

MAMMILLARIA THORNERI

# Espinas y Flores

BULLETIN OF THE SAN DIEGO CACTUS AND SUCCULENT SOCIETY  
 Affiliate of the Cactus and Succulent Society of America, Inc.

VOLUME XXX NUMBER TWO, SATURDAY, FEBRUARY 11, 1995 @ 1:00 PM



**Florida Key Tree Cactus *Cereus robinii***

STATUS

Endangered

DATE LISTED

July 19, 1984

POPULATION

Five known populations totaling fewer than 200 individuals

HABITAT

Cactus and hardwood hammock

RANGE

Florida Keys

THREATS

Plant collecting, human encroachment

## Our Cover: Florida Key Tree *Cereus robinii*

The Key tree cactus, once common throughout the Florida Keys, is now reduced to five populations with, at best, a total of 200 individuals. There are thought to be another two populations in Cuba, although there the plant goes by another taxonomic name.

The Key tree cactus is a striking plant, in the true cactus tradition. It typically lives for 100 years or so, growing an inch every couple of years until it is 20 feet or more in height. But these plants are not lone sentinels. They grow in clumps alongside trees and shrubs, their tops level with the ambient canopy. This cactus hammock habitat, or thorn forest as it is known in the West Indies, grows thick and lush in the rainy season.

The long flower of the Key tree cactus is particularly beautiful. It is four inches in diameter, mostly white in color, with touch of pale green and purple. The flowers are even harder to find than the plants, for they bloom only in the evening to attract moths and each blossom last only for a single night. By morning, the flower is already withering.

Whether the Key tree cactus will disappear along with its flowers depends on the vigilance of the administration of the National Key Deer Refuge where most of the extant specimens are found. Their whereabouts is not publicized, for these big cacti are threatened both by those who love them to death – plant collectors – and by vandals who would carve their names into the plant flesh. Yet the more people understand the cactus's unique value, the greater the likelihood of its survival.



The Key tree cactus with photographer to indicate size. Our cover photo and information from a wonderful new book *WITNESS, Endangered Species of North America* by Susan Middleton & David Liittschwager, Chronicle Books, San Francisco, c. 1994.

## FEBRUARY SPEAKER: *Seymour Linden*



Seymour Linden

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Seymour is the past President of the Cactus & Succulent Society of America and an Associate Editor of *The Euphorbia Journal*. Receiving his PhD in chemistry from U.C.L.A., he taught there between 1945-1947, leaving to form his own company. Seymour is an articulate, dynamic, and vigorous protagonist of both cactus and succulents and of their worldwide conservation. Retired, Seymour has been on multiple expeditions: to South America with Werner Rauh and Myron Kimmach, two trips to Somalia and one to the Sudan with intrepids like Jerry Barad, Susan Carter, John Lavranos and Myron Kimmach. Seymour resides in Los Angeles.

Our slide show program will feature the botanical exploration of Somalia, a poverty stricken and war torn nation. Seymour has participated in two expeditions to Somalia (Sept.'85 & Nov.'86) travelling to areas that have not been botanized for years, if ever. Seymour is honored by having *Monadenium lindenii* named for him. Information courtesy *THE EUPHORBIA JOURNAL*, volume 9, Strawberry Press.



Kudos and applause to Tom DeMerritt, presiding SDC&SS President at the January meeting. Not only did he start our meeting perfectly on time, he also kept all the appropriate programs going and still managed to adjourn the meeting way before dark (which comes awfully early on a dark January Saturday!). Good job Tom!!

Thank you Dorothy Byer - your program was terrific. The San Diego Cactus & Succulent Society is very very lucky indeed to have such talented and knowledgeable members. Dorothy confessed that she felt her January presentation was as good if not better than her program for the Huntington Succulent Symposium in 1994. All who attended were impressed. This program is sure to keep getting better as Dorothy's body of artwork grows! We all are looking forward to her participation in the 1997 CSSA Convention.

Congratulations SDC&SS members Phyllis and Ed Sheldon who celebrated their 50th Anniversary in December 1994!! Not a bad feat for such youngsters!

And congratulations to Lorna Sue & Merle Odegaard who were just recently married!

Just a note of love and acknowledgment regarding the passing of Dave Messinger. Dave was a member of SDC&SS in the early '90's and significant in the tremendous contribution of time and energy he gave to the club during the June Show & Sale. Talented, intelligent and spirited he will be missed. Our condolences to Dave's mother Mille Williams and Jim Williams.

## **RAIN, RAIN, GO AWAY, COME AGAIN . . . .**

You think that you've had enough of all this rain? Think again. A review of the rain statistics (kept since 1849) shows that "sunny, fair, and mild" San Diego has had its tempestuous moments.

### RECORDS FOR SAN DIEGO COUNTY

**Most rain in one day at any location:** Lake Henshaw Dam, 14.48 inches on February 16, 1927.

**Most rain in one day at Lindbergh Field** (official data collecting station): 3.23 inches on April 5, 1926.

**Most rain in one year:** Lindbergh Field, 27.59 inches, 1884.

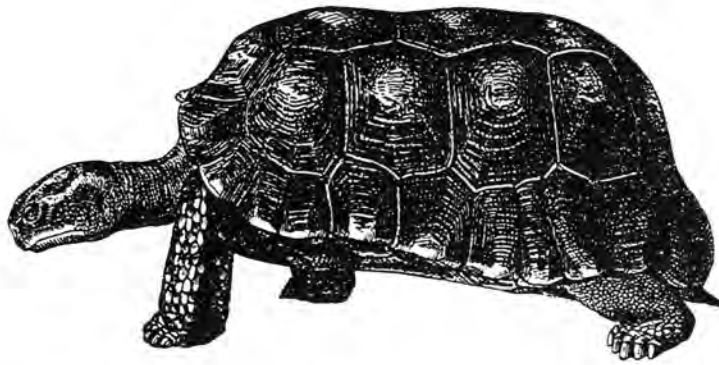
**Most rain in the shortest amount of time:** Campo, San Diego County, 11.50 inches in 80 minutes on August 12, 1891. (This a record for the whole state!)

**WORLD RECORD for the most rain in one hour:** a tie! Twelve inches in 60 minutes at Holt, Missouri on June 11 1947 and the same twelve inch deluge for Kilauea Sugar Plantation in Hawaii on January 24 and January 25, 1956.

Source: Union Tribune and National Climatic Data Center, Asheville, NC, and Jim Goodridge, Climatologist.

PLEASE CONTRIBUTE TO THE SUCCESS OF OUR SOCIETY BY BRINGING IN REFRESHMENTS FOR THE BREAK THIS MONTH. WE EXPECT MANY VISITORS AND WILL NEED TO EXTEND OUR HOSPITALITY TO OUR GUESTS AND OTHER FRIENDS.





**BRAG TABLE WINNERS FOR JANUARY 1995:  
JUDGED BY ALAN WEISS**

**CACTUS:**

FIRST PLACE: BEVERLY KIRKEGAARD'S *Neopterteria nidus v. gerocephala*

SECOND PLACE: DON PATTERSON'S *Mammillaria (Cochemia) pondii*

SECOND PLACE: SHIRLEY BERRY'S *Mammillaria chionocephala*

THIRD PLACE: DYLAN HANNON'S *Matucana species*(unknown)

THIRD PLACE: FLOYD GABLE'S *Mammillaria gemnispina var. longispina*

**SUCCULENT:**

FIRST PLACE: RUDY LIME'S *Pelargonium cortusifolium*

SECOND PLACE: SHIRLEY BERRY'S *Sepervivum species*

THIRD PLACE: DON PATTERSON'S *Sarcocaulon inerme*

THIRD PLACE: RUDY LIME'S *Euphorbia stellata*

**NEW BOOKS IN THE SAN DIEGO CACTUS & SUCCULENT LIBRARY**

Ted Anderson, Salvador Arias Montes & Nigel P. Taylor, Threatened Cacti of Mexico

Robert T. Clausen, Sedum of North America of the Mexican Plateau

Han Daamen, Cacti & Other Succulents on Stamps

Susan Delano McKelvey, Yuccas of the Southwestern United States

Ken Preston-Mafham, Cacti and Succulents in Habitat

Mats Thulin, editor, Flora of Somalia volume I

Ernst van Jaarsveld, Gasterias of South Africa (2)

Daniela C. Zappi, Pilosocereus - The Genus in Brazil

and periodicals:

Bradley 12 (bound with 9-11)

Cactus File volume I

CSSA Journal vol. 65, 66, & 65-66

Espinas y Flores vol. 26-28

Euphorbia vol. 7 & 9 (2)

Excelsa #14 & 15

Haseltonia #2

Wanted: The Cactus and Succulent Journal of Great Britain

v. 44 #3 & #4, v. 33 #4, v. 34 #1-4, v. 37 #1-4.

Respectfully submitted, Rick Latimer, ex-Librarian

# THE CACTUS AND SUCCULENT SOCIETY OF AMERICA

proudly presents its 26th Biennial Convention in  
TUCSON

Come join us in Tucson, Arizona, June 18–23, 1995, for the most wonderful CSSA convention yet! The convention will be held in the beautiful, fully air-conditioned Doubletree Hotel (445 South Alvernon Way, Tucson, AZ 05711 / Tel: (602) 222-TREE; FAX: (602) 323-5225). We have negotiated a special \$53.00-a-day convention rate for up to four people per room. You are responsible for making your own room reservations directly with the Doubletree.

The slate of speakers is an impressive one, including speakers from Africa, Mexico, Madagascar, Europe, and, of course, the U.S. The theme of our convention is the ethnobotany of succulent plants. Many of the speakers will talk on the uses native peoples around the world have made of the plants that we enjoy so much as a hobby. A look at the program should be enough to whet the dullest appetite!

We are offering exciting pre- and post-convention trips. The pre-convention trip will be a 6-day tour of the "Sky Islands" of SE Arizona. The Sky Islands are large mountain ranges that rise up out of the desert like islands out of a sea. The participants will stay in Cave Creek in the Chiricahua Mountains and make day trips to look at the incredible flora and fauna. This is a must if your interest in cacti is coupled with an interest in rare birds, as this area is internationally known for its bird life.

The post-convention trip is one of the most exciting ever offered by CSSA. This 8-day trip will explore the famous Barranca del Cobre (Copper Canyon), the Grand Canyon of Mexico. Participants will travel from Topolobampo, on the Sea of Cortez, through the Barranca to Ciudad Chihuahua by first class train. There will be several overnight stops in the canyon and side trips to see the extraordinary plant and animal life of this rich area. This area is inhabited by the Tarahumara Indians, the famous runners of the Sierras. We will have ample time to see the Tarahumara and purchase some of their world-renowned crafts.

If you are interested in either of these trips, contact Borderland Tours at 1 (800) 523-7753. Mention that you are inquiring about the CSSA tours.

In addition to the pre- and post-convention tours, we are offering two field trips during the convention. One trip will go to Phoenix to visit the Desert Botanical Garden and then on to Superior to visit the Boyce-Thompson Arboretum, both well-known for their wonderful displays of plants. This trip will take all day. Lunches will be provided.

The second field trip will be a visit to several of Tucson's cactus and succulent nurseries. This trip will also take most of the day. Lunches will be provided. Participants will be able to purchase from each of the nurseries visited.

The desert surrounding Tucson has some of the most picturesque landscape in the world: spectacular mountains, unlimited vistas, huge saguaros, and chamber-of-commerce sunsets. If you miss this convention, you'll be kicking yourself for years to come!

Looking forward to hosting you in Tucson! For more information, call:  
Chuck Hanson, Convention Host Society Chairman (602) 883-9404

## Convention Speakers

*"Cacti & Succulents...food for body and soul, or how to make ethnobotany palatable"*

- Dr. Gary Nabhan & Dr. Steve Buchmann (USA)—"Pollination Ecology of Some Rare Sonoran Desert Succulents"
- Dr. Rob Wallace (USA)—"Sitters, Splitters, Lumpers, and Grumpers: Understanding Modern Plant Classification"
- Dr. Richard Felger (USA)—"Ancient and Future Uses of Sonoran Desert Succulent Plants"
- Dr. Len Newton (Kenya)—"Len Newton's Africa—The Adventures of a Plant Enthusiast in Africa"
- Mary Wilkins (Zimbabwe)—"Succulent Cucurbits"
- Susan Carter Holmes (UK)—"Twenty-Four

Years of Succulent Exploration in Northeast Africa" (Keynote)

- Gerhard Marx (South Africa)—"Subglobose Medusoid Euphorbias of South Africa"
- Alfred Razafindratsira (Madagascar)—"Succulents of Madagascar"
- Anthon Ellert (Zimbabwe)—"The Aloes of Zimbabwe and Their Culture"
- Charles Glass, Elena Aguilar de Mendoza, and Humberto Fernandez (Mexico)—"Cactus and Succulent Exploration in Mexico—The Next Generation"
- Steve Hammer (USA)—"New Mesemb of South Africa"
- Dr. Joseph McAuliffe (USA)—"The Saguaro Chronicles and the Prophets of Desert Doom"
- Dr. Larry Mitich (USA)—"Movers and Shakers in the Cactus World"
- Charles Glass & Elian Jimenez Perez (Mexico)—"Propagation and Population

Studies of Endangered Cacti in Mexico"

- Dr. Len Newton (Kenya)—"Succulent Plant Discoveries in East Africa—A Historical View of Ethnobotany"
- Mary Wilkins and Anthon Ellert (Zimbabwe)—"The Succulents of Hwange, Zimbabwe"
- Gerhard Marx (South Africa)—"New and Lesser-Known Succulents of the Eastern Little Karoo, South Africa"
- Dr. Rob Wallace (USA)—"Revision of the Genus *Eriocyce*"
- Dr. David Tufenkian (USA)—"Slide Shows of Members' Collections"
- Susan Carter Holmes (UK)—"Some New Aloes and Euphorbias of Central and South Africa"

Events also include slide shows and lectures, panels, rare plant auction, book and plant sales, Indian Saguaro Harvest, banquets, etc.

# CACTI-OF-THE-MONTH: RHIPSALIDANAE

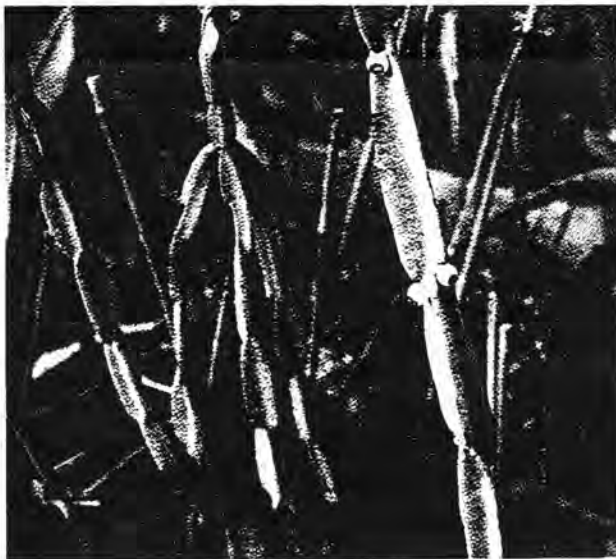
## BY RICK LATIMER

A "typical" cactus lives in the deserts of the Americas. Plants may be segmented cylinders, as on Chollas, or pads, as on Prickly Pears, or in the cereoid group: columns, barrels or clumping spheres. Some of these species may also occur among grasses and shrubs. What is a surprise to many people is to find cacti - members of the Cereinae group growing in the tropical rainforests. Being only slightly spiny, some completely spineless, these cacti thrive growing on other plants and trees, epiphytically.

It was originally assumed that these epiphytic cereoid cacti were all related to each other. Recent studies have shown that the mostly large, long-tubed flowering group which includes the genera *Selenicereus*, *Hylocereus*, *Epiphyllum*, and *Discocactus* is derived from ancestors that originated in North America and is closely related to such genera as *Harrisia* and *Nyctocereus*.

In contrast to this, we have the predominately small, tubeless flowering group which includes those genera listed on the following page that originated in South America and are closely related to such genera as *Erdisia* and *Corryocactus*. In the genus *Lepismium* we have plants whose center of diversity is Bolivia and Argentina, with a few species extending into Brazil.

Photographs courtesy of CACTI by Innes & Glass, Portland House, c.1991



**LEPISMIUM PARADOXUM** (Salm-Dyck)  
Backeb.

Syn: *Rhipsalis paradoxa* Salm-Dyck

An epiphyte with long, jointed stems with acute angles, twisted into shorter joints at intervals of  $\frac{3}{4}$ - $2\frac{1}{2}$ in with a whitish areole at the top of each angle. Flowers, which are diurnal, occur in late spring; they are white, and about  $\frac{3}{4}$ in long. The fruits are white, turning reddish. Requires partial shade; normal cactus compost; minimum temperature 50°F. *Brazil (Sao Paulo)*.



**RHIPSALIS LINEARIS** K. Sch.

A bushy, pendent epiphyte, freely branching, with pale green stems 2ft or more long. The joints are leaf-like with a prominent midrib, 2-8in long, 2-3in wide. The margins are notched, and a small, slightly woolly but spineless areole is set immediately above each notch. Flowering by day in late spring, the flowers, about  $\frac{2}{3}$ in long, are white and so are the fruits. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Argentina, Brazil, Paraguay*.

## RHIPSALIDANAE BY RICK LATIMER CONTINUED . . .

### subgenus *Lepismium*:

*Lepismium houlettianum* has flat stems with dark red to black fruits and pink or white flowers.

*Lepismium lorentzianum* has flattened or three-angled green stems with whitish areoles set in notched margins.

*Lepismium warmingianum* has triangular thin stems with white flowers and black fruit.

### subgenus *Acanthorhipsalis*:

*Lepismium monacanthum* known in the trade as "Bittersweet" this plant has spiny triangular stems, orange flowers and orange fruit that turns pinkish.

*Lepismium crenatum*

*Lepismium incachacanum* has flat bristly stems that look like those of *Strophocactus wittii* and red flowers.

*Lepismium brevispina*

*Lepismium paranganiense* has flat to three angled stems with white flowers.

### subgenus *Lymanbensonia*

*Lepismium micranthum* has triangular stems and purple flowers.

### subgenus *Ophiorhipsalis*:

*Lepismium lumbricoides*

*Lepismium aculeatum*

### subgenus *Pfeiffera*:

*Lepismium ianthothele* has spiny stems and large (for this group) spiny pink fruit.

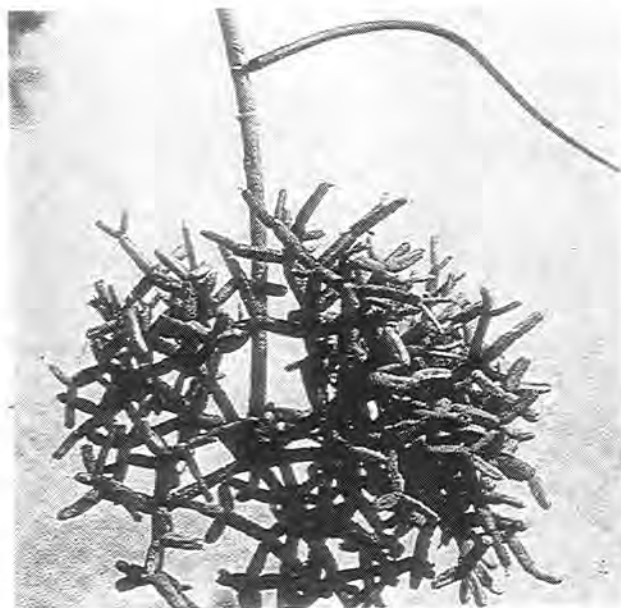
*Lepismium miyagawae* has erect triangular bristly stems and yellowish flowers.

In the genus *Rhipsalis* we have about fifty species with round, angular or leaflike stems. The subgenus *Rhipsalis* has about 35 species, such as *Rhipsalis baccifera* with round stems and a habitat that falls outside the Americas with plants being found also in Africa, Madagascar and Sri Lanka. This plant is probably the least cactus-like of any cactus. Other species in this subgenus are: *Rhipsalis floccosa*, *Rhipsalis paradoxa*, and *Rhipsalis pentaptera*. In the subgenus *Phyllarthrorhipsalis* we have the leaflike plants such as: *Rhipsalis rhombea*, *Rhipsalis pachyptera*, and *Rhipsalis crispata* of about eight species. In the subgenus *Erythrorhipsalis* there are about seven species including: *Rhipsalis pilocarpa*, *Rhipsalis cereuscula*, *Rhipsalis clavata*, *Rhipsalis burchellii*, and *Rhipsalis mesembryanthoides*. With some species of this genus having white fruits, the plants are often called "Mistletoe Cacti". Although the flowers are small for the cactus family and usually white they bloom profusely at this time of the year (January - February) when many of our other plants lie dormant and not blooming.



## RHIPSALIDANAE

BY RICK LATIMER CONTINUED . . .



RHIPSALIS CEREUSCULA Haw.

A well-known pendent epiphyte which forms a many-branched plant up to 2ft long. The longer stems are 4in–1ft in length, while the shorter are arranged in whorls, the joints about  $\frac{2}{3}$ in long. All branches and joints are cylindrical in shape, and  $\frac{1}{10}$ – $\frac{1}{5}$ in thick. The small areoles have wool and two to four bristles, and the flowers are produced from the tips of short joints. They are  $\frac{2}{3}$ in long, with whitish petals and pinkish-green sepals, and are day flowering, in spring. Requires filtered light; normal cactus compost; minimum temperature 50°F. Brazil (Sao Paulo), Argentina, Paraguay.



LEPISIUM WARMINGIANUM (K. Sch.)  
Barthlott  
Syn: *Rhipsalis warmingiana* K. Sch.

A branching epiphyte with dark-green, reddish-edged stems 4in–1ft 3in long and about  $\frac{3}{4}$ in broad. These are flat or three-angled with crenate margins. The areoles are slightly woolly, bearing white flowers about  $\frac{1}{2}$ in long,  $\frac{3}{4}$ in wide when fully open. These appear in late spring to early summer, and are diurnal. The fruits are blackish purple. Requires slight shade; normal cactus compost; minimum temperature 50°F. Brazil (Minas Gerais).

The genus *Hatiora* has two subgenera. The subgenus *Hatiora* has just two species: *Hatiora salicornioides* ("Drunkard's Dream) with yellow flowers that turn orange and then red on successive days, similar to the blooms on some *Opuntias*; and *Hatiora herminiae* with pinkish flowers. The subgenus *Rhipsalidopsis* has three species: *Hatiora epiphylloides* with greenish yellow flowers; *Hatiora rosea* with pink flowers; and *Hatiora gaertneri* with much larger and red flowers. These last two have been widely hybridized with each other producing such hybrids as "Rainbow" with purple and red flowers, "Brunhilde" with pale pink flowers, and "Shocking Pink". One of the new Japanese crosses has a double row of petals. These hybrids are often called "Easter Cacti" in the Northern Hemisphere, but they bloom the opposite time of the year in their native habitats of Brazil and other Southern Hemisphere locations.

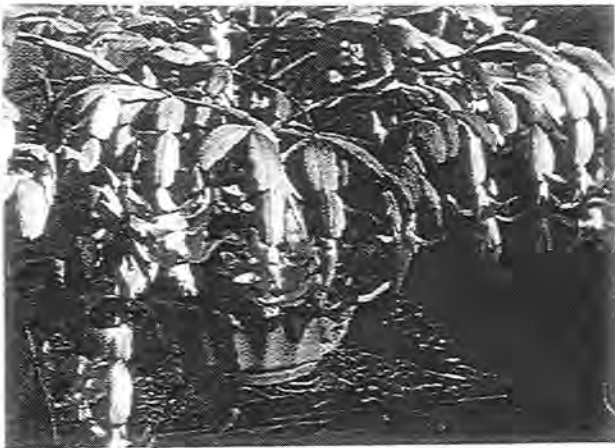


## RHIPSALIDANAE BY RICK LATIMER CONTINUED

The final genus *Schlumbergera* also has two subgenera. This genus is different from the others in that the flowers are zygomorphic\* for a change (like *Rathbunia*, *Borzicactus*, *Aporocactus*, and *Cochemiea*). The first subgenus *Epiphyllanthus* has two species: *Schlumbergera obtusangula* and *Schlumbergera opuntioides* which resembles a miniature *Opuntia*. The other subgenus is *Zygocactus* which includes the plants with the prettiest flowers of this entire group. The three species of the subgenus *Zygocactus* are: *Schlumbergera russelliana* with flat leaf-shaped segments and rounded scalloped edges, flowers are symmetrical, pendant and pinkish red; *Schlumbergera truncata* with toothed ("Crab Claw") or rounded flat leaf shaped stem segments often referred to as "Thanksgiving or Christmas Cactus", flowers are larger and range from white to orange to purple - they bloom from October to February in the Northern Hemisphere which is the opposite time of the year for blooming in their native Brazil; *Schlumbergera orssichiana* with toothed segments larger than those of *Schlumbergera truncata* have larger flowers that are white with a purple edge - they bloom three times a year and therefore not triggered by the long night /short day effect. Hybridization has been done extensively on these. One may have a yellow flowered "Gold Charm" (which will turn pinkish like the white-flowered varieties if exposed to sub 57°F temperature) or one of the new ragged petal forms like "Aspen" or "Pasadena". A monstrose\* form of *Schlumbergera truncata* is *Schlumbergera enigma*. One wonders how many other clones of these species still exist undiscovered in the wild. Paul Hutchison has related to me just how difficult and dangerous it is to explore their natural territory.

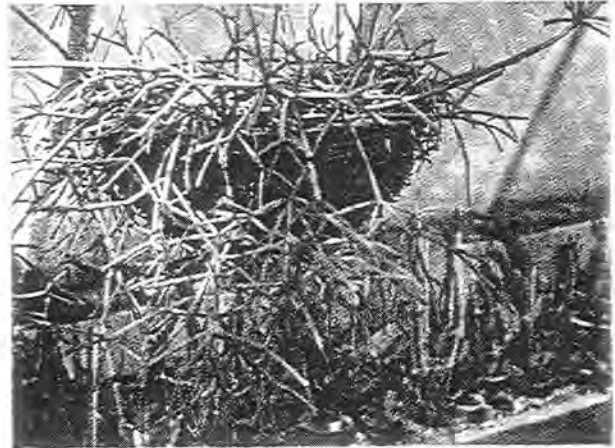
### REFERENCES:

- Curt Backeberg, *Cactus Lexicon*  
Helen Barkdoll, "Schlumbergera", *Espinosa y Flores* (28:11)  
Wilhelm Barthlott, "New Names in Rhipsalidanae", *Bradleya* (5)  
Warren Buckner, "Rhipsalidanae", *Espinosa y Flores* (28:5)  
Rick Latimer, "Rhipsalidanae", *Espinosa y Flores* (21:2)  
Rainbow Gardens 1995 Catalogue



SCHLUMBERGERA x BUCKLEYI Hunt  
Syn: *Epiphyllum bridgesii* Lem.;  
*Schlumbergera x bridgesii* (Lem.) Loeffgr.

This is the popular Christmas Cactus which is of hybrid origin. The stems are composed of flat, oval joints or segments arranged like links, each 3/4-2in long, 2-3-4in wide, and notched along both margins. The flowers are zygomorphic, bright red and up to 3in long, appearing by day in late autumn and winter from the areoles at the tips of the uppermost segments. Requires filtered light; a slightly acid, but porous cactus compost; minimum temperature 55°F.



RHIPSALIS LINDBERGIANA K. Sch.  
Syn: Probably *Rhipsalis erythrocarpa*  
K. Sch., a plant collected in East Africa.

A pendent epiphyte with long, slender stems and branches up to 1ft or more, the main stems frequently over 3ft in length. The branches are cylindrical, 1/8in thick, and the areoles are close set, rarely with a blackish bristle 1/10in long which quickly falls. Pinkish and whitish flowers appear by day in early summer and are about 1/2in long. The fruits are pale reddish. Requires fairly bright light; normal cactus compost; minimum temperature 50°F. Brazil (Rio de Janeiro).

# SUCCULENT-OF-THE MONTH: BEAUCARNEA

## A WATER STORING TREE FROM MEXICO

BY ED DELOLLIS

A wonderful human phenomenon that exists, but is seldom articulated is that people have "botanical appreciation centers" in their brains and that these centers are stimulated by our contact with plants and flowers. A plant that bursts onto my consciousness and stimulates me like no other is the *Beaucarnea*, a Mexican arid-tropical that is widely grown in California as an ornamental.

When first named by LeMaire in the 1860's it was part of the Liliaceae family in the tribe Nolinaceae which includes *Nolina* its progenitor as well as *Calabanus* and *Dasylyrion*. *Beaucarnea* has sometimes been included in the genus *Nolina* and the tribe Nolinaceae has been included in the Dracaena, the Yucca family. Most recently *Beaucarnea* was included in the Agavaceae, a family forged by Hutchinson in 1934. SDC&SS member Jim Dice rejects the idea of inclusion in the Agavaceae, a grouping of arborescent plants with rosettes of leaves taken from both the Liliaceae and the Amaryllidaceae families. At the August 1993 meeting, when Jim spoke on *Nolina*, he supported the creation of the family Nolinaceae based primarily on floral, fruit, and cytological\* characteristics. I attended that program with a full bottle of Nuprin tablets because this splitting action gave me a splitting headache! I prefer to clump *Beaucarnea* with *Agave*, *Dracaena*, *Sansevieria*, *Yucca* and others into the Agavaceae based mainly on leaf, trunk, and foliar\* characteristics.

The genus *Beaucarnea* has about six species that range from Northeast Mexico into Texas and from Southeast Mexico into Guatemala existing in the predominantly dry plateaux. *Beaucarneas* are tree-like plants with trunks swollen at the base and rising rarely up to thirty feet in height. Leaves are long and linear and stiff, even though narrow; the margins are entire (unbroken), but scabrous\* (raspy). *Beaucarnea* is one of the five percent of all plants that are dioecious\* (or polygamodioecious), which means that male and female flowers can occur on the same tree. The flowers are openly paniculate\*, small and whitish, the perianth\* with six segments. Ovary is superior and one-celled with two to three ovules. This unilocular (one-celled) ovary develops into a three-winged samara\* containing a single strongly three-angled seed.

The species that we usually observe in California is *Beaucarnea recurvata*, the "Elephant Foot Tree" or "Ponytail" or "Bottle Palm". The *Beaucarnea recurvata* can attain a height of thirty feet with a greatly expanded base of papery silver-gray bark. Leaves can grow up to six feet long,  $\frac{3}{4}$  inch wide, thin nearly flat and green recurving with smooth grooves and nearly smooth margins. Type locality is from Vera Cruz to Puebla, Mexico.

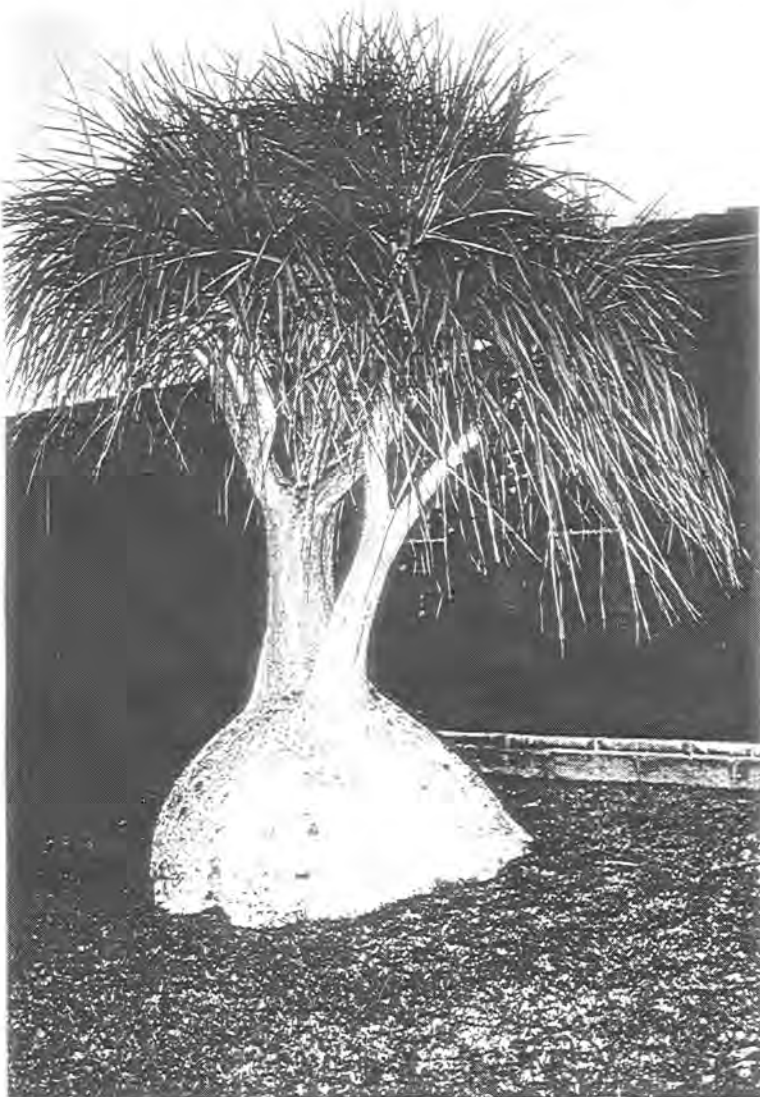


The author with one of the objects of his admiration at Lotusland in Santa Barbara. All photographs featured in this article were taken by Debe or Ed DeLollis.

There is a sub-variety of *Beaucarnea recurvata* called *intermedia* with leaves usually less than three feet long; this is the variety most often cultivated in California.

Much different in appearance is *Beaucarnea stricta*, which exists in natural populations from Puebla south to Oaxaca, Mexico. Named by LeMaire, *Beaucarnea stricta* has leaves that are firm keeled\*, glaucous\*, and straight measuring up to about two feet long and .3 to .6 inches wide with papillose\* grooves and scabrous\* yellowish margins. The fruit is short-pedicelled with seeds  $\frac{1}{8}$  to  $\frac{1}{2}$  long. As it gets older, *Beaucarnea stricta* gets a huge silver gray trunk covered with corky faceted woody protuberances. Similar to the *Beaucarnea recurvata*, the *Beaucarnea stricta* branches dichotomously\* after flowering which can occur from six to ten years of age. Perhaps the most outstanding *Beaucarnea stricta* I have witnessed was at the 1994 Lotusland excursion: a thirty-five foot tall *stricta* with marcescent\* leaves persisting on its many thick branches, much like a *Yucca brevifolia*, which we thought it was until we observed this magnificent specimen from behind. The huge domed trunk was at least ten feet wide and covered with deeply furrowed bark.

*Beaucarnea gracilis* (Lem) differs from *Beaucarnea stricta* in having leaves up to 20 inches long and  $\frac{1}{8}$  to  $\frac{1}{4}$  inches wide, with seeds  $\frac{1}{8}$  inch long. Specimens enormously swollen at the base can be found in Puebla, Mexico; shaded only by the atmosphere they endure hellish 120°F temperatures with no precipitation for as much as a year.



Paul Standley whose book on trees and shrubs of Mexico was out in 1920, lists three other species: *Beaucarnea pliabilis* from the Yucatan, *Beaucarnea goldmanii* from San Luis Potosi, and *Beaucarnea inermis* from San Luis Potosi and Vera Cruz. The two former *Beaucarneas* are sadly known only through herbarium specimens. *Beaucarnea inermis*, although rare, is not completely extinct as a landscape subject here in California. *Beaucarnea inermis* resembles *Beaucarnea recurvata* - with one big exception: *Beaucarnea inermis* is prized for its hard scaly black bark. Much of this information I obtained from the monograph\* written by Trelease in 1911, I'm searching for more recent information.

In the seventies America underwent a houseplant boom with *Beaucarnea recurvata* often used as a fashionable specimen.



As an interior plant *Beaucarnea* is a real show stopper --- no other plant comes close to the volume of leaves and trunk for the size. Indoors it can live in hot bright dry areas, or in low light, down to 60 foot candles. It was discovered that the *Beaucarnea* has a high tolerance for Chlorine, making it ideal for planting near swimming pools. On a regular basis, our nursery imports *Beaucarneas* from Florida that are six foot tall in a fourteen inch pot with four inch diameter bases. These trees have 90% erect leaves -- the result of growing in the shade, watering daily, and heavy fertilization. They are considered very beautiful and in fact proved to be excellent interior plants.

For my own taste, I prefer big *Beaucarneas* in the exterior landscape. Beautiful specimens can be seen at the San Diego Zoo, Huntington Botanical Gardens, and Lotusland. They also adorn the gardens of many private homes. In an effort to uncover more of these, I sponsored a contest at my nursery -- a triple ball *Beaucarnea recurvata* was offered as first prize to obtain the locations of large or exotic "Bottle Palms" in the San Diego area. Several landscapers and plantspeople responded and on Saturday, December 17th I photographed *Beaucarneas* in twenty-two locations from Chula Vista to Vista; the Astro van carrying me over 100 miles. I observed an unknown variety in National City; photographed the *stricta* and two *recurvatas* in the Desert Garden in Balboa Park. Four addresses were visited in Kensington, on to Old Town, Mission Hills, and Loma Portal, north to La Jolla, then across town on Calle de Ora off La Jolla Shores . . . where I made the discovery of the day! A giant *Beaucarnea inermis* with its characteristic black bark stood twelve feet tall in the garden of Albert W. Fischer, a violin maker. Like all of the *Beaucarneas* I had seen up to that point, this one displayed staminate or male flowers. I have been told that in nature, there are approximately 150 staminate to each pistillate\* plant! Then north to a one acre *Beaucarnea* farm with over a thousand *recurvatas* planted in the ground - six years old according to farmer Brown. The sun was going down, too late for Quail Gardens, but Encinitas has one exotic and *Leucadia* held two legends. Now in darkness I reached an Oceanside home landscaped with many exceptional palms -- the ten foot wide fifteen foot tall multi-branched *Beaucarnea recurvata* called for numerous flash photos bringing the owner to the front door . . . on closer examination of the multi-branched specimen I found several three-winged samaras clinging to a pistillate panicle\*! I almost pistillated my pants!! This was the first female flower I had found.

The following day I visited some Vista locations and then home to photograph my own garden collection. I grow *Beaucarneas* in shallow pots to aid dry-out which initiates water storage cells when irrigation is given; this method more rapidly increases ball size.

I now have about 75 photos in my album; someday I hope to repeat the trip and make slides. Accumulation of *Beaucarnea* locations is an ongoing project - any information you are willing to share would be appreciated. Someday I plan to travel in Mexico to view and photograph some ancient specimens in their natural habitat.

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# ***Amateur Succulent Botany 101 Quiz***

***by Joyce Buckner***

*Can you match these botanical terms with their definition? These are the new words I learned while editing Rick Latimer and Ed DeLollis' articles. Have fun!*

- |                           |   |
|---------------------------|---|
| (1) <b>zygomorphic</b> -  | (A) two-forked, the branches equal or nearly so.  |
| (2) <b>monstrose</b> -    | (B) lacking stamens, petals and sepals may be present or absent.  |
| (3) <b>cytological</b> -  | (C) a treatise on a single genus, species of plant.   |
| (4) <b>foliar</b> -       | (D) flowers unisexual, having male reproductive organs in one plant and female organs in another.                               |
| (5) <b>dioecious</b> -    | (E) abnormal in shape or structure.   |
| (6) <b>perianth</b> -     | (F) bearing two or more flowers on each branch, loose or irregularly branched.  |
| (7) <b>samara</b> -       | (G) projected central rib or ridge.   |
| (8) <b>keeled</b> -       | (H) the outer floral envelope.  |
| (9) <b>glaucous</b> -     | (I) dealing with structure, function, and life history of plant cells.  |
| (10) <b>papillose</b> -   | (J) bearing nipple shaped projections.  |
| (11) <b>scabrous</b> -    | (K) rough & rasp-like when gently rubbed with the finger tip; roughness caused by short stiff hairs or short sharp projections. |
| (12) <b>dichotomous</b> - | (L) of or like a leaf or leaves.  |
| (13) <b>marcescent</b> -  | (M) dry indehiscent winged fruit /seed.   |
| (14) <b>monograph</b> -   | (N) irregular flower in which parts are not alike; flower has bilateral symmetry.   |
| (15) <b>pistillate</b> -  | (O) covered with whitish or bluish waxy coating, usually whitish, that easily rubs off showing the green of leaf cells below.   |
| (16) <b>paniculate</b> -  | (P) withering but persisting and not falling off readily.   |

(1) N; (2) E; (3) I; (4) L; (5) D; (6) H; (7) M; (8) G; (9) O; (10) J; (11) K; (12) A; (13) P; (14) C; (15) B; (16) F.

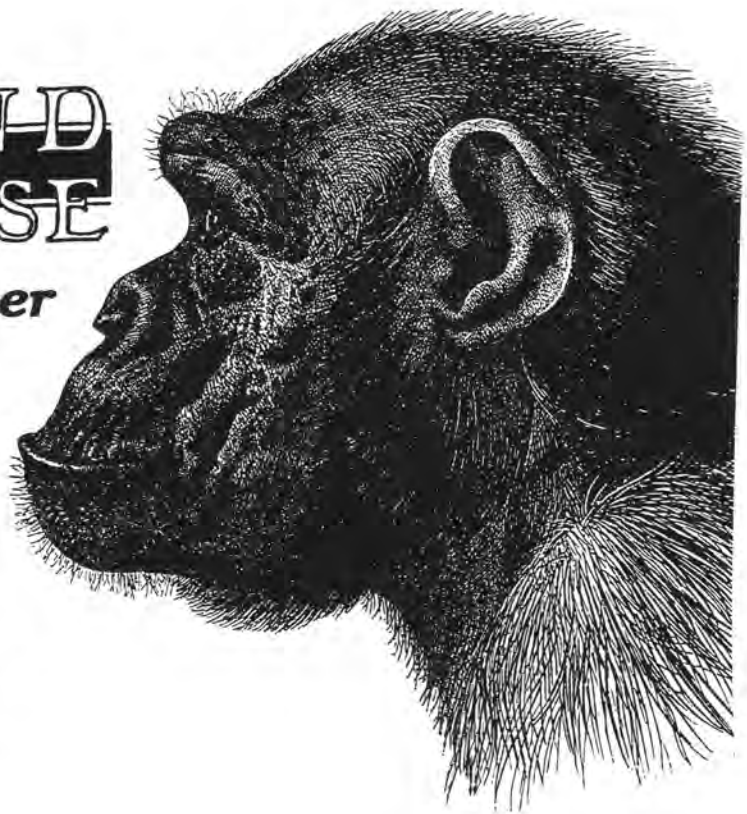
# WISE AND OTHERWISE

by Michael Buckner

*"El que temprano se moja tiempo tiene de secarse."*

He who gets drenched at dawn has the rest of the day to dry out.

*"Más vale gotita permanente que aguacero de repente."*  
Better a steady drip than a sudden deluge.



The coming of the rain soothed a longing within me for moisture and lushness after the long-continued drought. As I lay there, I too seemed to expand and grow, became part of the lushness and the rain itself and of all the thirsty life about me. This is one of the reasons I like to hear the rain come down on a tent. I am close to it then, as close as one can be without actually being in it. I have slept in many primitive shelters, under overhanging cliffs, in lean-tos made of spruce boughs and birchbark, in little cabins roofed with poles and sod. I have slept under canoes and boats and under the spreading branches of pines and balsams, but none of these places gives me quite the feeling I get when sleeping in a tent.

The drops are muffled by the cloth, none of the staccato drumming there is under a hard roof. Once I slept in a cabin with a tin roof and listened to a chorus that night that was too violent to enjoy, a mechanical sound as though a thousand drums had broken into a rolling crescendo all at once.

Not long ago I met an old friend, C.K. Leith, one of the world's most famous geologists. He had been a professor of mine, and for a time I had worked under him on the Wisconsin Geological Survey. After his retirement, he had served as a consultant to the government, using his great knowledge of the world's minerals to guide exploration and development.

We sat in the Cosmos Club one rainy afternoon talking about the old days, the days in the bush when he was a legend of endurance and fortitude, of the treks he had made into the far north that even today are contemplated with awe and wonderment by hardened prospectors. He was eighty-two when I talked to him last, but still as straight and energetic as ever. Suddenly he was quiet, a faraway look came into his eyes as he sat watching the rain spatter down into the courtyard.



# WISE AND OTHERWISE



"Do you know where I'd like to be right now?" he said finally. "In my old tent somewhere, safe and dry with nothing to do but listen to the rain come down."

He smiled and I knew he was cruising the back country of the Canadian Shield, down its brawling rivers, across its stormy lakes, knowing again the feeling of distance and space, the sense of the old wilderness.

"As you get older," he said, "and more involved with world affairs, you lose that life, but those were the good old days for me."

When I heard of his passing, I knew that somewhere back in the bush he was listening to the rain come down and that he had found again the life he loved.

In the woods of Listening Point, the drops soak into the ground as they should, stopped by an intricate baffle system of leaves and pine needles, small sticks and bits of bark, the partly decayed vegetation just underneath, and finally the humus itself, rich, black, and absorbent, the accumulation of ten thousand years. Here in the north it takes over a thousand years to form a single inch of it, and if the glacier receded from seven to ten thousand years ago, the humus on the point has taken just that long to form.

Below the humus is the mineral rock soil, the result not only of the grinding of glacial ice but the gradual breakdown of the granite and schist and greenstone by the frost and rain, the action of the acids of countless roots, the burrowing of hordes of insects and worms and beetles. This layer rests upon the native ledge, but by the time the rain reaches it, it has slowed and soaks into it without loss. There are no rivulets except where the rock is bare, no erosion or run-off to the lake. All that falls stays there and moves into the water table of the area to be held in reserve.

It was good to lie in the tent knowing the rain was replenishing the water supply, that none of it was being lost except where it ran off the smooth rocks, that even between them, in every cleft and crevice where there was any accumulation of humus at all, it would be held for months to come.

"THE SOUND OF RAIN" by Sigurd Olson, *THE EARTH SPEAKS - AN ACCLIMATIZATION JOURNAL* edited by Steve Van Matre & Bill Weiler, Institute for Earth Education, Greenville, WV, 1992

## "RAIN AND THE RHINOCEROS"

by Thomas Merton

**What a thing it is to sit absolutely alone,  
in the forest, at night, cherished by this  
wonderful, unintelligible,  
perfectly innocent speech,  
the most comforting speech in the world,  
the talk that rain makes by itself all over the ridges,  
and the talk of the watercourses everywhere in the hollows!**

**Nobody started it, nobody is going to stop it.  
It will talk as long as it wants, this rain.  
As long as it talks I am going to listen.**

*THE EARTH SPEAKS - AN ACCLIMATIZATION JOURNAL* edited by Steve Van Matre & Bill Weiler, Institute for Earth Education, Greenville, WV, 1992

***"Qué bonito es ver llover y no mojarse."***

How beautiful to watch the rain and not get wet.

All three Spanish proverbs are from Proverbios y dichos Mexicanos Folk Wisdom of Mexico by Jeff M. Sellers, 1994, Chronicle Books, San Francisco



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