeam
- *Haworthia for the Collector* by Rudolf Schulz
- *The Genus Haworthia* by Charles L. Scott

Other source information on *Haworthias*:

- *Haworthia* Society publishes a journal, back issues available
- [Deserttropicals.com](http://deserttropicals.com) provides tips on growing *Haworthias* in Phoenix, and an excellent site for info on all the plants we grow.
- [Haworthiahybrids.com](http://haworthiahybrids.com) has tips on pollination.
- [kambroo.com](http://kambroo.com) a South African plant nursery run by Kotie Retief that ships worldwide.
PRESIDENT’S LETTER
Beth Kirkpatrick

We had a very successful show and sale the first weekend in April. Thank you to all of you who displayed your plants in the show and congratulations to all of the ribbon winners. I enjoyed seeing so many interesting and well-grown plants. I also admired beautifully staged plants in very interesting pots; there was even a colorful children’s toy which cleverly served as a pot. A very special thanks goes to Steve Mack, Mike Cone and Nick Diomede for leading our show and sale activities.

I would also like to thank our judges who generously gave of their time and talent; Kathy Babcock, senior program coordinator for the Horticultural Department at Boyce Thompson Arboretum; Jim Elliot, honorary lifetime member of CACSS and owner of Arizona Cactus Sales; Raul Puente, curator of Living Collections at Desert Botanical Garden; and Leo Martin, honorary lifetime member of CACSS, member of Cactus and Succulent Society of America holding offices in both organizations.

We also had some excellent educational displays, many thanks to Dan Smith, *Adenium*, an overview of *Adenium* culture and species identification; Tom Gatz, displaying succulents bonsai-style and Mike Cone, *Pachypodium*, culture, propagation and overview of the species.

Thank you to all of the volunteers who made this years’ show and sale a success. Our gross sales were almost $45,000. I will be able to share our profit and the DBG’s profit at our next meeting on May 21.

The 37th CSSA Biennial Convention is July 26 to 30. The full convention price is $285.00 for three days of speakers, auction and silent auction, three continental breakfasts, an opening reception and a banquet. There will also be many vendors selling plants, pots and botanical art and jewelry and on July 26 we will have five tours available. The location is the Tempe Mission Palms and the hotel room price is $85.00 including tax. I hope you take advantage of this exciting opportunity that is at our doorstep. To find out more about the convention and to register click [cssaconvention.com](http://cssaconvention.com). In May we will put up a website for you to volunteer to help with the convention. When it is available I will send out an email. For every 10 hours you volunteer, you will receive entrance to a day of speakers. I’m looking forward to celebrating the beauty of the desert in July!
I couldn't decide between my metal scoops or my spike but picked this. I use this with the head down to tamp down the soil and also the top dressing. Dan Smith

My favorite tool is a hemostat shown on a Jim Sudal plate. I bought it at Mesa Market Place Swap Meet along with other tools I use for my cactus and succulents. They are great for getting debris out of the plants that I want to clean. Jo Davis
Membership is heading to 2,500! Will we hit 2,500 in April? The CACSS Facebook (FB) page membership has grown to 2,422, which is an 8 percent increase in the month of March. Please join the CACSS FB page. Our FB page is an open forum on cactus and succulents with a variety of commentaries sprinkled in along with requests on cactus and succulent IDs. Of course, our FB page allows for the opportunity to post your favorite plant photos.

Our new international FB members were 33 strong coming from 25 countries and representing 18% of the new FB members in March. Some of the counties represented in March: the island of Borneo, Iran, S. Africa, Australia, India, Philippines, Canada, and more.

In March, there were plant identification requests for eleven succulents (non cactus) and twenty-one cacti, twenty-three of the thirty-two (?) plants were identified. A tough month for plant IDs.

Below is a sampling of other topics and requests from our March FB page postings:

- Does micro-chipping your prized plants make sense?
- Does anyone know if it is possible to root an arm cutting from a Joshua tree or similar *Yucca*?
- Rain is causing my cactus to split. Will it survive?
- Painting cacti in the big box stores has been seen. What?!!!
- Free cuttings. Come pick them up.
- Check out the new growth on this boojum.
- Where can I find an *Echinocereus boyce-thompsonii* for sale?
- Two easy plants that look great together: *Agave parryi* and *Euphorbia rigida*.
- What do you do when you can't be there when your cactus flower?
- What is wrong with my *Aloe*?
- Pics from the Philadelphia Flower Show
- DBG sale plant haul pics
- How do I grow succulents
- A report from the PEG potting party to help pot up seedlings for the upcoming CSSA convention

Here are the many cacti and succulents in bloom that were posted on our March FB page: *Adenium, Albuca, Aloe, Astrophytum, Cereus, Drosanthemum, Echinocereus,*
Echinofossulocactus, Echinopsis, Epiphyllum, Euphorbia, Gasteria, Gymnocalycium, Kalanchoe, Mammillaria, Matucana, Monadenium, Myrtillocactus, Opuntia, Pachycereus, Parodia, Peniocereus, Plumeria Rebutia, Setiechinopsis mirabilis, Thelocactus, Trichocereus, Yucca, and many more.

The posted photos were absolutely beautiful! A secondary benefit is the assist in plant identifications. Find the beautiful photos here: https://www.facebook.com/groups/cacss2/ (copy and paste to your search engine).

To our faithful Facebookers and new folks, thank you for sharing your plant knowledge and assistance in the cactus/succulent identification as well as all of your wonderful photos posted. Each month we feature photos of a cactus and a succulent from a CACSS FB member. This month’s featured cactus is a Cholla in bloom from Deborah Burns. The featured succulent is a photo from Don Maciver, which features a Salvia sp. with a visiting hummingbird enjoying the Salvia nectar. Do you have questions on the FB photos? Please contact the photographer via Central Arizona Cactus and Succulent Society FB page: https://www.facebook.com/groups/cacss2/ (copy and paste to your search engine).
Again, thanks to all CACSS members who contributed and/or joined the CACSS FB page in March. We have room for many more CACSS members. So, please take the time to become a member of the CACSS FB page. There is no charge and it is very easy to access, enjoy and participate in our FB page. You can find us on FB @ Central Arizona Cactus and Succulent Society. We would love to see your cacti and succulents photos and answer any questions you may have. Please contribute today!

Salvia sp., with a visiting hummingbird by Don Maciver, is this month’s featured succulent.

Next newsletter issue submission deadline is May 10, 2017. Email all submissions to: Editor Sue Hakala at cacsscentralspine@gmail.com. Members are encouraged to submit medium resolution images of their plants with captions for inclusion in the newsletter when and where possible.
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Tempe, Arizona, a vibrant urban oasis located in the heart of the Greater Phoenix Metropolitan area, and the Central Arizona Cactus and Succulent Society will play host to the Cactus and Succulent Society of America’s 37th Biennial Convention.

The Tempe Mission Palms, our convention hotel, located in the entertainment district of Tempe, is a luxury hotel with pool, exercise room, airport shuttle, valet parking and many other amenities. Our special convention rate is only $85 per night plus taxes. A light rail stop to other adventures is just out the back door of the hotel.

The Sonoran Desert, a region rich in both habitats and species, will provide the backdrop for informative speakers, plant and pottery vendors, auctions, great food, and opportunities to visit desert plant habitats. The Central Arizona Cactus and Succulent Society is excited to be hosting the 37th Biennial Convention, and is working with the CSSA, to plan a fun, informative, educational and memorable experience. It’s time to start planning your visit to Tempe!

**World Class Speakers**
- Graham Charles, England
- Joel Lode, Spain
- Marlon Machado, Brazil
- Gideon Smith, South Africa
- Peter Breslin, AZ
- Mark Dimmitt, AZ
- Chuck Hanson, AZ
- Woody Minnich, NM
- Ernesto Sandoval, CA
- Marcia Tatroe, CO
- Rob Wallace, IA
- Bob Webb, AZ

**Great Plants, Pottery and More**
- Arid Lands, Bob Webb
- Cactus Data Plants, Woody Minnich
- Carol Wichern Pottery, Carol Wichern
- Desert Creations, A. Chavez & S. Freeze
- J & J Cactus and Succulents, Joyce Hochtret
- Keith Taylor Pottery, Keith Taylor
- Mike Cone Pottery, Mike Cone
- PW Plants, Peter Walkowiak
- Rare Succulents, Petra Crist
- Sandy Siegel Pottery, Sandy Siegel
- Sticky Situation, Jana Sweets
- Succulentia, Steve Martinez

Please visit us at the convention website: cssaconvention.com for the latest information regarding speakers, vendors, daily schedule, and field trips.
2017 PROGRAM AND COMMITTEE

Audit Committee:  Mike Gallagher
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Facebook Coordinators:  Dan Smith and Thom Young
Fertilizer Sales:  Eric Holst
Holiday Party 2016:  Sue Glenn
Librarians:  Wendy Barrett, Nancy Mumpton
Mailed Newsletters:  Sue Tyrrel
Keeping in Touch with Members:  Jo Davis
Membership:  Beth Kirkpatrick
Newsletter:  Sue Hakala
October Auction:  Mike Gallagher
Plant Rescues:  Lucy Rand
Private Plant Sales:  Sue Tyrrel
Programs and Room Setup:  Diana Crummey
Pumice Sales:  Gard Roper
Refreshments:  Tara Richards
Show and Sale 2017:  Steve Mack
Website:  Beth Kirkpatrick

Be sure to visit CACSS on the web at:
centralarizonacactus.org the Society’s web site.  
Facebook Central Arizona Cactus and Succulent Society
CACSS Swap and Shop, a place to connect with members.
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**Open Garden and Studio**

April 29, 2017
Saturday from 10AM - 1PM

*Over 1 acre of desert trees, shrubs, cacti, succulents and sculpture. Many new additions.*

Rick and Barbara Rosenberg
5916 E. Caballo Drive | Paradise Valley, Az.
South on 56th Street off of Doubletree Ranch Road
480 483 5630 | DrRikRok@cox.net

Family and Friends Welcome

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