



THE OFFSET

August 2013

Webpage <https://sites.google.com/site/cocssok/>



Echinocereus reichenbachii subsp baileyi in the Wichita Mountains NWR, Oklahoma. Mount Scott in the background. Photo by Michael Douglas

NEWSLETTER OF THE CENTRAL OKLAHOMA CACTUS AND SUCCULENT SOCIETY

OFFICERS

President:	Niki Furrh	tnfurrh@cox.net 405-722-1718
Vice-president:	Rosario Douglas	rosariod@cox.net
Treasurer:	Peggy Anglin	405 447-7617 anglin@swbell.net 405-840-4583
Librarian:	Tony Furrh	tnfurrh@cox.net 405-722-1718
CSSA Affiliate:	Joyce Hochtritt	cactibud@cox.net 405-7371831
Newsletter editor:	Rosario Douglas	rosariod@cox.net

MEETING At Will Rogers Garden Center at 3400 NW 36th in Oklahoma City, the third Thursday of every month at 7:00 pm (except in January, the month of our show, picnic and December).

IN THIS ISSUE

- ❖ Club News pp 2-6
- ❖ 2013 Local cactus& succulent happenings pp 7
- ❖ Article of the month pp 8-10
- ❖ The cultivation corner pp 11
- ❖ Book Review pp 12
- ❖ What is blooming? pp 13
- ❖ Succulent Plants pp 14-16
- ❖ The Botanical corner pp 17

CLUB NEWS- FROM THE PRESIDENT

PRESIDENT'S MESSAGE

It's been a busy summer so far and I expect the rest of it to follow the same direction! Tony and I went to the CSSA Convention in Austin, TX in June and I enjoyed meeting new people and seeing some familiar faces. Us, the Douglas' and Joyce wore our buttons asking people to ask us about the 2014 Mid-States Conference, so not only being a nice ice breaker, we had lots of people "ask us" about the conference and interest raised. Reports on the convention programs were favorable and the plant sales area was full both with buyers and plants. Joyce reported that she talked with quite a few people at the convention about the Mid-States and they shared some ideas for programs with her and also said they were interested in attending.



We have finished planning out the year for programs and activities and details will follow in the meeting minutes for July. I am sorry to report that Mary Kaser has resigned as secretary because of personal reasons at this time but she promises to return to meetings soon and is looking forward to working at the conference next summer. We miss your smiling face Mary so get back when you can!

We have had our second Mid-States Conference Planning Meeting and details follow in the newsletter. I know some members are not able to attend meetings outside our regular monthly meetings very often so please know that we will keep this in mind and check in with you periodically to see if you might be able to help with certain jobs/needs as they arise. This conference is not a frequent activity for us and only by arranging for good speakers/programs, vendors and everything else involved with putting on such a conference, will we be able to do a conference we can be proud of and also get our bills paid.

This is such a good opportunity to meet new people with similar interests and build on some long lasting relationships and have a great deal of fun doing it. (If you are NOT contacted regarding some help, please contact one of us and let us know you are 'there'! Between family, jobs, pets, taking care of plants/yards, health issues, and much more, we can all get busy with life rushing from one responsibility to another, so blowing a horn or simply a soft word to remind us you are willing to help with what you can, will be very much appreciated!)

See you in August!

Niki



Minutes of Meeting July 18, 2013

The meeting was called to order at 7:00pm by President Niki Furrh at the WRGC with 14 members and a new joining member present. The minutes published from the last meeting were approved. Treasurer Peggy Anglin reported a tentative net profit of \$1,535.53 from the Show & Sale after expenses although not all fees, etc have been received & recorded as of this date. The bank balance was \$6,485.06 the end of June. Librarian Tony Furrh presented 3 publications from the CSSA Convention to be added to the library.

The format for our monthly meetings has changed in that we will begin with our Business Meeting at 7:00pm followed by the Program for the evening at 7:30pm. Refreshments will be available after the program (around 8:15pm) allowing everyone to visit and help clean up and vacate the room by 9:00pm.

OLD BUSINESS: Joyce Hochtritt gave a short report on the CSSA Convention.

The program for our August meeting at the WRGC will be presented by Mark Howery, Wildlife Diversity Biologist at the OK Department of Wildlife Conservation. Refreshments will be provided by Joan Galbraith (*birthday party!*)

The Annual Picnic will be at Joyce Hochritt's on Sept 19th beginning 6:00pm - late comers will be welcomed. The club will furnish the main dish and members can bring sides and dessert. We will play "Dirty Picnic Plant" -- bring a covered/wrapped plant.

The October program at the WRGC will be "What Does The CSSA Mean to Us?" and will be a collaboration of several members. Depending on time, we may play one of our DVDs from The Desert Speaks. We will have a plant raffle with tickets \$1 each, hoping to have at least 4 plants to raffle. The "Doctor Is In" will also be available. If anyone has a plant they want to bring for 'diagnosing a problem' or help with identification, bring it. Our first freeze here in OKC is usually around the end of October, so if you want to bring some plants that you simply don't have any room for and can add to the 'raffle', feel free! (*Raffle winners are encouraged to 'trade' plants with other winners if so desired.*) Refreshments will be provided by Niki & Tony Furrh.

The November program at the WRGC will be "Ask Not What Your Club Can Do For You But What You Can Do For Your Club". This will be an informal round table discussion with all attendees. We will briefly review 2013 since this will be our last program for the year with short discussion on what we did positively and what could have been improved on. 2014 is a busy year for the club and ideas are needed for monthly programs and activities. We will review our Mission Statement and see if we are maintaining the ideals stated. This will be an especially important meeting since it will give the VP Planning Committee a basis of what the desires and interests of the club members are and plan the year's programs accordingly. We will have a plant sale with plants provided by J&J Cactus. Refreshments provided by Joyce Hochtritt.

In order to save some money this year, the Christmas Party will be at the Garden Center on Dec 12th. Members can begin arriving around 6:00pm with drinks and appetizers provided by the club and dinner to begin around 6:45-7:00pm. The club will provide a ham and members the sides and desserts. We will play "Dirty Santa" again beginning around 7:30pm (while we are still eating) and hope to be finished and begin clean up around 8:30pm and vacating the building by 9:00pm.

Members were reminded of a Planning Meeting for the Mid-States Conference at the WRGC on Saturday, July 20th.

NEW BUSINESS:

The club presented Fred Hill with a check to help cover expenses involved in replacing some of his cactus and succulent plants lost in the recent tornado. We have an open offer to help Fred work on his property when he feels he is ready for such help. He is in the process of drawing up plans for

what he wants to do and will let us know when or if he would like some extra help. The business meeting was adjourned at 7:30pm and Mike Douglas gave our program on "Deserts of North America". This talk provided an overview of the arid lands of North America with an emphasis on succulent plants. Refreshments furnished by Peggy Holland and Helen Hill.

Submitted by Niki Furrh



**Planning Meeting
Mid-States Conference
July 20, 2014**

A Planning Meeting for the Mid-States Conference was held on July 20th at the WRGC with the following club members present: Niki & Tony Furrh, Peggy Holland, Joyce Hochtritt, Mike and Rosario Douglas, and Peggy Anglin.

Niki presented information regarding the hotel and probable hotel costs associated with our conference. The expected total is \$2,232.90 with minimum of 50 reserved hotel rooms. The possible cost of 1 speaker (non-vendor), using guidelines of other clubs in the past, was also presented.

Items needing addressing ASAP were on the agenda for discussion & were as follows:

SPEAKERS - We are needing to get speakers and programs picked as soon as possible. Joyce, Rosario and Mike will be doing further investigation. Mike's email to the group regarding suggestions for speakers and time limits, etc was discussed and all agreed with his suggestions. Rosario will send notices to all email news editors we exchange newsletters with and indicate that we are searching for people who might be interested in giving a program at the conference, asking them to contact us with information regarding what topics they might be interested in presenting. This is being done to perhaps encourage some members of other clubs to step forward for a speaking opportunity and chance to present some new ideas that might interest a large majority. If we have several such inquiries, Mike has suggested a "poster session" where individuals could be together in a room for an hour or so presenting their talk and information on a poster to individuals walking through the room (this would enable them to present their talks to just a small number of people at one time instead of a large group at once and have more of a one-on-one presentation). If done, posters could be left up for the entire conference for attendees to look over at their leisure.

Joyce is going to work up a letter to potential speakers to inquire if they would be interested in presenting a program at our conference and what their financial requirements might be, if any.

Rosario is going to contact the Wichita Mountain Wild Life Refuge and see if there is any type of speaker & program they could offer. Such programs are available at the refuge but we will check to see if they would provide an individual to come to our conference.

VENDORS - Joyce is going to work up a vendor letter, inquiring who might be interested in coming to our conference. We will need to select vendors and send contracts as soon as possible, hopefully getting them out by the first of 2014.

REGISTRATION - Niki is working on the registration form but this can not be completed until speakers, programs, and vendors are finalized. A possible registration fee of \$85 for the entire conference (including banquet) is being considered with lesser amounts for day registration and the banquet. *All club members will need to fill out a registration form with Niki even if they do not plan to attend any programs. (Non-club individuals helping with the conference should also be registered so name badges can be made for identification purposes.)*

BAGS - The possibility of using 'paper', 'polyester', and 'cotton' is being discussed. Niki will check with Mike Rupe & see where they obtained their bags & the dollar amount.

LOGO - A logo has been done and with the exception of a few minor changes it has been voted on by the group to use. Niki will check on costs of t-shirts for the next meeting.

POSTCARDS - It was voted on at the meeting NOT to offer the \$1 off coupon on postcards to the public. Considering costs involved with the conference, it was decided not to offer this for 2014.

TO HELP KEEP COSTS DOWN it was suggested that we try to work within a budget for some items. At the present time we will allot:

Awards	\$150
Decorating	\$150
Postcards/postage	\$500

to be expanded as the needs arise

ADVERTISING - Joyce will check on an ad for "To The Point" for months of January, March, May and also see what ad in the CSSA Journal would run. Rosario will check on ad costs for the Daily Oklahoman.

Mike, Rosario, Tony, Joyce and Niki went to the hotel to look at the facility and size of conference/sales rooms. Everyone was able to see the facility but the conference rooms were locked. Joyce and Niki will return next week when open to review areas & be sure we have enough room for additional vendors.

The meeting was adjourned at 11:30 am and the next meeting is planned for September 21st at 9:30am at the WRGC.

Submitted by Niki Furrh

COCSS August 15th Program

“Landscaping to attract birds” by Mark Howery

This presentation addresses some of the plants that we can establish in our landscapes to attract birds. The program is oriented toward birds that are adapted to the suburban environment in Oklahoma (also known as backyard birds) such as Northern Cardinal, Northern Mockingbird and Ruby-throated Hummingbird that rely on seeds, fruits or flowers during all or part of their annual life cycle. Briefly addressed is the physical arrangement of plants in the landscape to attract birds and some of the other steps that we can take, beyond the plants, to attract birds.



Mark is an Oklahoma native that was raised in Norman. He attended the University of Oklahoma and received a B.S. in Zoology in 1986. That was followed by graduate school at the University of South Florida in Tampa where he received an M.S. in Zoology in 1991, with a thesis that examined the territorial behavior and the foraging behavior of the non-migratory race of Loggerhead Shrike that resides along the Gulf Coast. In between school and shortly after graduation, he worked as an assistant on several avian behavior and ecology projects that focused on Great Egrets, Black-capped Vireos, Cedar Waxwings, and Scrub Jays, and worked in the Education Department of the Tampa Zoo. In 1992, he was hired as a Wildlife Diversity Biologist

Where: At the Will Rogers
Garden Center- Oklahoma City

Time: 7:00 pm

Refreshments by: Joan Galbraith

Photo from Wikipedia Commons. Ruby-throated hummingbird seeping nectar from a scarlet bee balm. June 2006 by Joe Schneid, Louisville, Kentucky

CACTUS AND SUCCULENT HAPPENINGS IN THE REGION *By Joyce Hochtritt*

August 10 - 11 - Kansas City Cactus and Succulent Society's Annual Show and Sale, Loose Park Garden Center, Kansas City, MO.



August 15th **7 pm COCSS Monthly meeting**

At the Will Rogers Exhibition Center, 3400 NW36th St., OKC, OK.

Program: **Gardening to attract birds** by Mark D. Howery, Wildlife Diversity Biologist at the Oklahoma Dept. of Wildlife Conservation

Refreshments: Joan Galbraith

August 31 - September 1 - Austin Cactus and Succulent Society's Fall Show and Sale, Zilker Botanical Gardens, Austin, TX.

September 19th Annual picnic at Joyce Hochtritt's beginning 6:00pm

October 5 – 6 – 2013 (TACSS) Texas Association of Cactus and Succulent Society's Annual Seminar hosted by the Central Texas Cactus and Succulent Society at the Carleen Bright Arboretum, Woodway, TX.

October 17th **7 pm COCSS Monthly meeting**
At the Will Rogers Exhibition Center, 3400 NW36th St., OKC, OK.

Program: "What Does The CSSA Mean to Us?" and will be a collaboration of several members. The "Doctor Is In" will also be available

Refreshments: Tony and Niki Furrh

November 21st **7 pm COCSS Monthly meeting**
At the Will Rogers Exhibition Center, 3400 NW36th St., OKC, OK.

Program: "Ask Not What Your Club Can Do For You But What You Can Do For Your Club". This will be an informal round table discussion with all attendees.

Refreshments: Joyce Hotchritt

December 12th Christmas Party will be at the Garden Center. Members can begin arriving around 6:00pm with drinks and appetizers provided by the club and dinner to begin around 6:45-7:00pm.

2014 Cactus and Succulent Happenings

June 12- 15th The 15th Biennial Mid-States Cactus and Succulent Conference Hosted by the Central Oklahoma Cactus and Succulent Society in Oklahoma City, OK. More information to come!

If you know of any plant happenings, please send me the information. Thank you, Joyce

ARTICLE OF THE MONTH

by Elton Roberts

Dear members;

I would like to thank Joyce Hochtritt for sending me this interesting article written by Elton Roberts (he has published other articles in the CSSA journal). The article is about a Mammillaria with large, beautiful flowers. Mike and I were fortunate to observe this Mammillaria long ago in Mexico growing in its dry forest habitat and the plant was in bloom. I was impressed by the flowers. Years later we purchased a specimen, but unfortunately this was before we had a greenhouse and the plant did not survive. I guess it is time to give it another try if I can find a plant to purchase.

Mammillaria beneckeii

For many years *Mammillaria beneckeii* was *Dolichothele beneckeii* and it also went by a stream of other names.

Synonyms: *Dolichothele beneckeii*, *D. balsasoides*, *D. nelsonii*, *M. balsasensis*, *M. balsasoides*, *M. barkeri*, *M. colonensis*, *M. guiengolensis* and also a few others. The long list of names is because the plant comes from a large area of western Mexico, that area takes in parts of seven Mexican states.

Part of the description:

Plants solitary to clumping with clumps up to 50 cm in diameter, stems depressed globose to short cylindrical, green to greenish brown, to 10 cm tall and 7 cm in diameter. Tuberules are broad cone shaped, often reddish or purplish without latex. Central spines 0 to 6, needle like, brown or black 8-12 mm long, 1 or 2 longer and hooked, radial spines 12 to 15 fine needle like, white or yellowish with darker tips. Flowers salverform, deep yellow, 20 to 25 mm long and to 30 mm in diameter, with dark orange stigma lobes.

Salverform = In a flower, having a limb spreading at right angles to a slender tube.

Long before *Mammillaria beneckeii* became a Mammillaria I knew it as *Dolichothele beneckeii*. A time or two I saw it as *D. balsasoides* but I did not see it under any of the other names it has had. The plant looks like any other Mammillaria with sparse spination and lots of body showing. The offsets are attached with what I call a thread, as a result they detach very easily. It takes a lot of patience to be able to repot a small clump and not dislodge one or more offsets. The hooked spines do not fool around for they love to hold on. Sometimes I learn entirely new words and still they hold on. If you do dislodge the offsets they root down quite soon if they do not have some roots showing already I have about eight stems that need potting; potting is easy getting the heads to stay is the trick as those hooks want to hold on for dear life. I have many times had a stem potted and thought that it looked really good.

As I carefully remove my hand the stem jumps up to grab hold of my finger and I have to start the potting effort all over again. I have discovered that something like a flat object is quite helpful in potting the 'come along' plants. An old butter knife is handy to hold the stem in place while you sneak your fingers away. The description calls for plants with heads to 7 cm across but cultivated plants can be a bit larger like to 8.5 cm diameter and these to about 10 cm tall. My plants have heads to 8 cm across and to 7 cm tall. The plants come from a large area and so there are differences in the descriptions of the different plants.

The plant's flowers are different from all other *Mammillaria* and so it has been put under the subgenus *Oehmea*. It is the only plant in that subgenus. The description calls for flowers to 3 cm across. Backeberg describes the flowers on *D. balsasoides* as bell shaped, to 4 cm across and orange in color. For the description of *D. beneckei*, he says that the flowers are to 4 cm across and mentions no shape. He does give a color as a milky buttercup yellow. In the *Mammillaria* book by Pilbeam the flower is described as 3 cm across and a deep rich yellow. The NCL also says that the flowers are salverform and when open, 3 to 4 cm across. The photo that is in the photo book does not match the description given. The plants I have have been flowering every year for many years and all my plants have flowers that are a very wide funnel shape. Their color is what I call saffron yellow; I cannot really say that it has orange color in it. For those that do not agree then say it has very intense dark yellow in the petals. The flowers in the photos are 5 cm across except for the flower in photo 6; it is 7 cm in diameter. This is another plant that opens its flowers at about 3 cm and each day they open they get larger. Both Anderson and Pilbeam give the size for the flower as 3 cm the NCL gives it at 3 to 4 cm. That is about the size the flower opens the first day the second day they are 5 + or - cm and I have measured flowers 7 cm across on the last day that they open.

Pilbeam describes *Mammillaria guelzowiana* as, 'being one of the largest flowered, if not the largest of all' *Mammillaria* flowers. He calls for flower size as 5 to 7 cm across. I have never seen a flower on *guelzowiana* as large as 7 cm across. As far as I am concerned *M. beneckei* is the largest flowering *Mammillaria* and such a wonderful flower it is!



Photo 1 (left) is of a cluster of about 18 stems, it had more stems but as the above statement about the hooks getting hold on a body some are missing and waiting to be potted. I have had several of the plants for at least thirty years.



The alkaline water times took the lives of several large plants I had. That clump is in a 20.5 cm pot that is not very deep. Photo 2 is a close up of a stem and you can see some very fine wool between the tubercles, I am not sure how long that wool lasts with overhead watering. There also visible are some of the fine hooked spines that do not want to let go. Size wise they may be a bit longer than the radials but not much larger in diameter.



Photo 4 (on the right) shows the flowers from the side and I cannot see any sign of salverform flowers. To me the flowers are wide funnel form, I see nothing bell like and there is nothing right angled about it. Also visible there are several of those finger hungry hooked spines. Note how they are quite recurved and very sharp, which makes it hard to dislodge them when they hook you. Also visible are some



The plant comes from quite a large area and as such also different elevations. The elevations vary from 50 m to 1600 m. That is from about 160 feet to 5,250 feet elevation. How you treat your plant depends on if you know what elevation your plant comes from; most people do not have a clue. The plants from the higher elevation will be less susceptible to the cold than ones from only 160 feet. Most people do not know just where their plant comes from so it is best to

keep your plants above freezing and keep it dry over the winter.

I strongly suggest a shallow pot as the plant does not have a deep root system, also give it fast draining soil. I am going to guess that my plants came from the higher elevations for I have had them for many years. They have taken the cold down to the upper 20s F. I am sure that if they were from the coastal areas that they would have been killed by the cold a long time ago.

Photo 3 is a flower up close, it is wonderful saffron yellow and the base of the petals is lighter and with even a hint of light green to them. The filaments are what I would call a light orange color but I do not see the dark orange of the stigma lobes that is called for in the description. Even in the Pilbeam Mammillaria book it does not show dark orange stigma lobes in the photos; they are no different from the ones on these flowers. The stigma lobes are white to very light yellow.



centrals that are only just a bit curved and some of the straight centrals are showing also. Photo 5 (on left) shows the plant from more or less overhead. There are some buds yet to open and a flower or two that has bloomed and now is on the way out. Photo 6 is of the flower that is 7 cm across. Note how the petals look narrower than the flowers in the other photos. With the hydraulic fluid having to go somewhere the petals lengthen out and so look narrower. Again can be seen some of the hooks that love to hold on to a finger.



I system, also give it fast draining soil. I am going to guess that my plants came from the higher elevations for I have had them for many years. They have taken the cold down to the upper 20s F. I am sure that if they were from the coastal areas that they would have been killed by the cold a long time ago.

THE CULTIVATION CORNER

by Rosario Douglas

The following article appeared in the CSSA 2010 Journal Volume 82 Number 4. It is a lengthy article so I am only showing you the Abstract. You can read the PDF in our newsletter at: <https://sites.google.com/site/cocssok/useful-articles/cultivation-articles>

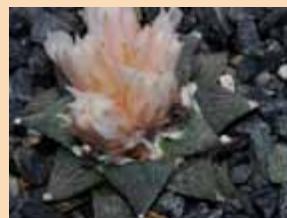
Ammonium Nitrogen and Acidic Water for Xerophytic Plant Growth

by Elton Roberts & Malcolm Burleigh

Foreword

As we write this article we are reminded that 2009 is the 100th anniversary of the development of the Haber process for the cheap conversion of atmospheric nitrogen into ammonia. This was a true revolution in agriculture since at the time, nitrogen was the limiting resource. Fritz Haber received the Nobel Prize for this work in 1918.

Abstract — We have seen phenomenal improvements in our plants: stronger spines and bodies, and much greater flowering and seed production as a result of applying the combination of low pH water, 5.0 to 5.5, and a balanced (NPK) fertilizer using ammonium as the primary source of nitrogen during their growing season. This fertilizer was applied constantly with our water from 50-200 ppm (ammonium) N, and 50-100 ppm P and K during the entire growing season. The use of low pH water is described in an earlier article¹. The combination of low pH water and use of balanced fertilizer (NPK) using ammonium ion as the sole source of nitrogen for plants will be discussed. All facets of the lives of our plants have been improved due to use of low pH water and ammonium nitrogen. We have not seen any harmful effects with this regimen.



Left Three specimens of *Ariocarpus retusus* before application of NH4

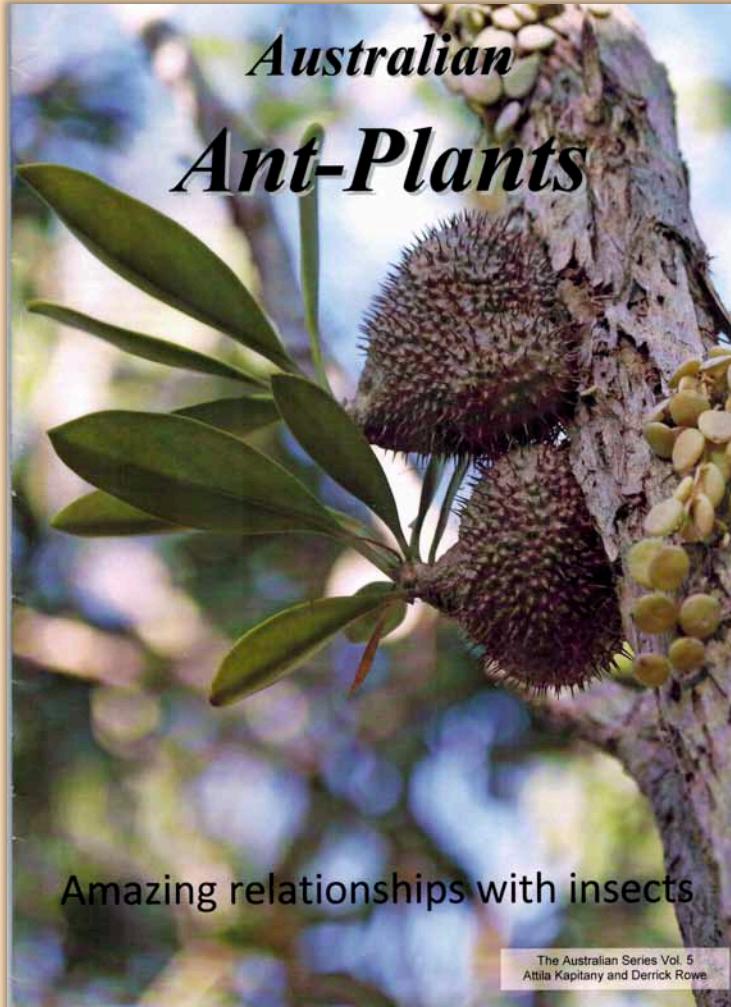
On the right The same three specimens one year after treatment with NH4

I would like to thank Joyce Hochtritt for sending me the PDF for this article.

BOOK REVIEW

By Rosario Douglas

Our club librarian Tony Furrh recently acquired some interesting books while participating at the CSSA convention in Austin. One of these books is titled: **Australian Ant-Plants** by Attila Kapitany and Derrick Rowe. This book is part of the Australian Series Vol. 5.



Mr. Kapitany was one of the invited speakers at the Austin Convention and the talk I heard him present was very entertaining.

This is not a very thick book (19 pages-value \$30) that covers a very specific subject—that of Australian ant plants. There is a brief introduction to what are ant plants and their complex relationship with ants. A relationship that offers shelter for the ants and often protection and food for the plants that typically live in nutrient poor environments in Northern Australia. These are plants of the humid rainforest of Queensland and most of the plants described in the book are epiphytic in nature. This includes a fern as well as 6 other plants, the majority in the genus *Myrmecodia* and *Lecanopteris*. Six of the 8 Australian ant plants described in this book belong to the family Rubiaceae (the coffee family).

The book is beautifully illustrated with many pictures mostly taken in the field. There are many photos depicting the interior of these ant plants where you can

clearly see the numerous tunnels and chambers that are occupied by the ants.

Information about the importance of conservation of this interesting group of Australian plants is also provided. Some of the ant plants provide critical habitat for the Apollo jewel butterfly whose larva only lives inside the ant plant.

Finally the authors stress the importance of cultivating these plants and making them available to the public. This can go a long way in helping preserve these otherwise uncommon plants. The authors provide a website where you can find out more about Australian succulents and books available for purchase. The site is: <http://australiantsucculents.com/>

WHAT IS BLOOMING?

by Mike and Rosario Douglas



Upper left: swallow-tailed caterpillars feeding on dill in our vegetable garden.
Photo by Rosario Douglas.

Upper right: *Coryphantha* sp.

Lower left: No blooms, but notice the small seeds on this *Epithelantha micromeris*

Last two photos by Mike Douglas.

SUCCULENT PLANTS

By Rosario Douglas

The Genus Fouquieria



This is the only genus in the family Fouquieriaceae. There are about 11 species, some with a very wide distribution like *Fouquieria splendens*, better known as Ocotillo. Others, like the Cirio tree or Boojum (*F. columnaris*) have a more limited distribution and stand out for their unusual shape.

The name Fouquieria honors French physician Pierre Fouquier (26 July 1776 – 1850). Dr. Fouquier was a member of the Academie de Medicine and was also a professor at the University of Paris. He was also the private physician of kings Charles X of France and Louis-Philippe of France.

Some plants in this genus exhibit a marked similarity to the Didieraceae plants of Madagascar and at first glance look to be the same plants. This is a good example of convergent evolution.

In evolutionary biology, convergent evolution is the process whereby organisms not closely related independently evolve similar traits as a result of having to adapt to similar environments or ecological niches.

(Science Daily, 2013).



Most people are familiar with the name Ocotillo and sometimes the name is applied to many of the species in this genus. It appears, however that this name primarily refers to *F. splendens*. The name comes from the Spanish ocotillo, which in turns comes from the Nahuatl word **octl** meaning pine, pinewood splinter or torch (Wikipedia).

Plants in this genus are native to the Chihuahuan

and Sonoran desert of the Southwestern US, Southwestern Mexico and Baja California. Most of the species are endemic to Mexico with one species being found in Guatemala. *F. splendens* or Ocotillo, the best-known species, has the widest distribution. It is found in the US and in a large portion of Mexico all the way to southern Mexico, south of Mexico City (Scott, 2013).



Photos: Upper left: Pierre Fouquier (Wikipedia, 2013), Middle right; *F. ochoterenae* by Michael Douglas. Lower left; *F. splendens* by Mike douglas, lower right map from Missouri Botanic gardens webpage at: <http://www.mobot.org/mobot/research/apweb/orders/ericalesweb.htm>





Fouquieria species are well adapted to arid habitats and they are able to store enough water in their thin semi-succulent woody stems (Scott, 2013).

An interesting characteristic of the genus is the formation of spines along the stems. The leaves are supported by a strong petiole or leaf stalk. When the leaves fall most of the petiole and the leaf blade turn woody and form a spine (Dimmit).



Flowers are usually tubular and vary in color: some are red, others scarlet, yellow, maroon, pinkish or orange red. It appears that flowers are primarily pollinated by hummingbirds. Insects can also visit the flowers.

A few species are stem succulents while others such as *F. formosa* and *F. columnaris* have odd shaped trunks.



Plants in this genus are used for making fences, house walls and Ramada roofs and the flowers are used to make a drink. (Dimmit).



An interesting succulent unique to our North American deserts, the plants are beautiful when they leaf out after the first rains. Their otherwise dry-looking stems

become a deep green. If you happen to see the flowers you will also be impressed, especially by the flowers of *F. splendens* that are a deep red.

Photos: Upper left; trunk of *F. ochoterenae*, upper right; close up of *F. splendens* stems. Middle left; *F. splendens* flower, middle right; *F. columnaris* in bloom. Lower right; *F. ochoterenae* fence. All photos by Mike Douglas



References:

The genus Fouquieria, self published by Robert Scott, 2013, 60 pp.

Mark Dimmit Arizona Sonora Desert Museum newsletter at http://www.desertmuseum.org/books/nhsd_fouquieriaceae.php

Science Daily at: http://www.sciencedaily.com/articles/c/convergent_evolution.htm



These are more examples of some of the species in this genus: Upper left: *F. burragei*, endemic to Baja California-Mexico. On the right its flower.

Middle left: *F. ochoterenae*, endemic to southwestern Puebla. Middle left: *F. purpusii*? same area near Puebla.

Lower left *F. columnaris* or boojom trees found in Baja California and a small portion of the state of Sonora.

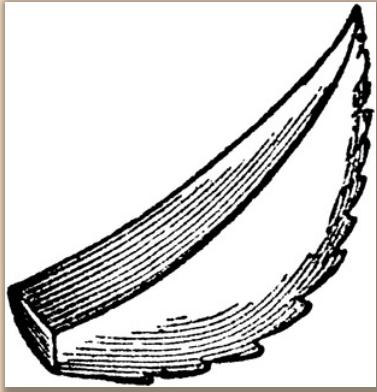
Photos by Mike/Rosario Douglas



THE BOTANICAL CORNER

by Rosario Douglas

Terms from a book by W Taylor Marshall and R.S. Woods. The book is titled, **Glossary of succulent plant terms**, published in 1938.



Acinaciform

Shaped like a scimitar



Acranthus With pointed flowers

Acroacanthus Spiny-tipped

Acrodon A genus in the family Aizoaceae. From the Greek, meaning “teeth at the summit”

Aculeate Having sharp prickles or spines

**Aethiops**

Dark; usually referring to spines

Upper left; Acinaciform illustration from clipart etc.

Upper right; A scimitar sword. From the web

Lower left; *Cereus aethiops* from Argentina- note the dark spines. 1921 from Blühende Kakteen, Volume 3:173, as *Cereus chalybaeus* (cropped). Wikipedia