

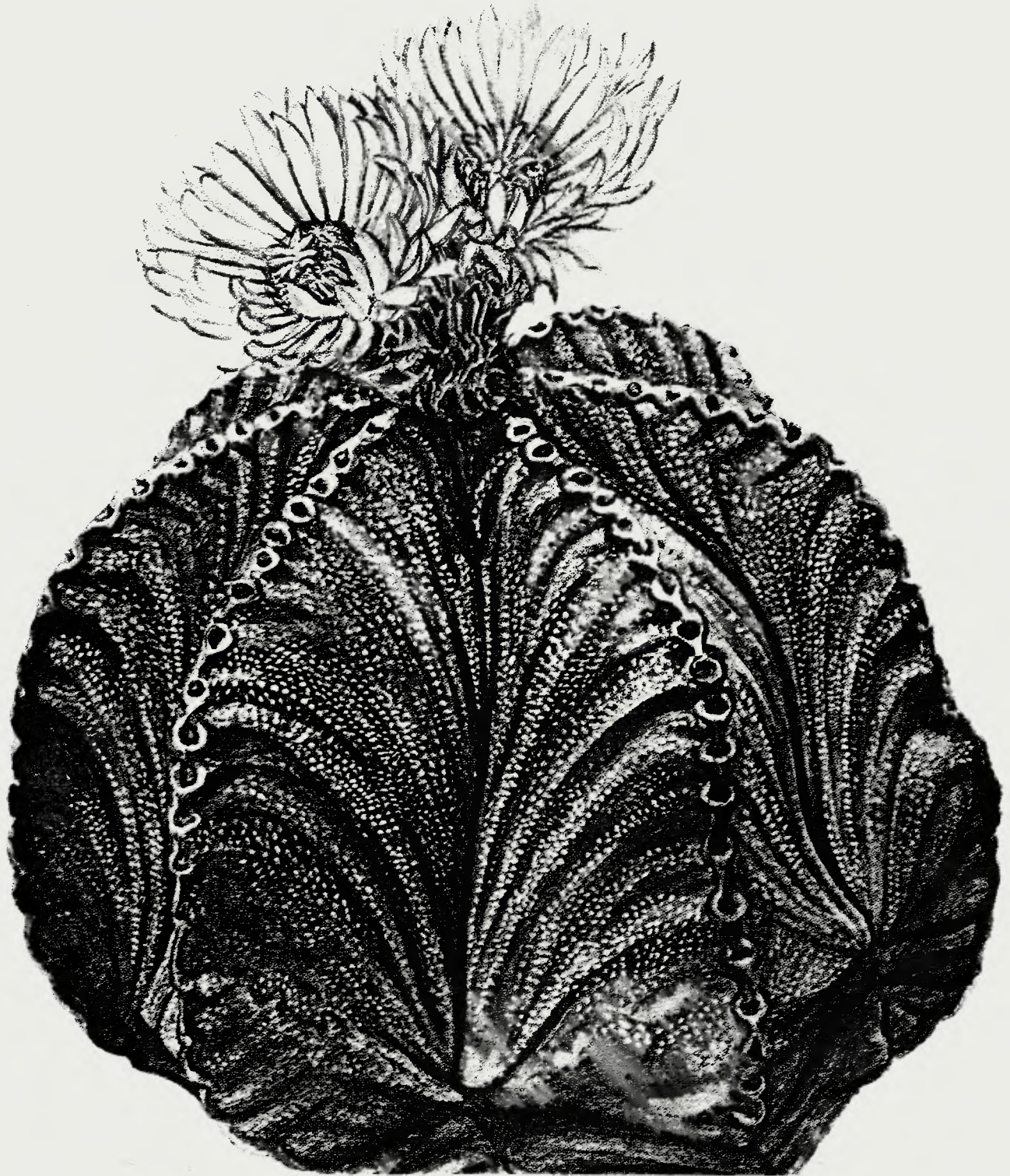
# Espinas y Flores

*MAMMILLARIA THORNERI*

NEWSLETTER of the SAN DIEGO CACTUS & SUCCULENT SOCIETY, INC.

A Non-Profit Public Benefit California Corporation

VOLUME XXXIV NUMBER TWO SATURDAY, FEBRUARY 13, 1999 @ 1:00PM



# Botanizing Ecuador With Guy Wrinkle

February's program will be a slide show presentation by Guy Wrinkle featuring a botanical tour of Ecuador that he made in February of 1998. Guy tells us that he will be showing slides of every manner of vegetation that interested him: bromeliads, orchids, cycads, tropicals, succulents and cacti. And since Guy's interests in natural history do not stop with plants, you can also expect to see a few reptiles, bugs, birds, beetles, and what have you.

Many of us have been treated to Guy's programs in the past. Wherever he may travel his passion for new discoveries in the natural history world (and acquisitions) dominates his travel agenda. Adventure is bound to follow, and you are sure to be entertained. You just may learn something, too! Guy has been teaching Botany at West Los Angeles College for many years now. Additionally, he is owner of Guy Wrinkle/Exotic Plants at 11610 Addison Street, North Hollywood, CA 91601 (310) 670-8637 — e-mail: wrinkle@idt.net. Guy sends out one or two plant lists each year — always with some remarkable offerings. He says, "This business started as a hobby that has now gone far beyond that stage. I am still a collector however, and am always looking for new plants for my collection, and to sell. I collect, sell and trade other types of natural history materials such as artifacts, fossils, botanical art, books, reptiles, shells, insects and other arthropods, etc."

Join us for this terrific program.

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Our cover: *Astrophytum myriostigma*. We borrowed this beautiful watercolor illustration from "**MEXICAN FLOWERING TREES AND PLANTS**" by artist Helen O'Gorman. This wonderful book was printed in 1961, Ammes Associates, S. A., Río Amazonas 90, Mexico. Ms. O'Gorman states, "In this genus are four species, all Mexican. They are one of the most valued as ornamental plants."

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Please send your letters, artwork, poetry, Cactus or Succulent-of-the-Month articles, puzzles, comments, or criticisms, etc. to:

**MICHAEL & JOYCE BUCKNER, EDITORS**  
**2327 "N" AVENUE, NATIONAL CITY, CA 91950**  
**NEW PHONE /FAX NUMBER:**  
**(619) 477-4779**

Publication deadline for the March 1999 issue is Saturday, February 13, 1999.

*Espinas y Flores*, the newsletter of the San Diego Cactus and Succulent Society, Incorporated, P.O. Box 33181, San Diego, CA 92163-3181, is published monthly with the exception of a combined May-June issue (*11 issues per year*). Newsletter circulation is approximately 400 with about 375 issues going to members (*one issue per household*) and an additional 20-30 issues going to educational institutions, botanical societies, cactus & succulent nurseries, local publications, related natural history events & exhibits, and other interested groups or individuals upon request. Subscriptions (*membership dues for an individual*) are \$10 per year for bulk mail within the USA.

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**February 13: Shirley Massie on the New WATER CONSERVATION GARDEN at Cuyamaca College** - At our SDC&SS meeting this month Shirley Massie of the Helix Water District will present a short program (about 15 minutes) on the "Water Conservation Garden" at Cuyamaca Community College. This 4.2 acre garden is presently under construction. The Grand Opening and "Hose-Cutting" Ceremony is scheduled for 10:00 am on Saturday, May 15, 1999 at the garden site on Cuyamaca College campus, during the Ornamental Horticulture Department's annual Spring Garden Festival.

We seek plant specimens that will showcase the diverse varieties of plant material available to homeowners interested in "water efficient landscapes." Naturally there will be a Cactus & Succulent segment in this garden which Shirley will focus on. Docent classes are already underway and there will be several categories of garden memberships including reciprocal memberships with garden-related organizations (like us!). For a "virtual" visit check out their website @ [www.thegarden.org](http://www.thegarden.org). For additional information, please contact **Jan Tubiolo at (619) 670-2290 or Pamela Homfelt at (619) 670-2712.**

**Winter Show Chairman, Ed DeLollis** would like to thank the following SDC&SS members who participated in this successful event by showing plants: **Dick & Lupe Hulett, Steven Hammer, Michael & Joyce Buckner, Dylan Hannon, Pam & Lee Badger, Kelly Griffin, Elibet Marshall, Rudy Lime, Steve & Rowena Southwell, Tom & Laura DeMerritt, Jeff Harris, Phil & Nubia Bunch, Edwin & Debe DeLollis, Stefy Mangold, Amna Cornett, Ed Nolan, Tom Birt, Cindy Wead, Sara Schell, and Chris Barnhill.** Ed says that Benefit Drawing tickets (one for every three plants shown) will be distributed at the February meeting. He also wants to thank Dick & Lupe Hulett of San Pedro and Steve & Rowena Southwell of San Jose for requesting that their tickets be distributed to the SDC&SS members that worked so hard setting up and breaking down the display area, cashier, answering questions, supplying refreshments, etc. etc. How nice of you to acknowledge them!

Well, this Winter Show may have been small (there's a reason it is called a "Mini" show!) and loosely organized, but there certainly were some really fascinating plants on display: Rudy's spectacular pelargoniums; some fine aloe hybrids were brought in by Kelly Griffin; many wonderfully grown & staged miniatures from Dick & Lupe Hulett; some notably rare and obscure othonnas and bulbs from Dylan; a voluptuous *Dudleya pachyphytum* from RSVP - the Southwells; and of course the magnificent mesembs, etc. from Steven Hammer & Chris Barnhill. Did you see Steven's totally out-of-this-world *Adromischus marianiae* "herrei"? I have a feeling that this was the "prince" of **Fred Keller's** article in our Dec '98 issue! Steven gave me a leaf - I'll prop it up & keep it warm — I hope I can keep it alive!! Thank you Steven!

**Tom Birt, Sales Chairman for the Winter Show** sent us this letter of Appreciation: I would like to thank all the volunteers for their help: **Cindy Wead, Carol Jean Wolcott, Michelle Heckathorn, Susan Hopkins, Herb Stern, and Jeff Harris.** The participating vendors also deserve a word of thanks: **Esther Avery, Michael & Joyce Buckner, Phil & Nubia Bunch, Ed DeLollis, Gloria Graham, Steven Hammer, Dylan Hannon, Dick Hulett, Joe Kraatz, Rudy Lime, Ed Nolan, Barry Peck, Sara Schell, and R.S.V.P. - Steve & Rowena Southwell.**

I noticed a few other helpers which had not yet been acknowledged — so here goes! Thank you **Laura DeMerritt!** We saw you folding table cloths and cleaning up long after everyone else had left. Thank you **George Plaisted, John Williams, Greg Wade, Lee Badger, Tom DeMerritt, Kurt Hammel, Joe & Kay Quijada** - we saw you moving tables, helping customers with their plants, and sweeping up when the show was over. Thank you **Pamela Badger, Rudy Lime, Elibet Marshal** - we saw you helping in the kitchen. Who have we forgotten? Thank you and I'm sorry we overlooked you! Finally, on a more personal note: Thank you **Erika Edwards** for being "Tex" Buckner's best customer of the day, and thank you Hervey for getting those checks in the mail so soon! A SDC&SS thank you to everyone who purchased a new plant, or learned a new word, or shared some little bit of plant culture information — this is the stuff that a good cactus & succulent society is made of! It was a good show - we should do it again sometime soon! How about June?

**CORRECTION — CORRECTION!!** **Joe Quijada** uses **Infra-Red Lights** to help protect his cacti and succulents from this winter's unseasonable cold temperatures. (*I realized later, that "Ultra violet" or more commonly referred to as "Black Light", was one of the items on our niece, Lindsay' Buckner's Christmas list! Hence the blonde confusion!!*) My apologies to Joe — please refer all giggles and smirks to me. Just the same though, it is still too cold and too wet for some of our more precious plants, and as all of our window sills, counter tops, and even the kitchen table have gradually filled up with lithops, haworthias, cacti and shivering euphorbias, we are starting to consider a large fan and dehydration unit to go along with those lights! Hope you all are keeping dry — especially on those cold nights! Sadly, I noticed that the "Show & Tell" plants of the month for the January '99 issue of the San Francisco Succulent & Cactus Society were, **"Your plants that did and didn't survive the freeze."** We've really got it good around here, folks. Sometimes it takes a statement like that to put it all in perspective.

In the same SF issue **Michael Louie** makes a couple of points, "Since the air was relatively still and wind-chill was low, we have a chance to map out the warm and cold spots in our growing areas. Thermal sinks and shelters protected many plants from Winter's fury — remember where these spots are! . . . Damage from the freezing of the ground will not be realized until the temperatures warm. One should not throw out pots of 'dead' or damaged plants too quickly but keep them dry and sheltered for hopes of recovery — hold them for one growing season. It may also be time to rethink the layout of your garden. . . . keep a diary of the victories and defeats we experienced during the winter of '98. Then we can be better prepared for years to come."

**February 8: Springtime in Chile's Atacama Desert by Dylan Hannon** - San Diego Horticultural Society, Del Mar Fair Grounds - Satellite Wagering Facility @ 6:30pm. No admission fee and the seating is quite comfortable. In addition to the slide show program, every SD Hort Society meeting has a plant forum: several tables are covered with a very wide range of botanical specimens. Members bring in these plants or cuttings from their gardens and fill out a small card with common, Latin name, and any other interesting info they may have. For more info: (760) 630-7307.

**February 17 - May 5: Quail Botanical Gardens Docent Training Classes** - 230 Quail Gardens Drive, Encinitas, CA 92024. Classes held every Wednesday 9:30am - 1:30pm. Upon graduation, as a trained volunteer, you will have a botanical education, free access to gardens, discounts at programs, and gift/nursery items. Docents make a commitment to volunteer 80 hours per year for a minimum of two years after graduation. Fee is \$30; call (760) 436-3036 for application.

**February 27: Terra, Flora & Fauna of the Pinacates by Dr. Exequiel Excurro** - Meeting of the Palomar Cactus & Succulent Society starts at noon at the Joslyn Senior Center, 724 North Broadway, Escondido. Dr. Excurro is a botanist and Director of the Biodiversity Center at the San Diego Museum of Natural History. The Pinacate Desert and Mountains are a little known wonderland just north of the Sea of Cortez in Mexico, adjacent to California and Arizona. Meeting is open to all; admission is free; refreshments will be served. For additional information: (760) 743-1560.

**March 20: Lotusland Field Trip** - Sundance Bus Line departs at 7:00am from meeting area in parking lot behind Organ Pavilion - Balboa Park. North County stop at the La Costa exit of Interstate 5 - Cal Trans Park & Ride at approximately 7:30am. Presently we have 40 confirmed paid participants booked for this exciting adventure. We just may have room for two or three more — we have been told that the bus seats 47, but we are not about to pack it that full! If you have decided that you want to go — send in your check today. 'Cuz once we reach 43, the music stops and we all sit down! It's just like musical chairs — if you don't have a seat by then, you can't play anymore!

We have been referred to a 17 acre nursery in Calabassas for a short stop on our way up. More on this and other Lotusland prattle and plantings in the March issue. If you have any questions, please feel free to give us (*Michael & Joyce Buckner*) a call @ (619) 477-4779 — if the message /fax machine comes on, you have 30 seconds to leave your name, number, and a good time to call back, so try not to dilly-dally! Okay?

**April 7 - 10: Pre-Convention Tour - Death Valley and the surrounding East Mojave Desert area** - Arrangements can be made for this tour through Action Tours in Las Vegas. Please contact **Denni Plath** @ (702) 367-6336.

**April 10 - 11: SouthCoast Cactus & Succulent Society Annual Show & Sale** - 26300 Crenshaw Blvd., Palos Verdes Peninsula. Show set-up Friday, April 9th noon to 8:00pm. Saturday show noon - 4:30pm; Sunday from 9:00am - 4:30pm. Sale 9:00am to 4:30pm Saturday and Sunday. This year's emphasize on miniatures. Info: (310) 832-2262.

**April 11 - April 16, 1999 - The CSSA Convention at The Tropicana in Las Vegas, Nevada** - For hotel reservations contact The Tropicana directly @ 1-800-468-9494. Las Vegas is literally packed with an infinite range of sights, entertainment and activities, even for the non-gambler. From the ultimate in health spas to golf courses and nature hikes; from roller coaster rides to horseback rides to virtual reality adventures. And, of course, there's the lounge acts, the sound of coins dropping, bells ringing & the slot-machine drum spinning, huge slabs of meat served along with every kind of food imaginable, the first-rate entertainers, . . . and showguys . . . or, if you prefer, showgirls . . . on bikes . . . on ice . . . topless or dancing with Elvis! Viva Las Vegas! The surrounding desert should be warm, but not too hot at this time of year, and with all the rain we have had there should be a beautiful bloom in April.

Four days of speaker programs: Mon, Tues, Thurs, & Friday; Monday evening banquet; Tuesday evening rare plant auction; Thursday night workshops, politics & Margarita mayhem, and the Friday night farewell party. Sunday thru Friday morning there will be plant & book sales. Re: plants sales, contact Joe Clements at (909) 624-2282 or [jclement@ix.netcom.com](mailto:jclement@ix.netcom.com). If you would like to distribute your business card, catalog, etc. to 350+ serious cactophiles, please contact Deni Plath, 6255 Laredo Street, Las Vegas, NV 89102 before March 25th; your advertisement will be included in the hand-out bag that each registered participant receives upon their arrival.

This year there will be a number of new speakers and new topics covered. For example, Tim Metcalf will talk on *Dorstenias* and a 3-D slide show by Eva & Voytek Foik. CSSA website @ <http://www.cactus-mail.com/CSSA/> or Convention Chair, Duke Benadom @ (805) 526-8620 — [dukebenadom@earthlink.net](mailto:dukebenadom@earthlink.net). Contact: Mindy Fusaro, CSSA Convention Registrar, P.O.Box 2615, Pahump, NV 89041; (702) 751-1320; fax (702) 751-1357. The registration fee for CSSA members is \$165.

**April 18 - 26: Post CSSA Convention Tour of Baja California, Mexico** - Tour leader **Jon Rebman Ph.D.**, curator of Botany San Diego Museum of Natural History, and **Monte Woodworth**, Baja Natural History expert. Contact Karen Ivey of Baja Discovery, P.O. Box 152527, San Diego, CA 92195; (619) 262-0700.

**April 23 - 26: The 1999 Desert Research Symposium** - contact: Jennifer Reynolds, MDQRC, Dept. of Community & Cultural Resources, 777 E. Rialto Avenue, San Bernardino, CA 92415; fax (909) 383-3247; phone (909) 387-2582. Symposium followed by (optional - \$50) field trip Sunday - Monday, April 25 & 26 to the Mojave Desert to the Calico Mountains and Coyote Lake.

# ABOUT THE BRAG TABLE

BY JOYCE BUCKNER

The Brag Table is one of the regular features of our monthly meetings. Normally this event takes place during the first half of the meeting, and all plants brought in for this purpose should be placed on the Brag Table prior to 1:00 pm when meeting commences. The purpose of this "Show & Tell" activity is to educate and inform members about the plants they are growing. This endeavor offers an excellent, relaxed forum for **all members**, to share their plants, propagation & cultivation techniques, successes & failures, etc. with fellow members. Working on the premise that "two heads are better than one", certainly there is much to learn from the one hundred, or so, members who attend our meetings each month! The Brag Table is an invaluable arena for obtaining specific information about your plant and its growing expectations and limitations that may be unique to San Diego area climate and soil conditions. Additionally, it can help members learn specific information about their plant, such as correct plant identification / name changes, appropriate culture, pest control, grooming and staging possibilities. The Brag Table has even served as a sort of "dating service" of rare plants for the purpose of creating viable seed!

This is a perfect opportunity to practice showing plants — a dress rehearsal for the June Show! — which is one of the most rewarding, challenging, and educational functions that our society offers to its members as well as the general public. As with our June Show, **anyone can participate in the Brag Table** — from novice to seasoned hobbyist — from members to guests. Each month you will observe an incredibly diverse variety of succulent plants on display. Hopefully, one or more of these plants are yours. Participants always seem to learn and retain more!

Additionally, the Brag Table offers a unique insight as to how judges think and plants are judged. After observing the judging over a few year's time, I have come to realize that judging techniques, likes & dislikes, and decisions are truly as variable as the plants on the table. The Brag Table Committee (presently **Shirley Berry & Tom DeMerritt?**) will usually ask the speaker or another qualified out-of-town guest to judge the Brag Table. If this is not feasible, there are several SDC&SS members who are highly qualified and experienced judges, and one of them is asked. Luckily, our membership is large enough that no one, or two, judges dominate Brag Table decisions. If you look back through the Brag Table results of the past few years, you will see that no one particular person has judged more than two times a year.

In the **GUIDELINES FOR JUDGING BRAG PLANTS** (February of 1996 - Shirley Berry & Kay Quijada) judges are asked to spend between ten and twenty minutes to select winning plants (1st, 2nd, & 3rd) from each category: Cacti & Succulents. They are requested to "Begin a short discussion of each plant on the table by holding the plant up for the audience's better viewing" which is not always possible with large, awkward or very delicate plants. Sometimes plants are overlooked — please don't get discouraged. Sometimes there is not enough time to discuss every plant; sometimes the judge is unfamiliar, or even too familiar with the plant to make note of it. The guideline goes on to state, "Talk a little about each plant regarding cultivation, grooming, staging, appropriate container, etc. Try to offer constructive helpful ideas for improving culture or presentation whenever appropriate. . . . Recognize the owner of each plant after discussing its merits. Announce the winners, and ask the winner's name." (So that we can publish Brag Table results in the next *Espinas y Flores*).

Finally, if all I have said so far is not enough enticement, all Brag Table winners receive script \$\$\$ redeemable at our monthly plant sales table. First place winners get \$3.00 (or is it \$5.00?) in script. Second place \$2.00 and Third place \$1.00. You can utilize this script toward the purchase of any plant or ceramic that is in the sales area during our regular monthly meetings. Don't be shy — give it a try! You have nothing to loose and so much to gain by participating!! Just clean up one of your favorite plants — as with the June Show, this plant should be in your possession at least six months. Now label it with its botanical name — if you are not sure of the name then state that as well, and bring it in. You may very well be a winner in more ways than one!!

## BRAG TABLE WINNERS FOR NOVEMBER 1998:

JUDGED BY WOODY MINNICH

CACTUS:	FIRST PLACE:	Don Patterson's <i>Copiapoa hypogaea</i>
	SECOND PLACE:	Shirley Berry's <i>Mammillaria plumosa</i>
	THIRD PLACE:	Don Patterson's <i>Mammillaria scheideana</i>
SUCCULENT:	FIRST PLACE:	Rudy Lime's <i>Echeveria laui</i> - under glass!
	SECOND PLACE:	Don Patterson's <i>Adromischus herrei</i>
	THIRD PLACE:	Shirley Berry's <i>Pelargonium carnosum</i>

# The Monthly Benefit Drawing

Our November plant table (the final benefit drawing for 1998) attracted a great number of "Oh's and Ah's" with an alluring selection of over thirty plants, books, etc. for our lucky winners to choose from. A great big **THANK YOU** for **Joe Kraatz** who procured the plants for November's table. Among the really interesting plants we found *Obetia ficifolia* and *Aloe amudahensis*. Thanks to all SDC&SS members who support this event by purchasing tickets - we hope you won in 1998 — and if not — your odds are even better now! You are bound to get lucky in 1999! Special thanks to our November donors:

**Betty Athy** for *Geohintonia mexicana*; **Michael & Joyce Buckner** for a miniature dish garden of *Anacampseros telephiastrum* and *Sedum furfuraceum* staged in a hand-built ceramic pot made by their cat, "Tex"; **Bruni Scheffler** for *Echinocactus grusonii* var. *alba*; **Jeff Harris** for "A Guide to Tequila, Mezcal and Pulque"; and to "**Anonymous Tom**" for the good-looking staging rocks and petrified wood.

Thanks to you all for your enthusiastic support and participation. Let's remember to give our hard-working "Chief Plant Procurer" **Betty Athy** a word of appreciation for all her efforts throughout the year in making this event a benefit for all of us.

Happy 1999 and Many Thanks, *Kay Quijada*



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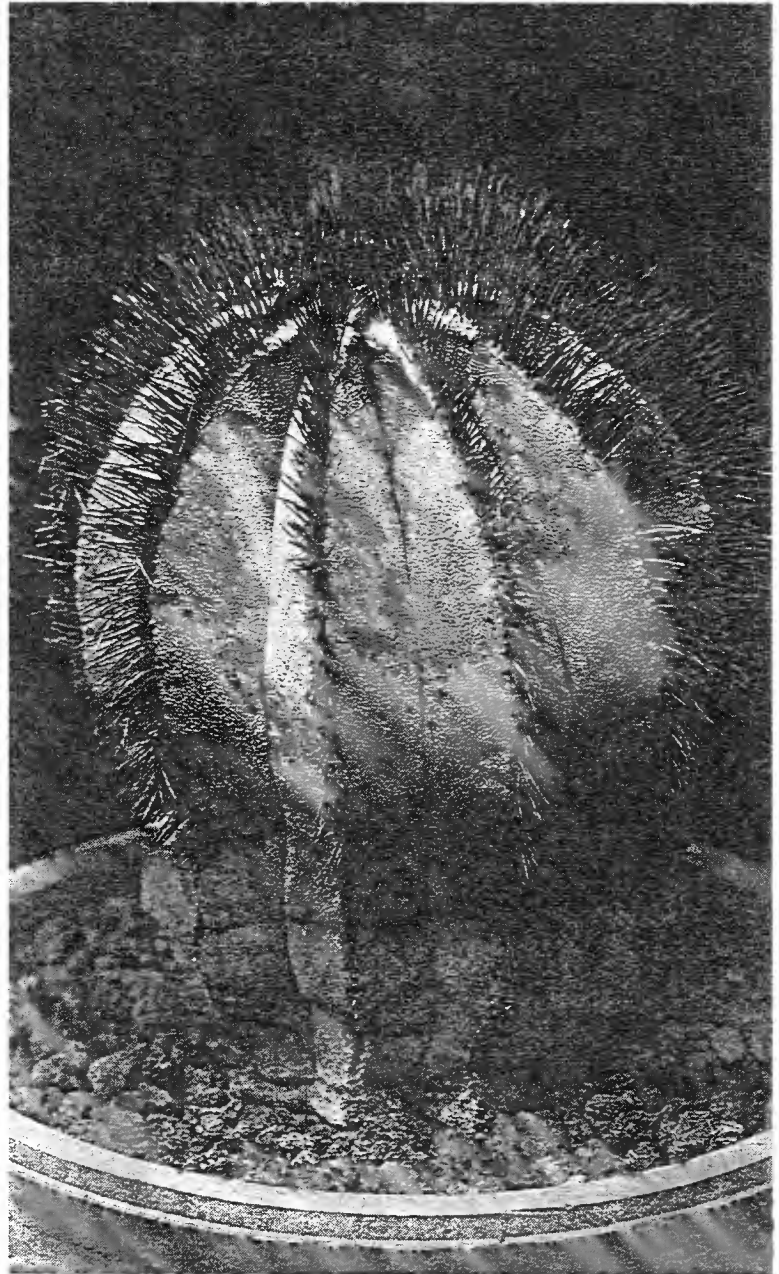
# CACTUS OF THE MONTH

## UEBELMANNIA

by Ric Newcomer

In 1966 a wonderful discovery was made in Brazil (Minas Gerais) by Horst & Baumhardt. This plant was named *Uebelmannia pectinifera* after the cactus importer Uebelmann. This was to be the first of 6 discoveries. How exciting to find a new species, but to find a whole new genus is extraordinary. The first were believed to be a new *Parodia*, to which they bore a slight resemblance. As others came along they thought they might be related to *Copiapoa* and even *Astrophotum*. However, *Copiapoa* comes from Chile and *Astrophotum* from Mexico. When it was possible to examine the flowers, it turned out that *Uebelmannia* was a new genus. The flowers were found to be bristly, or only hairy outside. They arise from a woolly ovary and the flower color is uniformly yellow in all species. They are, however, disappointingly small appearing in more thickly woolled areas on the ribs near the apex of the plant. They are not easily produced in most of the species.

In the last 10 years *U. pectinifera* appeared in large quantities in nurseries throughout the world with *U. var. pseudopectinifera* close behind. A few *U. buiningii* have appeared and recently *U. flavispina* came into the market in large quantities from a local grower at a high price. The market did not accept this plant as anticipated for a price of around \$30.00 each. At this point in time, I bought 6 plants on grafts for a total of \$30.00. That was a good deal in my estimation!



UEBELMANNIA PECTINIFERA Buin.

## Uebelmannia, cont'd.

*Uebelmannia* can be difficult to keep ----- spotting, corking and losing their rich color are just a few of the problems. They must be kept dry and warm in the winter and carefully watered in the spring and summer. We like to mist our plants in the cooler months. They are treated just like *Melocactus* in our greenhouse.

The best known species in collections are in this order:

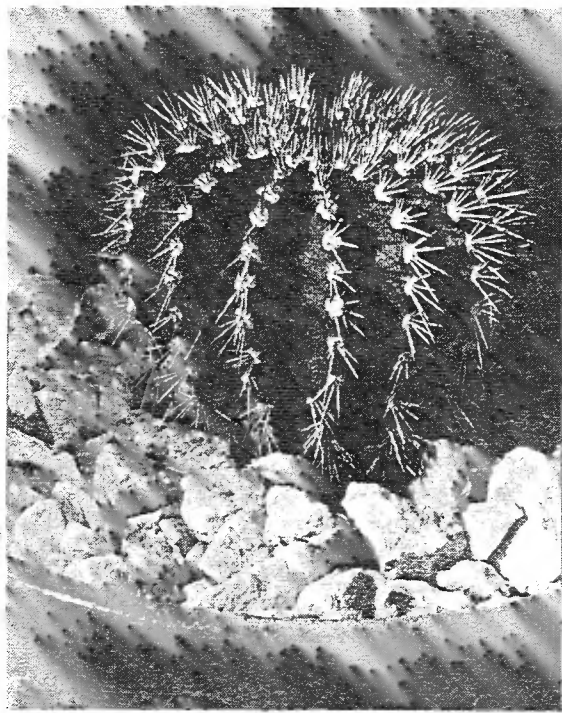
- U. pectinifera*
- U. pectinifera* var. *pseudopectinifera*
- U. buiningii*
- U. meninensis*
- U. flavispina*
- U. meninensis* var. *rubra*
- U. pectinifera* var. *horrida*
- U. gummifera*

Of these, you will find only 5 in collections. Two I have never seen. *U. horrida* and *U. rubra* and *gummifera* are next to impossible to keep alive, even on a graft.

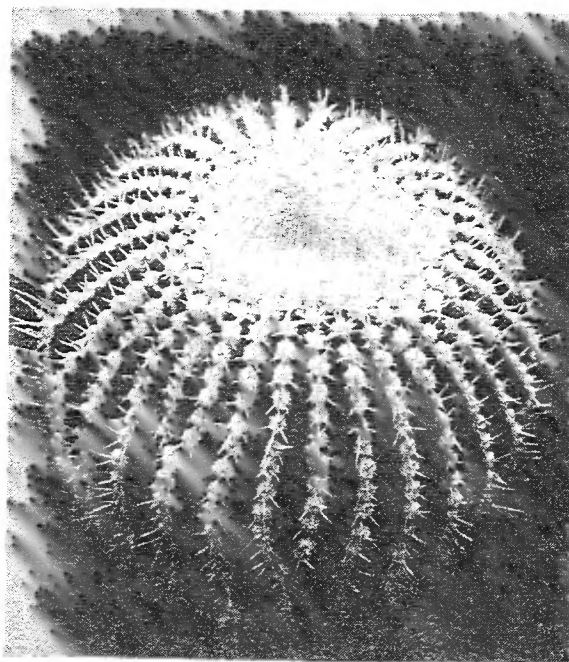
I have, over the years, removed several of our *Uebelmannias* from their grafts. Some were successful and others a disaster. However, I have to admit *Uebelmannias* are right behind *Copiapos* as my favorite cacti.

The first *Uebelmannia* I came across in 1972 had been field collected in 1969 and sent to Argyll Smith by *Uebelmannia* himself. I paid dearly for it and still have that plant today on its own roots. It has not grown a great deal in 26 years and it is very marked up, but still has a front spot in the greenhouse. Others I acquired from collections and at sales.

To summarize: Keep dry in good light but not in direct sun. Treat like *Melocactus* and mist lightly. Use a good draining soil with leaf mould and gravel. Spotting seems to be normal. If you can refer to a species as being the "True King of Cactus", then it must be *Uebelmannia* because they resemble the crown of a King.



*Uebelmannia pectinifera*



*Uebelmannia gummifera*





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# SUCCULENT OF THE MONTH: *TYLECODON*

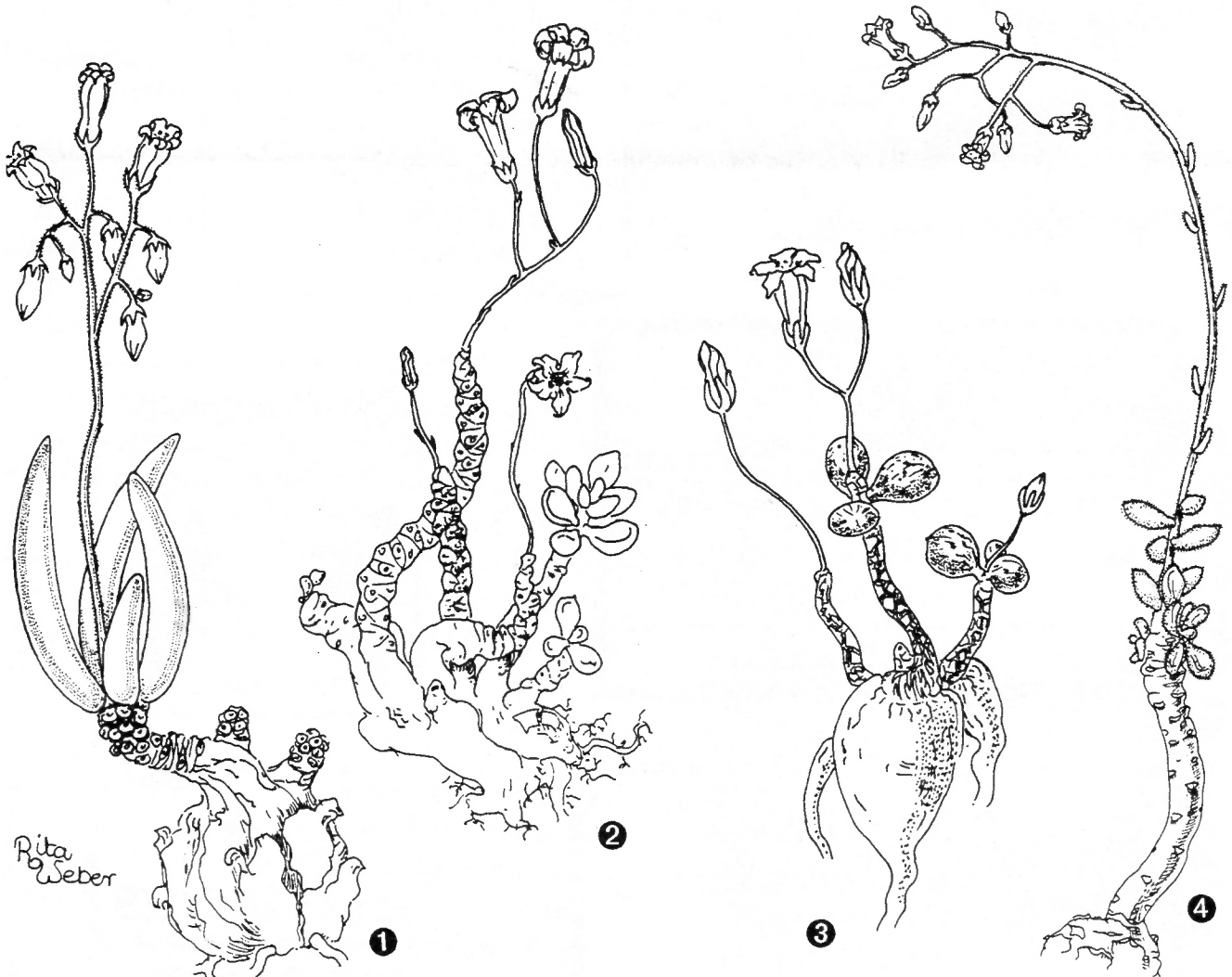
## by Phil Bunch

*Tylecodon* is a genus of small succulent shrubs, shrublets and perennials. Currently, forty-four species are recognized (Jankalski 1998). They range in size from small plants like *T. schaeferianus*, with stems that rarely exceed two inches in height to larger shrubs like *T. paniculatus* that may reach five feet. The vast majority attain less than two feet. Most have thick succulent stems and drop their leaves during the dry season. Several species have tuberous root systems or form a nice basal caudex.

These plants are members of the Family Crassulaceae and are related to *Cotyledon*, *Adromischus*, *Crassula* and *Kalanchoe*. While many members of this family have opposite leaves or occasionally leaves arranged in whorls, *Tylecodon*'s leaves are arranged in a spiral around the stem. *Adromischus* also has spirally arranged leaves but its leaves remain on the plant year around while *Tylecodon* generally drops its leaves during the dry season.

Steve Jankalski (1998) presents an interesting analysis of the origin of the genus name:

[Tölken] claims he simply coined the generic name *Tylecodon* as an anagram of *Cotyledon*. However, one could easily imagine the name to be a combination of two Greek words. "Tylos", meaning a knobby club and "Codon", meaning a bell. A knobby club with bell-shaped flowers accurately describes these caudiciform plants.



Flowering plants x 1: (1) *Tylecodon pearsonii*; (2) *T. decipiens*; (3) *T. schaeferianus*; (4) *T. leucothrix*. Drawings by Rita Weber. Source: reference list Tölken, H. R., **Crassulaceae**.

## ***TYLECODON* by Phil Bunch continued**

For many years these plants were considered to be cotyledons and we still see plants in the trade labeled as such. H. R. Tölken separated the two genera in 1978. If your plant looks like a *Cotyledon*, or is labeled as one, but has leaves arranged in a spiral it is most likely a *Tylecodon*. When in bloom these plants generally have flowers that stick straight up or spread at an angle, while *Cotyledon* flowers generally hang with the tip of the flower pointed down. Another feature of several *Tylecodon* species is the presence of blunt protrusions from the stem. The term podaria used below designates these protuberances. Tölken (1985) referred to these features as phyllopodia, decurrent leaf bases or raised leaf scars and noted that it is not always easy to distinguish between them. These give the plants a distinctive, almost spiny appearance. A few species of *Adromischus* could be confused with *Tylecodon*, but one look at the flowers would solve that problem.

At least some species of *Tylecodon* are extremely poisonous. Livestock eating the plants may become ill or die. The toxin is an unstable; water-soluble compound called cotyledontoxin (Jankalski 1998). Keep them away from small children or pets that may eat parts of these plants. Handle them with care, and wash your hands thoroughly after handling. Be careful not to snack or take liquids when you are working with this plant, and if you are a nail biter, pencil chewer, etc. precautions should be taken not to put your fingers in your mouth!

If you have access to the internet you will find some very good images of *Tylecodon*, as well as some other neat plants on Peter Liekkio's webpage:

<http://www.connectexpress.com/~pliekkio/page1.htm>.

### **DISTRIBUTION AND ECOLOGY:**

This brief summary of the distribution and ecology of *Tylecodon* is meant to help us understand where the plants come from and how they grow in their native habitats. Knowing what a plant must endure in nature may deepen our appreciation and is likely to make us better growers.

**Range:** As described by Tölken, *Tylecodon* grows predominantly along the West Coast of the Republic of South Africa and adjacent portions of Namibia. While a few species are recorded as far east as Graaff-Reinet and Willowmore, most species are concentrated in the Northwestern Cape. Unfortunately, I do not have sources at hand with descriptions of the ranges of the species described since Tölken's 1985 publication.

**Habitat:** While there is some variation in the habitats *Tylecodon* occupies in nature, most species are associated with rocky or gravelly slopes. Many occur in crevices on rock outcroppings. A few occur in valleys or sandy soils along the coast. The smaller species often grow in shaded or otherwise sheltered locations, sometimes protected by large plants.

Other succulent or caudiciform plants that grow in these areas include many genera and species of mesembs, and *Adromischus*, *Crassula*, *Cotyledon*, *Ceraria*, etc. For the succulent grower, a visit to *Tylecodon*'s homeland would indeed be a treat!

**Climate:** Most tylecodons grow in arid lands where precipitation occurs during the winter months. As is typical of deserts, the amount of rainfall varies a lot from year to year. The species from the coastal north western Cape Province and southwestern Namibia may receive significant amounts of moisture from fog. Temperatures also vary from season to season and between day and night. In coastal locations, temperatures are generally more moderate due to the influence of the ocean.



## Succulent of the Month: *TYLECODON* by Phil Bunch continued

### CULTIVATION:

Here in Southern California, we are blessed with a climate similar to the native haunts of *Tylecodon*. This makes most species reasonably easy to grow if a few general principals are observed. Their primary growing season is from fall through spring. I let the plants tell me when to begin and end their active growth period. Start watering when you notice the first signs of growth. Pete Liekkio, of the Seattle area, states that this to the safest method (Liekkio 1999). Stop watering in the spring when the leaves are beginning to yellow and drop. During the warm summer months waterings should be very few and far between. Plants should be moved to a protected mostly shaded area where they can hibernate for the summer. An occasional misting may bring good results, especially for the species native to the fog belts. It's a good idea to protect them with a plastic roof. Tylecodons do well in a greenhouse setting — this prevents over-watering during wet winters and protects them from hail, which may damage their tender leaves.

During their growing season, most species should be watered when the soil dries out or becomes nearly dry. Start the watering cycle slowly and increase it as they grow, and then taper off waterings as they approach dormancy. I try to simulate conditions in the plant's native habitat as much as possible. However, other growers experiment and often have good results. Jerry Wright of the Great Petaluma Desert has found that the larger species tend to be strict winter growers in his San Francisco area nursery (Wright 1999). He also has observed that some of the smaller species will maintain their leaves if watered year around. Herb Freiburg, of Rochester, New York has found that *Tylecodon buchholzianus* will maintain leaves if watered year around. However, he notes that his plants did not bloom (Freiburg 1999). In my humble opinion, the best policy is: when in doubt — do not water! Especially during the summer.

The first few waterings in the fall should not include feeding. Wait until plants are in active growth, and then feed them lightly with each watering. A soluble, relatively low nitrogen fertilizer works well for me. Since they grow best during cool weather, nitrate is the most effective form of nitrogen. Urea and ammonia are most available to the plants at higher temperatures and may contribute little to these plants when they are growing best.

Do allow them to have cool nights and some warmth during the day. If you live inland, protect them from hard frosts. In general, tylecodons will grow best outdoors. You may display them indoors for a few days, but unless the room where they are kept cools off during the night and is brightly lit, they may suffer in the long run.

During their growing season most tylecodons require plenty of bright light. Some shading during the hot months will reduce stress and may make the difference between life and death for smaller species adapted to shaded locations in habitat. The winter sun is generally fairly weak here in Southern California, but some of the small species that grow in sheltered locations may respond to some shading. Observe your plants and change their exposure if the leaves burn (too much sun) or if they become leggy (not enough sun).

Use a very well draining and well-aerated soil mix. This means plenty of pumice or perlite, perhaps some coarse sand and a relatively small amount of loam and/or organic matter. The exact proportions depend on how you water, climate and habitation. Here the name of the game is control. It is more difficult to overwater with a loose mix.

In their Southern Hemisphere habitat, most tylecodons flower between September and January. This corresponds to the spring and summer in Southern California. My experience has been that they follow this pattern and tend to bloom between the corresponding months of March through August here in San Diego. This year, my *Tylecodon schaeferianus* still had a few blooms in October.

### REFERENCES:

- Freiburg, Herbert. Personal Communication, 1999
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- Tölken, H. R. 1985. **CRASSULACEAE: FLORA OF SOUTHERN AFRICA** Vol. 14. O.A Leistner (ed.). Botanical Research Institute, Dept. of Agriculture & Water Supply. Rep.of South Africa.
- Wright, Jerry, Personal Communication, 1999

## THE SPECIES:

Steve Jankalski (1998) compiled a list of currently recognized species of *Tylecodon* and broke them into several groups based on growth form. These groups do not have well-documented taxonomic significance but may be helpful for cultivation. I have utilized Jankalski's delineation in the following list of species:

### *Tylecodon cacalioides* Group —

Caudiciform shrubs with spine-like leaf bases.

- Tylecodon cacalioides* (L., f.) Tölken
- Tylecodon hirtifolius* (W.F. Barker) Tölken
- Tylecodon wallichii* (Harvey) Tölken
- Tylecodon wallichii* ssp. *ecklonianus* (Harvey) Tölken

### *Tylecodon paniculatus* Group —

Caudiciform shrubs with peeling bark.

- Tylecodon paniculatus* (L., f.) Tölken
- Tylecodon pearsonii* (Schoenland) Tölken
- Tylecodon reticulatus* (L., f.) Tölken
- Tylecodon reticulatus* ssp. *phyllopodium* Tölken
- Tylecodon rubrovenosus* (Dinter) Tölken

### *Tylecodon buchholzianus* Group —

Caudiciform shrubs with flaking bark.

- Tylecodon buchholzianus* (Schuldt & Stephan) Tölken
- Tylecodon buchholzianus* var. *fasciculatus* Williamson
- Tylecodon hallii* Tölken

### *Tylecodon grandiflorus* Group —

Caudiciform, small shrubs with leaves withering persistent.

- Tylecodon albiflorus* Bruyns
- Tylecodon racemosus* (Harvey) Tölken
- Tylecodon grandiflorus* (Burman, f.) Tölken

### *Tylecodon ventricosus* Group —

Tuberous rooted caudiciforms with leaves withering persistent.

- Tylecodon faucium* (Von Poellnitz) Tölken
- Tylecodon stenocaulis* Bruyns
- Tylecodon striatus* (P.C. Hutchison) Tölken
- Tylecodon tribblei* Van Jaarsveld
- Tylecodon tuberosus* Tölken
- Tylecodon ventricosus* (Burman, f.) Tölken

### *Tylecodon kritzingeri* Group —

Rootstock tuberous; stems slender, twining, deciduous; leaves cylindrical, recurved.

- Tylecodon kritzingeri* Van Jaarsveld

### *Tylecodon pygmaeus* Group —

Tuberous rooted miniatures, stems lacking podaria or podaria indistinct.

- Tylecodon aridimontanus* Williamson
- Tylecodon bodleyae* Van Jaarsveld
- Tylecodon bleckiae* Williamson
- Tylecodon decipiens* Tölken
- Tylecodon fragilis* (R.A. Dyer) Tölken
- Tylecodon leucothrix* (C.A. Smith) Tölken
- Tylecodon longipes* Van Jaarsveld & Williamson
- Tylecodon pygmaeus* (W.F. Barker) Tölken
- Tylecodon schaeferianus* (Dinter)
- Tylecodon similis* (Tölken) Tölken

*Tylecodon suffultus* Bruyns ex Tölken

*Tylecodon viridiflorus* (Tölken) Tölken

### *Tylecodon tortulosus* Group —

Tuberous rooted miniatures, stems with prominent podaria.

*Tylecodon aurusbergensis* Williamson & Van Jaarsveld

*Tylecodon bayeri* Van Jaarsveld

*Tylecodon cordiformis* Williamson

*Tylecodon ellaphieae* Van Jaarsveld

*Tylecodon sulphureus* (Tölken) Tölken

*Tylecodon sulphureus* ssp. *armianus* Van Jaarsveld

*Tylecodon tortulosus* Tölken

*Tylecodon mallei* Williamson

*Tylecodon scandens* Van Jaarsveld

*Tylecodon tenuis* (Tölken) Bruyns

### *Tylecodon singularis* Group —

Stems completely subterranean; leaves petiolate, usually solitary (rarely up to 10); blade spatulate to cordate.

*Tylecodon atropurpureus* Bruyns

*Tylecodon occultans* (Tölken) Tölken

*Tylecodon peculiaris* Van Jaarsveld

*Tylecodon pusillus* Bruyns

*Tylecodon singularis* (R.A. Dyer) Tölken



*Tylecodon rubrovenosus*

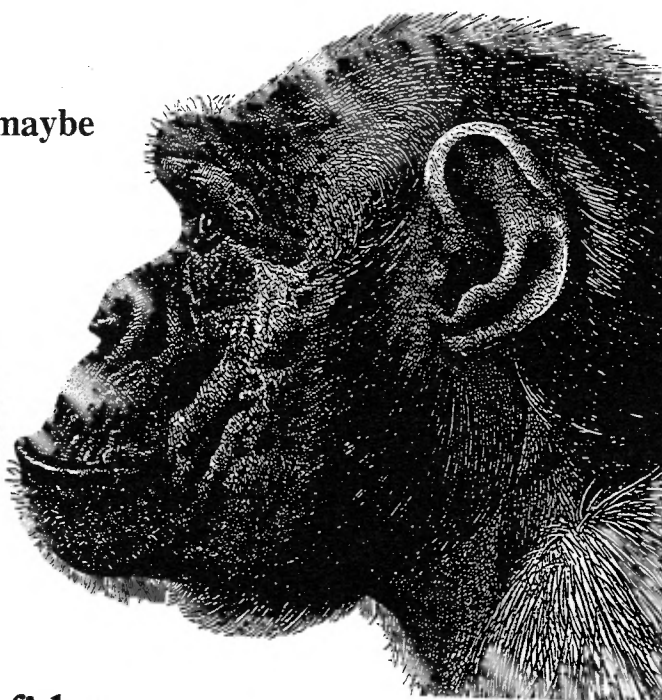
Drawing Rita Weber; source reference Tölken.

Step out onto the Planet  
Draw a circle a hundred feet round  
Inside the circle are  
300 things nobody understands, and maybe  
nobody's ever really seen.  
How many can you find?

LEW WELCH

## WISE AND OTHERWISE

by Michael Buckner



Kindness in words creates confidence.  
Kindness in thinking creates profoundness.  
Kindness in giving creates love.

LAO-TSE

*Trichocereus pachanol* — **San Pedro Cactus**: This ramiform columnar cactus can grow 20 feet tall. It is indigenous to the warm and dry coastal regions of Peru. The pointed buds open only at night, revealing large, deliciously scented white flowers about 8 inches in diameter. The fruit is covered with long black hair. This cactus has been used ritually and medicinally since ancient times. Fresh slices of the cactus are used to brew a drink that is used in shamanism to produce visionary and healing trances. In lower doses, the drink is also used as an aphrodisiac. A sufficient aphrodisiac dose is .07 to .1 ounce (2 to 3 grams) of dried rind. In the permissive sexual life of the Mochica, this cactus was probably the most important aphrodisiac, alongside coca (*Erthroxlum coca*). San Pedro contains mescaline and other psychedelically active alkaloids. Its effects are quite similar to those of peyote (*Lophophora williamsii*).

Christian Rätsch **PLANTS OF LOVE – THE HISTORY OF APHRODISIACS AND A GUIDE TO THEIR IDENTIFICATION AND USE**, 1997, Ten Speed Press, Berkeley, CA.

*Ricinus communis* is commonly utilized by the Topnaar culture, the Nama people or Hottentots of the Kulseb Valley of Namibia (Southwest Africa).

In cases of mumps or toothache, the *Ricinus* seeds are ground, boiled and rubbed on the swollen cheek (or fat is rubbed on the swollen cheek). The whole is covered with a warmed leaf and a compress. The roasted and ground seeds are applied on burns and wounds. A warmed leaf can be used as a poultice on wounds and skin diseases, also on painful knees or breasts and on the throat in cases of throat pains.

*Ricinus communis* is used worldwide as a medicine to treat several diseases, e. g. rheumatism, fever, diarrhoea, nervous disorders, ulcers, toothache, earache, external parasites, bilharziasis, . . . The unbroken seed is strongly purgative, but at the same time extremely toxic: two or three seeds are lethal.

Van den Eynden, Vernemmen & Van Damme, **The Ethnobotany of the Topnaar**, 1992, The Commission of the European Community.



In 1978 London newspapers carried reports of a murder by means of ricin, a highly-toxic proteinaceous substance obtained from the seeds of the castor bean (*Ricinus communis*). As the victim was waiting at a bus-stop, a tiny, hollow metal ball the size of a pin-head containing  $3\mu\text{l}$  of poison, was stabbed into his leg. The minuteness of the dose demonstrates the extreme toxicity of the poison. A number of plants, especially legumes and a few euphorbias, contain toxic proteins of this type, which are often described as toxalbumins or phytohaemagglutinins. It is more accurate to speak of plant lectins, which are proteins which can bind specifically to carbohydrates. The most notable examples are the afore-mentioned ricin from the seeds of the castor bean, and abrine, from the rosary pea (*Abrus precatorius*). Red blood corpuscles in a suspension coagulate if even a very weak ricin solution is added. The castor bean belongs to the spurge family (Euphorbiaceae). Apart from ricin, its seeds contain ricinine, an alkaloid of the pyridine series. The fruit of the castor bean causes sickness and diarrhoea, convulsions and tachycardia, as few as twenty seeds are considered absolutely lethal. Castor oil, which is used as a laxative, should not be equated with the poisonous parts of the plant. It is obtained by crushing the seeds, whereby the toxic constituents are left behind in the cake. The main constituent of castor oil is the triglyceride of ricinoleic acid (12-hydroxy-oleic acid). Ricin can be denatured by cooking. It was the first plant lectin to be produced by Rudolf Kobert and H. Stillmark with a yield of three percent in 1888. In 1891, Paul Ehrlich discovered that mice could be made immune to ricin by giving them repeated injections of non-lethal doses. He also succeeded in immunizing mice with the serum of other mice which had been treated with ricin. This led him to postulate detoxification by antibodies in the organism. The wider concept of the antigen was later coined for ricin. We also encounter the antigen in various peptide poisons from the animal kingdom.

Dieter Martinetz & Karlheinz Lohs, *SORCERY AND SCIENCE POISON FRIEND AND FOE*, translated from German by Alistair & Alison Wightman, 1987, Edition Leipzig, Germany.

**I have come to terms with the future.  
From this day onward I will walk  
easy on the earth.. Plant trees. Kill  
no living things. Live in harmony with  
all creatures. I will restore the earth  
where I am. Use no more of its resources  
than I need. And listen, listen to what  
it is telling me.**

*M. J. SLIM HOEY*



The seeds of the castor oil plant contain ricin, which is one of the most toxic naturally occurring substances in existence. It is easily absorbed by the intestinal wall, and 7mg. or 0.00025 oz. is enough to kill an adult. For most animals an intake equivalent to two-millionths of the total body weight proves fatal. In one case of poisoning some castor beans found their way into grain when various bags burst in a shipping consignment. As a result 48 horses died, along with several chickens and a rabbit. In 1993 Oxfam was forced to issue an appeal to the public to return some necklaces from Central America that had been offered for sale in its shops, when it was discovered that some of the 'beans' were in fact castor oil fruit, a danger to the public.

In another more sensational case, this time of murder, a Bulgarian broadcaster died after a small perforated metallic sphere containing ricin was fired into his leg. Post-mortem examinations of poisoning from ricin reveals intense inflammation and erosion of intestinal membranes, degeneration of the kidneys and liver, and haemorrhages in the heart. Fortunately the hard seed-coat provides some protection, and if the seeds are swallowed without being chewed the toxin is usually not released. However, two well-chewed beans would be fatal. In case you need reassuring, no toxic substances are present in castor oil, which used to be used as a purgative, and is also extracted from *Ricinus communis*.

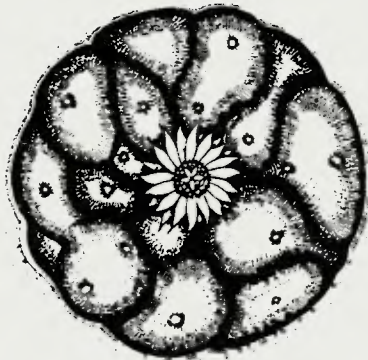
Roger Turner, *EUPHORBIAS - A GARDENER'S GUIDE*, 1995, Timber Press, Portland, Oregon.

**If you wish to make an apple pie from scratch,  
you must first create the universe.**

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