Tomo VI
Number
May '71

ESPINAS Y FLORES

A NATURAL LAW

by Jim Stalsonburg

Long before the flickering eye of the living-room Cyclops directed its scrutinous attention to a complete enumeration of mankind, thereby granting heretofore muted entities a media to express themselves disproportionately to their relative number.

A not-so-small band of people were intensely interested in the cause of recycling the residues of productivity. Known simply as gardeners, farmers, or men of the soil. For centuries they have been practicing lessons learned from Nature herself, regarding the usefulness of remnants left by the seasons of bounty.

Leafmold from the forest, chaff from the fields, sweepings from the barn were all returned to whence they came. Recycling is a slow steady process of reverting physical material to basic usable raw energy again. The only failing our society has made is that we have allowed our productivity to excelerate beyond our means to control the by-products or leavings.

We have been beguiled by short-cuts to munificence and excess. Under the guise of a rapidly increasing world population and faster available means to new markets, we have often violated Nature by forsaking natural ways. We artificially conceive means to utilize our understanding of those laws to satisfy a lust for plenty.

In the process of meeting the demands for increased productivity, there is a tendency to synthesize craftsmanship. We put aside the collective skills acquired, (Continued)

(NATURAL LAW, continued) after many life times of engaging the known against the unknown, in favor of a new conception or manufactured embodiment. In doing we often become so enamored with the new contrivance that we lose touch with the needs of the land. Indeed, we lose touch with Nature and all that surrounds us.

Honor this new creation, but love the purpose for its existence. It is a very thin line that runs between the recreation of Nature and improving upon it. There is an urge or gentle pressure within each of us. It is a dynamic force seeking an outlet through the projection of creativity. When we provide that outlet there is an influx of Nature into our being.

Machines and chemicals were created to assist us in untying some of the bindings of Nature and permit her to produce with unchallenged vigor. These aids are in our control. Therefore, it is our responsibility to govern the correctness of their application within our sphere of influence. This trust becomes more difficult in the light of the verbal bombasting we are exposed to these days from both sides of the ecological fence. Quite frequently they are both guilty of a moral pollution far greater than the damage done by the use or non-use of any horticultural accoutrement. None the less -- even with all the old half-truths -- this country, as a whole, has moved away from the stagnant position of ecological indifference.

Pesticides have been a principle contributor to the recent furors. They are tools devised to assist, but their mis-use can reverse all the good done or intended. The term "pesticide" is used to incorporate all substances used to control animal or plant life. They are mainly chemical compounds, and fall into many different categories, each with its own unique characteristic.

Prior to World War II the chemicals used were largely inorganic in nature and generally simple in structure. Most of them were by-products of other manufacturing processes. Quite often they were extremely poisonous to warm-blooded animals and would cause serious plant damage. Examples of these materials are Lead Arsenate, Sulfur, Sodium Flouride, and Copper compounds, as found in the Bordeaux Mixture.

The chemicals in most popular usage today are organic in nature with emphasis on compounds that are "Biodegradable" -- meaning that in time they will break down and return naturally to soil elements. They are generally complicated in structure and are mostly derived from petroleum products.

There are several prime classifications for use, but any given chemical may have the ability to overlap into one or more categories, especially with improper applications. It has often been said that a material that has the ability to kill a particular life form has the potential for killing another -- CAUTION is the key word in their use.

Insecticide is a chemical used to control insects - Herbicide to control weeds or unwanted vegetation -- Fungicide for the control of plant diseases caused by fungi -- Algaecide to control algae - Bacteriacide for the control of plant diseases caused by bacteria - Nemacide to control nematodes, - Miticide to control spider mites - and Growth Regulators to control excessive plant growth. Note the use of the word CONTROL in each classification.

(Continued on page 15)

CLEISTOCACTUS HYALACANTHUS

Cactus-of-the-Month

- - - Floyd L. Gable - - -

CLEISTOCACTUS HYALACANTHUS is similar in some respects to C. Strausii and some find it difficult to distinguish between the two. Some botanists consider it a variety of C. Strausii, but such classification may be subject to some question as both the flowers and spines of the two species differ considerably. C. Strausii is densely covered with white bristles and emerging from the bristles are yellow downward pointing stiff yellow spines up to an inch long.

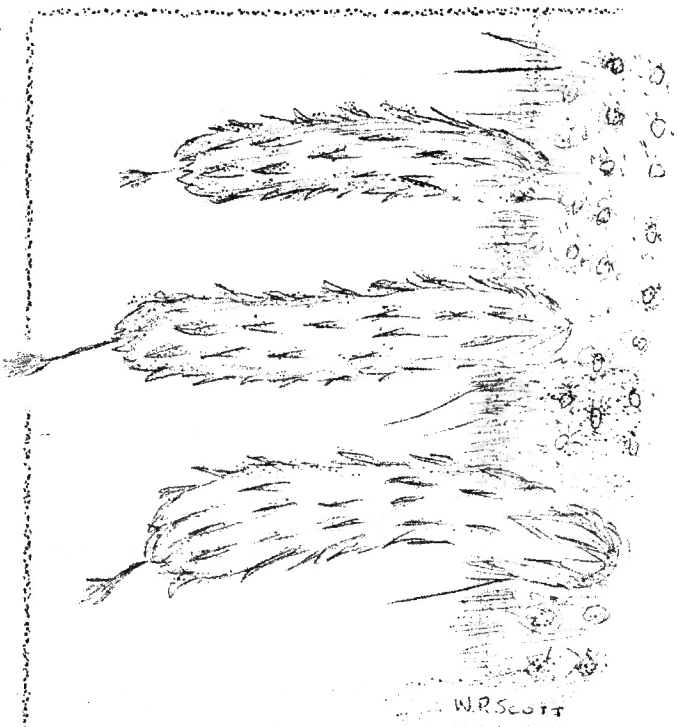
The flower of C. Strausii is dark carmine tinged with purple. C. hyalacanthus is densely covered with pure white spines and the flowers are pure red and distinctly curved. The word "hyalacanthus" indicates that the spines are transparent.

C. hyalacanthus grows upright, it branches from the base and attains a height of about three feet or more (very similar to C. Strausii). Spines are in clusters of 25 or more, the longest spine being about three-fourths inch long. Both species flower on the side near the top of the stem.

A well grown mature specimen of either species makes a beautiful and attractive addition to a collection.

Habitat of C. hyalacanthus is Jujuy, Argentina.

"Cleistocactus" is from the Greek and it means "closed cactus" which refers to the flowers which do not open out at the ends. (Note sketch)



CLEISTOCACTUS STRAUSII FLOWERS

(Approximate size)

There are about fifteen known distinct species of "Cleistos" all of which are South American natives, mostly from Paraguay and northern Argentina, north to Brazil.

The plants of some species grow upright and some are of a clambering nature. Flowers are in shades of orange yellow, orange red, scarlet, salmon pink and in one species greenish-white or honey colored. Most species are fairly frost resistant and have been known to withstand temperatures to 28° without visible damage.

Cleistos require a rich, porous soil and planty of water in the summer or growing season. All are well worth growing and all make attractive and interesting additions to any collection.

A few of the more popular species are as follows:

C. Strausii as described (somewhat tender)
C. hyalacanthus as described, also tender.
C. smaragdiflorus, yellow spines, grows to six feet, has unusual green tipped flowers. "Smaragdiflorus" means emerald-flowered.
C. Baumannii, slender, has brown spines, grows to about 3½ feet, flowers orange scarlet, blooms heavily and over a long period.
C. tupizensis, slender stems, to nine feet high, spines reddish brown, flowers 3½" long, salmon colored.

PACHYPHYTUM OVIFERUM

SUCCULENT-OF-THE-MONTH

PACHYPHYTUM OVIFERUM is considered the gem of all the pachyphytum species. It has the finest leaf development and is considered one of the extra fine succulents. Its leaves are very thick or stout (Gr; "pachy") to one and one-half inches long, egg shaped and they are a lovely translucent pale whitish green which attains a pinkish hue in warm weather.

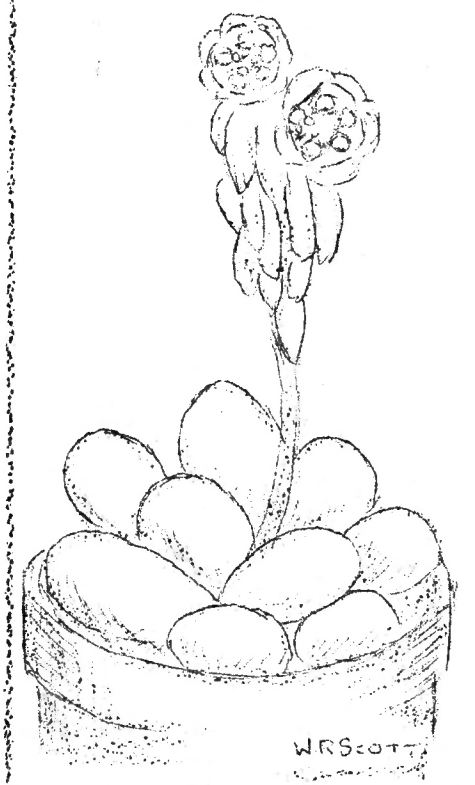
P. oviferum leaves are covered with a whitish powder which adds beauty to the plant. The flowers are very attractive with sepals the same color as the leaves. The petals are a bright red. The plant does require a little extra care.

The leaves should not be handled and watering should be done at the ground level as the beauty of the plant depends its flawless, unmarked leaves.

It is not difficult to grow in a rich porous soil. It is very slow growing and requires careful watering at all times.

It is a native of San Luis Potosi, Mexico.

Pachyphytum means thick or stout and the genus consists of a small number of plants, about nine species, all native to Mexico. They bear some resemblance to the Echeverias and there are many beautiful hybrids or crosses between the two, called "Pachveria". Pachyphytums, like echeverias, propagate readily from leaf cuttings. Leaves which drop from the plant often root at the base of the plant. Pachyphytums and Echeverias require similar culture.



PACHYPHYTUM OVIFERUM

P. oviferum and P. bracteosum are regarded as the two finest in the genus, altho P. verdi is also considered a choice plant. P. compactum is a species although it lacks some of the beauty of leaf structure of the three preceding species, it has one of the finest flowers of any of the Crassulaceae.

P. compactum flowers are bell shaped with green tips and with a white coating that in combination give the tips a lovely violet hue. The rest of the flower is a brilliant red.

Other interesting Pachyphytum species are: P. heterosepalum, P. uniflorum, P. Hookerii, P. brevifolium and P. Werdermanii.

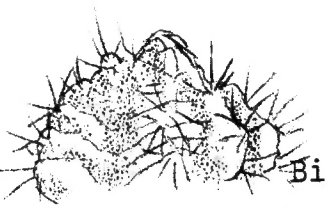
Some of the interesting hybrids in the Pachyveria group are: Pachyveria clavata hybrid of Echeveria clavifolia X Pachyphytum bracteosum.

Pachyveria	E.O.Orpet:	Echeveria	species X P. bracteosum
"	Pfitzeri:	"	elegans X P. ovigerum
"	Mulleri:	"	derenbergii X P. oviferum
"	Spathulata:	"	gibbiflora X P. bracteosum

P. oviferum is described in UNUSUAL PLANTS by J. R. Brown in the following words: "This is probably the most remarkable of the Pachyphytums owing to the intense white coating on the rounded fleshy leaves. This white coating is also present on the flowering stems and the large bracts and sepals of the flowers. The name "oviferum", was given because of the somewhat egg-shaped leaves."

---Floyd L. Gable

GYMNOCALYCIUMS



May '71

By Billie Lucas

The genus Gymnocalycium has long held a tremendous fascination for me. As a 15-year-old girl in Kansas City, Missouri, I was introduced to the world of cacti when my family stopped at a nursery to buy tulip bulbs. But there were greater wonders than tulip bulbs inside. I stood amazed at the spiny marvels all around me, and it was love at first sight. That was 27 years ago, and my enthusiasm has not waned.

Gymnocalyciym denudatum was my first obsession, but this plant was unobtainable at the time. In fact, very few Gmynos seemed to be available. Finally, however, about 12 years ago I ordered from Johnson's some Gymnos and a packet of mixed Gymno seed. The seed sprouted well, and some of the seedlings remain in my collection. The insatiable desire for more and more Gymnos was quite overwhelming. I had ordered all of Johnson's Gymnos several times (most species being extremely variable) and had voraciously exhausted all available U. S. catalogues in my quest.

The plants must be grown from seed, I decided, and systematically purchased all of the Gymno seed offered by New Mexico Cactus Research. Through Round Robins I came in contact with other Gymno enthusiasts, and we exchanged ideas, seeds and plants. Finally I imported seed and field-collected plants from Holland, Germany and Switzerland. Thus grew my collection.

Gymnocalycium means "naked bud", and surely these buds are the most beautiful in all the cactaceae. Such perfect little cones in muted shades of pink, green, gray and blue! But I soon learned that a pink bud did not necessarily open into a pink bloom. Besides white, flower colors are different hues of pink, yellow and red. White is predominant, however, and flower color could in many cases be improved. The fruits are marvelous -- some globular, some elongated in varying shades of maroon, cerise pink, dusty blue, pale green. As if that were not sufficient color, the plump plant bodies themselves glow in a wide array of greens and blues; not to mention bright red, pure gold and tender pink.

Spines vary from the tiny slender bristles of Gymno bruchii to the fearsome heavy armor of Gymno cardenasianum. Plant size ranges from the one-inch heads of Gymno bruchii to the one-foot globes of Gymno saglione. This genus is perfect for specialization. I wonder why so few cactophiles collect Gymnocalyciums...perhaps the many new discoveries in South America will whet the appetite for this genus. Interest is much greater in Europe where a larger number of species are available, including many field-collected plants.

Gymnocalyciums have been divided into five seed groups -- Macrosemineae, Ovatisemineae, Trichomosemineae, Muscosemineae and Microsemineae. These groups are easily identified with a magnifying glass -- in fact, with the naked eye in most cases. Macrosemineae seeds are large (up to 2 mm diameter), black and slightly waisted with a wavy edged hilum. Some representatives of this group are section a - (Denudata) -- denudatum, heuschkelianum, megalothelum. Section b - (Uruguayensis) -- artigas, leeanum, urugayenses.

Ovatisemineae seeds (about 1 mm diameter) are rounder in shape and the hilum is straight. The black seeds sometimes have a pale brown coat covering or partially covering the surface. This group is represented by section a (Gibbosa) -- gibbosum, baldianum, chubutense. Section b (Lafaldensia) -- bruchii, albispinum. Section c -- (Calochlora) -- calochlorum, sigelianum, capillaense. Muscosemineae seeds are medium-sized, pale brown with a rather inconspicuous hilum. Representatives are: Section a (Terminalia) -- damsii, mihanovichii, friedrichii. Section b (Periferalie) -- marsonerii, megatae, delaetii.

(GYMNOCALYCIUMS continued) Trichomosemineae seeds are the most beautiful in my opinion, and also the easiest to identify with their shiny brown surface and very large, pale hilum. These seeds have been described as helmet shaped. They are represented by: Section a -- (Stellata)-- quehlianum, occultum, asterium; Section b -- (Riojensia) -- bodenbenderianum, riojense.

SEED COMPARISON

Microsemineae seeds are the tiniest and represent the largest number of species. They are blackish in color with a small, pale hilum and may be divided into Section a -(Saglionia) -- saglione, pflanzii, lagunillasense; Section b - (Hybopleura) -- hybopleurum, mostii oenanthemum; Section c (Loricata) -- spegazzinii, cardenasianum, bayrianum; Section d (Mazanensia) -- mazanense, hossei, castellanosii.

CLASSIFICATION

Czech botanists Fric and Kreuzinger worked on Gymno classification by seeds in the mid 1930's. Their work has been continued by Bohumil Schutz, and Austrians Hans Till and Dr. Bayr. Englist botanist Geoff Swales is currently studying the problem. For extensive coverage of classification of Gymnocalycium by seed groups consult "THE CHILEANS", Volume 3, Numbers 12, 13, 14 and 15, and Volume 4, numbers 16 and 17.

The serious student of Gymnocalycium must be familiar with the various seed groups. It is the only way he can establish the relationship of many of his plants. I have discovered numerous imposters in my collection simply by studying their seeds. A plant received as Gymnocalycium mostii is in the Microsemineae seed group. The plant appears to be intermediate between denudatum and heuschkelianum. Gymnocalycium anisitsii is in the Muscosemineae seed group, but the plants circulating in the United States as anisitsii produce Ovatisemineae seeds. I have tried in vain to classify a lovely plant from Johnson called Gymnocalycium leptanthum. One of my favorites, the plant does not meet the descriptions for leptanthum and produces only false seed pods. Perhaps it is a sterile hybrid. My seedling leptanthums produce their Ovatisemineae seeds very readily. Be skeptical of labels on Gymnocalyiums. Many will be incorrect.

HABITAT

According to Herr Till, Gymnos grow from Comarapa in Bolivia to the Rio Chubut in Patagonia. Thus their habitat can be divided into three different types of climate -- Pampas, Chaco and hill. The Pampas had a moderate climate with winter-daytime highs of about 40°F and summer-daytime highs of about 60°F. Rainfall is distributed rather evenly throughout the year. On the other hand, the Gran Chaco region is an area of intense summer heat. Average summer high is 90°F, but temperatures regularly climb above 110°F. Average daytime winter temperatures are in the 60's, but there are some night frosts. Rainfall occurs mostly in the summer months.

The hill dwellers may be found on the lower eastern flanks of the Andes at altitudes up to 2,500' in sandstone rock formation. They grow in Cordoba on the damper eastern-facing slopes, and in Bolivia in the rain shadow of outlying foothills. Here again we may expect a much more temperate climate than that of the Gran Chaco with perhaps cooler winters than those of the Pampas.

CLIMATE

Familiarity with Gymnocalycium habitat helps me to understand behavior of my plants in Monterey, California. Here we have a winter daytime high between 40°F and 50°F with perhaps two light frosts per winter. Average daytime high in summer is 60°F with an average night low of 50°F. Humidity is high all year, and rainfall occurs only during winter. Needless to say, the Gran Chaco plants are not very happy here, and they let me know it. During the summer they often show poor growth, developing wrinkled brownish purple epidermis. They produce an abundance of buds, most of which abort without completely developing. So I have brought most of them into my house, where they grow beautifully when given the same care as my Melocactus and Discocactus. Soon I hope to have a very small greenhouse to trap the heat for them in summer. They do not like full sun even in our cool climate, but summer heat seems to be a necessity.

(GYMNOCALYCIUMS continued) The Pampas and hill dwellers are content in their cactus shelter with only a fiberglass roof to protect them from our winter rains. The fiberglass is hazy, so they receive a daily average of 6-7 hours of muted summer sunlight, but only 2-3 hours of muted winter sunlight. Then, too, we often have long foggy spells.

SOIL Gymnocalyciums are easy to grow in a normal cactus soil with generous summer watering. I use "Supersoil" planter mix and add coarse sand and perlite. Some years ago I had the brilliantidea of washing ocean sand to use with my planter mix. Results were disastrous, and the Gymnos were the first plants to lose their roots. The sand was much too alkaline, and I couldn't wash it well enough for plant use. Now I buy commercial ocean sand that has been especially treated for plant use, and the Gymnos -- which need a slightly acidic soil -- are happy.

WATERING Since our humidity is extremely high and temperatures relatively low, clay pots are preferable to plastic pots, although for selected plants I sometimes use pots glazed only on the outside. The plants receive no water from the middle of October until March. Normally they receive one watering in March, two in April, and then a good watering once a week until September, when watering tapers off. Of course, the weather really determines when and how much water they receive. I have noticed that the Gymnos seem to shrink and wrinkle worse in winter than any other cacti I grow, although they quickly plump up with the first spring watering.

PESTS Isotox systemic is given routinely to all my plants once in spring and again in the fall, so I seldom find a mealy bug. I have never seen red spider on any of my Gymnos, but these plants are relatively pest free. Usually in June and August I give a good watering with a 2-10-10 fertilizer, which produces strong spine growth and an abundance of bloom.

FLOWERING Gymnocalyciums are good bloomers, some flowering almost constantly. A pink-flowered denudatum is never without buds or blooms, while a large-bodied bruchii produces its pale pink blooms most of the year, although it does not set seed easily. Some Gymnos that will bloom all summer and often into November and December are quehlianum, bodenbenderianum, baldianum, andreae, leeanum, leptanthum, baldianum x andreae, multiflorum x baldianum, anisitsii x baldianum. Others seem to have a specific blooming period of several months.

Often very tiny seedlings scarcely 3/4" in diameter will bloom. Bruchii, quehlianum and leptanthum some to mind. Gymno spegazzini was 1½" before it bloomed, while saglione failed to bloom until it reached a diameter of 4". In general, however, Gymnos will usually bloom from seed in about two or three years.

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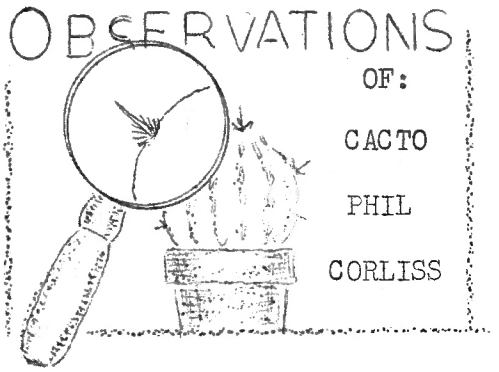
Part II of GYMNOCALYCIUMS - "My Experiences in Growing from Seed" by Billie Lucas will appear in the June issue of EyF. Billie lives at 2060 Via Taormina in Monterey, (93940) and writes that Spring has come...weather is perfect, warm and sunny, a great encouragement to the buds popping out everywhere. "I counted 155 buds on my Schlumbergera 'Crimson Giant'. It is always most cooperative." She also wrote that her Melocactus matanzanus was purchased from Johnson's about 4 years ago. An inch in diameter then it is now 3½" and is getting very woolly in the crown -- "I do believe that it is starting to form a cephalium. When I repotted it this spring, I found that the roots had completely filled its old pot. There couldn't have been more than a teaspoonful of soil in the pot -- apparently it doesn't realize that it is supposed to have a shallow root system!" It was with pleasure that we received Billie's article and with pride that we print it. We do hope that she will make it down the coast to join us for a meeting some Saturday.



REPORT ON SOURCES: This is my second annual report on recommended sources of cactus plants. I suggest that you review my Observations in the April and May issues of 1970.

It is wise to send a list of alternates that dealers may use for substitutions, especially when payment is made in advance, as some dealers will otherwise give only a credit and not a refund, or make their own substitutions. Most sources that advertise in the Cactus and Succulent Journal may be patronized, as the editors exercise care in accepting their listing. If you have had bad experiences with such, please contact me or the editors. I am listing only those sources with which I have dependable reports or personal experience, and thus my list will not contain many excellent sources on which I am not qualified to speak. Even some of the following may give poor service, poor plants, poor packing and shipping, wrongly named or even unnamed plants! Always specify that you wish all plants to be labelled.

SAN DIEGO LOCAL NURSERIES: Hardin's Nursery at 9209 Harness Street in Spring Valley (closed Thursdays) and Bob Taylor in El Cajon, 1640 East Main Street, are convenient to San Diegans. To visit Bob Taylor, please phone 444-3019 for appointment. There are several nurseries in the northern part of the county, but I have had experience only with these: Seaborn's Del Dios Nursery has some interesting collected plants. Paul Hutchison's Tropic World Nursery on Highway 395 about 5 miles north of Escondido is expanding his stock. None of the four above nurseries have catalogs.

OTHER DOMESTIC SOURCES: Catalogs available. Harry Johnson, 2735 Olive Hill Road, Fallbrook, Cal. 92028 (formerly of Paramount, California) is accepting mail orders at 10% above the prices of his 1968 catalog. The new owner of Cactus World Nursery, Erwin Szabados, 8014 Howe Street, Paramount Ca., 90723, has a good list and plants. See Cactus Journal for addresses of following: Henrietta's Nursery in Fresno has one of the largest lists and some excellent plants. They specify size of plants offered, which is helpful. Davis Cactus Garden in Kerrville, Texas, has collected southwestern species and African succulent imports. I.S.I. in Orinda, Calif. features chiefly new and rare varieties. Abbey Garden in Reseda is rapidly expanding its list of excellent plants which are dependably named.

FOREIGN SOURCES: Before ordering from overseas sources, you should apply for Plant Import Permits. These may be obtained without charge from Plant Quarantine Division, U. S. Dept. of Agriculture, 209 River St., Hoboken, New Jersey 07030. Indicate what kind of plants you wish to import (cactus and succulents), from which countries and the expected method of transportation. (Air post is recommended). You will be assigned a Plant Import number of your own and additional Permits with your own number will be supplied when requested. Be warned that there may be a frustrating language problem when ordering from some non-English speaking countries. It has been my experience that it is NOT wise to order collected plants from Europe as they are often difficult or impossible to reestablish, having often been long in transit and never rerooted after collection. They are also usually more expensive than plants propagated from seed, offsets, or grafting. Always remember there is a confusion of cactus names. Even worse, perhaps, is the sale of plants wrongly identified by some sources. In determining cost from catalogs, remember that under their new decimal system, the English penny is now worth 2½¢. The values of other foreign currencies are listed in the daily newspaper financial pages.

Clive Innes' Holly Gate Nursery, Ashington, Sussex, England, gets my highest recommendation. Send $1. for a year's subscription (or $3 Air Mail one year) for a monthly plant list. Some items may be sold out by the time sea mail list is received. (The Exotic Collection, H. E. Born and Su-Ka-Flor next month.)

ACTION
CAUSES
REACTION

ACTION CAUSES REACTION

By Razalia Rau
"Courtesy 'ORCHIDATA'"

In the Dec 68 issue of Home Garden I read an article on "The Value of Beer on Orchids."

The article stated that the idea of feeding beer to orchids was originated by Mr. J. P. Simones of Indonesia and used successfully by other members of the Malayan Orchid Society.

The growers found that beer (one part beer to 40 water) improved the general plant growth, assisted in the production of a healthier flower & plant, acted as a general cleanser and prevented the growth of algae.

Beer is a fermentation product and its carbohydrates, proteins, vitamins and minerals are all beneficial to plant growth. Tree fern was the potting medium and the growers found that it dried out faster when beer was used.

I've always felt that my orchids were pretty close to being human, so when I read the article, it seemed like a fairly natural thing to do. I started the beer treatment Dec 8th, 1968, using ½ cup beer to a gallon of water, adding 1/2 tablespoon Blue Whale & 1/2 teaspoon Sturdy organic fertilizers.

The results were fantastic! In a matter of minutes the young healthy roots became a deep green, while the bruised roots became a very dark brown. The "browning reaction was caused by one of the enzymes in the beer. When fruit & vegetable tissues are injured in any way or cut, a darkening of the tissues called the "browning reaction" occurs. These reactions are enzymatic and occur in living plant tissue.

This wasn't all - in about two hours the leaves & pseudobulbs became a deep green. The plants looked great but the only objection I had was the odor of beer and dead fish that lasted through the day. The potting medium I used was the orchid mix consisting of fir bark, perlite, poultry peat & redwood. The small pots remained wet three days and the large ones, a week.

The plants were watered with a beer & one-quarter strength organic fertilizer solution every week. They certainly prospered. The buds were firm, flowers were waxy and long lasting. New growths were stimulated even on the back bulbs. All the growths were strong and husky looking. Roots were larger & growing better.

One of the problems I had to overcome was a thick layer of white mold covering the outside of several clay pots and completely covering the water in the trays over which the orchids were suspended. This mold was formed by the film-forming species belonging to Pichia and Hansenula, as well as Candida mycodermia yeasts.

These yeasts can frequently be isolated from beer, but they are only able to grow and form a film when ample oxygen is present. The film was easily controlled with Ferbam, Captan and Bordeaux mixtures.

For four months the plants were doing so well I couldn't understand why everyone wasn't using beer on their orchids, and then something happened. The potting material started breaking down at a rapid rate and the plants seemed to be standing still.

The beer treatment was stopped but the potting material continued to break down and the plants didn't look too happy. I couldn't understand what was going on, so I decided to repot one or two plants.

What I found came as a surprise. The potting medium was thoroughly interlaced with white colonies of yeast. Along with these colonies attached to the potting medium were hundreds of tiny air bubbles.

The yeast cells were multiplying and forming CO_2. Since a yeast cell is a living organism, it has numerous nutritional needs and it is only if these are

ACTION CAUSES REACTION continued

met that it will grow vigorously and produce large quantities of CO_2. Some form of easily available carbohydrate and a utilizable source of nitrogen, calcium and phosphate ions are important for rapid gas formation. The yeast was multiplying and breaking down the potting mix to aid in its own growth.

In April all the orchid plants were repotted. As spring is the best time to repot house orchids particularly, new roots soon formed and the plants are now happily growing outdoors minus the beer.

When I reported that I stopped the beer treatment because of the deterioration of the potting material at one of our meetings, Dr. Berlinger suggested I try growing my orchids on rocks and really getting them "stoned". Well, I'm going to do just that. I plan to use Solite, an inert slag-type material, and use beer plus fertilizer on these plants. If they react the same way as my plants did originally, I'll have the healthiest, happiest, best alcoholic orchids you've ever seen!

(EDITOR'S NOTE: For our purposes THINK SUCCULENTS where it reads orchids...Why not grow succulents hydroponically?...Who has experimented? Shall we try? Let's! First one in may write an article.) (Reprinted from "The Orchid Advertiser, Nov 7, 1970, P O Box 495 - Cocoa, Florida 32922)

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LETTER-TO-THE-TREASURER

15 March 1971

Dear Warren:

Our lively and interesting current issue of EyF tells us that dues are due. We wouldn't want to miss an issue, so check is enclosed.

CSSA convention publicity which has appeared regularly in EyF is appreciated. It looks as though there will be a fine turnout--registrations at this point are running about 20% ahead of the same time in '69. The El Paso officers say things are moving well at that end, too; their arrangements for exhibits, decorations, drawing plants and so are well under way.

Best regards to all the San Diego friends. We'll look forward to seeing you in "Cactusland"--- El Paso. Cordially,

Ed & Betty Gay

LETTER-to-the-EDITOR 8 March 1971

The editor of Colorado Cactophiles is now:

Alan Bollman, 1521 S Dale Ct
Denver, Colorado 80219

Please send EyF to him rather than to me. I want to congratulate you on a very fine newsletter.

Yours truly,
Alvin Chambers

17 April 71

Dear Nibby:

I suppose I should be pleased to be referred to in the April EyF as Jim Bishop as he happens to be one of my favorite authors. However, I am just plain -

BILLY (the Kid) BISHOP

prematurely gray, of course--also known as 'Ol' Bish'.

As we are all ecology-minded these days I thought this item might be a space filler.

THE WOLVES RETURN

During the 1500's, the Scottish people in some areas cut and burned off all the forests to clean out the wolves. Then, as the rains came, they washed away all the soil. The people could not grow any crops and had to migrate to other areas. THEN THE FOREST REGREW AND THE WOLVES MOVED RIGHT BACK!

Sincerely yours,

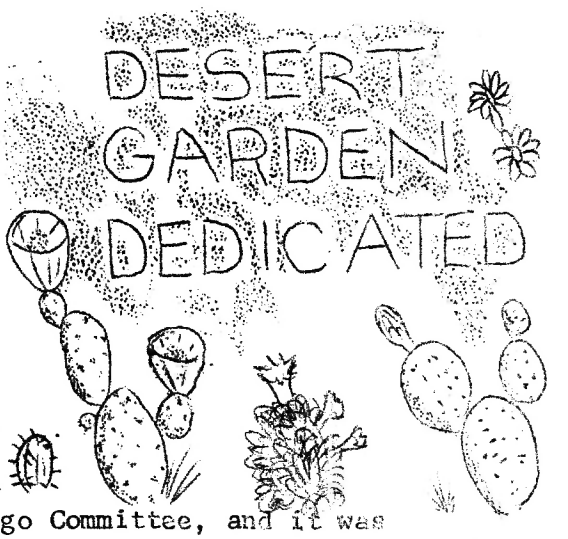
Wm J. Bishop

LIFE MEMBER Dora Conrad of Coronado has not been able to attend meetings for many months. She has been caring for her husband John. It is with sadness that we announce the death of John Conrad on April 6th at the age of 80. He was a native Californian and Dora has lived here since she was a child. Our hearts are with you, Dora.

N O T I C E !

POT SWAP - Tuesday - May 18th - Floral Building - from 1100 to 1300 (Floral Ass'n) - Plants - Mini Bake Sale Public welcome -Donations accepted -At one FLOWER ARRANGING PROGRAM/Mrs. Kirkpatrick

-- for the inspiration and enjoyment of all mankind and to honor those for whom the desert gardens are acquired.



The presentation and dedication of a two-acre "inholding" at Anza-Borrego State Park by friends of the desert attracted about 200 persons to the mouth of Coyote Canyon on Sunday, March 28th. The Arnolds and the Scotts of San Diego represented the San Diego C&S Society.

"Inholdings" are small privately-owned parcels of land within the boundaries of the Park. A committee of the DESERT PROTECTIVE COUNCIL has acquired and deeded to Anza-Borrego State Park over 700 acres of such parcels. The latest small prototype desert garden was presented by Mrs. Henry T. Read, Chairman of the Anza-Borrego Committee, and it was accepted on behalf of the State by William Penn Mott, Jr., Director of State Parks and Recreation.

This two-acre garden on the easterly side of Coyote Canyon is truly a jewel. Surrounding it, some near, others in the distance, are colorful and rugged mountains. Site of Sunday's dedication activities was an ancient knoll in a wash on the east side of the valley. Prize view was the ocotillo on up Coyote Canyon and above the knoll. Each plant seemed to be proudly waving its racemes of red-flowering tassels in a flaming mass of color in honor of the occasion.

By arriving at the site a bit early, we had an opportunity to walk the knoll and the surrounding wash. One couldn't quite say the "desert was in bloom", but we did see familiar plants in flower and many others we couldn't identify. Cacti in the garden included cholla, beaver tail, mammillaria dioicia, barrel and hedgehog, and there also is an abundance of ocotillo and yucca. Scattered through the sand were patches of delicate ground-hugging annuals doing their bit to make the area alive and beautiful.

The drive up Coyote Canyon was the greatest! Visitors parked their cars where the pavement ends on DiGorgio Road. There, four-wheel-drive vehicles belonging to members of the California 4-Wheel-Drive Association, in endless numbers picked up guests and away theywent on the twisting narrow trail through sand drifts, gulleys and undisturbed native plants to the dedication site about four miles up the canyon.

Our own Julianne Rice is active in both the 4-Wheel Drive Ass'n of America and the Desert Protective Council, Inc. So sorry an accident prevented her participating this time. Her friends, Harold and Theresa Sturges of Holtville were our jeep tour guides on a different trail back to the parking area. They sent greetings and good wishes to Julianne.

The return jeep ride from the dedication site completed a circular tour of the canyon mouth through the chaparral, more and deeper washes and higher sand drifts and unbelievably the crossing of a stream in the canyon's bottom! Alongside the trail on the return trip we saw what we believed was the most gorgeous beaver tail in the area (Opuntia basilaris) in full flower. It rated a stop, a back-up and unlimited admiration.

How opuntia basilaris manages such magnificent blossoms amazes me. Certainly it isn't in response to TLC. They they receive in our yard with no results. Curs were collected on the "Cactus Hunt" at Tegelberg's in Lucerne Valley two years ago

(DESERT GARDEN DEDICATION - continued) during the CSSA Convention. They appear to like San Diego and they look vigorous, but no evidence of flowers like they were wearing when I dug them up. Time out for tears while I explain some things to a couple of Beaver tails.

The drive from and return to San Diego was beautiful -- via Ranchita going and down Grapevine Canyon and up Banner Grade returning. Saw patches of gorgeous flowers in the Meadows and on the mountain slopes. We admired the stately yucca (it deserves the name "Lord's candle"), California poppy, opuntias, lupine, owl's clover, monkey flower, ferocactus, yellow pincushion, hedgehog, and my favorite, the mountain lilac. (Yes, I do know it isn't really a lilac, but ceanothus.)

A short stop at the bakery in Santa Ysabel proved too late for they were sold out. We're glad they had a busy day and we'll stop by on another trip for their delicious Mission Bread. Hope you all have tried it.

by Hazel Scott

* * * * * * * * * *

Thank you, FLORABUNDA! We all wish we could have been on the trip, but you shared it so well that we are all enriched. What a pleasure to welcome another Scott to these pages! Bless you, my dear, for all of your warm enthusiasm. You have space waiting in the next issue for your impression of the May Convention in El Paso.

SUNDAY SPECIAL NOTICE FOR OPEN HOUSE

May 2ND

WILSON WELLS REPORTS URGENT NEED -- DESIRES TOTAL INVOLVEMENT

Please bring potted plants -- all sizes -- to be used as background and space fillers for the display tables. We are hosts once a year for Floral Association and display our wares on the first Sunday of May.

Wilson says, "It is the desire of the Club to display approximately 300 plants -- Bring as many as you can safely transport. This means each person coming on Saturday to the May 1st meeting should each bring five or more potted plants."

Everything brought in will also have to be picked up -- Please plan to be at the Floral Building at five on Sunday, May 2nd, to claim your treasures. You might check with Wilson to offer assistance.

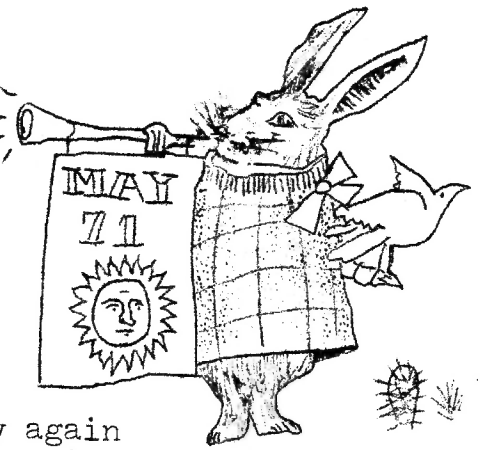
REMINDER: BRING ENTRIES FOR Y E A R o f t h e W O O D : May 1ST

A N N O U N C E M E N T is made of Acceptances by the Chairman of the Fair, Wilson Wells (Exhibit Chairman)

CACTUS - Chairman: Wilbur Wier - Co-Chairman: Floyd Gable

SUCCULENTS - Chairmen: William & Ruth Nelson
Assistants: Oliver & Sophie Loyland
Jim Stalsonburg, Nibby Klinefelter

NIBBY'S NOTEBOOK



It's May again - the delightful month of May again - heady with the sudden sensuous signs of Spring again...The lion-colored hills of San Diego are brightened with a mist of Wild Mustard... Golden Marguerite is coloring vacant lots all over town into Andrew Wyeth meadows...California poppies are beguiling you to run for the desert...The Sonoran Desert drew Lee Phelps and Augie Pfieffer to its enchantments during Easter vacation. As we heard it, Lee's squareback VW threw a rod and had to be towed 60 miles to the nearest town...they caught a bus back home -- but you can bet they didn't return empty handed -- not when there was a Peniocereus greggii around! (That's a new genera to me and if I'm misquoting I'll say it's a typo -- maybe that will nudge Lee and/or Augie into giving us a longer account for next month.). Nextmonth will have Doc Vaughan and Tony D'Attilio back with us. Also, you may look forward to an article by "Mitch" about the plants to be found on the small, almost forsaken islands off the coast of Baja in the Magdelena Bay area. Micheal Beauchamp was the botanist aboard the HM-85 on the Natural History-sponsored jaunt down the coast April 4th to 11th...as a matter of fact, I too, hope to have a bit of an article about that same trip since it was my good fortune to be along ...saw another familiar face was that of Ben Owens, who also missed last meeting...that's four of us who also missed the Garden Tour...We heard it was just great, fabulous, exciting and many other good things. We're glad you did it, Ed Miller -- it was a great affair for your first fling -- you're to be congratulated Ed for starting out top-drawer! Eve & Harry Warn and Jim Stalsonburg have one of the best gardens in captivity ...Eve's coffee AND were bountifully supplied and enthsiastically enjoyed by 45 + or - people...Ione and Rose were both impressed with Floyd Gable's tremendous number of beautiful specimen-sized plants...their descriptions made it sound like a succulent Stairway to the Stars to what Floyd modestly terms "The Attic"...lots of hanging baskets and a goodly variety of shade plants...hope someone took pictures...Eva Wier is one hardy cactophile -- she left a hospital bed on Friday so that she could greet guesting gardeners on Saturday...Wilbur had many striking features in his mecca in La Mesa...hope to see the Wier's way with plants sometime, too. (They are charter members, you know, so obviously they have much to offer.)

A N N O U C E M E N T

Your attention is directed to another fabulous feature forthcoming, friends of the fine-spines --

Our new Wagonmaster is cracking the whip for a trip to HUNTINGTON GARDENS planned for June 12th -- Ed will have to know how many and who by the 27th of May so call him at 264-8552... You will have an opportunity to sign up for the meeting--the bus holds about 40 and the cost will be reasonable.

(NIBBY's NOTEBOOK continued -- hope that title doesn't gag too many of our readers...actually, it's factuall...I have a little green notebook that I use exclusively for information.)

The plants that Ed & Betty Gay gave our group were labbeled and wrapped. They were Opuntia macrocentra - O. aurea - O. decumbens - O. basilaris cordata - purple form of O. whitneana - O. basilaris, forma intricata, O. macrorhiza, - O. humistrata - O. treleasei. What a lovely thing to do! Members who received them can, in turn, grow them into specimen plants to share and somewill ultimately reach our plantings in the Park and Zoo...Plant donations from members can now be brought for use in the Zoo as this project is at hand, ready and waiting. You'll hear more details at Saturday's meeting from the SAND & SOUL chairman Augie Pfieffer... We had a letter from Bob Kirkpatrick of KIRKPATRICK'S Rare & Unusual Cactus of Barstow, California 92311 on 27785 Deanza St. Re: Melocactus matanzanus. "Your location of the habitat of the above cactus is in great error. Habitat is Cuba, not in Mexico as Borg describes it. Leon, the one who first described it, lived in Cuba and the plant was described in the C&S Journal of America. This is one of the 'problems' with habitat descriptions in Borg's book--they are often wrong. LIKE YOUR EyF VERY MUCH ALWAYS READ EVERYTHING IN IT. HOPE YOU ALL CAN KEEP IT UP." Sincerely, Bob Kirkpatrick. ... Thank you -- there are a lot of us trying -- and it was thoughtful of you to take the time to share the information re M. matanzanus with us in time for this mon th's grafting...Don't forget to bring your gloves and knife to work under Bob Taylor's direction....Warren heard from Manny Singer of the LOS ANGELES CACTUS & SUCCULENT SOCIETY who misse s EyF--especially Walt's cartoons -- we have LA C&S on our mailing list of exchanges... hope Manny subscribes so we can put him back on, too...While bringing our mailing list up-to-date had occasion to talk to Anne Coverston. She and Carl are busy with roses and their orchard and are taking a recess from cactus ⁞ succulents for awhile...we will look forward to their rejoining...Also,the George Thompsons who are managing a baseball team...Little League, of course...Perhaps we'll see Ruth & Ben Purdy at a meeting, now that their niece is safely married and the relatives home again...Trudy Van Dine said that they will be with us again soon. Earl spent a month in the hospital with an infected foot but has been home again...Grant Standley is regular but Grace had dropped out for awhile with an overactive 5-year-old. We'll see her when he settles down long enough to tell a spine from a from a whatever...Frank Mousseau is a relief telegrapher in Campo on Saturdays and also misses his Bromeliad meetings for the same reason...care to try for Epi's? They meet on the third Wednesdays at 7:30 in the Floral Building...Alice Miller Morse was most enthusiastic about our paper - quote: "Love it!" ... Pianist Bob Haffenden will be giving An Evening at the Public Library at 7:30 (rd floor) on Tuesday, 27th of April. Not only that, he has travelled in Mexico for the past six years off and on collecting cacti -- almost smells like a program for our group sometime... Virginia & Warren Buckner also missed the Garden Walk as they were vacationing in the East where they did the whole historic in Philadelphia -- Warren attending a Nat'l School Board Ass'n meeting...did you know he is President of the SD County School Board and President of Lemon Grove School Board and Director ofCalifornia School Board Ass'n? They ran into 9" of snow in St Louis. He was back one day before going to Seattle for a week on business... That-s being busy-busy-busy for real.

Continued from page 12.

ANNOUNCEMENT OF FAIR CHAIRMEN

Blue Ribboners Hazel & Walter Scott - GRAFTS (Collectors Display)

(NATURAL LAW - continuedfrom page 2) These chemicals do not claim to rid the landscape of all members of a particular life form for time immemorium; they only claim to reduce the level of infestation to a point where natural processes can cope with a degree of vitality.

After a chemical is manufactured, many points of consideration are involved to determine the form and concentration in formulating the product. These may include solubility, toxicity to life, application techniques, and action or reaction in relation with other chemicals.

Liquid concentrations are the most popular because of their ease in mixing, lack of visible residue, ease of measuring and general handling. This is accomplished by adding an emulsifying agent with the chemical concentrate, much the same as eggs are using in making mayonnaise.

Wettable Powders are formulations of solid materials that are finely divided to disperse in uniform suspension when added to water. It is necessary to have good agitation -- preferably constant -- to insure an even application. Generally this type of formulation lasts longer and is less apt to injure plant life.

Dusts are again solid materials. They have been finely ground and mixed with clay talcs. These are not too desirable for use in ornamental pest control because of the difficulty with drift when being applied and the unsightliness of the residue. Soluble Crystals or Powders are compounds that exhibit excellent solubility in water, and are often marketed without dilution. They are excellent in all aspects of application. Dowpon and Amino-triazole, both weed killers, and Dipterex, an insecticide, are good examples of this type of material.

Granules form a large part of the new generation of pesticides. The utility of this group lies in its ability to be spread without the hazard of dift. They can be used in areas where spraying is impractical or even impossible, as well as providing an even distribution onto the soil. Granules are made by incorporating toxicants onto or in such materials as sand, vermiculite and certain plastic-like substances. Baits are insecticidal compounds combined with food products upon which certain pests must feed or other attractant materials. They come in several forms: liquid, granule or pellet. In the main they are used to control snails and slugs. Pelletized baits have caused a lot of difficulties because of their seemingly harmless appearance. Many have purchased bags or boxes because of promotional advertisements or were unaware of the availability of other forms, and scattered them about indiscriminately, offering an almost irresistible temptation to the curiosity of small children and pets. CAUTION is the watch wordfor all Pesticides.

Always remember that Pesticides are not cure-alls; they are tools to aid us in horticulture. Like all tools there is a right one and a wrong one for the job. Be sure of what you are using, how you are using it, and what you are using it for. Pesticides can be more helpful than ten more hours of daylight and ten more helping hands, or the strength to incorporate both into ourselves. The created form is not a thing unto itself. It is a product of thought. First comes the thinker, then the thought, and then the form. All things are governed by the great Law of Cause and Effect...CAUTION, but not fear.

ESPINAS Y FLORES

May 1971

(Mailing address: Editor-Nibby Klinefelter, EyF - 2201 Fairfield, San Diego, CA 92110) Treasurer-Warren Buckner - 1744 Englewood Drive, Lemon Grove, CA 92045 - Dues $3 single $4 family. Membership open to anyone interested in cacti & succulents.)

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MESSAGE from OUR PRESIDENT

The Fair is fast upon us -- all who have groomed plants for showing at the Exposition in Del Mar should notify the Chairman, Wilson Wells - 222-5141.

In the Meantime BRING PLANTS for our May Open House Sunday, following the regular YEAR-of-the-WOOD meeting Saturday, 1 May.

We wish to extend thanks and to acknowledge the generosity of the Gays, and the consideration of the Lows in bringing the labelled opuntia cuttings for distribution to our members at the April meeting. That was a lovely thing to do -- thank you, Ed & Betty Gay, and Ellen & Bill Low.

Ione Hubner

NEW MEMBERS CORNER

Welcome to Francisco Hann
650 · 11th Avenue
San Diego, CA 92101

Treasurer Warren reports 187 members.

REQUEST from the LIBRARIAN, Ruth Nelson

PLEASE be sure to sign card when borrowing a book -- it's difficult to keep records amid the hubbub & din but necessary. Thank you for signing.

COOKIE CUTTERS & CAKE BAKERS for April were:

Pat Mooney
Ruth Cuzner
Olivia Fletcher
Marilyn Phelps
Hazel Scott

No, that isn't last month's list, or the month's before...it just looks like it...it will be nice to see some new names. Call Hazel. Or Rose D'Attilio 28[illegible]-9731

APRIL PLANT-of-the-MONTH WINNERS

Mammillaria zeilmanniana - Mary Biddle
Haworthia ramosa --------- Floyd Gable
Open: Echinocereus pacifica-Doc Corliss

MAY PLANT-of-the-MONTH

Cleistocactus hylacanthus - "White Torch"
Pachyphytum oviferum - "Moonstones"

JUNE - Cactus: Oreocereus celsianus
Succulent: Cotyledon undulata

SATURDAY - YEAR-of-the-WOOD Competition
1 May 1971 - 1:30 - Floral Building

Espinas y Flores
2201 Fairfield Street
San Diego, Calif. 92110