

MAMMILLARIA THORNERI

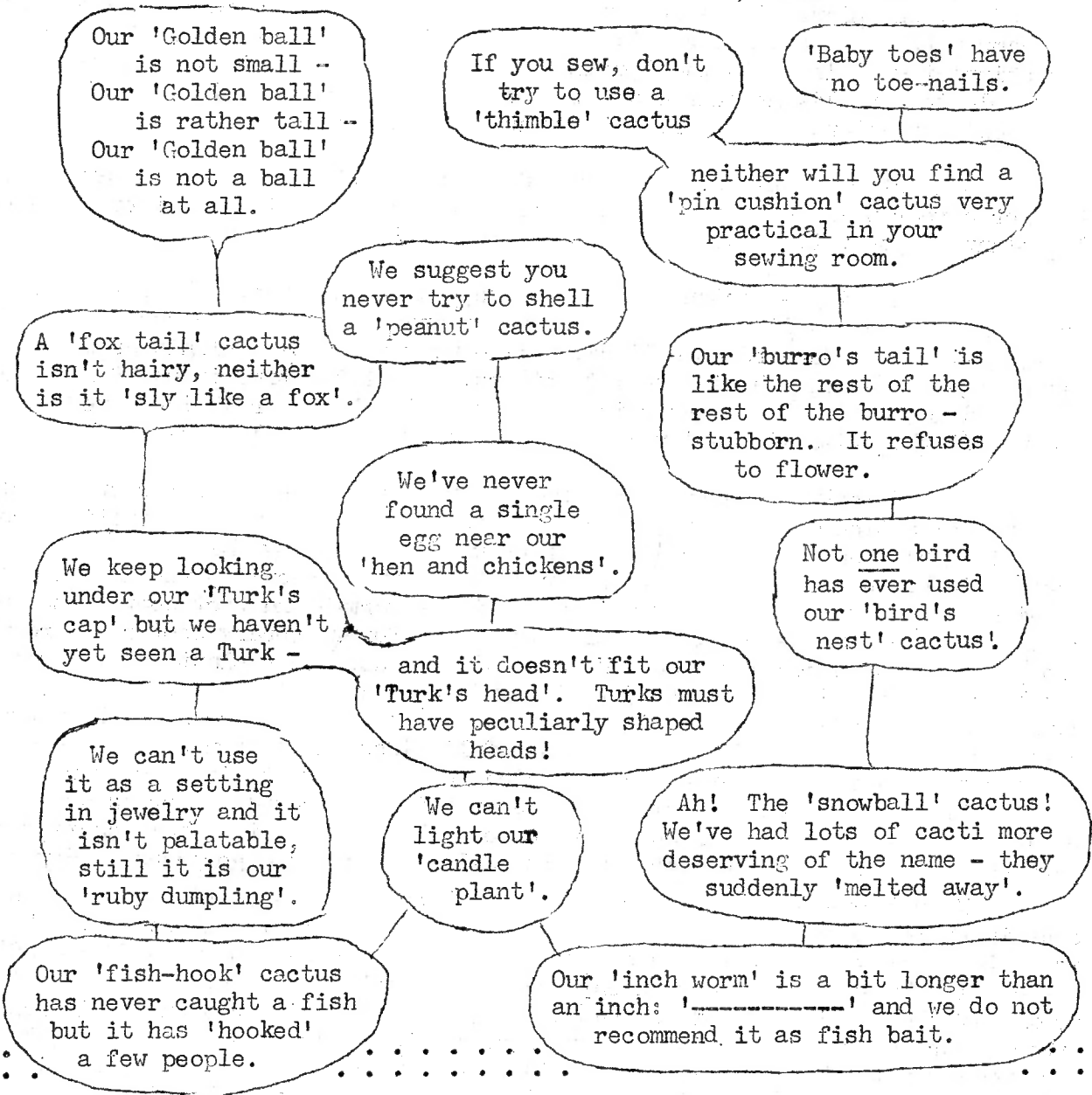
# Espinas y Flores

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

TOMO SIETE NUMERO CINCO

MAYO 1972

MATTERS TAXONOMICAL . . . . Leo and Lillian Pickoff  
Riverside, California



COMING EVENTS CAST THEIR SHADOWS BEFORE -

Southern California Expo, Del Mar, June 27th thru July 9th  
CSSA Special Activity, UCLA, Sunday, May 14th - "The Fouquieraceae"

WHERE WE GO -  
OUR CACTI GO TOO!!

Kansas City, Mo.  
April 3, 1972

Letter from Kansas City

By: Louise Koch . . . . . Dear Mr. Scott:

. . . . . Since Missouri and the nearby states are outside of what is known as 'cactus country', I thought our Club would be interested in learning about a cactus garden in Missouri, its plants and their many travels.

We are recently retired from the Air Force and are now settled in our new home in Kansas City, Missouri. When we were stationed in Louisiana some years ago my sister Cecile Fuller of San Diego visited us. She got us interested in cacti. They grew very well in Louisiana - the winters were short - so it wasn't much of a chore to care for them.

We were transferred from Louisiana to SAC Headquarters in Omaha. We wrapped all our plants in papers and put them in boxes and packed the boxes in our camper truck. No space remained after our 'hobby' was loaded. In Nebraska the shipment was placed in the temporary care of a niece until such a time as we were able to find living quarters. In March when we were settled we built shelves and special planters. THAT DID IT! My husband was sent to Thailand ---

Next stop San Diego. My sister Ceil Fuller lived there. I stayed with her for a year while my husband was overseas. Our collection consisted of about 100 plants at that time but we found room in Ceil's garden for them.

Next landing - Norton Air Force Base, San Bernardino. The collection had grown in size in San Diego - my sister and friends were most generous. The collection liked San Bernardino - it did well - we were proud - plants grew and flowered - we enjoyed showing them to others. About the time it was fully acclimated and adjusted to San Bernardino - guess what? You're right! We moved again, but this time it was 'our' choice and it was a 'final' choice. We retired!

We had looked forward to retirement and a permanent home for ourselves and our collection, and we think each and every plant was in enthusiastic agreement with the idea. Life for all began anew in Kansas City, Missouri. We arrived in March. A white mantle covered the ground ('snow' to you native Californians). The white blanket wasn't symbolic of warmth and root comfort to our cacti. That was to change in due time too. But for temporary comfort there was a closed-in porch on our new home. We carefully unpacked our plants, laid them on cardboards, exposed them in the day time and covered them at night. When 'spring' came (that word may not be significant in S. D.) a beautiful room had been built onto our home - just for our collection - full glass on the southern and western exposures. A large planter was constructed across the west side. We were real busy getting all 200 plants into planters or into the ground. Barrels and large plants went into the planter and baskets were placed over it. Small cacti went into pots and saucers, some were hung on walls. It makes a gorgeous window scene.

We put indoor-outdoor carpet on the floor, aloes were placed in redwood containers in a row down the center aisle. A fountain is in one corner. The area is heated from our central furnace, the temperature is kept between 50 and 60°. Big double sliding doors form an entrance to the library. Music is piped into the room. If they don't understand what we say, surely they'll respond to lyrics and music. Our hobby is rewarding and successful. We enjoy being around our plants and working with them. A fine spray gives them a fresh look. I am enclosing color photos to give you an idea of what I'm writing about. The picture of a plant in the yard is an Ocotillo, it came to us from Texas. It is happy with us.

I enjoy 'Espinas y Flores'; I look forward to receiving it; it helps me with our hobby--cactus.

2 ...Happy growing, sincerely *L.A.* May '72

E - N - Z - Y - M - E - S

Chomp! Chomp!! Chomp!!!

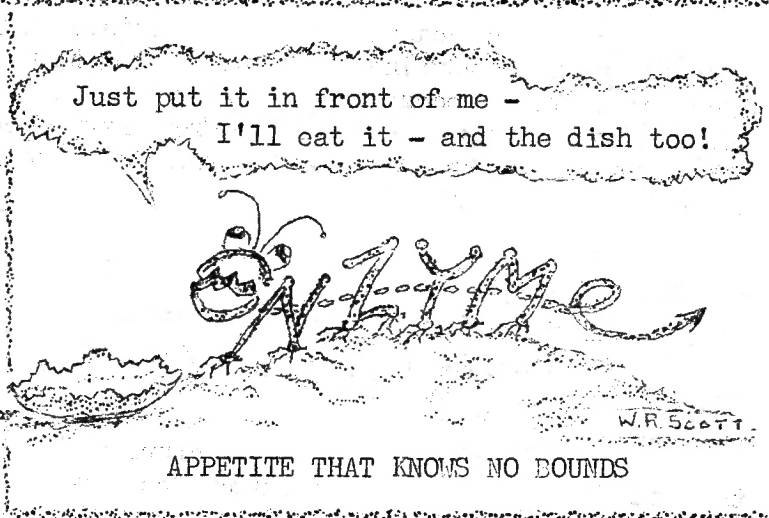
by Doc. R. V. Vaughan---

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ENZYMES ARE THE IMPORTANT CHEMICALS that soften fruit so it becomes fit to eat! You may have noticed that avocados, pears, apples and other unripened fruits will ripen if set aside in the dark for a time. Wrapping avocados in newspaper hastens the chemical reactions as heat generated by decomposition aids the enzymes.

You may have watched maggots busily at work on decaying flesh and wondered why they labored so tirelessly. It was decreed in the beginning that they should work hard and sweat 'enzymes' that attacked the flesh and then by the process of osmosis, the dissolved juices made by the enzymes were reabsorbed into the maggot's pupating body - and it grew.

As a caterpillar hangs in its shroud it is the enzymes that bring about the metamorphosis - and we see the butterfly emerge.



Life itself depends upon vibrations such as breathing, heart beats, pulsations of blood or sap thru the body. If the vibrations become too rapid, a fever develops - if too feverish, the body dies. If pulsations slow below normal requirements, there may be chills and eventually death. At the moment of chilling of the body the enzymes that attack steroids began reducing the fats and oils in the body to soap and an emulsion - and the body is returned to its source.

If you observe the hands of a person who handles meat, you will see a type of skin that shows the effects of enzymatic reaction. When a dog swallows a bone, it is soon digested - the dog's enzymes are very powerful.

Sharks have an enzyme that will dissolve almost any material - even steel knives. I once found an Esquimaux skinning knife in a shark's stomach - almost completely digested.

We turn to the 'Ancients' of China and Greece and we learn that those men who went before us here on earth had made some discoveries that proved to be useful to us. The Chinese wisemen used the scrapings from a young pig's stomach and the chicken's gizzard and found that it gave relief to some intestinal ailments. The Greeks saw fox and dog manure that had lain on rocks and became white as the result of weathering. They tried it with good results on those with stomach flatulence, gastralgia and gastritis. So down thru the years the medics of our age and of previous ages at first laughed loudly and later came to be users of the finds observed by our fathers.

Any chemical ferment formed in the body is an enzyme. There are basically three that interest most medical men: 'proteolytic', 'cellulitic' and 'amiolitic' - those that help break down and reform certain substances so the body can use ingested material. Cows eat much cellular material as do the ruminants and other creatures which partake of herbaceous plant materials. Such cellular material must be broken down. To accomplish this nature uses enzymes and bacterial action.

Continued - - .

So here we have a symbiosis - two active elements working in harmony for the survival of each and the host whereon they live.

The yucca lives because of the pronuba moth that pollinates its flower. No other creature accomplishes this act. If we look closely at nature's pattern, we find that life is much a symbiosis as those who are students of ecology are discovering.

There are coagulating, deamidizing, extracellular, glycolytic, inorganic, intracellular, inverting, lipolytic, oxidation, reduction, steatolytic, sucroclastic, uricolytic processes and those that I have mentioned above that are better known to the layman. The steatolytic enzyme works on fat which rings our bath tubs after use. Soaps have much stearin in their composition. The urea we pass is formed by the uricolytic enzyme.

The sugars we eat are of many types as sucrose, glycose, etc. and we have such highly individualized enzymes that attack and render fruit sugars for consumption by animals. It's a long story.

Looking back across the centuries that man has fought his way upward from ignorance and misery by thinking, by investigating and by empirical knowledge, there has ever been a howling mob that shouted and attacked the solitary researcher - the seeker of the LIGHT.

There comes to mind Galileo with a telescope, Copernicus with his theory of the universe, Galen and medicine, Harvey and his theory of blood circulation thru the body, Roentgen and the X-ray, and many others who were crusaders and reformers. Always the mob was the majority which howled and threatened, and tried to defeat all progress.

Despite all the delays that were met, man did march always upward and into the full light that emanates from the power that controls all of us.

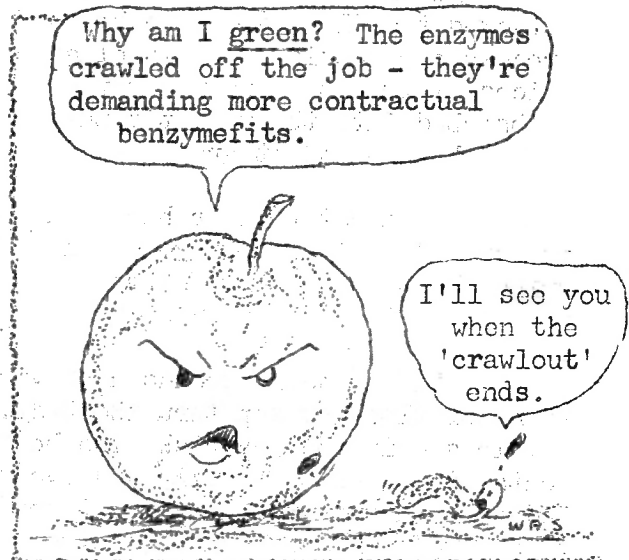
In my memory there is the professor who stood before me and told of matter - the molecule and the atom. Nothing could be smaller. Beyond the molecules was the ether that filled space. Nothing could be beyond all this.

In recent times the atomic microscope has revealed even smaller particles such as mesons, neutrons, positrons and now the great minds are searching for quarks and particles that are anti-matter and anti-gravity.

While we sleep the bit of 'carne' we ingested at the evening meal along with a swig of alcohol and a sliver of celery are being quickly converted into body heat and strength by the lowly enzyme.

Old 'bossy' in the dairy barn is converting cellular tissue thru her four stomachs with the aid of bacteria, enzymes and regurgitation.

It may be a misfortune that man does not have a cud to masticate. If he did have, he would talk less and think much more and we would have a better world in which to live - and enjoy Nature's handiwork.



**DRY**

it has been this year but undaunted the Aloes have been even more spectacular...and did you ever see the pyracantha more covered with flowers? White as fluffy snowflakes and highlighted with red berries remaining from last fall... Yellow Dutch iris and California poppies still bloom amid my succulents...NEXT year MORE...

# NiBby's NoTEBook



## Across

the bay THE CORONADO FLORAL ASS'N on the occasion of their 50th anniversary presented "Songs of Spring", a standard flower show and garden tour the 15th and 16th of April. Jack Schlotte took advantage of the C&S section to enter and came home with 4 BLUE RIBBONS (6 seconds, 4 thirds and 7 HM's!)...his redtipped Euphorbia mammillata variegata was outstanding... Kay Taylor was well

### Open Classes CAGTI AND SUCCULENTS

#### Potted

Aeonium  
Agave  
Aloe  
Astrophytum  
Barrel type cactus  
Bromeliad  
Cereus  
Ceropegia  
Cotyledon  
Crassula  
Echinopsis  
Echeveria  
Epiphyllum  
Euphorbia  
Gasteria  
Haworthia  
Kalanchoe  
Mamillaria  
Mesembryanthomum  
Notocactus  
Opuntia  
Parodia  
Sedum  
Stapelia  
Sansevieria  
Zygocactus (Easter, Thanks-giving, Christmas)  
Any Other Cactus  
Any Other Succulent

#### Dish Gardens

Cacti predominating  
Succulents predominating

#### Hanging Baskets

Cacti predominating  
Succulents predominating

represented with a crested Epi and a cristate Aeonium which we felt should have had blue ribbons, too. The wildflower display was notable with a bloom stalk of Agave deserti -- the individual yellow stars opened wide to almost two inches! There were cream cups and Lupines and half a dozen Opuntias, Duds, Mams and Ferocactus native to the County. Jack had helped assemble them for the Show... NEXT year MORE entries? Yes.

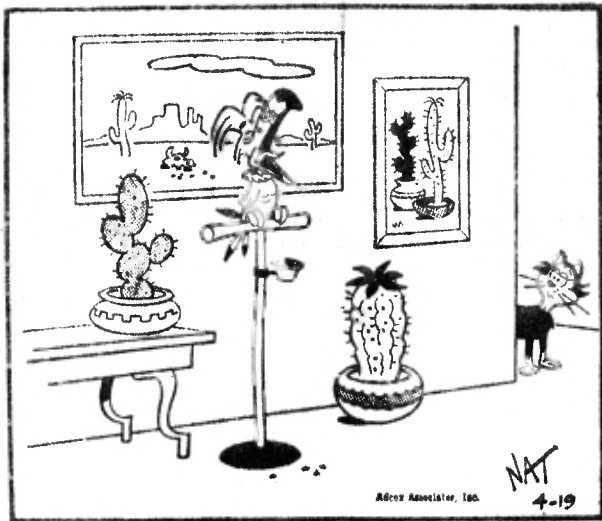
## We

can thank PETER SHARP for another excellent program in April... how about presenting him with an honorary membership for 1972? ... Peter mentioned the tendency of cacti to grow with agaves: "If you see an interesting hillside but no agaves -- you might as well FORGET looking for cactus there." Appreciative chuckles were heard when he made a sly reference to labelling Peyote "Gymno species" in California... Many of us will have to agree that Ferocactus does poorly in cultivation for the most part; too often we have seen a fat barrel waste away to a hollow shell of interlocking spines... Success story to share, anyone? In the meantime, cherish the hardier Mams and look closely when collecting for lichen-covered rocks as a clue to discovering more of the tiny darlings, for as our speaker said, "YOU CAN'T KEEP A GOOD MAM OUT OF THE PICTURE!" (\*while showing his slides)

## Doc

Vaughan said admiringly, "That was a GREAT lesson in GEOLOGY as well as cacti -- TWO programs for the price of one!" Doc Vaughan made several even more quotable remarks. Scotty announced that the Board needed approval to spend a good lump to buy eight feet of cactus books including a complete set of THE JOURNAL, Britton & Rose's works, and EXOTICA. "Let's stop all this small talk -- Ruth Guzner and I will donate the money to buy the books -- and it looks like we made a good buy!" (And you can forget the deducts! he said later, when involving the Botanical Foundation was broached.)

Richard L. Russell and Constance Russell will also be remembered, as the shelf where the books will be kept to use as reference will bear their name -- as former owners -- as well as the names of the donators, Ruth Guzner and Rueben Vaughan... **In Honor Of**



"I'M THIRSTY!"

(With apologies to Scotty.)

# We can

hope to plant sometime in June or July. Already Mexican blue palms mark where the mounds will go, and the Park crew will move in the large specimens that the Nursery has been watching over with Bob Myers' careful eye. The area will NOT be fenced, the better to enjoy the natural look as you wander along the paths. (Have you been to the lovely Botanical Garden at Rancho Santa Ana? A goal to strive for.) Desert flowers and shrubs should mingle here as they do naturally with cactus. The Mams will nestle close to the Dudleyas and there will be lots of ROCKS! Won't we have FUN putting together something beautiful and watching it GROW!?

# Meanwhile,

the Zoo planting has #1 priority. Walt Greenwood, Edith (Don't-Forget-to-leave-your-Name-tag) Billmyer, and Ceil Fuller have been among those to respond with plant donations. Jim said that you can call him at home, 465-6661. If he isn't there, Eve or Harry Warn will note your contribution. Martin (Pay-Your-Dues) Mooney was one of the first to volunteer as a worker... And the **MISSION** ?

TAKE FLORAL ASSOCIATION TOURS -- see me at the meeting for the latest CALIFORNIA GARDEN magazine for when-and-where's.

Former Treasurer Glenn Heyer has been absent for so long that he held up his hand for EyF under the guise of a guest VISITOR! It's been that long for Elaine Niehaus, too, but now that she's in the pink again Mabel Greenwood will be pleased to hear that Elaine will be seen and heard again. At the Palomar Judge's Council meeting at the El Cortez recently, I don't know who was more surprised to see the other there among the 500 women - Lorena Valentine or this flowered-hat wearer selling raffle tickets...hey, who else besides Lorena caught me on TV? (Just had to get that in!) Ruth Nelson announced that the copy of the "Baby" EXOTICA is in... Bill Nelson says y'all come for the Epi's on the 12th... Lee was pleased to have so many plants show up but Nellie is still a winner - she has a Notocactus Haselbergi that has had some of the same blossoms open for two weeks! CAN YOU TOP THAT?

Lee Phelps, Interesting Character and one of our Professors "in residence", stated that the addition of these books will give our Society the most complete Cactus & Succulent library in the WORLD!

## As the President Sees It

Augie (Forgot-His-Gavel) Pfeiffer announced that the SAND & SOUL Committee has done a fade-out, replaced by OPERATION "DIG IN" ...and introduced stalwart Jim Stalsonburg as Chairman, naming him the Sparkplug of OPERATION DIG-IN.

Jim told us that the City has bought the plans for the two+ acres along Park Blvd across from the Natural History Museum. Our Garden of the Sun will be planted in a natural fashion to flow into the Florida Canyon Botanical Garden. The pedestrian crossover is under construction now.

## Zoo To Run Buses For <sup>MAY</sup> 9-10 Animal Park

The San Pasqual Wild Animal Park will have bus service, after all. Chuck Bieler, group services manager for the San Diego Zoo said yesterday.

The Zoo, which operates the park, has chartered buses from the San Diego Transit Corp. to operate from Balboa Park to the animal park 30 miles north of the city's center.

A package ticket will be sold to bus riders for the round trip, admission to the park and the hour monorail ride around the animal enclosures.

The park will be dedicated May 9 and will be opened to the public May 10.



# AN ADVENTURE TO REMEMBER!

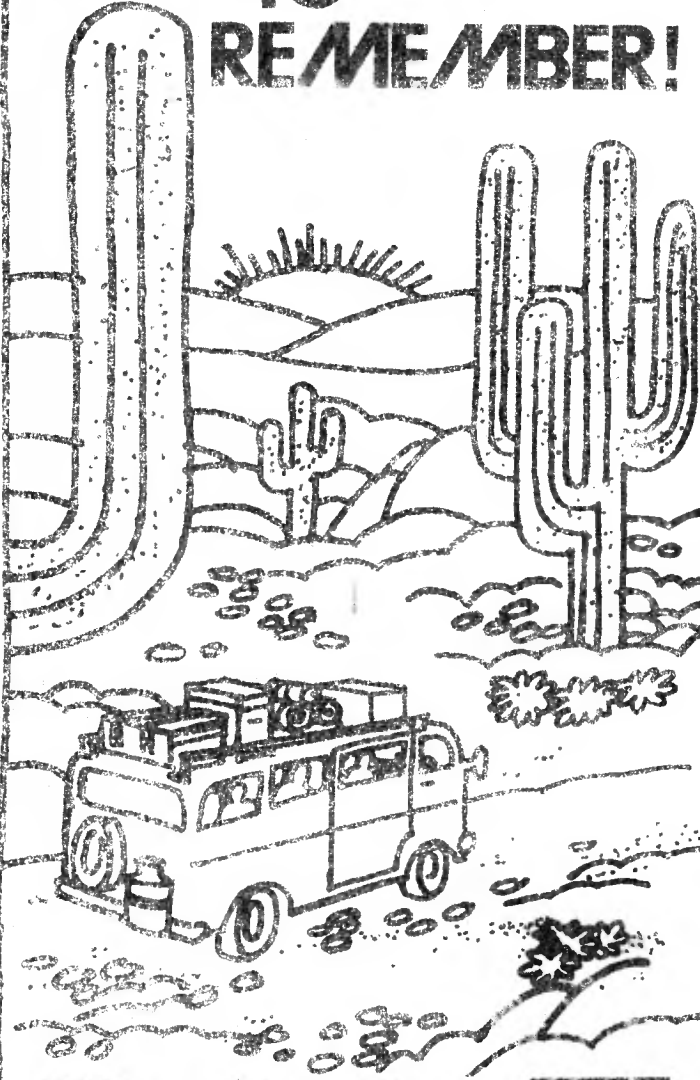
## PROGRAM for MAY

Saturday the 6th at 1:30 p. m.  
Casa del Prado, Room 101

REYNOLDS S. HERIOT

Mr. Heriot is President of Cortez Travel Services and VP of Cortez International Corporations. He was raised on the island of Puerto Rico and is truly bi-lingual, switching from Spanish to English and delighting you with every word.

There will be a slide presentation and a question-and-answer period. Learn how you, too, can travel in Baja with no repair bills to worry about, someone to cook for you and pitch the tents and all those time-consuming chores taken care of to allow for more time to explore.



# BAJA'S SAFARI

Some of the Things  
You'll Want to Know . . .

### General Tour Information

The Baja Safari Tours are specifically designed to accommodate the participants and their individual interests. Although basic schedules must be met, stops will be made to explore old mission ruins, abandoned mines, old-fashioned ranches, inviting secluded beaches, typical flora and fauna and any other items of interest.



Baja Safari 500

Ports of Cortez

Baja Safari 1000

NEW GIFTS FOR OUR LIBRARY

From MISSOURI BOTANICAL GARDEN

Several Botanical Garden Bulletins

THE QUESTION BOX - Volume 2 (Ladislaus Cutak)

THE GARDEN TODAY (Monthly Newsletters)

Booklets: S U C C U L E N T S

B R O M E L I A D S

ALL About S A N S E V I E R I A S

"In 1934, at age 26, Lad was the youngest man in charge of a range of greenhouses at Missouri Botanical Garden, and already one of the country's leading cactus authorities... When Lad first took charge of the desert plants, there were only 138 named varieties of succulents at the Garden. So he began to get seed and cuttings from many sources, until, by 1941, Lad had brought the number up to 1300 species of desert plants: the largest collection in the world of succulent plants under glass." (from Bulletin Vol LVII No. 3) 1969

(This material has been assembled in one notebook. We are honored to have this collection -- and take this somewhat belated opportunity to acknowledge and offer our thank you's.)

From FERDINAND PLESNIK

Rooseveltova 69

Olomouc 11CS/R

K A K T U S Y 7 1

Czechoslovakia

This most generous gift from Mr. Plesnik of/is gratefully received. It is the equivalent of our CACTUS & SUCCULENT JOURNAL of AMERICA, which we trust he is receiving as a gift from our Society via Doc Vaughan's generosity.

KAKTUSY is illustrated with excellent photographs including Opuntia basilaris in color and Ferocactus acanthodes with accompanying articles by Dr. V. Habermann, who is also on our membership roster. Perhaps Joan Fleer could do some translating for us to supplement the very brief Summary in English.

Mr. Plesnik is especially interested in seed from the Ferocactus species, we recall from previous correspondence, and would welcome receiving named varieties from our members.

As long as you're reading, our speaker Reynolds Heriot highly recommends Ray Cannon's THE SEA OF CORTEZ, and Cliff Cross' BAJA CALIFORNIA MEXICO - by road, airplane and boat. And I want to share my pleasure in THE FORGOTTEN PENINSULA (a naturalist in Baja) by Joseph Wood Krutch. Also THE HIDDEN HEART OF BAJA by would-you-believe Erle Stanley Gardner. A bit off the cactus trail but most rewarding is John Steinbeck's THE LOG FROM THE SEA OF CORTEZ.



# Popular Versus Scientific Words

William A. Burns

Every task of man has its own special words. Doctors, sailors, lawyers, shoemakers, scientists, cooks and cattlemen — all have their own word lists that they use in their work. Our trouble is that we cannot be familiar with all of these occupations and their special words.

Living languages grow and change in meaning with daily use. For example, take two English words, *Prevent* and *Let*. *Prevent* used to mean *Anticipate*. "He prevented her every wish" did not mean that she didn't get what she wanted. It meant that he could tell beforehand what she wanted. Today, *Prevent* means *Stop Something Before it Happens*.

*Let* used to mean *Stop*. In Shakespeare's time a man might say, "Let me not!" meaning "Stop me not!" But today, *Let* means *Permit* or *Allow*.

Common names also change with locality. Every species of animal may have scores, if not hundreds of local names. Even the same name may not mean the same thing in different regions that speak the same language. The *Whiting* of England is not found in America, but the *Hake* of England is the *Whiting* of New England, while the *Hake* of Delaware Bay is a totally different fish that has nothing to do with the other two. Again, the English *Ling* and the *Ling* of New Jersey are different fishes.

It is plain, then, that scientists must have an international language. The solution has been to make up a word list from one or two "dead" languages that will not grow and change as time goes by. Sometimes words from other languages may be employed. Sanskrit and Hebrew would have served, but early scientists knew Greek and Latin better.

To avoid confusion, scientific names are given to animals and plants. All scientists will know these names. Our domestic dog is "dog" in English, "hund" in German, "hond" in Dutch, "chien" in French, "perro" in Spanish and "cao" in Portuguese. But all scientists — American, English, German, Dutch, French, Spanish or Portuguese — will know that *Canis familiaris* is a dog in any dialect.

The Museum visitor may be surprised to find, after reading a label, that after each common name of an animal there are two words in a foreign language — usually Latin and Greek in combination. For instance, after Robin, you will find *Turdus migratorius*; after Herring, *Clupea harengus*. Every known animal has been given scientific names whether it has a common name or not.

But why two scientific names? The two names have two functions. The Black Duck is *Anas rubripes*. *Anas* is the generic name — it indicates relationship. Every surface-feeding duck is *Anas*, as the Mallard, *Anas platyrhynchos*; the Pintail, *Anas acuta*; the Teal, *Anas crecca*. The second name, beginning always with a small letter to set it off, is unique. It specifies the particular species. It is the specific name.

To apply the same system to human names, let's take John Smith. The scientist reverses his name thus — *Smith john*. *Smith* is his generic or relationship name. All members of his family will be named *Smith*. But when we add *john* to his relationship name we now have a specific name, a unique name. *Smith john* cannot be confused with *Smith peter*, *Smith bill* or *Smith charles*.

In addition to using Latin and Greek names, scientists also use short-cut descriptive words. It is harder to write simple language than it is to write scientific language. It also takes more words and more space. Scientists compress their words to save time and space.

Let us take *Prognathous* as an example. We may say that one type of primitive man was prognathous. *Prognathous* is a descriptive word made up of Latin and Greek words. *Pro-* is a prefix meaning *Before* or *Forward*. *Gnathos* is a Greek word meaning *Jaw*. The suffix *-Ous* means *Having the Quality or Presence of Something*. Therefore, *Prognathous*, part by part, means *Forward-Jaw-Presence*, or, more simply, *Having a Jaw That Sticks Out*. *Prognathous* is a time-saving, short-cut word. But it takes many words to explain what it means.

We have gone around the halls of the Museum, reading labels. We have picked out words that we thought were least familiar to everyone. If you are reading a label and come across a word like *Prognathous* or *Pectoral*; you can find what it means in the word list below. If you find words not on our list that you think ought to be there, please note them and pass them on.

## THE WORD LIST

*Aberrant*, straying from the usual course; differing from the type of its group.

*Albino*, a person, animal, or plant lacking normal coloring matter.

*Alluvial*, pertaining to formations deposited by rivers, or floods. Alluvial plains or the flood-plains of rivers.

*Aquatic*, living in a water environment.

*Arboreal*, living or situated among trees.

*Avifauna*, birds of a given region.

*Bench*, a narrow, raised level surface of ground or rock.

*Biotic Community*, a community composed of both plants and animals.

*Boreal*, northern.

*Calcareous*, composed of, or containing, limestone or calcium carbonate. A clam shell is calcareous.

*Canopy*, the leafy cover formed by the tallest trees in the forest. Also called the overstory.

*Carnivore*, a meat-eater. A coyote is a carnivore.

*Coniferous*, plants which bear seeds in cones and usually have needle-like leaves.

*Crustacean*, a lobster, crab, crawfish or shrimp is a crustacean.

*Culm*, stem or stalk, as of grasses.

*Deciduous*, falling off at maturity, as leaves of maple.

*Decoction*, the liquid produced by boiling a substance.

*Detritus*, loose fragments or particles of rock.

*Diurnal*, active during the day. The eagle and the sparrow are diurnal birds.

*Dorsal*, pertaining to, or placed on or near, the back.

*Environment*, one's surroundings.

*Epiphytic*, growing upon another plant, usually on trees, but not parasitic.

*Everted*, turned backward or outward.

*Evolution*, A success of changes by which the forms of organisms are modified usually from the simple to the complex.

*Fauna*, all the animals living in a given area.

*Flora*, all species of plants growing in an area.

*Generic*, pertaining to race or kind.

*Graminivore*, a grass-eater. A horse is a graminivore.

*Gregarious*, living in flocks, herds or communities. Pigeons, cows, and men are gregarious.

*Growing Season*, the period between the last freeze in spring and the first freeze in fall.

*Hardwood*, a tree that bears broad leaves with netted veins, rather than needles or leaves with parallel veins. The oaks and maples are hardwood trees.

*Herb*, a plant with no woody parts above the ground.

*Herbivore*, an animal that feeds upon plant materials. A deer is an herbivore.

*Hibernation*, passing the winter in a secluded place, in sleep or near-sleep.

*Inorganic*, not a product of a living organism.

*Insectivore*, insect-eater.

*Intrusion*, the forcing of masses of molten rock into or between other rocks, a mass of such rock.

*Invertebrate*, an animal without a backbone.

*Lateral*, pertaining to, or placed near, the side.

*Leached*, dissolved out by a percolating liquid.

*Legume*, a member of the pea family.

*Melanistic*, excessive darkness of the eyes, hair, fur, or skin, due to deposits of pigment; the opposite of albinistic.

*Metallurgy*, the art or science of extracting metal from its ore.

*Metamorphosis*, a change in form, structure and function resulting in development; the changes that occur from the larva and pupa to the fully developed insect.

*Nocturnal*, active after dark. The owl is a nocturnal bird.

*Nymph*, immature insect form.

*Occipital*, pertaining to the lower back part of the head.

*Organic*, derived from a living organism.

*Parasitic*, living on or in another organism and getting nourishment from it.

*Pathogenic*, causing disease.

*Pectoral*, pertaining to the breast.

*Pedicels*, stalks or supporting parts.

*Pelagic*, pertaining to the ocean.

*Photosynthesis*, the process by which green plants manufacture simple foods from carbon dioxide and water under the influence of sunlight.

*Physiography*, physical geography, dealing in description rather than in theory or explanation.

*Predatory*, preying on other animals.

*Prehensile*, formed to grasp or coil around, as the tail of an opossum.

*Primeval*, belonging to the first ages; ancient.

*Proboscis*, a long, flexible snout, as the trunk of an elephant.

*Prognathous*, having a jaw that sticks out.

*Ruminant*, an animal that chews the cud, as deer or cows.

*Saprophytic*, living on dead organic matter.

*Scandent*, climbing or aiding to climb.

*Sedimentary*, formed originally by material deposited by water or air.

*Sessile*, fixed to or attached.

*Stratigraphy*, the order and relative position of the layers of the earth's crust.

*Synopsis*, condensed statement: general view.

*Synoptic*, giving a general view of a whole.

*Terrestrial*, pertaining to the earth.

*Tundra*, the treeless plains found in the arctic.

*Understory*, the leafy cover formed by the lower trees in certain forests.

*Vegetation*, the total plant cover in an area.

*Ventral*, pertaining to, or placed on or near, the abdomen.

*Vertebrate*, an animal with a backbone.

## PLANT SOURCES.....

To prevent repetition, please refer to my previous columns on this subject. To import plants you must have a plant import permit. This is free. Write to this address for application forms and pertinent information:

Plant Quarantine Division U.S. Dept. Agriculture  
209 River St., Hoboken, New Jersey 07030

A good source of cactus plants is one from which healthy plants, correctly named, are packed and shipped to arrive in good condition not too long after the order is received. You will help if you will report any grounds for complaint to me or the editors of the Journal. When you send an order, state that you are doing so because of the advt. in the Journal or on my recommendation, that you are a member of a cactus society. Specify Air Mail, Special Handling ( on domestic orders ) and give delivery data requirements. State whether or not substitutions will be permitted. List extras for possible sold-out items. It does no harm to suggest preferred stock for grafted plants.

Do not assume that because your plants come with phytosanitary certificate that they will be free from disease or insects. I have received plants that had been thoroughly washed for removal of all soil, yet in less than one week's time in transit they were literally covered with mealy bugs or had scale, ants, and even centipedes. If they were gassed at import stations you may receive plants fatally injured by said treatment; or the treatment may fail to kill all pests. Inspect all plants received, wash thoroughly, dip in Cygon 2E, and drench them at the first or early watering with Cygon solution.

It is always better, when possible, to buy your plants at the nursery as you may select for size, condition, and price; there is no worry about loss, damage, or delay in transit. Southern California is blessed with many good cactus dealers. I have no reason to change any of my past recommendations for California sources or for other domestic dealers who advertise in the Journal. Abbey Gardens and I.S.I. are prime sources for collectors. In San Diego we recommend Hardin and Bob Taylor, as before, and the several cactus dealers in the northern part of the county at Vista, Fallbrook, and Escondido.

In general, you may expect that plants native to the U.S. and Mexico may be offered by domestic dealers at better price, size, and condition than by dealers in Europe. The South American species, however, are in general offered in greater variety and at lower prices from Europe or South America. Foreign sources we recommend are listed below, with pertinent notes:

South American Plants, P.O.Box 10248, Colmena 51, Lima, Peru. Free lists.

Holly Gate Gardens, Ashington, Sussex, England. Send \$1. for 12 monthly lists, or \$3. for same by Air post. Seedlings, grafted plants, collected plants. Largest list of epiphytes (ask for separate catalog).

Su-Ka-Flor, 5610 Wohlen, Wilerzelgstrasse, Switzerland. Very complete free catalog including many new and rare kinds.

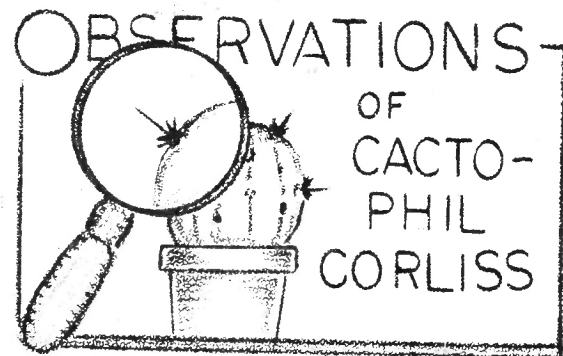
H. Van Donkelaar, Werkendam, Holland. Extensive free catalog.

H.E. Born, D5810 Witten, Postfach 1207, West Germany. Good plants but recently shrinking list. Free catalog.

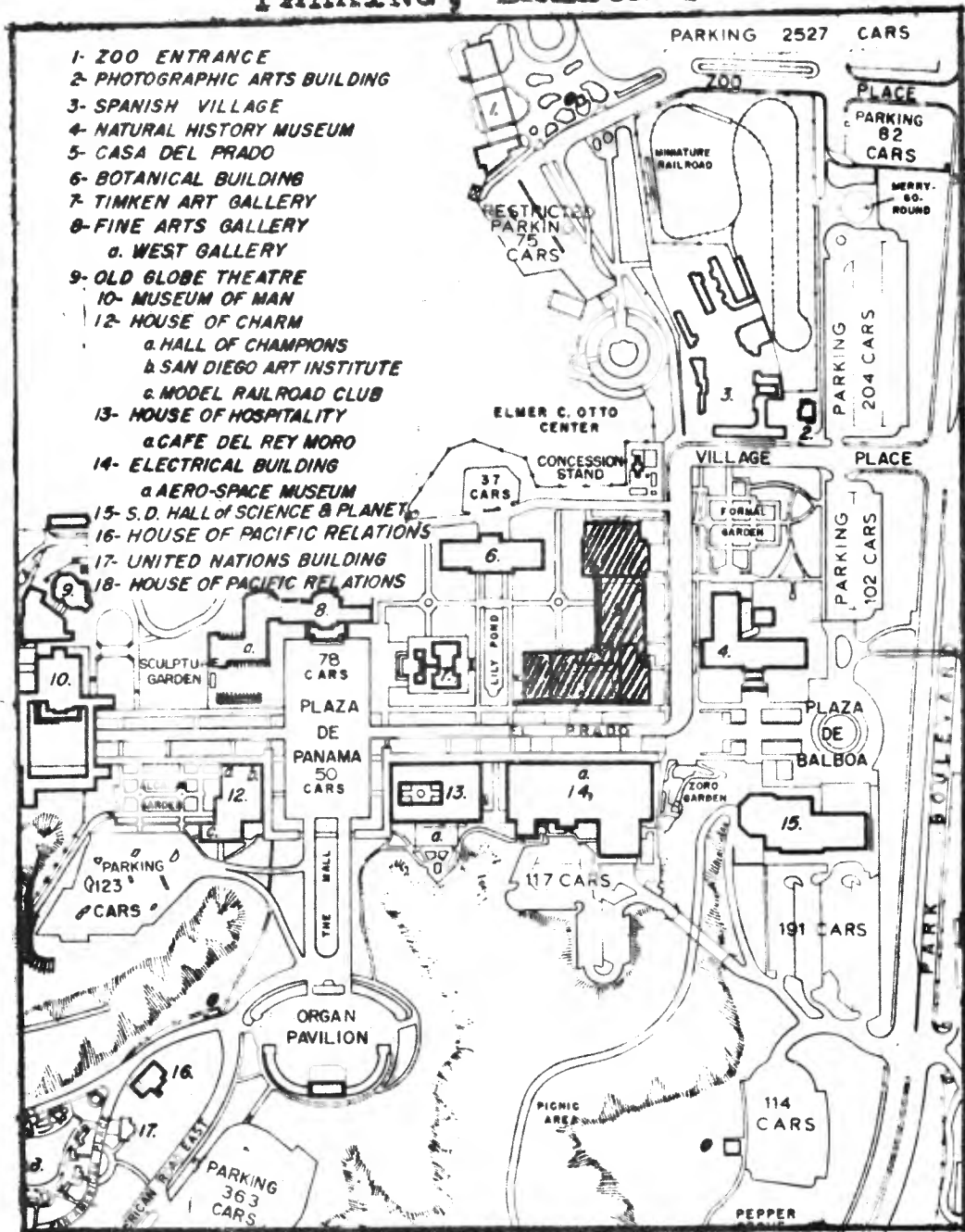
The Exotic Collection, 16 Franklin Road, Worthing, Sussex, England (for members only).

The Peru dealer offers only collected plants. He is the prime source for seeds of South American cacti. All of the other dealers listed offer seeds. The best domestic source of seeds is: New Mexico Cactus Research, P.O.Box 787, Belen, New Mexico, 87002.

Costwise, it is wise to order a sufficient number of plants from overseas sources to equalize the Air postage, phytosanitary certificate, and possible customs charges. Group orders are thus feasible. Ask our librarian for plant and seed catalogs from overseas sources.



# PARKING, BALBOA PARK



SLIDES - SPINES - STONES .

Commentary on .

Peter Sharp's program .

by Doc. R. V. Vaughan .

: : : : : : : : : : : : : : .

marine creatures which formed these beds down thru millions of years during which water held dominion over the earth.

One limestone bed on Catalina Island was sixty million years in forming.



Peter Sharp's slides on his Mexican trip were most educational, exciting and informative from a geological point of view as well as botanical.

The geological formations where he photographed cacti of numerous genera revealed that some plants prefer a very calcareous soil. Lime is the basis of our bony structure and it is derived from marine creatures which formed these beds down thru millions of years during which water held dominion over the earth.

One of Sharp's slides showed very red earth which indicated the presence of iron in two forms - hematite\* and limonite. Plants found thereon were peculiar in formation. (\*hematite: dark rusty iron carbonate)

A nother slide had a very greenish-bluish cast due to copper content of the soil. Azurite and malachite undoubtedly were present. In that particular region there must be deposits of copper ore and turquoise.

In all of Sharp's slides the soil was brecchia or broken ground cover. There was almost no soil from dedomposed rocks or decayed organic material except needles from a few trees. There was no sign of water action on the rocks resulting from river or sea action. All slides revealed that the land was under water at time of formation, either palustrine\* or marine. (\*palustrine: meadow deposits or swamp grown material)

The stones were without exception sandstones, limestones, clays - all carried into lakes or embayments. When the fresh waters that carried the alluvial deposits into the invading oceans during orogenic uplift of the Cordillerian revolution the 'natural cement' that nature uses - calcium and ferrum - cemented the sand particles into soft stones formed under pressure and by heat. Later they were exposed by wind and weather whereon the present day plants grow.

The abrupt rising from the valley floors of mountains shows the tremendous volcanic activity still existent in the valleys of the Mexican plateau. The gravitational pull is tremendous as revealed by the fallen rocks (brecchia) or talus.

In some slides of the higher mountains and cliffs, I noted long lenticular out-croppings, snags of ancient mountain ridges of igneous rocks - fire-formed plutonic rocks. These once great ranges were decayed and worn down thru eons of time and buried under lacustrine\* and palustrine\* deposits. (\*lacustrine - lake deposits)

The fearful awsoneness and grandeur of TIME and NATURE were well illustrated in Sharp's fine slides. Some of the clay deposits were quite dark which indicated that vegetable matter had rotted and integrated into the fine particles carried down into the lakes by rivulets and rivers.

Everyone enjoyed your slides, your subject material and your presentation very much and your British accent is like frosting on a cake.

. . . . . 0 . . . . .

(Thought in passing: Peter, you should broaden your search interests to include rocks as well as cacti. Suppose you should find a fossil cactus !! Imagine how difficult it would be 1) to 'root' it, and 2) to come down off the ceiling to water it. . . . .Ed

HEAR YE !! HEAR YE !!! :

STEP ALL THE WAY BACK ON THE BUS, PLEASE!

ABBEY GARDEN - - :  
Charlie and Bob :  
WE ARE COMING MAY 20! :  
..... :

Of course you will not have to do that IF you sign up early, deposit \$4.50 with Tony D'Attilio, the 'Please be Seated' Master of Ceremonies for May 20th - Saturday.

Tony will greet us on the parking lot back of the Organ Pavillion in Balboa Park at 8 a.m. -- your name will be called in the order in which it appears on his register -- and when IT IS CALLED you step inside and choose your seat.

Take your lunch, java, coke, coffee, tea, cactus squeezins, eat it whenever, wherever you like, but Tony has very thotfully arranged in advance for tables and seats at UCLA Botanic Gardens (Westwood or West Los Angeles) and as a second friendly gesture he will allow a short time to take a look-see in the area. Vending machines are there too, but that's not necessarily an assurance they will contain what you want or if they will work. Tony says we will arrive at UCLA at about 11 a.m. and after lunch he will conduct a 'round up' and put everyone back on the bus with the intent of arriving at Abbey Garden at about 12:30--is that 00:30 Steve?

After you have exhausted (spent) your May allowance at Abbey Garden and/or have all the plants you can carry in two arms, the bus driver will give two 'toots' on his horn which will be the signal for Tony to rejoin the group on the bus and instruct the driver to get back on the highway and onto Highway 5 for the next stop - Arnold's Farm House in the vicinity of Buena Park. Their food counter meets the requirements of all eating fads in a delightful way. We should be on the way back to S. D. at about 4 p.m.

Tony says a new rule says the bus driver receives something like a plumber's overtime rate if we keep him away from home after 6:30. He says bus drivers go to bed early, get up early, drive carefully and tell 'vintage' jokes - the kind you appreciate more as the ounces add up.

Anything else, Tony? -- If so, the 'mike' is all yours on the bus.

SOUTHERN CALIFORNIA EXPOSITION :  
Del Mar, June 27 thru July 9th :  
Chairman O! Ed Miller reports: :  
..... :

THREE exhibits have been spoken (and paid) for. Preliminary info is that the cactus exhibits will be on "The prado" on the north side of the entrance to the grounds - for the first time in Fair annals. The exhibit areas appear

to be about 10 to 12 feet deep and longer than we have been accustomed to in the past. It's the area where everybody passes by and where many of them sit and think or wait for the family to catch up. Let's regard it as the 'look but don't touch' area, most if not all our cacti have the same idea in the back of their minds -- oops, in their spines -- so we think the public will go along with the spirit of the Expo.

EXHIBITS and CHAIRMEN are:

- SEC. 676 (Class 125) SUCCULENT GARDEN - Julianne Rice, Chairman, helpers to be announced, prizes: 1st \$250, 2nd \$225, 3rd \$200
- SEC. 654 (Class 104) CACTUS GARDEN, - O. Ed Miller, Chairman, assisted by Sophie and Oliver Loyland, prizes: 1st \$250, 2nd \$225, 3rd \$200
- SEC. 655 (Class 105) GRAFTS, Chairman Ye Editor, he claims all contributors to Espinas y Flores are going to help. Prizes 1st \$150, 2nd \$125.

Quoting a past chairman of exhibits: "The Expo is a place where you use your head more and your back less - the rewards are greater."



## THE EDIBLE FRUITED CACTI

... by Helen Hegyi . . .

(Part 3)

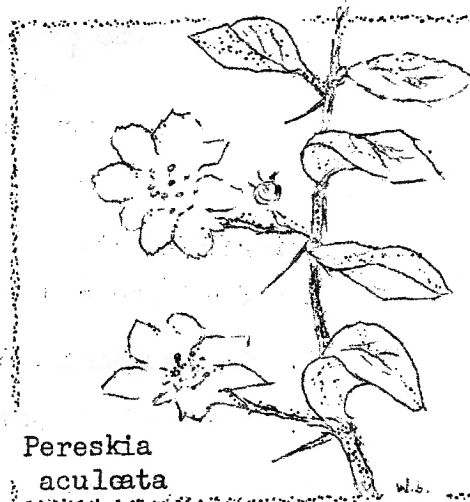
### MYRTILLOCACTUS

This genus is known as the 'berry' cactus.

Myrtillocactus geometrizans - tall-growing, much-branched, bluish-green but with small fruits the size of an olive, known as 'garambulla' in Mexico and eaten both fresh and dried. The dried fruits very much resemble raisins in appearance and are used in much the same way. The flowers are often eaten raw in salad or cooked with eggs.

PERESKIA Pereskias have the appearance of ordinary shrubs, trees or vines and bear little resemblance to cacti. They have strong, woody trunks that produce branches and twigs in the usual way, with ordinary green, though somewhat thick, meaty and rubber-like leaves. The flowers, however, are real cactus flowers with numerous yellow stamens and a tassel-shaped style. The flowers often grow in panicles or corymbs, which is uncactus-like. The spines occur in the axils of the leaves.

Pereskia aculeata - lemon vine, at first is woody and erect but will form vines three to thirty feet in length. The leaves are eaten as a vegetable. The fruit is light yellow, quite smooth when mature, five-eighths to three quarters of an inch in diameter, edible and used for making preserves.



Pereskia aculeata

MAMMILLARIAS A large genus of globular cacti, mostly native to Mexico. The small chili-shaped fruits (viejito) of many species have a very pleasant taste, well worth eating but must be enjoyed while still juicy and before the seeds form and the pulp dries. A single fruit at a time is pressed out between the front teeth so that only the pulp is gotten, not the tough outer covering. They are a refreshing tidbit when in the field.

ECHINOCEREUS Low-growing, forming mounds. The fruit of some species taste like strawberries.

E. engelmannii - the ovary of the fruit is rich in sugar and the seeds are rich in fats.

The following cacti have edible fruit according to the noted plant explorer Paul C. Hutchison:

\*RHIPSALIS All species have edible fruit varying in quality. This large tropical genus of epiphytes is usually cultivated in hanging baskets because the stems are pendant. Flowers are prolific, followed by small, spineless, round, white-to-red fruits; the size of a pea or smaller.

\*R. cassutha is the most ubiquitous species and has become established in Africa, Madagascar and perhaps parts of India. The fruits are formed by the hundreds. They are soft, juicy and sweet like small grapes.

\*\*Melocactus, tropical American globular cacti, the so-called 'Turk's cap'. They produce red to white fruit shaped like Mammillaria fruit and they are equally edible.

## CACTUS COOK BOOK

It is of interest to know that the Cactus and Succulent Society of America

THE EDIBLE FRUITED CACTI -- continued:

published in 1971 the Cactus Cook Book which was compiled and edited by Joyce L. Tate. It is largely from contributions of recipes from members of the Society and a wide circle of personages in the cactus world, collectors, explorers of our deserts and botanists.

The book is not only useful for the colorful and exotic dishes which are a unique novelty at any gathering, but it is also interesting reading for the many unusual culinary uses of the various succulents. The recipes are clearly presented and easy to follow. The various succulent ingredients are simply explained and the pages are cleverly and decoratively illustrated.

The book contains 128 pages, it is soft-bound, and it is available from the Cactus and Succulent Society of America Journal, Box 167, Reseda, California 91335 at a cost of \$2.25 postpaid.

One good rule to keep in practice  
Do not back into a cactus,  
Or you will find, my dearest friend  
That you will get it in the end !!

Literature cited:

1. The Standard Cyclopedia of Horticulture, L. H. Bailey
2. The Cactaceae, Britton and Rose
3. Cacti and Succulents, Walther Haage
4. Trails, Native Food Plants, San Diego Society of Natural History
5. Mexican Flowering Trees and Plants, Helen O'Gorman
6. Meet Flora Mexicana, W. Walter Pesman
7. Los Angeles Cactus Chronicle, October 1970
8. California Rare Fruit Growers Yearbook, Vol. 2, 1970
9. Cactus Cook Book, Joyce L. Tate
10. Cactus and Succulent Journal, July-August 1971
11. Cactus y Succulentos, September 1965, p4

.....  
This is the third and final part of Helen Hegyi's study and report on 'Edible Cacti'.  
.....

..... MAY 'ESPINAS Y FLORES' page by page .....

- |                                      |   |
|--------------------------------------|---|
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| 2 Louise KOCH "TRAVELLING CACTI"     | 14 Tony D'ATTILIO "ABBAY GARDEN TRIP"   |
| 3-4 Doc. R. V. VAUGHAN "ENZYMES"     | 14 Ed MILLER "SO. CAL. EXPOSITION"      |
| 5-6 NIBBY'S "NOTEBOOK", "PROGRAM"    | 15-16 Helen HEGYI "EDIBLE CACTI"        |
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LECCION EN ESPAÑOL

Numero cuatro

Spring Valley, California  
9 de abril de 1972

Querido señor Scott

Muchas gracias por su lección de inglés. ¿Esta usted preparado para otra lección en español?

Los sustantivos en español son de dos clases o géneros: masculino o femenino. Por ejemplo el muchacho es masculino y la muchacha es femenino. Otros ejemplos: el chico, el libro, el profesor, el teléfono, el estado, el señor Scott son todos masculinos. La chica, la lección, la profesora, la mesa y la señora Scott son femininas. Generalmente los sustantivos que terminan in o son masculinos: el cacto, el teléfono. Los sustantivos que terminan in a son femininos, generalmente: la rose.

¿Sabe usted la diferencia entre una señorita y una señora? ¡La diferencia es un señor!

In Spanish questions and exclamations are introduced by a question mark or an exclamation point—both upside down.

VOCABULARIO (por los novicios)

señorita	Miss	el chico	young person--boy, lad
señora	Mrs., madam	la chica	young person--girl, lass
señor	Mr., sir	la lección	the lesson
o	or	los sustantivos	nouns
es	is	géneros	genders
son	are	generalmente	generally
usted	you	terminan	end, terminate
otro	other	querido	dear
otros	another	para, por	for
todos	all	el estado	state
español	Spanish		
inglés	English		

*Maria*

...Thank you Maria....Ed

SPECIAL EXHIBIT

--OPEN HOUSE--

Casa del Prado

Sunday, May 7th

O. Ed Miller, Exhibits Chairman, announces!

Plants brought to the May 6th meeting will be held over for our open house for the public the following day Sunday, May 7th, from noon to 5 p.m.

ENTRIES are: Plants in natural containers, wood, stone, other---use your imagination and ingenuity. Also bring in your good looking potted plants, the ones you take special pride in, which you think others would enjoy seeing. This is our first year in Casa del Prado, so let's make it something to remember.

PRIZES will be awarded in two categories WOOD CONTAINERS and an OPEN CLASS. Judges will examine them and make decisions which will be final - prizes in the form of \$'s -- 1st \$5, 2nd \$3, 3rd \$2 -- will be awarded on the basis of the judges decisions. Are you listening Treasurer Martin Mooney, bring your check book, the amount appears to be a bit in excess of 'petty cash'.

Plants should be picked up by owners at 5 o'clock or after on Sunday.

NOTE: The Epiphyllum Society of S. D. will share in the Open House on Sunday - this should add considerably to the event.

• RICHARD L. RUSSELL LIBRARY •  
• ACQUIRED BY S.D. SOCIETY •  
• . . . . . •

Perhaps the most exciting and important event to transpire in the relatively short history of the San Diego Cactus & Succulent Society took place in three stages beginning in February 1972. Members William Bishop and Walter Scott received information that Richard L. Russell of La Jolla was contemplating the release of his private cactus and other succulent library.

Russell's library is a collection of printed materials relating to his hobby obtained over a 30-year period. Perhaps the simplest way to describe it is to say it exceeds ten feet of shelf space and it contains rarely seen volumes, one being a complete set of all the Journals of the Cactus and Succulent Society of America.

Information relative to the status of the library was relayed to the Society's Board of Directors at its March 10th meeting. Several members of the Society were present at the Russell home on March 11th and had an opportunity to inspect the library. A sufficient number of members of the Board of Directors, including Loyal Bibbey, Floyd Gable, Richard Latimer, Ed Miller, Dr. Leroy Phelps and Walter Scott were present to constitute a quorum of the Board for the transaction of business. They committed the Society to acquisition. A value was placed on the library based on the total membership in the Society on that date at \$3.00 per member.

The library matter was presented to the membership of the Society at the April 1st meeting. A motion was made, seconded and passed to proceed with acquisition.

Russell asked that the library be identified and known as the "Richard L. and Constance L. Russell Library" and that our Society assume full responsibility for its care and use. It was indicated that it would go to Casa del Prado and be integrated into the San Diego Garden Center Memorial Library, a division of the San Diego Botanical Garden Foundation, Inc.

The library was picked up by seven members of the Society and paid for with a donor's check on April 4th. It is presently boxed and stored awaiting completion of steps involving evaluation, identification as noted above, inventory, and transfer to Casa del Prado.

Russell said when he released the library that he felt it would serve broader and perhaps more useful purposes if it were in the possession of a Society rather than existing as a private library. His statement may be the understatement of the year when content of the library is considered.

The Russell Library enhances our present library materially. The combination may constitute the most complete library in the possession of any Society. It appears the library may have to be divided into sections, one a "non-circulating, research" section by reason of the nature and value of some of the volumes and the other a "circulating section" as a portion of it consists of volumes duplicating some in the present library.

Every member of our Society is most appreciative and grateful to the Russells for their generosity and thoughtfulness in these matters. We would like for them to think of the transfer simply as a "relocation for purposes of extended usage".

A very sincere and special "thank you" to the Society member who made the move possible.

SAN DIEGO CACTUS & SUCCULENT SOCIETY

Affiliate of the

Cactus & Succulent Society of America

'Espinasy Flores' monthly bulletin

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MEMBERSHIP: Yearly, single \$3.00, family \$4.00  
(includes monthly bulletin 'Espinasy Flores')

Northfield, Mass. 01360  
61 Main Street  
April 12, 1972

Dear Mr. Scott:

Compliments to you on your very interesting article on cactus in the Feb.-Mar. issue of 'Ozark Gardens' magazine.

I have become quite a cactus fan in the past few years and only recently back from Texas (Brownsville and Laredo) where I picked up some 350 or more plants from dealers. Last year I had some from Mafia, Texas and the previous year from Johnson. (Paramount, Ca.)

I would be interested in details of your San Diego Society. I've written to Cactus & Suc't. Soc. of America recently but no reply yet.

Thank you for the information, sincerely

*Cory M. Heselton*

(Mr. Heselton: You will find the information you requested in our January issue of 'Espinasy Flores' which is on its way to you. Hope you enjoy 'our' hobby as much as we do in San Diego. . . .Ed)