

MAMMILLARIA THORNBERI

# Espinas y Flores

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

VOLUMEN SIETE, NUMERO NUEVE

OCTUBRE 1972

## CASA DEL PRADO

HOME OF AREA GARDEN CLUBS

CASA DEL PRADO is a complete restoration and rebuilding of a temporary 1915 Panama-Pacific Exposition building. It was originally known as the Foreign and Domestic Products Building, later as the County Fair Building, and finally as the Food and Beverage Building. The original building was designed by Carleton Monroe Winslow and built by Frank P. Allen, Jr. It was the largest building of the 1915 Exposition and it served San Diego for fifty years, or until 1958, as a home for numerous cultural activities.

Comprehensive building designs include plant material. Columns on the building are entwined with grape vines. Other parts depict acanthus leaves interwoven with grape and olive leaves, fruits and seeds. Fitted into the decorations are triangular "Neptune" faces--Roman God of the Sea.

The El Prado side is completely rebuilt and restored and adapted from the patio of St. Augustine at Gueretaro, Mexico. The front is original, designed like a great convent. Some of the former solid walls have been replaced with patios in the rebuilding process.

The Auditorium front, facing Village Place, is in the style of a Spanish-Colonial church. St. Jerome, the translator of the Bible into Latin in the 4th Century, is over the door. Classical cherubs (celestial spirits) are in the design above and angel faces are on four sides of the columns on each side of the Rose Window.

The large facade over the building name is centered with a statue of the Goddess of California with an Indian and a Spanish child. To the right is Queen Isabella and to the left is a figure symbolic of all Anglo-Saxon women. The figure at the top symbolizes universal religion. The ornamental shields on the corner pavilions are of a ship coming through the locks of the Panama Canal and of Father Serra. The scallop shells depict St. James (Santiago) Patron Saint of Spain, and symbolize pilgrimages.

Casa del Prado should endure for hundreds of years and serve the cultural needs of many generations to come. The southeast, spacious ground level room 104, "Majorca Room" named for the largest Island in the Balearic Group (Spain) is home and meeting place for numerous area garden clubs, one of which is the San Diego Cactus and Succulent Society.

CACTUS CARAVAN

To: GRIGSBY'S CACTUS GARDEN  
2354 Bella Vista Drive  
VISTA

Saturday, October 14th

Tony D'Attilio, Wagonmaster

NORTH on 395 (163) to Grant in  
Escondido

WEST on Grant to Mission Road and  
Santa Fe Avenue

(Old 78 which takes you to VISTA  
but don't go that far) watch for  
PALMYRA STREET and turn east a short  
distance across the RR tracks and  
turn sharply right and follow the  
road around to 2354 Bella Vista Drive.

PARKING--pull off the road or inside Grigsby's.

STARTING TIME AND PLACE and all the other little necessary details involving  
a private car caravan will be discussed and settled upon at Saturday's (Oct. 7th)  
meeting at Casa del Prado. Listen to the WAGONMASTER.

Some cars may have extra space and there will be some Club members who have no  
transportation. Make your needs known on Saturday and arrange for your own needs.

GRIGSBY'S CACTUS GARDEN -- well we might just as well be forthright and honest --  
is the best organized and managed garden in the North County. And we might add that  
Grigsby himself is unusually knowledgeable and informed about plants and he tells  
it like it is. He may not talk with his plants, but he is 'with' them and they are  
'with' him. They understand one another and work with each other very effectively.

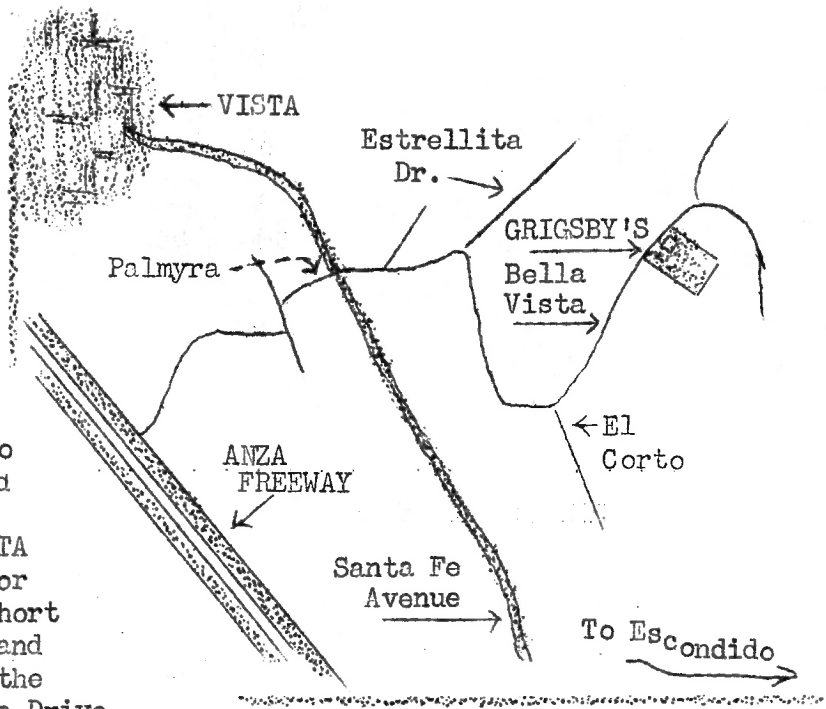
And you may be fortunate enough to meet and get acquainted with MADELYN LEE --  
remember the gal and the name -- you will see much of them in CSSA matters in years  
to come. HERE WE COME, DAVE !!

INCIDENTALLY :: Palomar Cactus & Succulent Society has arranged THREE of the  
best possible programs for the rest of 1972: SEPTEMBER: Dave Grigsby telling  
about COPIAPOAS; OCTOBER: Charlie Glass and Bob Foster taking you all on an arm-  
chair tour of European Gardens; and NOVEMBER: Ed and Betty Gay will take you where  
they have been - and it wasn't all comfort. The only possible way to top that  
series of programs in December would be to have Santa Claus in PERSON. Are you  
working on the problem, President MARINO? You all are welcome to the Palomar pro-  
grams--they happen on the third Saturday at 1:30 p.m. at Palomar College.

CHARLES F. HARBISON, 1915 F. Avenue, National City, is holding one of the best  
and most complete collection of AGAVES for the new Cactus Garden in Balboa Park.  
It couldn't be duplicated!! SAND & SOUL COMMITTEE -- you'd better get on the ball.

YE ED has one copy of SUNSET'S "Travel Guide to BAJA CALIFORNIA" at a discount  
price, \$1.75. First one to call 296 6022 may reserve it.

REGALEMENT (September) Following are the thoughtful and generous Club members  
who provided the goodies on the refreshment table: Lucille BECKFIELD, Leta HAPEMAN,  
Ione HUBNER, Frances LANGER, Alberta WIDEN and Lorena VALENTINE. The TRIO who super-  
vises the whole operation month by month is: Elvira BIBBEY, Rose D'Attilio and  
Pat MOONEY. We salute you, and you and you!!



ERA - PERIOD - EPOCH .

Earth's Time Table .  
 . . . . .  
 Doc. R. V. Vaughan .  
 . . . . .

For the botanist there are three critical points in the long succession, points where a transformation in the character of the flora (flowering plants) took place, or appears, with our imperfect knowledge, to have taken place.

The latest was during the CRETACEOUS PERIOD (see chart) when our modern type of flora first became dominant. The next older was at the close of the PALEOZOIC ERA, in or just after the PERMIAN, when the MESOZOIC flora began to replace the ancient vegetation of the coal forests.

The third and oldest transformation took place about the middle of the DEVONIAN PERIOD when highly organized flora of the later PALEOZOIC ERA succeeded the simple types which are now known to have flourished in early DEVONIAN times. These great changes in the facies\*

of the vegetation are real enough, but no doubt the actual origin of the incoming flora was in each case much earlier than our existing records show.

To understand my way of thinking there was a plan that under basic laws prepared this globe, the Earth, for the coming of man. The more I study and try to understand geology, botany, ecology and other laws that govern us, I cannot believe CHANCE alone brought forth life.

When the first vegetation of the sea invaded the land, that was most important of all. This was a profound change that was well timed to suit the cooling water of some bayou or small swampy pool where certain chemical salts were precipitated out of the rain waters that laved the newly formed and cooling earth mass. Of necessity, there were carbon, hydrogen, oxygen, sulphur and nitrogen. These being the component parts of urea which is the basis of life, both animal and vegetable.

If we accept the age of the Earth as five billion years and that it was born of molten gases tossed into space by some larger body, and it was cooled into a crinkled mass upon which hot acidic rains fell and leached the newly formed rocks and carried the alluvial detritus down into the lower elevations, then oceans and lakes would be formed as the waters cooled. (One fourth of all the fresh water on the surface of the Earth is in the river basin of the Amazon River.) Cont'd.

\*Facies: The entirety of characteristics which determine identity.

ERA	YEARS AGO	PERIOD	EPOCH	CHARACTERIZED BY	
Archeozoic	5,000,000,000-1,500,000,000			earth's crust formed; unicellular organisms; earliest known life	
Proterozoic	1,500,000,000-600,000,000			bacteria, algae, and fungi; primitive multicellular organisms	
Paleozoic	600,000,000-500,000,000	Cambrian		marine invertebrates	
	500,000,000-440,000,000	Ordovician		conodonts, ostracods, algae, and seaweeds	
	440,000,000-400,000,000	Silurian		air-breathing animals	
	400,000,000-350,000,000	Devonian		dominance of fishes; advent of amphibians and ammonites	
	350,000,000-300,000,000	Mississippian	Carboniferous	increase of land areas; primitive ammonites; development of winged insects	
	300,000,000-270,000,000	Pennsylvanian		warm climates; swampy lands; development of large reptiles and insects	
	270,000,000-220,000,000	Permian		many reptiles	
Mesozoic	220,000,000-180,000,000	Triassic		volcanic activity; marine reptiles, dinosaurs	
	180,000,000-135,000,000	Jurassic		dinosaurs, conifers	
	135,000,000-70,000,000	Cretaceous		extinction of giant reptiles; advent of modern insects; flowering plants	
Cenozoic	70,000,000-60,000,000	Paleogene	Tertiary	Paleocene	advent of birds, mammals
	60,000,000-40,000,000			Eocene	presence of modern mammals
	40,000,000-25,000,000			Oligocene	sabertoothed cats
	25,000,000-10,000,000	Neogene	Miocene	grazing mammals	
	10,000,000-1,000,000		Pliocene	growth of mountains; increase in size and numbers of mammals; gradual cooling of climate	
	1,000,000-10,000		Quaternary	Pleistocene	widespread glacial ice
	10,000-present	Recent		development of man	

ERA - PERIOD - EPOCH

Continued . . . . .

Water was formed by chance, or by a Divine Law. It would have been just as easy to have had oceans of hydrocarbons - crude oil - benzene (C6H6) as water (H2O).

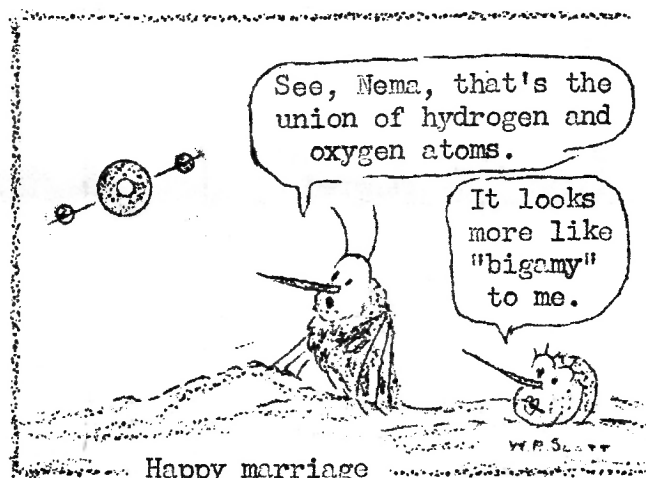
In fact there are vast lakes of hidden crude petroleum under many areas of the Earth's surface which we name "fossil fuel". The happiest event in Old Mother Earth's **history** was when the oxygen and hydrogen atoms married and formed a nesting place for all that was destined to come to pass.

If one thinks of the Earth as a large onion and of the AGES that have left their marks upon its surface, one can readily understand what immense changes have taken place on our planet as it has floated along thru space.

Until we developed the atomic microscope we had small evidence of any life in geological formations earlier than the Cambrian Shield which is dominant in Northern Canada where it is exposed by glacial action, which, at its greatest advanced into Northern United States about thirty-five thousand years ago.

The remains that we find there are moraines where I played as a boy when buffalo still were roaming the vast plains.

Geologically listed are usually six ERAS, the oldest being the ARCHAEOZOIC, more than a billion years ago. The PROTEROZOIC followed by the PALEOZOIC which comprises the CAMBRIAN PERIOD of 500 million years; the ORDOVICIAN PERIOD of 425 million years (sea weeds, algae, etc); the SILURIAN PERIOD, 360 million; the DEVONIAN PERIOD, 325 Million years (first land plants), CARBONIFEROUS, 280 million, (coal forming) and the PERMIAN, 230 million.



The MESOZOIC ERA comprises a trio of PERIODS - TRIASSIC, JURASSIC and CRETACEOUS, 205 down to 135 million years. This was the great "chalk forming age". Also known as the THIRD critical age. DEVONIAN first and PERMIAN second.

The last ten million years is known as the TERTIARY or the CENOZOIC starting down at the PALEOCENE thru the EOCENE, OLIGOCENE, MIOCENE, PLIOCENE, PLEISTOCENE and into the RECENT.

The early DEVONIAN PERIOD brought forth the first land plants--Rhynia, Psilophyton, Baragwanathia, Asteroxylon, Hornea. All were small, less than two feet. Reproduction was by spores. All lived close to sea inlets. The climate was very warm, all over the earth. That about 400 million years ago.

If all geologic time were to be represented using a 12-month calendar as the basis, MAN (Homo Sapiens) would be a relative newcomer. He would have appeared about New Year's Eve. The age of reptiles (dinosaurs) would be represented on the calendar as the first half of December.

Quote: (Tony D'Attilio) "Few things in life can be regarded as "waste", they form the basis of experience and knowledge in succeeding situations."

Waste not fresh tears over old  
griefs. —Euripides

## NIBBY'S NOTEBOOK

### GETTING AROUND!

There is a bit of a story connected with one of our new members (Associate), L. E. Lewton. He first heard of us and Star to Star through the Houston Society newsletter. He followed up the lead and wrote for information. . . we sent him several copies and he decided to become an associate member here.

Mr. Newton is with the University of Science and Technology, Kumasi, Ghana.

Mr. Newton has long been a "paper" member of our Society. We hope that if he reads this bit of blab he will favor EyF with a note telling us what's going in Ghana.

Scotty said that Bill & Alice Bishop gave an American flag to us in September... but wonders...was it on loan until they get back from Europe...or an outright gift??? He's positive, however, that the hand-lettered ash trays from Lucille Beckfield are not on loan...Lucille doesn't smoke... Lauron Lovelace is collecting Spanish poems and verse for EyF; we anticipate seeing them in print soon... If not home already, the N. P. Stevesons will be back any day from a boat and auto tour of Canada and Alaska. With driftwood for friends?

Sophie and Oliver Loyland are making a trip to Minneapolis before he's hospitalized for surgery. Oliver thought he just had laryngitis for a while...then he took as many Cobalt treatments as permissible, and now the doctors feel they must operate. It will be uncomfortable and worrisome, Oliver, and we're all very sorry that it's necessary, but we're also certain that everything will be all right afterwards.

Mary Birchell of 6070 Sarita Street in LaMesa has the honor of being Card-Carrying Member #225 this year -- we didn't reach that figure until October last year, plus a few in November and 8 more in December... Doris Rake (4410 38th Street, SD 92116) is another very recent newcomer... as is Helen Claydon ... Was it Mary or Doris or Helen who volunteered to do some typing? Now THAT's what we had in mind with the Questionnaire -- to get these welcome tidbits in WRITING, all sent through The Man at the Top... only it seems that people didn't want to tear their paper up to send it in, so we're reprinting to include the Questionnaire on top for easy removal -- maybe we'll have a Moment of Quiet for Questionnaire? at the meeting?

Helen Claydon tends Floral Ass'n's office in Casa del Prado which is open weekdays...such a warm friendly room, beautifully furnished...the latest in flower arrangements and allied crafts... Floral was the first garden club in the city back in 1907, started publishing CALIFORNIA GARDEN two years later, and Sunday, the 8th of October, will celebrate their 65th Anniversary with a tea from 4 to 6.



The tea will be in their quarters. Their gracious president, Beverly Kulot, invited you to drop in whether you are a member or not. Members are invited to bring a book for their already impressive library... Also mark your calendars for the 17th at 7:30 - that's the third Tuesday of the month - because you are also invited to the regular meeting in Room 101, Casa del Prado, to "WHAT'S NEW?" Ed Bichowsky of Butler Mills will tell us - they have great door prizes as well as products -- a perfectly marvelous moisture meter, grass doormats (really plastic, you know, but so LIFELIKE) and those slow-release fertilizer pellets good for two years -- come and hear what's new this year. The better for your gardening, my dears.

While we're on CALIFORNIA GARDEN... Ione has wondered why her name is still carried as President of our Society... so, indeed, has Augie ... well, it isn't because Ione and I (no longer Representative as listed) haven't notified them repeatedly, but because of the expense of setting type and "unlocking the case", and because of the mountains of minutiae ... Augie will announce the newest representative as soon as he secures acceptance ... but he does announce another appointment-- that of Wilson Wells as the new Representative to Botanical Foundation, and we applaud an excellent selection.

Members come and go, and still the same names appear in our paper. Obviously they are the active ones. If YOU would like a piece of the action, please let it be KNOWN! Contrary to rumor, we don't have a clique running things...you, too, can be on the "inside"... all you have to do is APPEAR and OFFER and then PERFORM! Try it -- you'll LIKE it! ... One opportunity will be to help Rickey Latimer lug plants in, sell plants at the Sales Table, and lug plants out, while Oliver is convalescing. It's a real job.

Ione Hubner was appointed Chairman of the Nominating Committee. Martin Mooney and I were asked to assist. Is there someone who would like to deal himself/herself in? Just make yourself known. We recognize there's lots of talent still unsurfaced.

I missed the last meeting; was in San Francisco. Lee and Marilyn Phelps missed the last meeting because Marilyn had the bad luck to be involved in one of those chain-reaction fender-smashing nasty little accidents on the freeway... Hope none of Lee's miniatures were in the car -- oh, we understand Marilyn wasn't hurt. Anyway, Floyd Gable filled in for Lee. When I asked him who won Plants-of-the-Month, he was hard-pressed to remember...when he did: Floyd Gable! He claimed it was downright embarrassing, and what's more, he meant it. His conophytum with white flowers won for succulents; it is the first conophytum to bloom every year. Cactus - Mammillaria scheidiana. He said Nellie Kennett gave a lot of competition. MORE PEOPLE SHOULD BRING PLANTS - it's another act of involvement.

FLASH! Augie just called with the promised appointment: Representative to Floral Ass'n is Helen Claydon who will be responsible for NOW-IS-THE-TIME to whatever for cactus & Succulents; she said that she would appreciate items from The Experts. This will appear in CALIFORNIA GARDEN. Augie also said that Ed Miller had taken the plants to babysit while the Loylands are away. Ed really has a sweet soul.

Helen has rejoined; she is still somewhat crippled from an automobile accident two years ago but energetically teaches gold and swimming just the same. We were trying to identify ourselves to each other, during the course of which she asked if I knew her good friend Audrey Justice - "We're that naughty pair -- always sniggering!"

From the Bishops in Austria - "The shops and nurseries all carry c&s! We're looking forward to visiting some of the big gardens." ... OPEN GATES of Gates C&S Society in Bloomington still comes to my address...published by paper members Leo & Lillian Pickoff - carried one of Scotty's cartoons - and then I saw another cartoon by W. R. Scott in COLORADO CACTOPHILES CACTIVITIES...he's not only generous with his talent but modest - for he would never had mentioned it. ... Those active Colorado Cactophiles are putting on a show with 22 different classes! It would be a good schedule for reference if we ever became serious about putting on a show. Well, kids -- see you at the meeting!

# COASTAL CAUDICIFORMS

by JUDY KRUEGER

Caudiciform is a loosely applied term which may fit a very wide range of plant species. Generally, the term would be applied to a species having a swollen caudex (the base of the stem), or a large tuberous root.

Of particular interest to succulent plant collectors are the caudiciforms with succulent stems and/or leaves. There is actually no well-defined dividing line, as these characteristics are present in a great many plant families, most of them not considered succulent to a degree that would warrant them desirable in a collection. It becomes a matter of preference whether a certain plant having the characteristics of a "caudiciform" is to be included in a collection. A well represented collection of caudiciforms, strictly speaking, may also include potatoes, carrots, onions, etc. While there is no written law as to which are the desirable collectibles in this category, generally the appearance of the caudices or tubers of species is the main guideline, even though the stems and leaves are borderline cases of succulence.

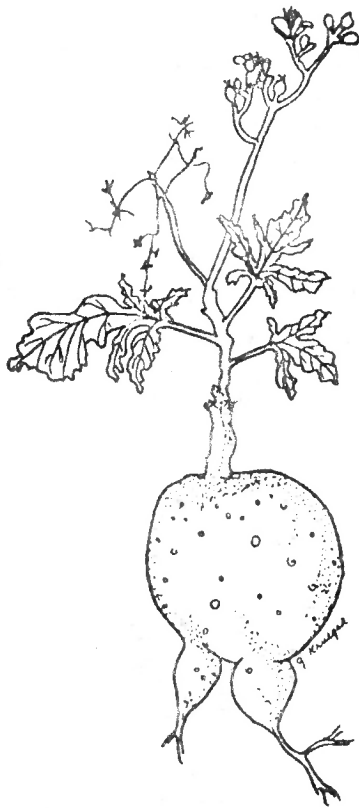
Locally there are a number of species that fall into the caudiciform category. The ones illustrated are popular among collectors, and some are much sought after worldwide.

All of the caudiciforms mentioned here can be found within a 20 mile radius of Corpus Christi. A society sponsored field trip to some of these areas is in the planning stage. If you want to be "in," you must have a few caudiciforms in your collection.

\* \* \*

## *Jatropha berlandieri*

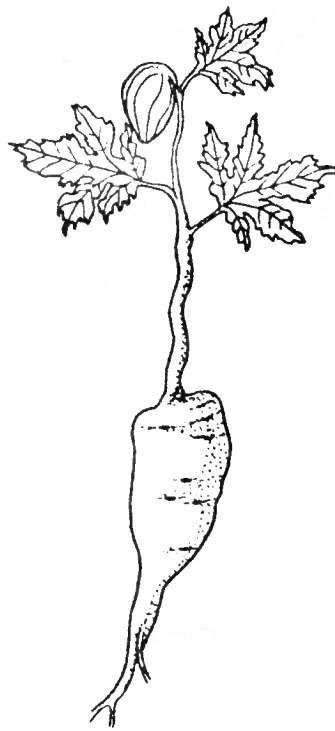
A species of the Euphorbiaceae family found in brush on clay soil in Rio Grande Plains, and some adjacent states of Mexico. This is a particularly attractive species, easily grown, and suited for pot culture, but does better usually in a prepared bed. It will become rampant and leggy stemmed unless given a sunny position. Needs no water during the dormant period, when it is highly susceptible to rot. The tuberous root may have a variety of forms, usually ball-shaped, sometimes carrot-shaped and becomes quite large with age.



JATROPHA BERLANDIERI

## *Amoreuxia wrightii*

A species of the Cochlospermaceae family, all of whose members possess a thick tuberous rootstock. Amoreuxia is a small American genus of 7 species. *A. wrightii* can be found in limestone soils and on silty flats in Rio Grande Plains to western Edward Plateau, and in adjacent Mexico. An attractive plant with a lovely, large pink-orange flower, and glabrous, frilly leaves, plus the woody, tuberous root. The requirements for culture seem to be similar to those of *Jatropha berlandieri*. It is sometimes found growing in association with *J. berlandieri* in the habitat. Easily grown from seed. A very desirable collectible.



AMOREUXIA WRIGHTII

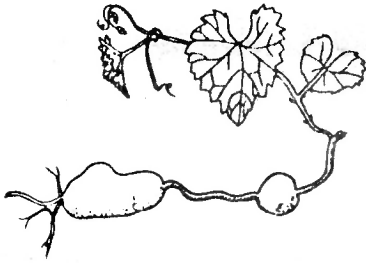
---

Lifted bodily from the July 1972 issue of STAR TO STAR, a fat little monthly published in Corpus Christi, Texas. (Sub \$4; 1915 Leopard Street; 78408) Since they are on an Exchange basis with us, we did not ask for advance permission to reprint but we do now hereby acknowledge and thank Judy Krueger for an unusually interesting and beautifully illustrated article. Judy is Editor of the COASTAL BEND C&S SOCIETY portion of STAR TO STAR.

"For we shall step lightly from Star to Star —  
And he who will not follow must stay behind."

### Cissus incisa

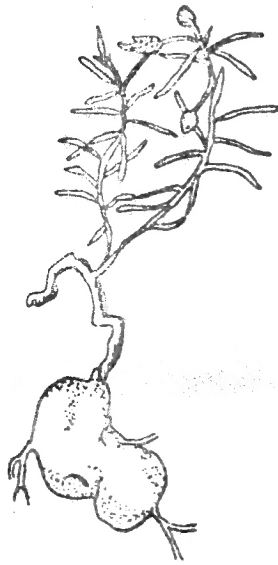
A species of the Vitaceae, or grape family. The leaves are thick and succulent. The root will form a sausage-like chain of tubers, which are smooth and sometimes almost spherical. This species can be found growing throughout most of the state in chaparral, salt marshes, and open woodlands. It is sprawling or viney in habit, clinging to rocks and shrubs. A nice item for a collection if support is provided for the vine, which is quite prolific in growth. Requires full sun for the most compact and attractive specimen.



CISSUS INCISA

### Talinum aurantiacum var. angustissimum

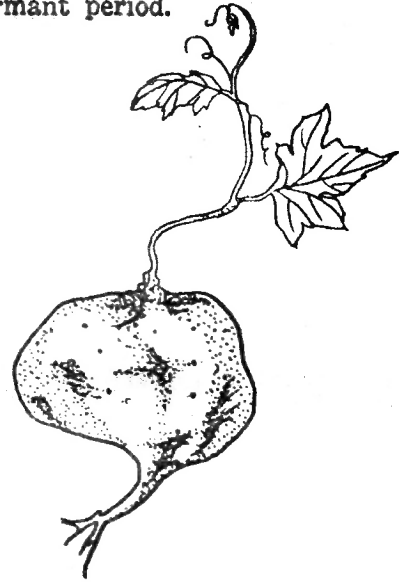
A species of the Portulacaceae family, with tuberous root and slender erect branches with narrow leaves. Found growing in sandy or gravelly soils in arroyos, on plains and slopes in south and west Texas, and also to Arizona and northern Mexico. The root forms interesting shapes, which make this species popular.



TALINUM AURANTIACUM VAR.  
ANGUSTISSIMUM

### Ibervillea tripartita

A species of the Cucurbitaceae or gourd family, whose members all have stems with tendrils, trailing or climbing. Found usually in sandy soil, mostly in south Texas. The flowers are insignificantly greenish-yellow and small, but produce a large attractive seedpod. This genus can become somewhat of a nuisance in a collection if the viney growth is not kept in check. Ibervilleas have amazingly interesting tuberous roots, reaching a large size. Perhaps a hanging container would be best suited for cultivation of this genus. Easily grown in full sun but susceptible to rot during the dormant period.



IBERVILLEA TRIPARTITA

Definitions from BOTANY IN BRIEF from same source, same issue of STAR TO STAR.

Mesophytes grow in an environment that is neither very wet nor very dry, such as the meadows and forests of the temperate zones and corresponding regions of the tropics. Broadly defined, a xerophyte may be regarded as a plant adapted to survival under conditions of a limited supply of water in its habitat. This deficiency may be persistent or periodic.

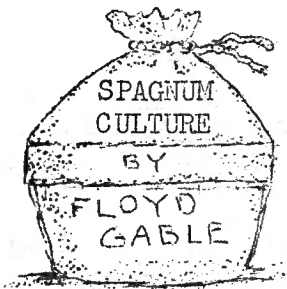
Xerophytes are characteristic of desert and semidesert regions. They also occur in mesophytic regions where available water is occasionally deficient, as on sand hills, beaches, rocky ledges, or cliffs. Even where the annual precipitation is sufficient to permit a mesophytic vegetation, xerophytes may be found in place of mesophytes if the climate is characterized by sharply defined wet and dry seasons. The xerophytes are better able to withstand the seasonal droughts.

Hydrophytes grow in or near the water, partly or entirely submersed. Some grow on land with their roots in saturated soil.

The xerophytes are a diverse group and possess no common anatomical or physiological features. Xerophytes may be classed as: (1) succulents, and (2) non-succulents, sometimes termed "true" xerophytes. The succulents are regarded as highly specialized xerophytes.

\* \* \*





Most novices who try to grow cactus from seed do not have the know-how or the facilities for germinating them, and if germination should be good, to bring the seedlings to proper size for transplanting, and finally transplanting. Germination methods used by commercial growers do not necessarily work for the amateur. Some seeds are difficult to germinate, and when germinated, they are subject to attacks of "damp off". If we try to duplicate commercial growers' methods, using soil, we do not have the facilities or the experience necessary for success.

Spagnum culture practically eliminates common causes of failure. It does work and it gives good results but it is very important to follow certain steps in a particular sequence. Each step serves a purpose. If one neglects to follow each step, he stands a good chance of failure.

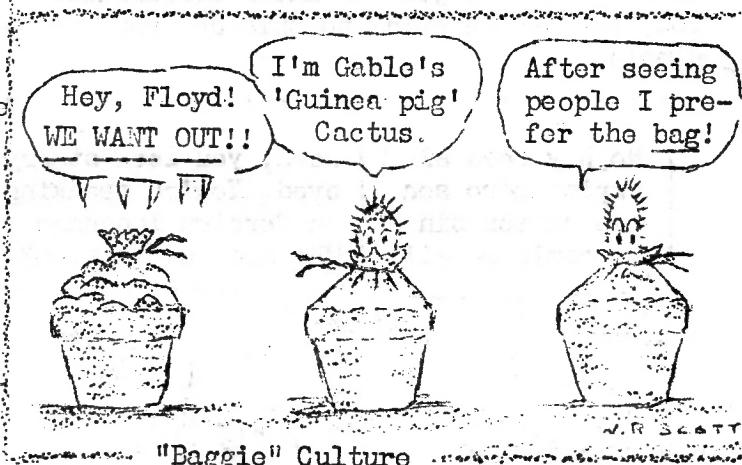
I have successfully germinated and grown the following genera and up to this time have not found a genus which does not grow using the spagnum culture method.

Astrophytum	Chileorebutia	Copiapoa	Frailea	Gymnocalycium
Haageocereus	Mammillaria	Melocactus	Neoporteria	Neoraimondia
Notocactus	Pseudolobivia	Trichocereus		

STERILIZING: Fill a 3-gallon bucket with water and add three tablespoons of "Consan". Put pots and labels (markers) in solution and leave for an hour. Remove and save the "Consan water" for use later in saturating the spagnum moss.

SPAGNUM IN POTS: Put shredded (not sifted) brown (not green) spagnum moss in two- or three-inch pots. Four inch pots will not fit into a sandwich baggie. (See later) Press moss into pots and level. Take one gallon of the three gallons of "Consan water" and add one tablespoon of "Water-In" (a liquid wetting agent). Saturate moss in the pots. Make sure saturation is complete.

PLANTING SEEDS: Drop seeds on top of moss, spread evenly as possible over surface. Some seeds are microscopic in size. Place each pot in an individual plastic sandwich bag ("Baggies" come in sandwich size in rolls, 80 to a roll, 6 3/4" by 8 1/4") Twist top of bag and tie it with a "twist tie strip". This insures that the bag is air tight and the moisture is sealed in. Humidity in the bag should approach 100% and remain at that point indefinitely as there is no evaporation. Seeds should begin to germinate in a few days. Moisture condenses in droplets inside the bag which is an indication of 100% humidity which is desirable. Since the treated moss is resistant to fungus, seedlings should not damp off. Molds and insects cannot get into the bags. Seeds enjoy perfect germinating conditions. Minimum temperature should be 70° F, a slightly higher temperature is good. Pots with seedlings should be kept air tight in the bags until the seedlings are about a half inch high, usually in about three months after germination. Some seeds germinate more slowly than others. Time of germination is the guide. If baggie enclosed pots show signs of dryness, look for a hole in the bag.



"Baggie" Culture

FEEDING SEEDLINGS: When seedlings are a half inch high, bags may be opened for feeding. The following solution is prepared. To one gallon of tap water add one teaspoon of Consan and one teaspoon of 8-8-8 liquid fertilizer. Seedlings at this stage need feeding as spagnum moss contains very little if any food for growth. Close the bags and retie. Check the pots occasionally. After a two-month period seedlings should be suitable size for transplanting.

SPAGNUM CULTURE

Continued

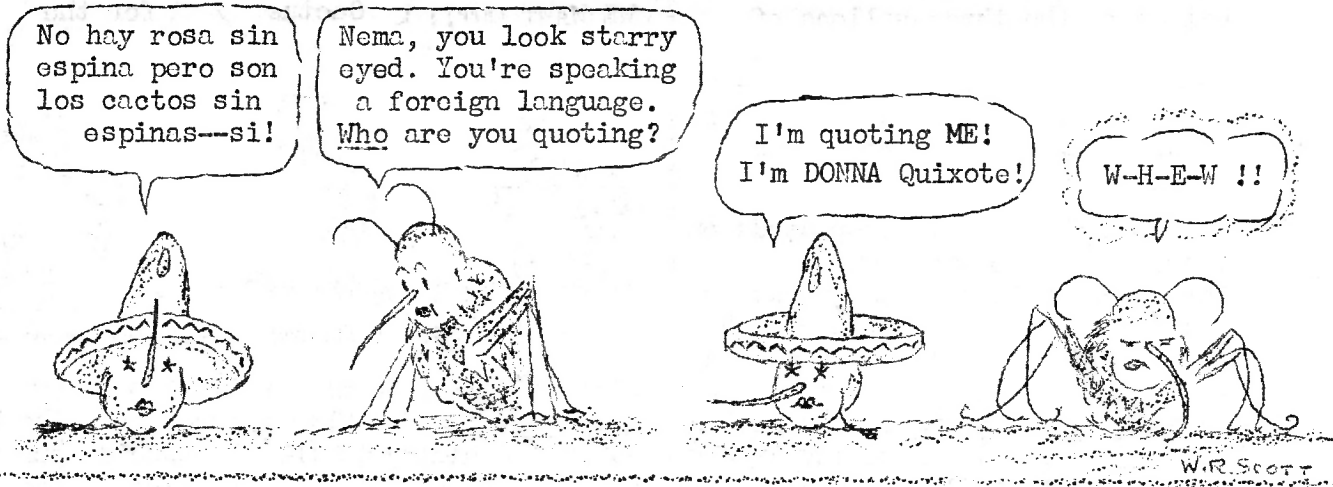
TRANSPLANTING: When seedlings are at transplanting size about a half-inch high, put them in two- or two and a half-inch plastic pots using the following seven-part compost.

- 1 part old sifted leaf mold
- 1/2 part peat
- 1 part sponge rock
- 1 part top soil
- 1/2 steer manure
- 2 parts sand
- 1 part chicken grit (small)

Mix the compost parts thoroughly and put in shallow pan (or pans) and cover with tap water. Mixture should be saturated. The pan should be placed in an oven and left for an hour at 300° F. (Water boils at 212° F) Boiling sterilizes the mixture and frees it of fungus, insect life, larvae and other plant life.

The odor created by boiling the above mixture in the kitchen may be offensive to some individuals. It might be well to close all kitchen doors except the one to the patio--and have a deordant on hand when the hour is up. But on the other hand the odor of boiling lobsters is offensive to some individuals, but the end result in both instances is gratifying. And there is room for differences of opinion.

The spagnum culture method may be done at any time of the year, temperature control is the secret. A 70° temperature minimum is desirable but seeds will germinate more rapidly at slightly higher temperatures. Two fifteen watt incandescent lamps give surprisingly good results in lifting the temperature in a small enclosed area. Of course there are heating cables and grow-lux lights, but then those items could be the subject of later discussions. There are other methods of sterilization too, but if you stick to this one you can be assured of excellent results---and it's simple.



- - - OUT OF THE PAST - - - CACTUS & SUCCULENT JOURNAL, Sep.-Oct. 1965. Aff. Reporter

QUOTE: "San Diego Society has to experiment with club publication, like all clubs. The first issue of their magazine, Cactus y Succulentos has appeared. Now to keep it going. Should all these Societies decide to exchange with all the other Societies--well, who pays the bills? Don't think this writer disapproves, merely knows the problems involved, but more power to these enthusiasts. This Society is also starting work rejuvenating the Balboa Park Cactus Garden, neglected for thirty years. Wish them luck. A further comment states that entries in shows are usually made by a special few, with plants furnished by another special few. Interesting, eh?" UNQUOTE

Every problem theoretically has a solution. The big problem is keeping current. Anyone with the solution? . . . . Ed

K. -- Körper	-- body	Bl. -- Blüte	-- blossom
Ø -- Durchmesser	-- diameter	R. -- Rohre	-- Tube (pipe, valves)
lg. -- lang	-- long	Sch. -- Schuppen	-- scale
h. -- hoch	-- high	Sep. -- seussere	
br. -- breit	-- wide	Perigonblätter	-- outer 'p' leaves
gr. -- gross	-- size (big)	Pet. -- innere	
Wz. -- Wurzeln	-- roots	Perigonblätter	-- inner 'p' leaves
G. -- Glieder	-- structure (limbs)	Ov. -- Fruchtknoten	-- seed vessel
Tr. -- Triebe	-- shoots	Stbf. -- Staubfaeden	-- pollen
Ri. -- Rippen	-- ribs	Stbb. -- Staubbeutel	-- pollen sac
W. -- Warzen	-- warts	Gr. -- Griffel	-- pistil
Bz. -- Beruehrungs-		N. -- Narben	-- stigma
eilen	-- number of cross-	Fr. -- Frucht	-- fruit
	ing warts, spirals	S. -- Samen	-- seed
Hck. -- Hoecker	-- hunch (lump)	V. -- Varietat	-- variety
Ar. -- Areolen	-- areoles	Sub. V. -- Untervarietat	-- subvariety
Ax. -- Axillen	-- axils	T. -- Typus	-- type
B. -- Blätter	-- leaves	sensu. -- im Sinne von	-- according to.
Gl. -- Glochiden	-- glochids	sensu-	
St. -- Stacheln	-- thorns	lat. -- sensu latiore	
RSt. -- Randstacheln	-- edge-thorns	(im weiteren Sinne)-	-- in the broader
MSt. -- Mittel-		l.o. -- an zitierter	sense
stacheln	-- middle-thorns	Stelle	-- as mentioned
OSt. -- Oberstacheln	-- upper-thorns		before
Bst. -- Borsten	-- bristles	● -- mehr oder weniger	-- more or less
Dr. -- Druesen	-- glands	ca. -- ungefahr	-- about (nearly)
Cph. -- Cephalium	-- cephalium		
H. -- Haare	-- hair		

n.comb. -- new order in the species as requested by the system of my handbook  
"The Cactaceae"

Bas. -- Abbreviation for "basionym", the former combination of names, which according to "Nomenklaturregeln" should be cited as to make the new order correct or worthwhile.

n.g., n.sp., n.v. -- New genera; new species; new variety

n.nud. (subnud.) -- not (fully) discussed name.

Naming of publications after the name of the species does not mean that said species or variety has been made public only after printing of my handbook. The same goes for pointers to names of other genera.

Above translation courtesy of Joanne Fleeer, Cathedral City, CA. Thank you, Joanne. Ed

Joanne adds: "I have often thought of telling you about the beauty of the desert around here. It is fascinating and not necessarily due to cacti only. There are so many different wildflowers--ignorant people call them "weeds"--sprouting out of the dry sand. To me it is always a wonder, but you have to look for it. A short walk will tell you many things.

One day I will do a write-up on the desert for "Espinas y Flores". Often I feel I should share my experiences and thoughts and it may be other readers of our bulletin would like to read about the desert. Others may not be as fortunate as I am to live so close to the "Living Desert".

With best regards

*Joanne*

"E y F" readers look forward with keen anticipation to your thoughts on the "Living Desert". . . . Ed

. A COMEDY OF CONCLUSIONS .  
 . A Study in Plant Names. .  
 . --Specifically Cacti.-- .  
 . . . . .

J. BORG (1945)		CURT BACKEBERG (1970)	CURT BACKEBERG (1970)
PERESKIA (6 spp.)		PEIRESKIA (8 spp.)	RHODOCACTUS (16 spp.)
1	P. aculeata	P. aculeata	. . . . .
	v. rubescens	v. godseffiana	. . . . .
2	. . . . .	. . . . .	R. antonianus
3	P. autumnalis	. . . . .	R. autumnalis
4	. . . . .	P. bahiensis	. . . . .
5	P. bleo	. . . . .	R. bleo
6	. . . . .	. . . . .	R. columbianus
7	P. conzatti	. . . . .	. . . . .
8	. . . . .	. . . . .	R. corrugatus
9	. . . . .	. . . . .	R. cubensis
10	P. grandifolia	. . . . .	R. grandifolius
11	g . . . . .	P. diaz-romeroana	. . . . .
12	. . . . .	. . . . .	R. guamacho
13	. . . . .	. . . . .	R. higueraanus
14	. . . . .	P. humboldtii	. . . . .
15	. . . . .	. . . . .	R. lychnidiflorus
16	. . . . .	P. moorei	. . . . .
17	. . . . .	. . . . .	R. nicoyanus
18	. . . . .	. . . . .	R. portulacifolius
19	P. saccharosa	. . . . .	R. sacharosa
20	. . . . .	. . . . .	R. saipinensis
21	. . . . .	. . . . .	R. tampicanus
22	. . . . .	P. Vargasii	. . . . .
	. . . . .	v. longispina	. . . . .
	. . . . .	v. rauhii	. . . . .
23	. . . . .	P. velutina	. . . . .
24	. . . . .	P. weberiana	. . . . .
25	. . . . .	. . . . .	R. zinniaeflorus
Total 6 spp.		Total 8 spp.	Total 16 spp.

PERESKIOPSIS (6 spp.)		PEIRESKIOPSIS (11 spp.)	
1	P. aquosa	P. aquosa	
2	. . . . .	P. blakeana	
3	. . . . .	P. chapistle	
4	P. diguetii	P. diguetii	The 'original' cactus genus 'Pereskia' and the closely related, perhaps second in line, genus 'Pereskiopsis' were used to illustrate divergent conclusions based on the same criteria.
5	. . . . .	P. gatesii	
6	. . . . .	P. kellermannii	
7	. . . . .	P. opuntiaeflora	Don't feel badly if you find it difficult to name plants, correctly that is.
8	P. pititabhe	. . . . .	
9	P. porteri	P. porteri	
10	. . . . .	P. rotundifolia	You have one advantage, you may choose your own authority. Also look for "Rhodocactus" (the 'rose-pink' cactus in your reference books.
11	. . . . .	P. scandens	
12	P. spathulata	P. spathulata	
13	P. velutina		

"If Winter Comes.....

....Can Spring be Far Behind?" It is time to give thought as to how you will carry your cactus through the winter. The three cardinal points to consider are: (1) Give them a rest. (2) Protect them from cold and wet. (3) Protect them from insect and other damage.

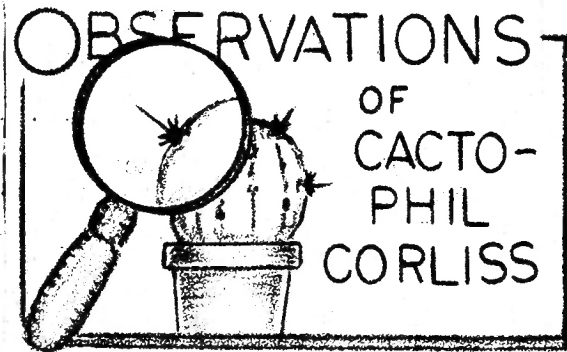
(1) Most flowering plants require a rest if they are to produce abundant bloom. Our suggestions here are intended for the care of potted plants but where possible the same considerations hold for plants in the ground. Water, heat, fertilizer, and light stimulate activity. Cool and dry conditions should be sought, fertilizers should be withheld as of this reading, and direct sunlight, if it abounds in your area, should be avoided (although putting plants in too dark an area requires that they be reaccustomed slowly to sunlight when growth resumes. Unfortunately, not all cacti and succulents rest during our winter months. Such as mammillaria plumosa and many of the South African succulents grow and bloom during northern winters. You must make exceptions in your plans for such plants.

(2) Some cacti are cold-hardy. Except for these, which you may know from reading or experience, you must protect from frost. Most cacti will tolerate colder temperatures if kept quite dry. However, many cacti and succulents will not tolerate temperatures below 45 degrees C. even if kept dry. These, too, you must know.

(3) To maximize protection from insects during the winter months, I suggest two procedures: (a) With your last watering, give a thorough soil (and plant) drench with Cygon-2E. Mealy bugs are active even in cold weather. (b) Spray your plants thoroughly with "Polytrap", the new "bubble gum" material which thwarts chewing insects. I incorporate a fungicide with the spray. This is especially important if your plants may be exposed to moisture during winter storms, even though they may be protected from direct rain.

There are many little incidentals you should think of when putting your plants to bed for the winter. If you move them, be sure to return them to the same position in the spring, if they have done well. If they have not, you may wish to try a shadier or sunnier position. Note which ones should be "potted up" when growth resumes. They may shrink during the time you withhold water, even if you spray them lightly from time to time. If they fill their pot now you should give them a bigger pot when their rest is over. It is not necessary, and often not desirable, to repot every plant every year. But most will need a change on account of growth and after three years it is probably advisable to replace their soil, which they may have exhausted or in which there may be a salt build-up. Plan also to repot any plants that have not done well this year. You may find the cause of poor performance when you examine their roots - if any! - and new soil may help them. When you put your pots in their winter residence, examine them closely for insects (including scale), fungus, dead proliferations, condition of stock of grafted plants, etc. Do the same when you put them back in the spring.

Display at October Meeting: I will bring some of the most recently discovered and beautiful notocactus plants. Many of these are from Senor Hugo Schlosser and Senor Miguel Muriel of Montevideo about whom I have written in past articles. Like the neopteraria "group", the notocactus genus has been fractured into many parts, such as wigginia, eriocactus, malacocarpus, notocactus, and even parodia. I stand by the side of the "groupers" and not the "dividers".



PLANTS--OF--THE--MONTH

October 1972

Dr. Lee N. Phelps

CACTUS: Echinocactus  
Ferocactus

SUCCULENT: Echeveria  
Echeveria cultivars

QUESTION: Which is the most handsome Echinocactus species? ANSWER: Judging by its landscaping popularity, beauty and ruggedness, Mr. 'X' says it is Echinocactus grusonii. And Ferocactus glaucescens with its bluish-green (glaucous) body causes you to give it a second look every time you see it. It's a perennial beauty. QUESTION #2: Who is Mr. 'X' ??

ABOUT ECHEVERIAS: They're most attractive and delightful as a group and as individuals. It's a nice group, speaking only of Echeverias. But when it comes to 'cultivars' -- that's where Mr. 'X' got lost. Maybe some-time there will be an Echeveria Society like there are 'rose', 'dahlia' 'bromeliad' societies. What about that Dr. Phelps?

PROGRAM FOR OCTOBER

Floyd Gable, V.P., Program Chairman

At 'presstime' our VP was moving rapidly in two directions. He has two programs on tap and can't decide at the moment which will take precedence. The thing is -- both programs are 'super'. He has been negotiating with Don Kruzner of 'time-lapse' fame, but Don changes scenes so fast, and stays put so little, it's like intercepting a rocket. Floyd, your answer is to find out where this 'rocket' is going to land, and surround it.

The alternate program also is a super-duper, again because it was developed by a 'master'. It could be that our audience in October will insist on seeing both programs. Floyd, how'd you like to change places with Ye Ed, he has only one problem, "Espinasy Flores".

CONTRIBUTORS to Oct. "Espinasy Flores" by page. Readers say "thank you".

- 1 CASA DEL PRADO, courtesy San Diego Botanical Garden Foundation
- 2 CACTUS CARAVAN, Tony D'Attilio; PALOMAR PROGRAMS, President Marino REGALEMENT, NINE generous gals whose efforts speak for themselves.
- 3-4 ERA - PERIOD - EPOCH, Doc. R. V. Vaughan
- 5-6 NIBBY'S NOTEBOOK by none other than Nibby herself.
- 7-8 COASTAL CAUDICIFORMS courtesy "Star to Star", Coastal Bend Cactus and Succulent Society, Corpus Christi, Texas
- 9-10 SPAGNUM CULTURE by Floyd Gable
- 11 DAS KAKTEENLEXICON (Translation) courtesy Joanne Flerer, Cathedral City. Write us again, soon, Joanne.
- 12 COMEDY OF CONCLUSIONS by a confused Ye Ed after reading page 11.
- 13 OBSERVATIONS, Dr. Philip G. Corliss
- 14 THAT'S this PAGE, subjects and contributors as given above.
- 15 LETTERS TO YE ED, Colorado Cactophiles, the Kendricks and Mitch B.
- 16 REPRODUCTION IN CACTI, Jim Henrickson reported by the Ed Gays
- 17 GETTING TO KNOW YOU. Don't be shy, this is YOUR page. Complete it and return it to Nibby. This may be a talent search and YOU may be the winner.
- 18 This page was intentionally left blank in order to give you lots of room to explain and elaborate.
- 19 NEW MEMBERS: What can we do for you? COMMITTEES: Now you know 'em. OBISPOGRAM from El Chico and La Chica. INSECTS: Don't recognize a one of them; they must be in your garden.

QUOTE: "At the July meeting we discussed the National Convention in 1973 and the gathering of "Viridiflorus"

for banquet tables. Each member is to gather and care for 25 plants. An outing is planned for August 26 and 27 at Colorado City to collect plants. Some members are going both Saturday and Sunday, others will go just one day. There is a campground at Colorado City. We have several property owners in our Club who know where there is an abundance of "Echinus". We would like to have everyone show up and help collect for the Convention." UNQUOTE

CSSA Conventions truly are "The Greatest". Be seeing you in Las Vegas in '73...Ed

FROM THE DESK OF-  
Ken and Dawn Kendrick  
Woodland Hills, CA.

Aug. 29, 1972

"Dear Mr. Scott:

We appreciate "Espinass y Flores" each month and want you to know we recognize dynamic forces behind such a bulletin. What a superb bulletin.

We're enclosing an article from the L. A. Times featuring Don DeFussi's garden in Van Nuys. We thot it might be interesting to Club members. (Don D. is Landscape Superintendent for Bob Hope's Toluca Lake estate).

In a previous issue you listed cactus and succulent nurseries, but not the Muellers' in Bakersfield. Wonderful people with excellent plants. They exhibited a Notocactus magnificus at the CSSA Show at the Arboretum in July. We will be in attendance at the September meeting in Casa del Prado.

Thanks, The Kendricks

Ken and Dawn: Thank you so very much for the article about De Fussi in the Times. Photographs were revealing. He has a "knack for cacti". Yes, we saw the Notocactus magnificus in July. Magnificent! We could hardly believe our eyes.

Our listing of nurseries was strictly geographic spreading outward from S. D. on a mileage basis insofar as our front page would permit. Listings and recommendations are always in order.

Ye Ed

PALOMAR CACTUS & SUCCULENT SOCIETY

Has a New York Chapter:

"Where Mitch goes, action follows"

New York, Sept. 6

"Dear Mr. Scott: After a speedy transcontinental trip in a truck governed by a 50-mph gadget, we arrived in New York City.

Our apartment is just four blocks from the famous New York Botanical Garden and the "Ivory Tower" of the late N. L. Britton and J. N. Rose. I reserve comment for the time being on the cactus and succulent collection at the Garden. Local cactophiles say the collection is at the Brooklyn Botanic Garden. Haven't had an opportunity to get down that way yet. It's on my list.

My collection of sedums, dudleyas and stapelias has been relegated to window-box culture. Our problem is going to be: "What do we do when the stapelias flower?"

Sincerely, Mitch

Mitch: If your stapelias flower before November 7th, what you smell may not be your stapelias. Remember, a political campaign is in 'full flower'.

Ye Ed

PROGRAM FOR SEPTEMBER

Speaker's name

At this juncture, refer to your September issue of "Espinass y Flores", page 3, and write in for future reference and posterity the name: Floyd L. Gable, whose program on "Spagnum Culture"

was one of the best ever presented to the Club. Thank you Floyd!

Oct. '72

REPRODUCTION IN CACTI

by Jim Henrickson  
Assoc. Prof. of Botany  
Cal. State, Los Angeles  
by Ed and Betty Gay  
.....

With regard to reproduction in Cacti, Dr. Henrickson points out that the subject includes not only how cacti reproduce, but also how they avoid it when they become too perfectly adapted to an environment to need change. Altho **variation** is one of the most interesting things about cacti the subject has not been studied in depth, perhaps because behavior patterns in plants and people differ.

While describing cactus flowers, Dr. Henrickson illustrated his subject with quick and vivid blackboard sketches often accompanied with touches of Henrickson humor. The pollen of cacti is especially unusual in form, there are pollen tubes with two sperm cells. The embryo is complicated in shape, curving around and into the ovum. A distinctive and typical feature of cacti is food storage in the perisperm which nourishes the young plant as it develops.

Lacking the power of locomotion, plants must overcome the problem of how to transfer pollen to the stigma. Cacti have the additional problem to overcome of having the ovary below the other portions of the flower. In fact, in Opuntias, it may be in effect "pushed down" into the stem.

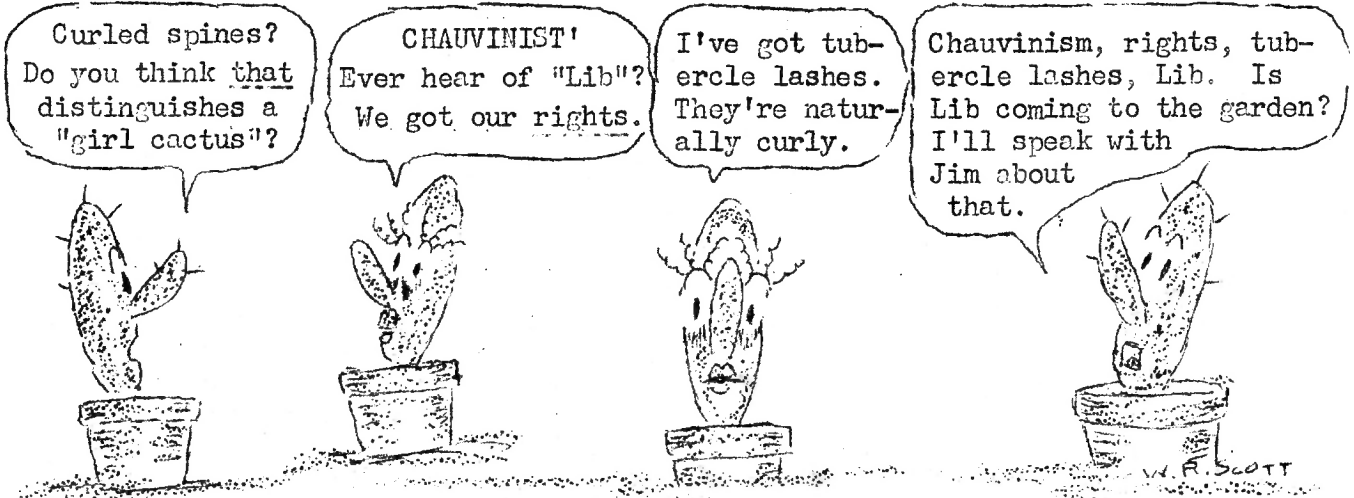
In order to adapt to the environment and maintain the vigor of the species, "out breeding" is necessary. Attractive flowers are adaptations to attract insects. Some become very specific and attract only humming birds or bats. Dr. Henrickson illustrated pollination aspects of various types of flowers with excellent transparencies.

Out breeding, with genetic material from two sets of ancestors, results in variations between individuals and allows adaptation to a variety of habitats. With yellow and magenta strips representing the heredity traits from two parents, Dr. Henrickson portrayed the great range of combinations of characteristics that might result. Some would be poorly equipped to cope with conditions of a particular locality.

Over a period of time, members of a community and their offspring are those which are best able to survive in the area. A perfectly adapted plant may evolve in time, one so well balanced in its qualities that sexual reproduction may have no advantages, and ways may be found to keep turning out "carbon copies" of the same thing.

This may be accomplished in two ways. One is by "apomixis", or seeds without sex, the formation of a diploid cell from adjacent cells in the ovum. The condition in which the seed is exactly the same as the parent is known as "agamospermy". A second way is by "vegetative apomixis", eliminating seeds altogether and reproducing by rooting of segments of stem or fruit.

Another adaptation that results in maintaining a perfectly adapted population is by extremely long life of individual plants.





SAN DIEGO CACTUS & SUCCULENT SOCIETY

Affiliate of the Cactus & Succulent Society of America 'Espinasy Flores' monthly bulletin

Business address: Room 104, Casa del Prado, Balboa Park, San Diego, CA 92101

GREETINGS AND WELCOME TO NEW MEMBERS

- Mary H. Birchell 466 7631
6070 Sarita Street
La Mesa, CA 92041
Doris F. Rake 282 1722
4410 38th Street
San Diego, CA 92116
Carol Jean Walcott 278 1315
2973 Kobe Drive
San Diego, CA 92123

1972 new members please note: If you wish back copies of "Espinasy Flores" for 1972, please contact the Editor.

MEMBERSHIP: Single \$3.00, family \$4.00 Includes: "Espinasy Flores"

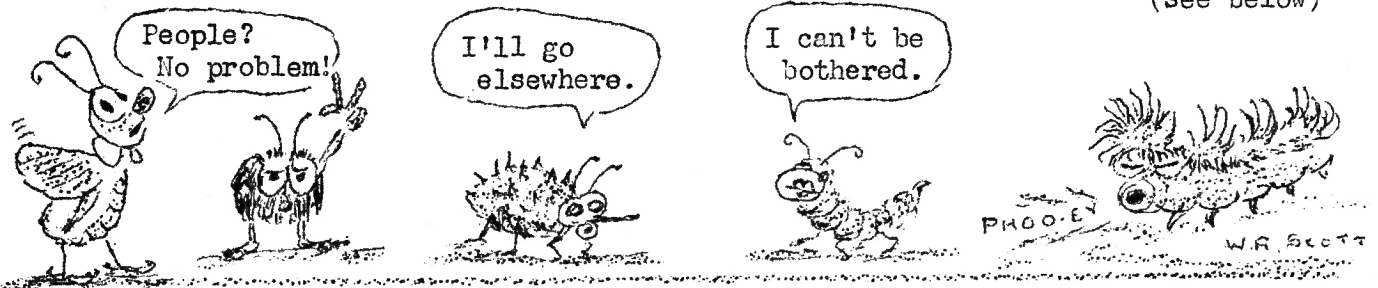
GOOD WILL AMBASSADORS: (Sept. 1972) EUROPE, Billy "El Chico" Bishop and Alice. ALASKA, CANADA, Mr. and Mrs. N. P. 'Steve' Steveson

OBISPOGRAM from Europe (Sept. 21)

Ye Ed: We're trying very hard to get rid of our U. S. \$'s while they're still worth 'anything', and all these nice people are cooperating wholeheartedly with us. With our schedule tight as it is, we must defer a report until time catches up with us. We attended a meeting of the Cactus & Succulent Society of Great Britain in London." ... El Chico

PEOPLE -vs- INSECTS --Case RECESSED!--

The "National Geographic", September '72, (pages 380-399) features an interesting, informative and colorful (see below)



ful article titled "New Tricks Outwit our Insect Enemies". You must read it. Our "enemies" may be illiterate and don't bother to read, but they have a way of "overcoming" without federal subsidies or assistance programs. The battle is undecided. Who (which) do you think will be on stage when the final curtain drops?

**SAN DIEGO CACTUS & SUCCULENT SOCIETY**  
**"Getting-to-Know-You" Membership Questionnaire**

The membership in our Society has expanded more rapidly than our ability to learn new names and faces. This new-member questionnaire is being formulated with a getting-to-know-you approach rather than what might appear to be just plain nosiness.

---

NAME ADDRESS ZIP

---

TELEPHONE DATE JOINED

---

CAME TO FIRST MEETING - with friends - saw notice in the paper, - just happened to be passing by - saw our exhibits at the Fair - display for open house

---

MOVED HERE FROM WHERE? MEMBERSHIPS IN OTHER CLUBS

---

TYPE OF WORK OR PROFESSION

---

AREAS IN WHICH YOU WOULD LIKE TO TAKE PART - whether writing for the paper or contributing refreshments, helping at the Fair, greeting newcomers or whatever -- clean-up after meetings, holding office -- there's no end.

---

Suggestions - (Like Why-Don't We? - - -?)

Please return questionnaire to Augie (In-the-Know) Pfeiffer  
5163 East Bedford Drive  
San Diego, CA 92116

