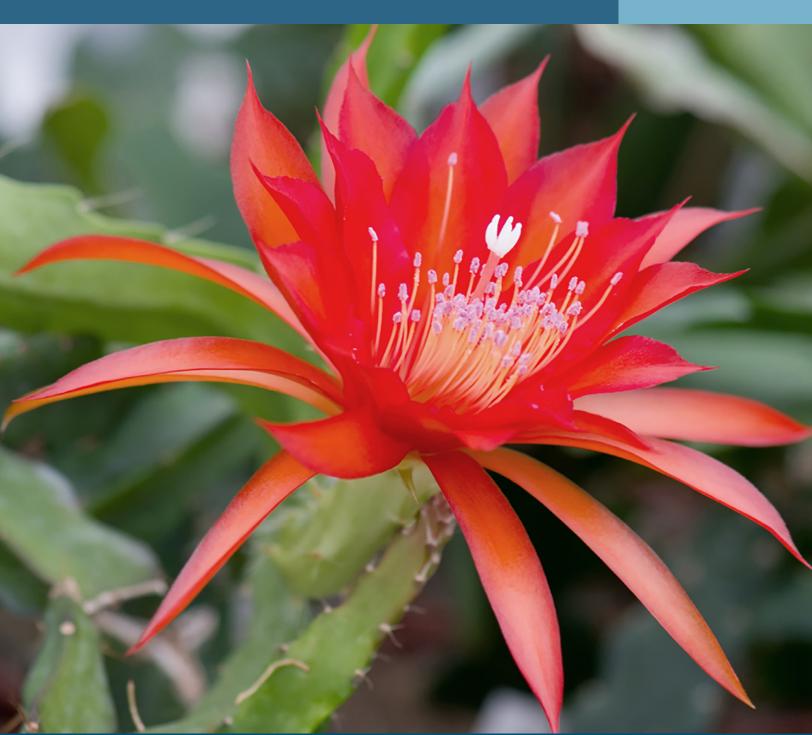
# The Bulletin EPIPHYLLUM SOCIETY OF AMERICA



ALL 2017 • VOL 73 · NO.



PHOTOGRAPH: Steffen Latniak

**'BETTI PAETZ'** 

'Ute Paetz' x 'Tilli Paetz'

Hybridizer Helmet Paetzold Reg. #12819

PUBLICATION INFORMATION: The Bulletin is published quarterly in autumn, winter, spring and summer, by the Epiphyllum Society of America.

**COPYRIGHT** of by-line articles belong to the authors. Other contents, © ESA, 2017. All rights reserved.

**REPRINTS. OUOTES AND TRANSLATIONS** of Bulletin articles are welcome, provided prior, written permission is obtained from the ESA Bulletin Editorial Board and/or author, and *The Bulletin* is cited as the original publisher and permission grantor. The courtesy of a free issue of publication with a reprint is requested for the ESA Library. E-mail requests or new material to the ESA Bulletin Editor at epinut01@juno.com or mail to the Membership Secretary.

**SUBMISSION** of news items, articles, slides, photographs or illustrations pertaining to epiphytic cacti, the ESA or other epi societies and their members are welcome. Query Editorial Board for lengthy articles. The Editorial Board reserves the right to reject or edit submitted materials, solicited or unsolicited. Items will be returned if requested in advance.

**SUBMISSION DEADLINES:** 15th of Feb., May, Aug. and Nov. **DISPLAY ADVERTISING RATE:** Contact Editor for rates

**DISCLAIMER:** Opinions expressed are not necessarily those of the Society or Executive Board. Mention of products or services does not constitute an endorsement.

**PURPOSE STATEMENT SUMMARY:** The Epiphyllum Society of America was organized to: register and establish epithets and diagnostic descriptions of epiphytic cactus hybrids of the Tribe Hylocereeae, and publish the International Register (The Registry of Hybrids and Species), and periodic updates in accordance with the International Code of Nomenclature, fulfill the duties of International Registration Authority, publish a newsletter, promote interest in epiphytic cacti hybrids, species, and related genera, conduct programs of interest to members; facilitate communication among members; and sponsor annual Flower Shows.

**SUBSCRIBERS** receive for one year's dues, four issues of the quarterly Bulletin, a yearly Addendum to The Registry, and a discount of \$15 off The Registry price.

**ANNUAL DUES:** For electronic world-wide delivery of *The* Bulletin: \$20. For postal delivery (with black & white pictures) \$30 payable by check or money-order made out to the Epiphyllum Society of America, in US currency, drawn on a US bank. Mail payment to: ESA Membership, Geneva Coats 13674 Geranium St., Chino, CA 91710-5080 USA. All new Memberships or renewals due Jan 1. Annual Dues are applied to the following year if paid from September 1 to December 31. Members may also pay online via our Square Market page: https://squareup.com/market/ epiphyllum-society-of-america. Renewal receipts are not issued.

**FOR INQUIRIES:** Send an email to genevacoats@aol.com. **ROSTER CHANGES** or other membership issues: send them to the Membership Secretary.

MEETINGS: Begin at 7:30 p.m., on the first Tuesday of each month (except January, December and US national holidays). Admission and parking are free. Food and refreshments are served. Members and guests attending their first meeting receive a free potted epi. Regular meetings are held in Lecture Hall B, Arboretum of Los Angeles County, 301 North Baldwin Avenue, Arcadia, CA, USA. Take the Foothill Freeway (I-210) to the Baldwin Ave. exit, south. Follow the signs to the Arboretum. The December meeting is the Holiday Banquet. Paid dinner reservations are required.

### **BULLETIN STAFF**

EDITOR: Keith Ballard 310-670-8148, epinut01@juno.com

**ASST. EDITOR:** Heather Sabin LAYOUT & DESIGN: Robert Kuettle

	SOCIETY	/ OFFICERS	AND	DIRECT	ORS
--	---------	------------	-----	--------	-----

PresidentRo	bert Kuettle
-------------	--------------

323-257-9630, rkuettle@icloud.com

Vice President......Vacant

**Membership Secretary** Geneva Coats

909-438-8242, genevacoats@aol.com

Treasurer ...... Geneva Coats

909-438-8242, genevacoats@aol.com

Recording Secretary..... Jeff Bates

909-576-0321, jeffbates@gmail.com

Correspondence Secretary..... Vacant

Director ...... Keith Ballard

310-670-8148, epinut01@juno.com

Director ..... Edmund Beardsley

626-358-9662, mebeard@altrionet.com

Director ...... Stephen Dorsey

626-488-3487, stephendorsey72@yahoo.com

Director ..... Ken Hanke

818-239-6479

Director ...... R.W. Kohlschreiber

310-833-6823, kohlpedro@gmail.com

Director ...... Jerry Moreau

jerrysdc@cox.net

Director ...... Jim Nones

818-284-1199, jjan21@hotmail.com

Director ...... Heather Sabin

hsabin40@hotmail.com

### **COMMITTEES & CHAIRPERSONS**

**CSSA Affiliate Representative** Ken Hanke 818-239-6479

**ESA Pentico Memorial Collection Curator** 

Robert Kuettle 323-257-9630, rkuettle@icloud.com

**ESA/Arboretum Plant** 

**Display Coordinator** 

Ken Hanke 818-239-6479

Flower Show & Sale **Committee Co-Chairs** 

Geneva Coats 909-438-8242, genevacoats@aol.com

Gail Grassl 562-596-9746

**International Registrar** R.W. Kohlschreiber 310-833-6823, kohlpedro@gmail.com

Librarian Jim Nones 818-284-1199, jjan21@hotmail.com

**Program Chairperson** Jim Nones 818-284-1199, jjan21@hotmail.com

Refreshments Coordinator Ken Hanke 818-239-6479

Registry of Hybrids &

**Species Editor** 

Robert Kuettle 323-257-9630, rkuettle@icloud.com

**Registration Committee** R.W. Kohlschreiber 310-833-6823, kohlpedro@gmail.com

Geneva Coats 909-438-8242, genevacoats@aol.com Robert Kuettle 323-257-9630, rkuettle@icloud.com Jerry Moreau 619-208-7654, jerrysdca@cox.net

Jim Nones 818-284-1199, jjan21@hotmail.com

**Research Committee Chair** 

R.W. Kohlschreiber 310-833-6823, kohlpedro@gmail.com

**Volunteer Coordinator** Ken Hanke 818-239-6479

EXECUTIVE BOARD MEETINGS are open to all. The Board currently meets monthly, on the last Tuesday of the month at 7:30 P.M. in the Lecture Hall B, Arboretum of Los Angeles County, 301 North Baldwin Avenue, Arcadia, CA.; or via a teleconference call. Please contact one of the Board Members before attending.





### **CONTENTS**

PAGE

- 4 Fall Culture Calendar
- 5 Highlights of Recent Meetings
- 13 Plant Cloning Kits
- 14 A Brief History of the ESA Bulletin
- 16 Connie Mayer is a Rare Gem
- 17 Epiphyllum Oxypetalum
- 17 It's All about the Flowers
- 19 Epies and pH
- 19 A Vintage Epi Culture Presentation
- 21 Watch The Corners
- 21 What is a Succulent
- 22 Calendar of Events
- 22 Refreshment Schedule







From Top:
'Elvira' hybridizer Don Burnett,
'Lisbeth' hybridizer Rudolf Heßing,
'You're The One' hybridizer Alice Buchanan
All photos Steffen Latniak



### Fall Culture Calendar

By Raymond Eden

This is a reprint of the Calendar in The Bulletin: Vol. 55, No.1 (Sept 1999) by Raymond Eden. KCB

Once the flowers fade and summer fades into autumn, we tend to spend less time with our collections. This is only natural, but remember, it is better to pay a little attention now than to pay the high price for neglect later. All things being equal, if you fertilized your plants at the end of the blooming season or in early September, they will probably do nicely with just routine watering, but there are a few warning signs to watch for during late summer into autumn.

**Grooming** – Autumn is the time to groom to enhance next spring's blooming. By this time the plants have "decided" which branches to retain and which should be removed. Branches that appear to be dehydrated, are turning yellow, or have few or no live aeroles should be removed. Blooms mostly appear on last year's new growth. Snapping branches for removal is best, as it prevents the possibility of sap to sap transfer of a virus. If shears have to be used, they should be sterilized between plants with a torch. Epies are encouraged to grow new branches when old ones are removed. Dick Kohlschreiber suggests removing the largest branch to encourage new growth and/or any branch that offends you, but limit pruning to a maximum of 50% of the plant.

**Spindly New Growth** – There are two causes for new growth that is spaghetti-like: light deficiency and too much fast acting nitrogen. Obviously, light deficiency is corrected by increasing light levels. Nitrogen can be flushed from the pot, but the weak stems should be removed.

**Sunburn** — Stems of a plant getting to much light look yellow or orange, and in severe cases, develop a white scab. Sunburned stems are discolored only on the surfaces exposed to light. Move a sunburned plant to a shadier location. With the change in the sun angles, sunburn is still a possibility in autumn. Add supplemental shade if necessary. (*See the article "Watch the Corners" in this Bulletin. KCB*)

**Yellow Stem (other than sunburn)** — Caused by root problems, either from mealy bugs or similar pests, or root rot. Mealy bugs can be controlled by drenching potting mix with appropriate insecticide. Always observe instructions when using chemicals, but the usual dose for Malathion is one tablespoon per gallon of water, and the epies don't seem to mind it. It is often best to treat the entire collection as a precaution. If mealy bugs are the problem, plants will show improvement in ten days when new root hairs form. Mealy bugs can be gotten rid of by replacing potting mix, but all the old mix must be removed. Roots should be treated with insecticide, and a clean pot must be used.

**Watering and Root Rot** —Watering is a balancing act. As the weather cools, the epies require less water, but as always, the root ball cannot be allowed to become completely dry. Once the rains start in Southern California, there might be many weeks between the need to water. The most common water-related problem is root rot, which can occur from both over and under-watering. Root Rot due to over-watering, or too much rain, is a consequence of too many anaerobic bacteria in the soil. Anaerobic bacteria thrive in the absence of oxygen due to over-watering, cloqged drain holes, or a potting mix with excessive decaying organic matter. Anaerobic bacteria give off gasses that smell like a swamp. With under-watering, the tips of the roots dry out and start to rot when they become wet again. Try to determine the cause of the root problem so that you can prevent it from happening again, but no matter what the cause, the cure is the same. The roots will have to be pruned and the plant must be repotted. Cut rotted portions of the root off with snips. As a preventative measure, treat roots with a broad spectrum fungicide and/or a mild Malathion solution. When roots are dry, apply rooting compound and place the plant in a cool, dry, dimly lit place to let it cure, just as you would a fresh cutting. Repot it in a clean pot with fresh mix.

Dehydration is not just a summer occurrence, as the fall winds may also wick a dangerous amount of moisture from the plant. Some plants always shrivel after blooming. Here is where keeping records helps. If a plant dehydrates after blooming every year, your records will reflect this, and you'll know how to provide for its needs. If a plant that never dehydrates suddenly wilts, you will be alert to the problem, and should check for root damage. When a plant wilts, reduce water and move it to a cooler, shadier spot. Misting is beneficial, but watch that you aren't soaking the mix. Misting with Vitamin B1 can help reduce stress.

**Repotting** – Until the weather turns cold, repotting is still acceptable in autumn.

Fall Fertilizer — Autumn is when we "harden off' new growth by applying 0-10-10 fertilizer or a dose of Epsom salts. 0-10-10 is a bloom-stimulating fertilizer. If applied to early blooming cultivars in fall, it eliminates the need for a winter application later. Epsom salts yield hardening off benefits without stimulating buds. Use one teaspoon for the 0-10-10 or one teaspoon for the Epsom salts, per gallon of water. (Note: I would think some discretion should be applied for the date to "harden off". In Southern California it's often quite warm well into autumn, and the epies are still growing quite a bit. KCB)

**Earwigs** — There is a safe, simple and effective trap you can construct yourself from items already on hand which makes destroying earwigs easier. Place a crumpled newspaper into an unused flower pot. Moisten the paper, and then place the inverted pot close to the heaviest concentration of earwigs. The bugs will find their way into the folds of the paper overnight, making it child's play to eliminate them in high numbers in the morning.



**Container Rotating** – The practice of rotating your plants a quarter-turn every two weeks has been suggested here before, but just the other day I was reminded of another reason for doing this. Summer is the season of new growth. New stems sometimes touch down in a neighboring plant's pot and put out new roots from their tip. This is what we call a touch-down, and while entirely natural, it can cause trouble because you are now unknowingly growing two cultivars in one pot. The practice of rotating your plants is your chance to discover these shenanigans before they get serious. However, for large collections one may very well forgo rotation.

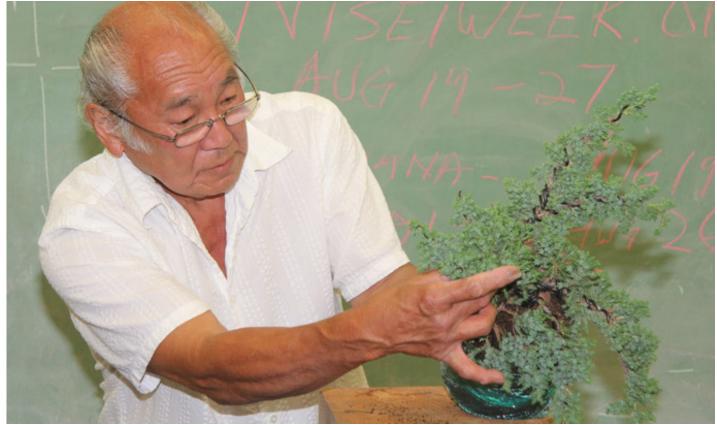
# Highlights of Recent Meetings

HIGHLIGHTS OF THE JULY 5th MEETING: After nine months of epiphyllum-related programming, the Epiphyllum Society of America decided to have something off-topic for this meeting, which was to be both interesting and informative for all members and garden enthusiasts in attendance. Bonsai is the art of aesthetic miniaturization of trees or developing weedy or semi-woody plants shaped as trees, by growing them in containers. Our guest, Mel Ikeda, President of the Nanpu Kai Bonsai Society for over 20 years, demonstrated the "Moyogi Style Bonsai."

Mr. Ikeda literally grew up with bonsai. His father, Masayuki, owned and operated Ikeda Bonsai Garden in Buena Park, California from 1953 to 1988. Mel worked next to his father from the beginning, learning the techniques of design and care. Later, when he decided to become a serious Bonsai hobbyist, he undertook training from Harry Hirao, Khan Kornai, John Naka and Kenji Miyata, who all emphasize the traditional Bonsai styling techniques and their relationship with traditional Japanese cultural values. By their example, they teach their students "Bonsai No Kokoro" — the Spirit of Bonsai.

One of a "new breed" of second-generation Bonsai artists who are being recognized for their unique capabilities and artistry, Mel is an imaginative and capable instructor. Mel has developed a number of interesting bonsai styling techniques, grounded in the traditional styling concepts.

A familiar figure at Bonsai events, he has conducted demonstrations and workshops throughout California, Arizona, Louisiana, Florida, Oregon, New Mexico and Hawaii. He has been a member of Kofu Bonsai Kai since its founding in 1977 and is Executive Vice-President of the California Bonsai Society and managed the workshop and demo programs for California Bonsai Society's 30th, 35th, 40th, 45th and 50th Anniversary Conventions, including working with Bonsai Masters from Japan who were headliners at these conventions. He is a Trustee of the Golden State Bonsai Federation, Chair of the Circle of Sensei Committee and he worked with Dennis Makashima in the development stages of what became GSBF's "Bonsai Basics"



Mel Ikeda Working on the Demo Bonsai



Mel Ikeda's Finished Bonsai

program. He has chaired workshops and demos for GSBF conventions, including the 1999 convention featuring John Naka. He has also been a demonstrator for GSBF Collection North and South's fundraisers.

Moyogi or informal upright-style Bonsai is quite similar to Chokkan (formal upright) style Bonsai in that the tree has tapering, upright trunks with the branches being thickest and broadest at the bottom and thinnest and shortest at the top. But the trunk itself is not straight. It will angle or snake its way skywards, but the apex of the tree should be positioned directly over the point where the tree enters the soil. Another favoured aspect of Moyogi style Bonsai is the positioning of the branches — they should protrude from the outer sides of the curved trunk, not from the inside as this would never happen in the wild.

Moyogi style Bonsai are extremely popular as they are quite easy to create – the most difficult part is the positioning of the apex – and they look stunning throughout the year. This visual appeal applies to both evergreen trees and deciduous trees, even when they drop their leaves in the late autumn.

The curved trunk of Moyogi style appeals so highly to many Bonsai enthusiasts because it gives the impression of flow and movement. The style is also appealing to Bonsai enthusiasts because it's easy to find suitable material to create a Moyogi style Bonsai, with new stock readily available at all good suppliers. There's even a very high chance that you may stumble upon suitable stock for long-term projects at any good garden center. Failing that, you can easily grow new stock from cuttings and gradually bend the plant's trunk into the desired position as it grows.

Mel brought a black pine plant to our meeting, and during his demonstration he "strong-armed" (the process is quite physical) one into the Bonsai creation shown in the included pictures. In the picture of the finished Bonsai, the black tube-like object is a restraint to hold the vertical branch in place while the plant grows, until its shape is set.

### Ideal species for Moyogi Bonsai

The list of plants suitable for creating Moyogi Bonsai is almost

endless. Coniferous or deciduous trees can be used — even fruiting trees too. Among the most favored plants are the following:

- Japanese White Pine (*Pinus*)
- Crab Apple (Malus)
- Trident Maple (*Acer*)
- Japanese Maple (Acer)
- Juniper (*Juniperus*)
- Ponderosa Pine (*Pinus*)
- Beech (Fagus)
- Pomegranate (*Punica*)
- Black Pine (*Pinus*)
- Conifers

HIGHLIGHTS OF THE AUG. 2nd MEETING: The program for this meeting was a slideshow presentation of epi photos from "ExoticGarten". Jim Nones, Program Chairman, found the ExoticGarten website on facebook, obtained pictures and the background material, and Paul Richter made the actual presentation.

ExoticGarten is an online nursery in Germany that has over 1000 *epiphyllums, schlumbergera, rhipsalidopsis, hylocereus,* and *selenicereus* for sale. In his childhood, Steffen Latniak has always been a lover of cacti, but when he saw his first *epiphyllum* flower, he caught the epi fever. He bought cuttings wherever and anywhere he could. In 2007, he started his business. Steffen Latniak stated that all cuttings are in stock and can be purchased online.

Looking at the website's photographs, one can see many old hybrids that are not even available in the U.S.A. Many are at least 30 to 50 years old. They include old favorites such as 'Climax' (FOB 1955), 'Flamboyant Jeff' (FRE 1990), and naturally a number of Helmut Paetzold's (HP) Paetz series.

Please note 'Garten' is spelled correctly. As you would suspect, that's the German word for "garden".

### A SELECTION OF STEFFEN LATNIAK'S PHOTOGRAPHS





























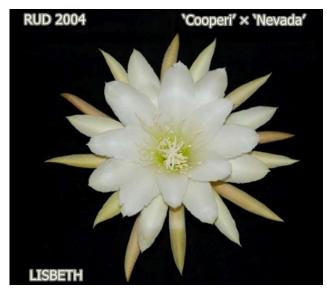








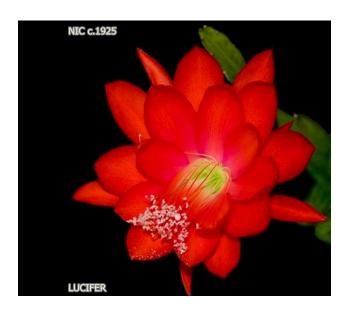








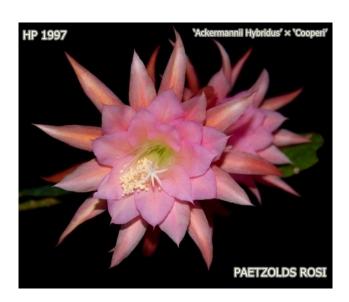














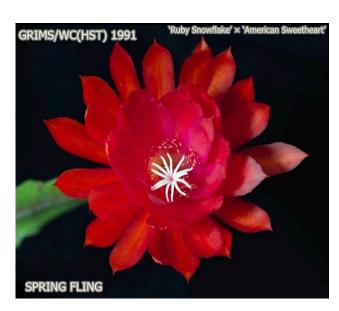




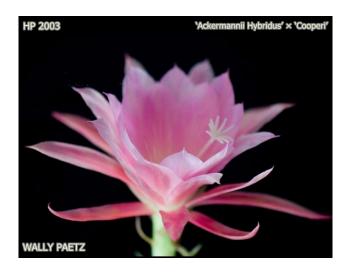








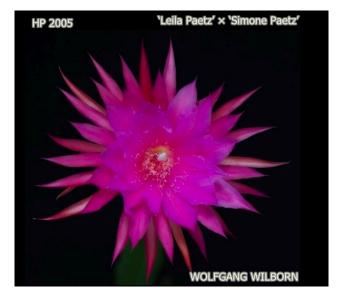














HIGHLIGHTS OF THE SEP. 5th MEETING: This meeting was the ESA's annual potluck dinner and silent plant auction, which is always a favorite with members and guests. As each attendee arrived, they placed their donated food item on the food table, and some also placed donated plant material on one of the three long plant tables. The food included lots of wonderful snack foods, main dishes, salads and lots and lots of desserts. The plant material included epi cuttings, planted epies in a number of different-sized containers, some epiphytic species and a number of other kinds of plants, particularly cacti and dragonfruit. See the pictures of the three auction tables.

Before and after dinner, each member prowled the plant tables and decided on what to bid on. After dinner, when Program Chairman Jim Nones turned us loose, each of us made our bids. Then we occasionally checked to see if our bid was still the winner, and if not, upped our bid or conceded that selection. When Jim announced that there was only a short time left, we all hovered near the selection that we wanted the most to see if a quick increase was going to be necessary in order to win it. At the end of the auction, we collected the items we had won, and paid for them at the register. The maximum bid was \$100 for Evelyn Shiraki's 'Booba'. The second-highest bid was \$80 for a cutting of 'Sigmund', a Derek Obayashi hybrid donated by SDES.



Silent Auction - A Mix of Different Things



Silent Auction - Raw Epi Cuttings

I paid for my cuttings with "Epi Bucks." Volunteers for the ESA earn one "Epi Buck" for each hour that they volunteer: whether that's volunteering at the Pentico on the weekends caring for the collection, or at our sales in the spring, or in my case, in working on this newsletter. We can ALWAYS use more volunteers! If you have the time, we have the work! Please contact Ken Hanke or Robert Kuettle to find out more. Their contact info is always at the beginning of each Bulletin.



Silent Auction - Rooted Epies & Other Plants

## Plant Cloning Kits

by Keith Ballard

As we all know, from time to time a very desirable epi goes extinct. I'm not talking about a "run-of-the-mill" epi but a very distinctly desirable one.

To try to save a variety, has anyone used a Cloning Kit? My questions include:

- Is the epi really going extinct? How did you go about searching for it?
- Why do you think the hybrid is worth trying to save?
- Is a cloning kit an option?
- Has anyone tried a cloning kit on an epi?
- There seem to be different kinds of kits available. What's best for an epi?
- Are the kits too expensive to use for this purpose?
- Has any one we know tried one? What were the results?

If you have tried a cloning kit on a epiphyllum, please let me know your results and what kind of kit you used at epinut01@juno.com. If I don't get any input I will have to make all the mistakes myself as I try it.

To begin my project, does anyone have the Wressey Cocke epi 'White Point'?



# A Brief History of the ESA Bulletin

By Keith Ballard

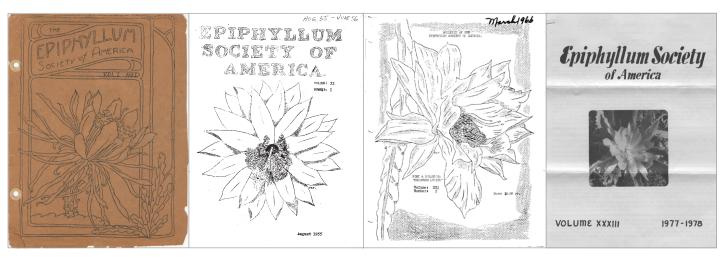
The ESA was organized in May 1940, as is stated on the current Bulletin cover, but there is no written record of the history of the ESA in its first five years. One would suspect that activities were somewhat curtailed by the WWII effort. Almost immediately after the August 1945 end of WWII, the first *Bulletin* appeared, dated November 5, 1945. A copy of the first cover is included in this issue, and Vol. I, Issue 1, contains this simple announcement that started the whole thing: "RESEARCH: At a recent meeting of the Society, it was decided to publish a series of Bulletins of which this is the first. It will contain several departments each having a definite object. The main theme will be of course Epiphyllums, their hybrids and other Epiphyllanae."

Down through the years *The Bulletin* has changed looks, style, approach and some content, reflecting the desires of the various editors, but in a very important way, it has stayed the same with the main theme still being Epiphyllums, their hybrids and other Epiphyllanae. *The Bulletin* still uses the original "loose leaf" style of the original issue (with just one exception over the years). The original organization in volumes (Vol.), with an initial issue and additional pages added throughout the year, like a scientific journal, is still used. Up to 1949 (Vol. V) only the first issue had a separate cover page. In the early 1950s, more and more cover pages with line drawings of epies appeared on various issues. Since Vol. XI (1955-56) all issues have had a true cover page. Over the 72 years of publication, the numbering system has changed from the clumsy Roman numerals for both Volume and Issue to Arabic numbers for both, with the individual "Issues" being designated by Numbers (No.). The tradition of the fall issue being Issue #1 for the given yearly volume, started by the first Bulletin, continues today.

The editor for Vol. I, Issue 1 is not stated, but by implication, was Mrs. Gertrude W. Beahm (Editor: Vol. I, #1 (1945) thru Vol. XVIII, #1 (1962)). Her Bulletins were filled with "epiphyllanae" articles

including epi culture, Society news, letters, announcements, member data (addresses, etc.) and cultivar data (names, descriptions, etc). Soon however, the membership data appeared as a separate document, the 1945-46 Membership Roster being the first. The cover of Vol. I, No.1 has a line drawing of an epi, and similar drawings appeared on the front cover of subsequent volumes, and sometimes the first page of the succeeding issues. The first cover was drawn by Mrs. Cactus Pete. Many of the line drawings on early issues are not signed, but later ones were signed by the ESA's "staff artist" Russell Redford. Many of these drawings were reused for years, including the first cover page, and I have reprinted some myself. Russell Redford also did some color paintings of epies. The first photograph of an epi, specifically 'Deutsche Kaiserin', appeared in Vol. I, No. 4 (Spring 1946), but photos were rare for many years. Some covers were on colored paper, and there were a few colored drawings, especially in the issues published near Christmas. *The* Bulletin has not always been published quarterly. There were six issues in Volume I, eight in Volume 2, seven in Volumes 3 and 4 and six in Volumes 5-15. Mrs. Beahm died Aug 18, 1962, just before her last Bulletin was distributed.

The next editor was Dr. Herbert S. Irwin (Editor: Vol. XVIII, #2 (1962) thru Vol. XXIX, #1 (1973)). In Dr. Irwin's first issue is found: "A glowing eulogy in tribute to our former editor, Mrs. Gertrude W. Beahm was given by Mr. Krebill. He pointed out that due to her work in the field of identification of species Epies, a new Species *E. Gertrudianus*. was named in her honor. Many did not realize before the obituary in our last Bulletin that Mrs. Beahm had been blind for over twenty years. By her wonderful extra-sense she could almost "feel" a color. Her highly specialized sense of touch helped her to visualize new hybrids and to distinguish between old favorites. Those of us who have difficulty identifying some of these by using only our sight would be astounded at this feat."



The Evolution of The Bulletin Cover (L to R) 1945, 1955, 1966, 1977

### The Bulletin

Dr. Irwin's Bulletins were fairly similar to Mrs. Beahm's in content, except more press was given to the Annual Show. The Show had become increasingly important to the Society over these years, eventually overtaking the Garden Tour and the Photo Contest as our most important annual event. The Show's rules first appeared in *The Bulletin*, but sometimes became so lengthy that they became a separate standalone document. Dr. Irwin's last years of Bulletins featured colored drawings of epies on the front covers. During his tenure as editor, there were six to seven issues per year.

The next editor was Velma Featherstone (Editor: Vol. XXIX, #2 (1973) thru Vol. 41, #4 (1986)). Velma changed *The Bulletin* in a number of ways. The look changed quickly. Dr. Irwin's colored issue cover pages lasted exactly one issue. For the next and following volumes, Velma returned to the earlier style where only the first issue had a cover page, intended for the whole volume. Eventually, even the single cover page disappeared along with all Roman numerals. Classified ads first appeared. But Velma's love and emphasis was on epi culture. As time went on, her Bulletins contained more and more long discussions on epi culture. As an aside, The ESA Directory of Species and Hybrids was conceived at an ESA picnic on July 26, 1953. Over the years, some descriptive data had been published on epies in *The Bulletin*, particularly for new epies. By the late 1970s, this data was made to be as inclusive as possible, including as many known epi cultivars as practical, and was collected into an alphabetical listing by epithet (name). Velma distributed this listing in installments with *The Bulletin* over a five or six year period ending about 1983 or 1984. By 1985, the complete listing was available as a standalone document, and Velma regularly included in *The Bulletin*, detailed instructions on completing the registration form for inclusion in the Directory. She also had an interest in the technical side of cacti as evidenced by her reprinting, in a number of installments, starting in Vol. 35, No. 4 (Mar-Apr 1980), the now somewhat-dated *Genealogy of Large-Flowered* Cactus Hybrids, by Gordon Rowley B.Sc. In addition, Velma also included black and white flower pictures, maps and detailed drawings in her pages, much more than her predecessors. For

Velma, six issues per year were standard. There were two more issues in Vol. 41, Issues 5 and 6, but no editor is named. Issue 5 is the first Bulletin to contain a cartoon.

From Vol. 42 (1986-87) into Vol. 50 (1994-95), spanning three editors, *The Bulletin* looked pretty much the same. Each of the standard six issues per year, except for the 50th Anniversary issue, were ten pages in length and used a standard header at the top of the first page consisting of the colored epi logo, plus the words "The Bulletin" and "The Epiphyllum Society of America" and identified the Volume and Issue numbers. The content was news, culture, drawing, pictures, announcements, and letters to the editor, along with cartoons, poems, and puzzles all in innovative layouts. The issue near Christmas was often especially festive.

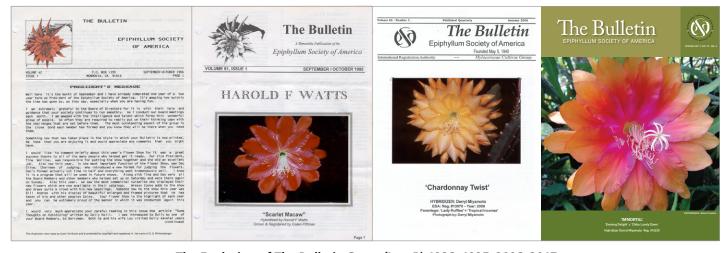
#### **Editors included:**

Eugenie Whaterberger (Vol. 42 (1986) thru Vol. 45, Issue 2 (1989)): Vol. 42 has the first pictures from our Annual Show, in black and white.

Bob Berg (Vol. 45, Issue 3 (1989) thru Vol. 49, Issue 3, (1994)): Bob Berg was the editor for the marvelous ESA 50th Year Anniversary Issue (Vol. 45, Issue 6), which contained lots of color pictures and articles on ESA history. This Issue is the only bound (soft cover) Bulletin, and is the source of the ESA history reprints in this issue.

Jim Hunter (Vol. 49, Issue 4 (1994) thru Vol. 51, Issue 2 (1995)): For Vol. 50, Jim Hunter made several changes to the front cover. A minor change was going to a black and white epi logo, to save money. However, the big change was to design a new cover style that iincluded an actual epi photograph to the front cover.

Raymond Eden (Vol. 51, Issue 3 (1996) thru Vol. 56 (2001)): Raymond returned to having a front cover page on each issue, and slightly changed Jim Hunter's original design by changing to the ESA logo designed years before by Velma Featherstone's husband, Porter. For Raymond, who was a professional writer, his main interest was the technical part of cacti culture. He went



The Evolution of The Bulletin Cover (L to R) 1986, 1995, 2006, 2017

to quarterly Bulletins to allow additional time to prepare quality results. He and Dr. Richard Kohlschreiber, applied for and the ESA became the International Registrar for epi hybrids. His Bulletins regularly included "Orders from Headquarters" with the technical requirements for such things as naming new hybrids. His articles abounded with technical details for all kinds of species and hybrid epiphyllums. But they also included a number of innovative features such as interviews with hybridizers, and a color picture sheet of each and every first place winner at the Annual Show, but cartoons, poems and puzzles found no place in Raymond Eden's Bulletins.

The current editor, Keith Ballard (Vol. 57 (2001) to present) continued the look of Raymond Eden's Bulletins up to the Vol. 70, No. 2 (Winter 2014-15) issue, when President Robert Kuettle found time to use his professional talents and experience for the design and layout of *The Bulletin*. The appearance of *The Bulletin* quality now approaches or equals other professional magazines.

After 72 years, *The Bulletin* continues to only include content described by Mrs. Beahm's Epiphyllums, their hybrids and other Epiphyllanaes and occasional other genus. The technical level is hopefully set at what is understood by most epi collectors.

# 'Connie Mayer' is a Rare Gem

by Keith Ballard

'Connie Mayer' is a different and rare epi hybrid, being the offspring of two species, namely: *Hylocereus stenopterus* x *Hylocereus undatus*. The growth is 3-angled but doesn't look like the typical epi, as its branches repeatedly divide and the new branches are often 2 feet or more long. The plant grows like a weed, and it does have some spines. It needs more sun to bloom than the typical hybrid epi, in fact I have mine in full afternoon sun. The buds also look different, with no tube and the outer petals looking like overlapping scales, and they are huge!

The hybridizer is Eckhard Meier (EM), who has originated 16 other registrations including the Hunsrück series, which may be found in the *ESA Registry*. He has also registered five more hybrids originated by others. 'Connie Mayer' appears to have two registered sister seedlings: 'Bruni' and 'Kathie van Arum'. The eight Hunsrück hybrids are not as rare as 'Connie Mayer' (and its sister seedlings) but are uncommon as epies go, in having one species parent. In this case it's the male parent, which is: *Selenicereus chrysocardium*.

There are number of epies in The Registry who have a common first name. In this case, that first name is a place. Hunsrück is a hilly region within the Rhineland-Palatinate part of Germany. Some quotes from their Internet ads are: "The Hunsrück is a hiking and biking paradise. But the Hunsrück has a whole host of other fascinating attractions: old mills beside babbling brooks, mighty castles and sleepy little towns such as Herrstein or Kastellaun where visitors are reminded of long-gone days, exploring the ruins of medieval fortifications and strolling along lanes lined with timber-framed buildings in the old quarters. Paths lead from these romantic spots to the Erbeskopf (818 m or 2684 ft.), the Hunsrück's highest peak, from where the whole countryside with its forests, valleys and riverside meadows lie at your feet." Hunsrück also contains the town where Eckhard lives.

Probably most of us will never have the opportunity to meet Eckhard personally, so here is some background information: Eckhard got into epies in 1971 or 1972 after seeing a bloom on what is now listed in the Registry as 'Capelleanus'. Eckhard and Kurt Petersen started the first German Epi group in 1974/75, which lasted until about 1979. Eckhard and Kurt Petersen started a new second German Epi Group in 1979 which eventually became Interessengemeinschaft Epiphytische Kakteen (EPIG). Eckhard is a prolific writer of epicactus articles, having had published not less than 172 articles from the years 1972 to 2007, for such publications as: EPIG Nr, C&SJ, Haseltonia, Epiphites, Kakusblile, Epi News, and the new ESA Registry. Eckhard is 79 years old and a retired high school English and Social Studies Teacher. Eckhard's favorite epies are: 'American Sweetheart' and 'Pink Plumes'. He was awarded the ESA's Founder's Award in 2007.



Flower of 'Connie Mayer'

# Epiphyllum Oxypetalum

by Raymond Eden

Reprinted from The Bulletin: Vol. 54, No. 2. KCB

One of the more common *Epiphyllum* species is *Epiphyllum* oxypetalum. Ironically, many who grow it know nothing about it, except that the plant has belonged to someone in the family for many decades. It is often called "Dutchman's Pipe" because of the shape of the floral tube and flower.

The plant is larger than most epi hybrids. It has the growth habit typical of *Epiphyllum* species. It sends up bare, cylindrical stems to a height of six feet (two meters) or more. If the tip of the stem touches a suitable surface, it attaches itself with air roots. At this stage, the spear-like stem develops lateral branches. If the top of the stalk does not attach to a surface, the weight of the side branches may eventually cause it to arch downward.

The lateral stems resemble "leaves" more than do those of the typical epi, which resemble *Epiphyllum crenatum* var. *crenatum*. The stems are crenate, but not deeply notched. *E. oxypetalum* stems resemble those of *E. thomasianum*, though the latter is generally more lush. The stems of the small flowered *E. pumilum* resemble a miniature *E. oxypetalum*.

E. oxypetalum had long been cultivated by native peoples when Europeans first discovered it in Mexico, Guatemala and Venezuela in 1828. Specimens were taken to Europe where it gained popularity in Victorian England. It became the custom for families and friends to gather near their plant in the evening and hold a vigil until the buds yielded the large, sweetly scented, white and roseine flowers. It is easy to imagine their faces glowing in dim candle light and speaking in hushed, almost reverent tones as the flower opened so rapidly the petal movements could be seen.

The British took *E. oxypetalum* and this custom with them throughout their Empire. However, it has had the most profound impact in the Orient. In Cambodia and Vietnam, it is believed that good fortune comes to the household where the flower blooms. The good luck was shared with friends and relatives who gathered to await the magical moment. Several people from Vietnam visiting the ESA's booth at Crystal Court in April 1998, told how their families had hidden precious stems of *E. oxypetalum* among their belongings as they fled their homeland during the Vietnam War. One lovely young woman translated the Vietnamese name for *oxypetalum* into English as "The King's Dragon-Head Boat." She said the name is derived from the similarity of the flower to the curved Dutchman's pipe vine (*Aristolochia*), which when viewed in profile, resembles the carved dragon head on the prow of the King's boat.

A Korean businessman told us the plant is considered an aphrodisiac in his country. He did not elaborate, and we didn't ask. A Korean student said a child conceived while the flower is in bloom will have good fortune.

A Chinese merchant told us that epi stems are pickled and eaten in his country. He did not know the recipe.

The flower is so deeply entrenched in the folklore of the Orient, that it is difficult to convince our Asian friends that it did not originate there. One man insisted a Chinese Emperor had canals dug from his palace to a site where *Epiphyllum oxypetalum* grew in the wild. The Emperor wanted to float on a royal barge to observe the plants in bloom. When it was explained that the plant originated in Mexico and had made its way to Asia by way of Europe, the man refused to believe it.



Epiphyllum oxypetalum

## It's All About The Flowers

by Keith Ballard

Ever since I first started growing epiphyllums, it's always been all about the flowers. The beauty and size of the flowers has always fascinated me. So, if it's all about the flowers, the care of the plants should be directed at improving the quality, number and size of their blooms.

**Counting Blooms/Repotting Interval:** If one is going to track the flowers, one first needs to know how many there are. However, counting the number of flowers on a daily basis is just too much work and takes too much time to be practical. So, as I have



described in previous Bulletins, I use the following method: on the first day a given plant flowers, I count and record that flower, plus the number of viable looking buds. If the plant also has a number of very small buds, I add half the number of those. Yes, this will probably not end up being the actual number of blooms, but it is a good approximation. Using this approach, I find that a newly repotted plant often has a higher flower count the year after it is repotted, and the number of blooms typically drops by about one each succeeding year. However, sometimes in the fourth or fifth year after repotting, the bloom count shoots up to about 1.5 times that of the previous year or more, but then in the following year, the number drops to one or two. Based upon this data I routinely repot on five-year intervals.

However, if a plant looks "bad," or has no new growth, or is yellow with sunburn, etc., I will probably repot it regardless of the number of blooms it had that year.

**Mix Composition:** I am sure that every epi grower has his or her favorite potting mix or mixes. In truth, epies are quite tolerant about their exact mix, and there may or may not be an outstanding "best" mix (for flower production). So, for the purpose of this study I'll use my seven different mixes as the examples. In mid to late repotting season last year, leaf mold became available after being off the market for some time. At that time, my standard mix was two parts each LGM Potting Soil, coir, #3 Perlite, one part orchid bark and the time release slow release fertilizer I have described in other articles. A few plants also were repotted with some different mixes including Kellogg Shade Mix and other mixes with coir. I have always felt that leaf mold is so much more superior to coir that it is worth its high price, so I dropped coir instantly when I found that leaf mold was available again. The new standard mix is two parts LGM Potting Soil, one part each leaf mold, #3 Perlite, and orchid bark, plus the same time release slow release fertilizer. I discovered that leaf mold had returned late in my 2016 repotting schedule, so relatively few plants were repotted with it in that year. This year all the repotted plants with the standard mix have leaf mold and most of the other trial mixes do also.

This year, I added a new trial mix for a few plants using worm castings as recommended in Geneva Coats's Bulletin article. The application rate on the bag is one teaspoon per inch of the container. That's three and one-third tablespoons for an 8 1/2" container. My epi garden is watered automatically with drippers which provide about 1/16" diameter stream of water, which will not wet a three and one-third tablespoon pile of anything. So, I used the worm castings instead of the fertilizer for this particular mix. If this approach has a significant enhancement to flowering, a separate worm castings application later in the year will have to be on the surface of the mix and an improved dripper approach will have to be found.

What Mix Will Be Best in 2018: Reporting season is over and my epies have been reported into a variety of seven different potting

mixes. Now we wait for next year's blooming, and let the flowers tell the tale of what worked best. The 2018 Summer Bulletin will have the results, and if there are one or more winners in enhancing the flowers over the standard mix, they should be revealed.

However, there is a potential problem with the science of this approach. To get valid results in a scientific experiment, one must vary only one variable at a time, such as the potting mix. Unfortunately, we have another variable we cannot control here in our outdoor gardens: the weather.

For some examples of how variable Los Angeles area weather can be, let's just look the last two years. In 2016 we did not have a real winter in this area. It never really got cold. That is to say, we never had the temperature go down into the 40s and stay there long enough for the epies to get a good "rest." We were also in the fourth year of a drought; total annual rainfall here normally averages about 14.8 inches per year and it was more like 8-9 inches in 2016. The blooming season was early, and there were generally less flowers than in previous years. A number of plants that in previous years have had multiple blooms, had only a single flower. In total for 2016, 208 plants produced 792 epi flowers, or an average of 3.8 blooms per plant. Late in the blooming season, the blooming rate fell off considerably, and we had only 18 flowers to take to the 2016 ESA Show in mid-May.

Late 2016 started in the same dry way. But suddenly and guite unexpectedly it started to rain, and it rained, and it rained. The total was 19.0 inches when it was over. I was surprised that we did not have a lot of trouble with rot, and the tell-tale mushy yellow branches it causes. The 2017 epi blooming season started in March and continued into July. Normally, early in the season, there will be a good stretch in which there is a plant blooming for the first time that season (and thus being officially counted by me) each day. Maybe halfway through blooming season, the blooming rate slows and there is a day or more between new plants blooming for the first time that particular season. This year something new bloomed each day almost through June. In total for 2017: 229 plants produced 991 blooms, or an average of 4.3 blooms per plant. Most of the members of the ESA that I surveyed also experienced a greater number of blooms in 2017 as compared to 2016.

What Made the Difference Between the 2016 and 2017: I think the difference was the rain, and the fact that its pH is lower than the city water we use to water our plants. Note: for more information on pH, see the article on the subject in this Bulletin. Per the LA Department of Water and Power's (DWP) website, the pH level of the tap water tested at a number of schools in 2016 was between 7.4 and 7.92. A pH of 7.5 is 10 times more alkaline, and a pH of 8.5 is 100 times more alkaline than the desired maximum of 6.5 for an epi! Rain has a pH 7.0 or less, so it is likely that the rain leached out many of the salts left by the years of tap water, lowering the pH, and the epies bloomed more.

## Epies and pH

by Keith Ballard

This is an abridged reprint from The Bulletin: Vol. 69, No. 2 (Winter 2013/14). KCB

**Background:** Epies are acid-loving plants. So the natural question is just how acidic do they like it? The pH scale is the measurement for how acidic, or alkaline (aka basic), a substance is. Thus, epi growers need some understanding of the role of pH in epi culture. pH is a logarithmic scale that ranges from 0 to 14, with pure water having a pH of 7 (neutral), at 25 degrees Celsius. This decreases slowly with increasing temperature. Tap water does not necessarily have a pH of 7. A substance is acidic with pH values below 7, and is alkaline with values above 7. As a substance becomes more acidic, the pH value decreases, or as it becomes more alkaline, the value increases. Since this is a logarithmic scale, a change from one number to the next, e.g. from 6 to 5 represents a change by a factor of 10. The values for pH and the derivations of pH have been set by International Agreement. Most often, pH is expressed as the measure of the concentration of the hydrogen ions. pH is measured by using specially treated indicator paper, solutions designed to change color at a specific pH, or by pH meters.

pH measurements are important in a wide range of applications from agriculture, medicine, biology, chemistry, agriculture, forestry, food science, environmental science, oceanography, civil engineering, chemical engineering, nutrition, water treatment and water purification, and many other applications. Some pH extremes include: pure hydrochloric acid at a pH of 0, and pure sodium hydroxide at 14.

**Epies and pH:** The usual pH range for epies is typically stated as: 6.5 to 5.5 which is called "slightly acidic." In California, epi growers lost a natural way to keep the pH in the proper range when oak leaf mold stopped being sold due to the "oak tree blight." Oak leaf mold has a number of desirable characteristics, including being naturally acidic. The replacement for oak leaf mold which is used by many growers is "coir," which is shredded coconut fiber. Coir has a pH of around 7 and fertilizer values of: 0-0-0. Its primary attribute is retaining water. In fact, for many epi growers, coir has also replaced peat moss (which is also acidic). However, oak leaf mold is now back on the market, but at twice the price.

Most of Southern California uses water from the Colorado River. The Los Angeles Department of Water's "L.A.'s Drinking Water Quality Report for 2014" gives a 7.5 as the maximum pH for the water we use for our epies, which is ten times (i.e. 6.5 to 7.5) more alkaline than desirable. At a minimum, we all should be using a fertilizer for "acid-loving plants" to lower the pH of our epi mixes.

**pH Control in Epies:** Is there a reason we might want to control the pH for our epies? Typical Time Release Fertilizer packaging is

labeled with the three percentage numbers representing the major constituents (at least in the U.S.), and sometimes also includes the benefits of each constituent. The constituents are Nitrogen (N) which enhances foliage growth, Phosphorus (P) which promotes root, seed and flower production, and Potassium (K) which improves plant vigor and disease resistance. The Phosphorus is usually in the form of phosphate, which becomes phosphoric acid, and is the constituent that is of interest for increasing or improving flower production. However, one should also avoid using too high a content of Nitrogen as well. George French, arguably one of the two leading hybridizers of the 20th Century, told past ESA President, Galen Pittman, to never exceed 8% Nitrogen. If the levels of Nitrogen are too high, an epi is more inclined to grow vigorously rather than bloom.

**Dangers Outside the Limits:** Outside of the optimal pH range of 6.5 to 5.5, I don't know what the lethal limits are for epies in either direction of pH. I don't like the idea of killing an epi on purpose to find out. I once killed a 'Mondora Bell' plant using a fertilizer with 40% phosphate, but the same fertilizer shocked a 'Wicked Witch 0' East' into blooming regularly. I have heard that everything will die in a mix whose pH is 4 or lower. Be especially careful with liquid fertilizers. For example, Liquinox's BLOOM is a liquid form of 0-10-10 such as we might use in the Spring. BLOOM has a pH of: 0.4. Dilute it well, a tablespoon per gallon of water with an infrequent application, such as every 6 weeks. An alternative application follows the old adage "weakly, weekly." To equal the six week total dose above, using a weekly schedule, reduce the fertilizer amount to just 1/2 teaspoon per gallon of water per week.

On the alkaline side, I would also be careful. Early in my epi growing days I was buying pre-mixed potting mix that included garden soil. Everything sickened or died when I used one particular bag of purchased mix. I assume it was due to some unintended strong alkaline content in the garden soil. That's when I started making my own potting mix. It probably is safe enough, especially if you don't want to re-blend Time Release Fertilizers, to simply use "acid-loving" Time Release Fertilizers directly from the box.

### A Vintage Epi Culture Presentation

by Galen Pittman

I was prowling around in the old Bulletins looking for something interesting to reprint, and I found the following article from Vol. 63, No.1 (Autumn 2008). KCB

**Highlights of the August 5th 2008 Meeting:** An epi culture session lead by Galen Pittman was the program for this meeting. First, there was a pre-program discussion on "Dragon Fruit." "Dragon Fruit" is the fruit of the epiphyllum species *Hylocereus* 



undatus. There are a number of flavors. Plants are available both as seeds and as cuttings. They grow well in Southern California and require the usual culture for species epies, with the same temperature limits and the same shade requirements.

**Re-Balancing Plants:** Galen had brought in an epi in a hanging pot. He said that the membership had seen many actual repottings in the past, so he was not going to do an actual repotting, but was going to add some additional information about repotting. As he was breaking off the dead and dry branches from the epi, he had us observe that the plant was not symmetrical. Epi branches grow toward the sun, and if not rotated at regular intervals, a plant will become lopsided with more or larger branches on one side. With large collections, such as Galen's or my own (KCB), the pots don't get rotated. In such cases, Galen would often take cuttings from the full side of the pot in order to rebalance the epi.

Root Stimulator-"Roots": Root enhancers or rooting hormones, such as "Rootone" have been around for many years, most being a powder and most seeming to be of dubious value. However, Galen and for that matter, Pat Dobbins of Epies by Pat, use an enhancer called "Roots." "Roots" seems to be different. Galen describes it as a "green goo," but being a gel it sticks to the places you want to treat much better than does a powder. He paints "Roots", using a Q-Tip, on the fresh raw end of the cuttings and on what will be every below-ground areole, and the cuttings seem to survive just fine. In addition, Pat Dobbins feels that cuttings root significantly faster if treated with "Roots."

"Roots" has only a limited availability; the only place that Galen knows of to get it, is www. leevalley.com. Other members felt that it might also be for sale on EBay.

Clipping the Branch Terminal Ends: Galen's observation is that most flowers appear close to the ends of the branches. Thus, a more compact plant of many short branches will produce more blooms than one with a few long branches, Therefore, when a branch reaches a given length, Galen clips the terminal end (i.e. the growing tip) with his thumbnail to stop the branch from growing any longer. This practice often causes a healthy plant to put out new branches, resulting in the desired compact plant with many branches.

**Remove "Rabbit Ears":** Galen repeated the usual culture instruction about eliminating "rabbit ears" (i.e. the name given to new growth at very top of a rooted cutting). He was asked why this is important, and his answers make a lot of sense. First, a long shoot on the top of a rooted cutting in a small pot makes it top-heavy and it falls over. This may necessitate a premature up-pot. Second, and the answer I have heard most often is, the shoots that come up from the roots are much stronger. The third reason, that I had never heard before, has to do with the way epies eliminate old growth. Epies reach a point where older growth is naturally eliminated. What's the first oldest growth? It's the original cutting, of course. So the plant either eliminates

it, along with the new growth and its potential blooms, or it continues to try to support the newer growth through an increasingly degenerating branch, probably sapping the newer branch's strength and growth and / or its bloom quality and size.

**Labeling Epi Pots:** Galen's remarks on labeling pots are as follows:

**Printed "Dymo" labels:** are good. Over time they will "weld" themselves to the pot.

Brother "P-Touch" labels: There are now a number of relatively low cost, small label-making machines. KCB

Plastic popsicle-stick style labels that you stick in the potting mix: Only a soft pencil will not fade from them. The real problem is they will become brittle from sun exposure and break with time. However, sticks buried in the bottom of the mix will last. KCB

China marker: Writing directly on the pot seems to be the best solution of all. Galen has pots that are at least 25 to 30 years old that Ethel Hurst marked with a china marker that are still perfectly legible.

**Potting Mixes:** Of the members present, everyone started their mix with a commercially-purchased potting soil of some kind, at least in part. For example, some use LGM, some use SuperSoil and others use Kellogg. Galen uses Miracle Grow potting soil from Walmart. He also said: remember that some of the commercial mixes include peat moss. Peat moss is terribly hard to rewet if it ever becomes completely dry. Avoid the low-cost commercial mixes as they have been found to have up to 90% reclaimed lumber. Lots of members' mixes today include coir. Coir is the compressed husks of coconuts. It comes in compressed bricks of shredded husks, or chunks. The more expensive coir has less salt in it. The lower cost coir comes from coconuts that are fished out of the ocean. Galen has a heavy duty chipper available, and can make his own coir-like material from palm fronds. He also uses the chipper to shred old Christmas trees which he adds to his mix. Epi plants extract silicon from sand or Perlite that has been included in a mix, and form a protective coating on their branches with it. Epi mixes formerly included leaf mold, but it has almost disappeared from the marketplace, because of the state of California's concern about spreading "Sudden Oak Death."

Limiting Fertilizer Nitrogen: The slow-release fertilizer that Galen has been using is called "Start and Grow" and has analysis percentages of 6-20-20. Unfortunately, he cannot get it anymore. He is currently trying to replace it with something else. Replacement is difficult especially because of the low Nitrogen percentage and high percentage of the other two chemicals. Why this particular set of percentages? George French told him once to never exceed 8% Nitrogen. I asked Galen why, and he said that the low Nitrogen number produces thick and fat epi branches, which produce more and stronger flowers.



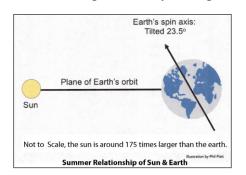
### Watch the Corners

by Keith Ballard

If you are like most epi growers, you put up your shade cloth or other shade means, and never gave it another thought. However did you consider the fact that the angle to the sun changes a little bit all the time, every day of the year?

The angle of the sun changes because of two factors: the earth's axis and it's orbit around the sun. The rotational axis of the earth is tilted about 23.5 degrees from the plane of the sun (*see illus*.) The drawing shows the earth's rotational axis tipped toward the sun, which results in the seasonal changes marked by differing

day lengths. In the northern hemisphere, the longest day length occurs around the 21st of June when the spin axis is pointed at the center line of the sun's disk. This day is called the Summer Solstice, and this is when the sun



appears highest in the sky from the northern hemisphere. As the earth approaches the solstice the sun rises in the sky, and sinks as it leaves the solstice.

The earth spins around its rotational axis as it orbits around the sun, but the axis itself does not change its tilt in any way. Thus, when the earth has moved 90 degrees in its orbit from its position of the Summer Solstice, the earth's axis tilt is at a right angle to the sun's disk. This position of the earth is called the Equinox (meaning: equal night). This is the time and date (twice each year) during which the sun crosses the celestial equator, and day and night are of equal duration.

90 orbit degrees later is the Winter Solstice. Here the earth's rotational axis is tipped away from the sun, which results in shorter days in the nortern hemisphere, with the minimum length of day around the 21st of December. Referring again to the drawing, for this position of the earth, the drawing would change to where the sun would be to the right of the earth and the U.S. would be tipped up like Africa and Europe are in the current drawing. The total change in the angle of the sun's position as it moves up and down is twice the 23.5° tilt of the earth's rotational axis, or around 47°.

In addition, the earth's orbit is not a circle but actually is slightly elliptical. This causes the sun, when viewed at the same time of day, to drift west for half the year and east for the other half. However, this does not have any impact on the effectiveness of solar protection for your epies.

So why do we care about any of this? What does it matter that the sun moves up and down with the seasons? It's because we depend

on our solar protection to shade and protect our epies, but as the sun moves up and down this protection also moves. So, the question is: does the shadow of my solar protection cover all the corners and edges of my epi collection all year long? The downward motion of the sun is potentially the biggest threat, assuming that the solar protection has a top cover. Real damage can be done to our epies if the solar energy can get under the shade protection, especially when the days are relatively long. The sun's intensity does not change during the year, but the shorter days as the earth approaches or leaves the Winter Solstice position result in less solar energy reaching earth due to less time of exposure. In addition as the sun lowers in the sky, or rather as the earth tips up, the sun's energy must travel through more and more of the earth's atmosphere; and as a result; its intensity is reduced up to a maximum of about 10%.

The simple answer to the exposure question can be gained by watching what happens to your shade line, at least once, on or around Dec 21st, and making corrections if needed.

### What is a Succulent Plant?

As the saying goes: "All cacti are succulents, but not all succulents are cacti." So just what is a succulent?

Succulent (Latin: *succos* = juice, sap) plants from more than 60 families and 300 genera have evolved special water-storage tissues in thickened or swollen leaves, stems or roots as an adaptation to arid environments. By making the most of scarce available moisture, succulents can survive in habitats that are far too dry for most other plants.

### The different types of Succulents include:

**Leaf Succulents:** Leaves are almost entirely composed of water storage cells covered by a thin layer of photosynthetic tissue. Examples include: *Aloe, Haworthia, Lithops, Sempervivum*.

**Stem Succulents:** Fleshy stems contain water storage cells overlaid by photosynthetic tissue. Leaves are almost or entirely absent, reducing surface area to prevent evaporative loss of water. Examples include: most cacti, including our epies; *Euphorbia obese; Stapelia*.

**Root Succulents:** Swollen fleshy roots store water underground away from the heat of the sun and hungry animals. Stems and leaves are often deciduous and shed during prolonged dry seasons. Examples include: *Calibanus hookeri, Fockea edulis, Pterocactus kunzei, Peniocereus striatus*.

The above types may occur in combination, with more than one organ used to store water. Some caudiciform succulents store water in both roots and swollen stems, with either deciduous or long-lived fleshy leaves. Examples include: *Ceraria pygmaea, Tylecodon paniculatus, Cyphostemma juttae.* 



# Calendar of Events

#### October 2017

**ESA GENERAL MEETING** 

Tue, Oct 3, 7:30 pm

**Program:** San Diego's Don Im award winning photography showcased the 2017 ESA Flower Show winning flowers and entries. **Refreshments:** Members with last name starting with N thru Q the October meeting is your turn to bring snacks, help serve and clean up.

**Location:** Arboretum of LA County, Bamboo Room.

**ESA BOARD MEETING** 

Mon, Oct 23, 7:00 pm

### **November 2017**

**ESA GENERAL MEETING** 

Tue, Nov 7, 7:30 pm

**Program:** Making The Cut: Hybridizer and ESA President Robert Kuettle discusses his process of hybridizing and the selection and elimination of his hybrids.

**Refreshments:** Members with last name starting with R thru Sa the November meeting is your turn to bring snacks, help serve and clean up. **Location:** Arboretum of LA County, Bamboo Room.

**ESA BOARD MEETING** 

Mon, Nov 27, 7:00 pm

#### December 2017

**ESA Holiday Dinner** 

Sun, Dec 10, 3:00pm

**Program:** ESA Annual Holiday Dinner and Award Celebration

Location: CoCo's Bakery Restaurant, 1150 W. Colorado Blvd., Arcadia, CA 91007

### **January 2018**

**ESA BOARD MEETING** 

Tue, Jan 2, 7:00 pm

### Refreshments Schedule

To find when it is your turn to bring refreshments for an ESA meeting, look for your last name initial in the column to the left. The meeting date to the right is when you have the privilege of providing food, serving and cleaning up. Please, note that name listing is often completely revised for each Bulletin.

LAST INITIAL MEETING DATE	Sc-WTue, Feb 6, 2018
N-QTue., Oct. 3, 2017	Be-CTue, Mar 6 2018
R-Sa Tue., Nov. 7, 2017	D-HaTue, Apr 3, 2018
No General Meetings in Dec 2017, Jan 2018	He-KuTue, May 1, 2018