

INTER-CITY CACTUS AND SUCCULENT SHOW BUS
TRIP A RESOUNDING SUCCESS!!!!

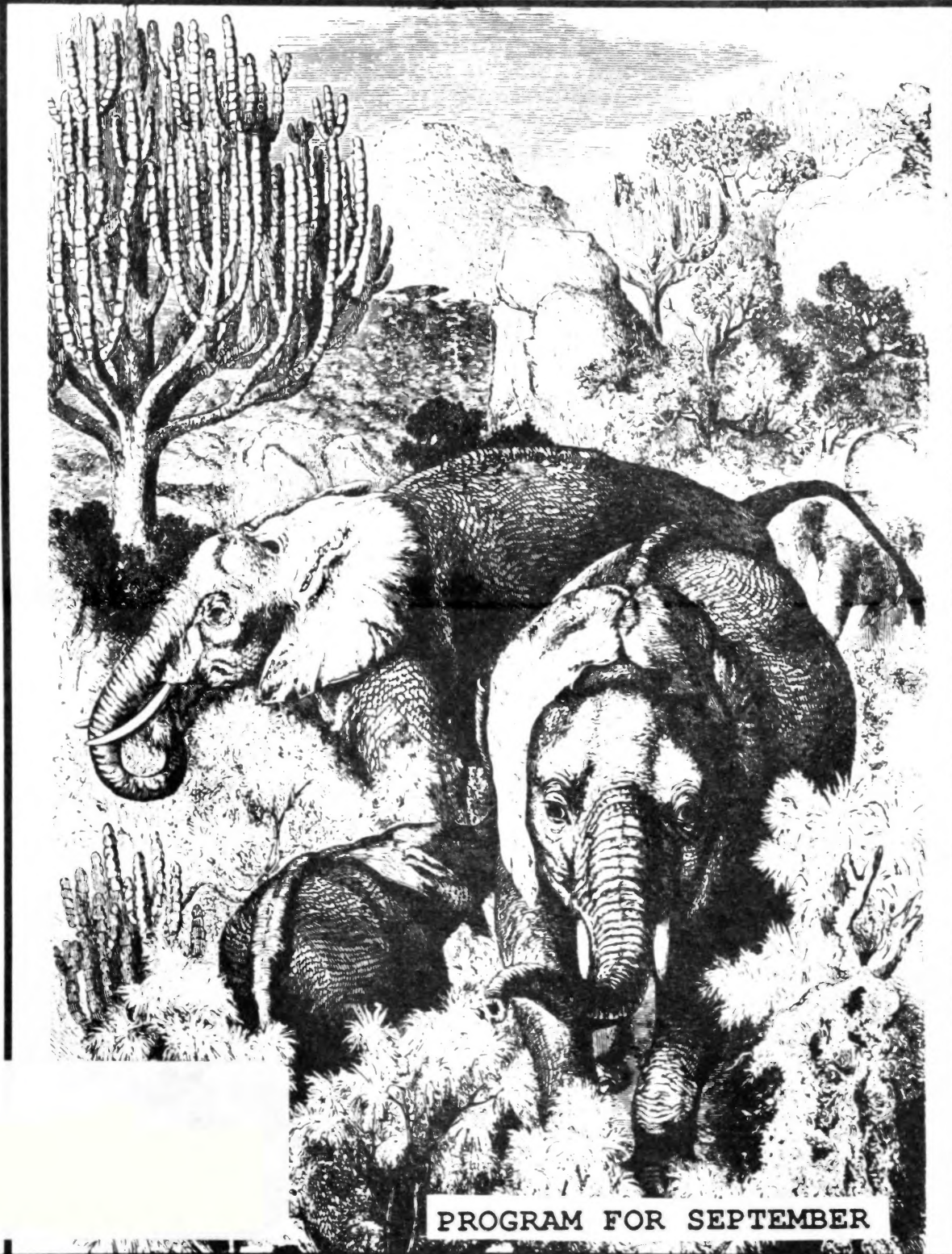
Espinas y Flores

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



MAMMILLARIA THOMPSONII

VOLUME XXVII NUMBER 9, SEPTEMBER 14, 1991



PROGRAM FOR SEPTEMBER

WE ARE PLEASED (AND HONORED) TO ANNOUNCE THAT OUR PROGRAM FOR SEPTEMBER WILL BE ECHEVERIAS BY MYRON KIMNACH, FORMER (RETIRED) DIRECTOR OF THE HUNTINGTON BOTANICAL GARDENS. MYRON, WHO IS A WORLD AUTHORITY OF MULTIPLE SUCCULENT GROUPS INCLUDING HIS RECENT AND ON-GOING RESEARCH AND PUBLISHING OF THE EPIPHYTIC SELENICEREUS GROUPS, AS WELL AS ECHEVERIAS, CRASSULAS, MESEMS' (PARTICULARLY CONOPHYTUMS), BORZICACTUS AND OTHERS. HE IS WELL KNOWN FOR HIS CRASSULA HYBRED, "BUDDIST TEMPLE" AND HIS DESCRIBING - DISCOVERING (WITH REID MORAN) OF THE MONOTYPIC GENUS TACITUS SPECIES BELLA. MEETING AT 1:30 PM.

NEWS NEWS NEWS

Refreshments for the September meeting ---

There is no list of volunteers, so any contributions will be appreciated --

Thanks

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Deadline for the October issue ---September 28

Thanks Mary

I did not receive an article about the cactus of the month -----

There is a red hot spot under the blue sea at the end of our worlds. The waters churn and swell where the tectonic plates meet, and the El Nino and the Humbolt streams destine life to the world. The mountains still rumble. Close your eyes, and if you were born on a Sunday in a leap year, you may see the mermaids jump ashore and frolic with the pirates and buccaneers. The seafarers have sunk into oblivion, whalers and sealers are history, and silence envelopes the Enchanted Isles. Immerse yourself in that ancient world and be part of creation. Let the mermaids lure you to the Encantadas. The Giants, the Galapagos, invite you to be their guest and walk in awe amongst them. It is their kingdom, their domain. These bewitching creatures will be there long after we have left.

The landscapes are haunting. The marine iguanas, as black as the lava rocks look unreal, "a unique remnant of the age of reptiles". Around and above, in and out of the sea are the fascinating animals, most of them endemic to the Islands of the Galapagos. The cormorants and pelicans, albatrosses all have their own niche in this wonderful world. Some species only return there for mating and nesting, then return to the sea. Green sea turtles lay their eggs in the white sand of Flower Beach on Floreana Island. The predators hover above to dive like a lightning bolt and catch the hatching babies. The sea lions are everywhere and we watch our steps. The big bulls defend their harems; we respect them and do not touch. The animals are unafraid and tolerate us. Only the marine iguanas hiss and spit when we come too close. The Darwin finches, yellow warblers, mocking birds, and many more let us come close and observe. The blue footed boobies, the great frigate birds dance, mate, and tend their nests, while we, the intruders, look on in wonderment and with silent joy.

The silence, however, is a deceptive one. The fire storms beneath the waters and deep in the volcanos still grumble and dance and try to break free. Ferdinandino erupted only months ago. With admiration we are put into our place. The ancient lava streams, tunnels and tubes tell a vivid tale about how our planet looked and was shaped, uplifted, and submerged zillions of years ago, rivers of black rocks, crested and crevassed.

THE GALAPAGOS

By Brunhilde Scheffler

The wildlife activity is astonishing. Sea lions, fur seals, land and marine iguanas, flightless cormorants, boobies (three different species), various herons, finches, swallow tail gulls, penguins, pelicans, and many more are mostly endemic to the Galapagos Islands, fill a terrestrial niche and are inhabitants of a unique ecosystem which must be preserved for posterity. If we lose only one more of those creatures, our world will be poorer. The Giant tortoises are being watched at the Darwin Research Station; there are some of each species in the wild, on eleven different islands - eleven different species.

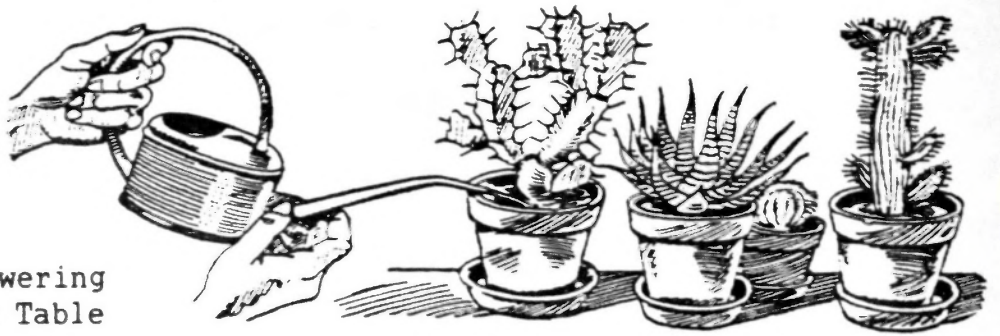
And of course, there are Cacti, three genera with a few different species and many forms: Giant Opuntia (Opuntia echios var. gigantea and its other varieties), Jasminocereus, and Brachycereus. The Opuntia gigantea grow as high as 40 feet, there is forest of them on Santa Cruz and Placa Island. The trunks are like redwood tree trunks. The leaves are a source of vegetable moisture and food for the tortoises - both deserve the attribute Giant! The Brachycereus grow on bare lava. There is one Bursera, the Palo Santo tree, with a white trunk and fragrant gum (Bursera graveolens).

We all know of the great naturalist and scientist Charles Darwin and his "Voyage of the Beagle". His gift of observation on the Encantadas changed the world's conception of life. His conclusion in "Origins of the Species" was a step forward and insulted the scientific circles of his time. The divergence of the endemic species - nowhere else in the world to be found led the scientists to a new outlook and understanding of life's intricacies.

The Encantadas - Galapagos (Ecuadorian for tortoise) became an Ecuadorian National Park in 1959. This hopefully will immortalize a world of Enchantment, an animal and plant kingdom, where the beasts don't have to fear human follies for generations to come. Let us pray for respect of nature, for "preservation of the wilderness", for finding our origins and our futures in a peaceful world of untamed nature.

"From All Corners"

by Shirley Berry

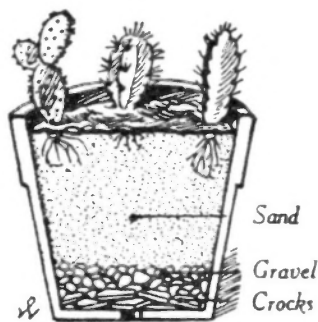


The proud owner of the flowering *Aeonium tabulaeforme* on the Brag Table last month regretted not having propagated this plant when the opportunity was propitious before the plant bloomed. So perhaps there is a need to discuss vegetative propagation.

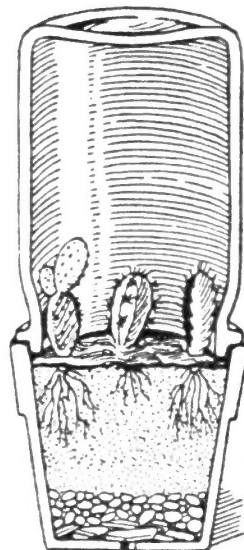
An article in the ASPS Bulletin (African Succulent Plant Society) of August 1967 addresses this subject in an article by G. Michael Taylor which I shall quote and consolidate:

New plants of *Echeveria gibbiflora* v. *carunculata* can be easily obtained in three ways: The 'leaves' which form along the flower stem can be removed, or the flower stem be chopped up, cutting below each axil, when each floral leaf will give birth to a new plant. Secondly, when decapitating, cut it above the newly forming flower stalk, and this will keep the stock in a healthy state to form new heads. Thirdly, air layering, by making a horizontal cut halfway through the stem pegging the cut open with match stick, covering this with sphagnum moss retained by plastic tape will keep the stock sound while the upper part is being rooted. Spray moss sparingly and with all three methods keep the plant in the shade.

Kalanchoe beharensis can be rooted from a leaf, but it is difficult to detach the leaf in its complete form. However, it can be propagated freely by cutting through the leaf stalk (petiole) nearer to the blade of the leaf. As many as forty plants from each leaf are attained in this way.

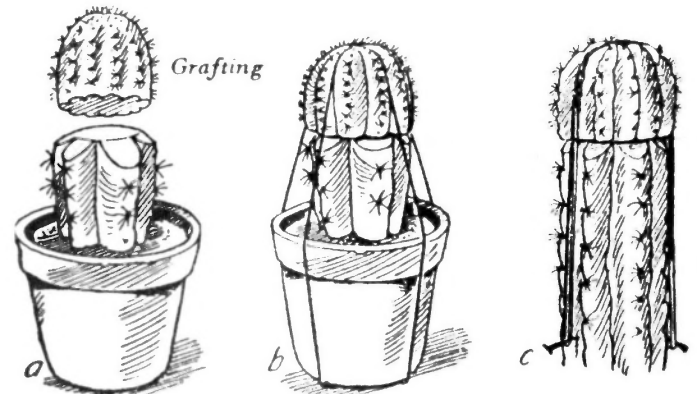


Cuttings root best when inserted around the edges of pots. The inverted glass jar over the pot ensures the maintenance of a warm moist atmosphere until the cuttings root.



Propagation of *Haworthias* is sometimes difficult as the hard leaved types refuse to root and the soft leaved types rot off. For hard leaved types soak the leaves for three days in diluted fertilizer solution kept at about 85 F before planting in a damp peat/sand mixture, and keep in the shade. As with *Aloes* as well, it is often helpful to cut away a very small portion of the stem with the leaf.

For soft leaved varieties, allow the leaf to callous over and plunge it at an angle in a fine sand mix topped by a little peat. Keep relatively dry, watering only from the bottom, and in a shaded spot.



a) Stock and scion prepared. b) Held together by rubber bands stretched under the pot. c) Held by large spines of cacti.

When rooting *stapelias*, Mr. Taylor goes on to say, immediately after severing a cutting, drop it into warm water for thirty minutes to prevent the sap from congealing into an impenetrable callous. When the thin skin is formed place the cutting into the dampened vermiculite in a dark corner, when rooting should be rapid. Pot on as soon as the first roots show.

Many leaves which show a reluctance to root may respond to "collective torture": place the leaves on the bottom of a clean tray or paper lined box to give maximum light reflection. Place in full light in the winter months, spraying periodically, say every two weeks. Don't be in a hurry to pot up. For some incomprehensible reason togetherness seems to play a part.... individual leaves rarely do so well.

(Personal comment: Keep in mind the growing period of the plant for maximum success.)

Illustrations for "From All Corners" are taken from "Cactus and Succulents" by Walter Haage c 1963, E.P.Dutton & Co.

SUCCULENT OF THE MONTH

ADROMISCHUS - by Joseph Betzler

Adromischus are members of the Crassulaceae and closely related to Cotyledon, Tylecodon and Crassula. They are considered shrublets, but some are considered herbs (some are rather diminutive). The branches are rarely very tall in stature though they can be woody. Some of the smaller species may have an underground stem or caudex. The leaves are spirally arranged but usually in dense clusters with little or no leaf base (sessile or petiolate). Leaves are usually very fleshy and persist from year to year. The flowers are borne on a spike like structure which is rarely branched. There are five parts to the flower. Five: petals, sepals, ovaries and two sets of five stamens. The plants are widespread throughout Southern Africa, with the main concentration being in the eastern Cape Province and the Richtersveld.

The flowers and the way they are borne are some of the important ways in which to identify these plants. The petals are usually green to red-green colored. These inflorescences help immediately separate this genus from the Cotyledon and Tylecodon.

The most attractive feature of these plants are the curious diversity of leaf; shapes, structure and texture. When these plants occur they can be the most common plant forms in the landscape. They are sometimes so common that they can be taken for granted. The diversity of species at various locations in the Cape is fascinating and these plants make interesting additions to any succulent collection. There are about thirty species known, but there is some debate as to who one should follow taxonomically. Tölken wrote the book (Tölken, 1985) Crassulaceae, but not everyone thinks it does an adequate job identifying all the Adromischus. Also, Tölken virtually has nothing to do with this group any longer, he has moved to Australia!

There are five sections recognized in this genus (according to Tölken) and they are: Adromischus, Boreali, Brevipedunculati, Incisilobati, and Longipedunculati. Examples from each group follow.

In section 1, Adromischus, the flowers are cylindrical, with the tube green often tinged with red. The tips of the petals are broadly triangular, wrinkled at the margins and often folded against the tube. They are white, pale yellow or pale pink. The anthers are protruding.

In this group there are seven species (information about species is from Court, 1981). They are *A. filicaulis*, *A. liebenbergii*, *A. roaneanus*, *A. alstonii*, *A. bicolor*, *A. montium-klinghardtii* and *A. hemisphaericus*.

Section 2, Boreali, The tube is slightly grooved, glaucous (covered with a waxy bloom like a plum), and red to pink. the lobes are lobate to triangular. The lobes can be reflexed to the tube as before but there are usually some club shaped hairs in the throat of the flower. The anthers are also protruding with this section.

In the Boreali there are three species: *A. trigynus*, *A. umbraticola* and *A. schuldtianus*. These three species occur at the east, west and south of the Kalahari desert.

Section 3, *Brevipedunculati*, has a flower with a funnel shaped tube, slightly grooved at the apex. The tube is glaucous green but can be pink. The lobes are ovate-triangular, spreading or recurved. The lobes and throat are covered with club-shaped hairs. The colors range from white to deep Mauve (rarely orange). Anthers, again are protruding.

In this section there are five species: *A. caryophyllaceus*, *A. phillipsiae*, *A. nanus*, *A. humilis*, *A. fallax* and *A. diabolicus*. Most of these have soft leaves and tuberous roots.

In Section 4, *Inscislobati*, the tube is green and cylindrical, the lobes are pointed to triangular and spreading to recurved. There may be hairs and the flowers range in color from white to pale pink. Here the anthers are included in the flowers!

The *Inscislobati* range from the eastern to the southwestern Cape Province. There are six named species: *A. Mammillaris*, *A. Maximus*, *A. sphenophyllus*, *A. maculatus*, *A. triflorus* and *A. inamoenus*.

In the last section, *Longipedunculati*, the floral tube is slightly grooved, and glaucous-green. The lobes are lanceolate to triangular. spreading or recurved, rough and again with hairs in the throat. The flowers range in color from white to deep red or mauve. The anthers are included.

This group contains: *A. leucophyllus*, *A. subviridis*, *A. marinae*, *A. cooperi* and *A. cristatus*. These plants occur in the southwestern Cape and Namaqualand into the southwestern part of Namibia.

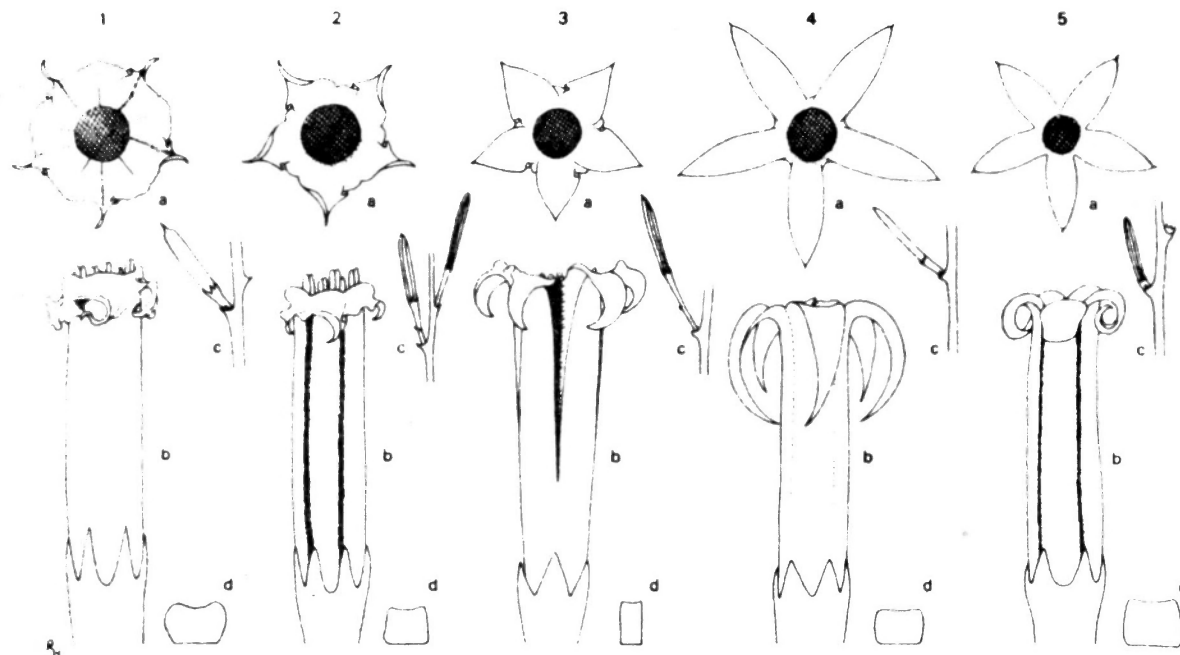


FIG. 4. — Diagrams of floral characteristics of the sections of *Adromischus*: 1, *A. filicaulis* subsp. *marlothii*, sect. *Adromischus* (Tölken 5504); 2, *A. trigynus*, sect. *Boreali* (Tölken 5416); 3, *A. humilis*, sect. *Brevipedunculati* (Marloth 4689); 4, *A. maculatus*, sect. *Inscislobati* (Tölken 5493); 5, *A. subviridis*, sect. *Longipedunculati* (Tölken 5349). 1a-5a, opening flower from above, $\times 2$; 1b-5b, mature flower in side view, $\times 4$; 1c-5c, mature bud, $\times 1$; 1d-5d, nectary scale, $\times 1$.

All these listed species are from Court, and she followed Tölken closely. The problem with this scheme is not all authorities agree with Tölken. Especially in relation to the last section's *A. marinae*.

Propagation is easy from rooted leaves. One can have quite a collection in rather small pots. The great pleasure in these plants is in the leaves and not the flowers. Leaf shapes range from wavy margined foot shaped to lemon shaped bumpy leafed plants. Some are so fragile that moving it causes it to lose its leaves. They are relatively pest free, and easy to grow.

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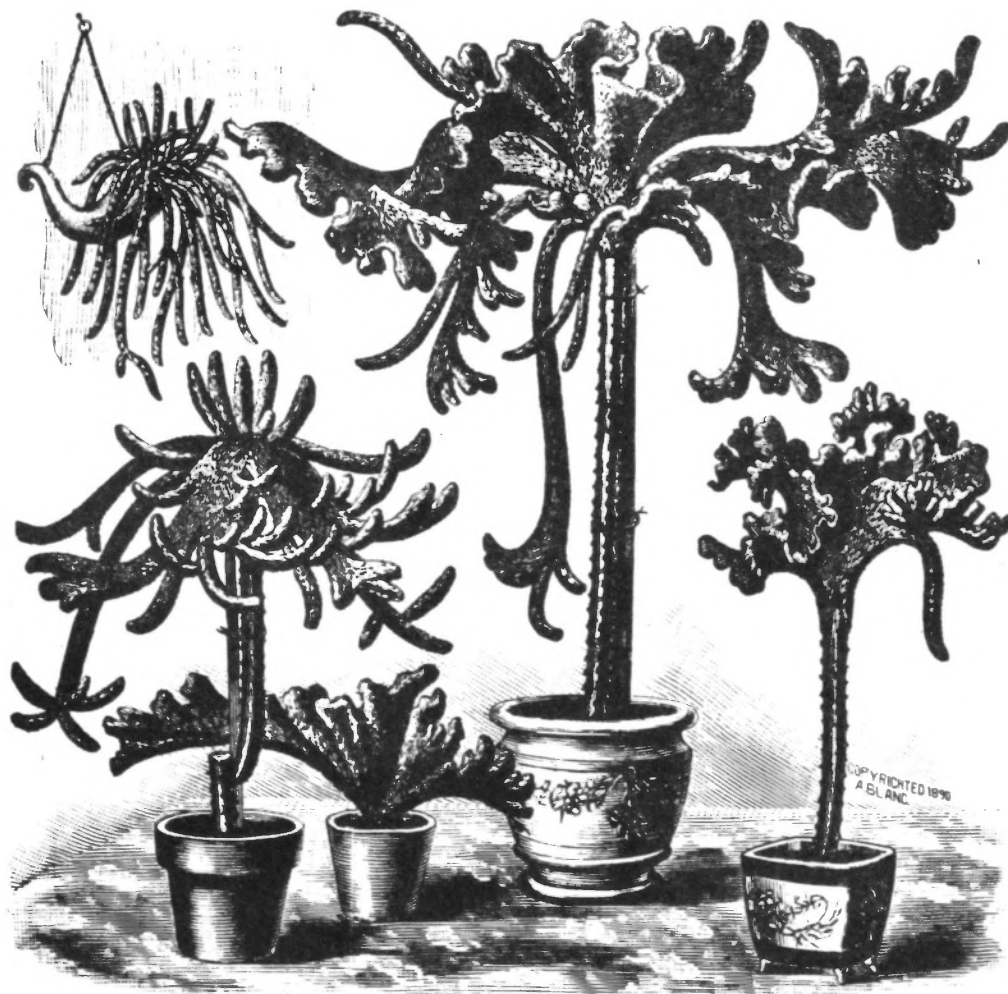
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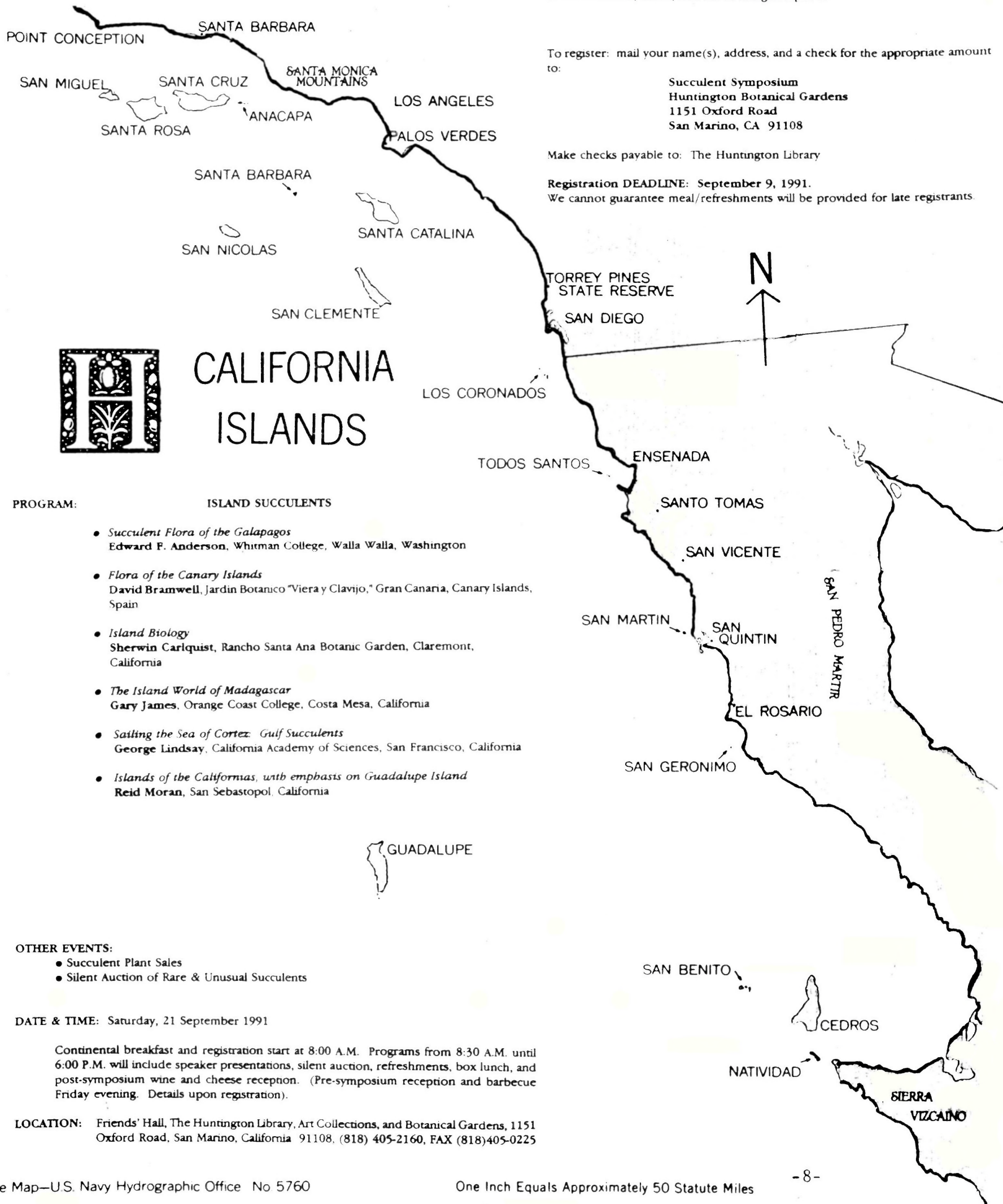
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Botanical Research Institute



CEREUS FLAGELLIFORMIS CRISTATUS.

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A fee of \$55 per person covers attendance at the main program as well as the cost of refreshments, lunch, and the evening receptions.



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Succulent Symposium
Huntington Botanical Gardens
1151 Oxford Road
San Marino, CA 91108

Make checks payable to: The Huntington Library

Registration DEADLINE: September 9, 1991.

We cannot guarantee meal/refreshments will be provided for late registrants.



CALIFORNIA ISLANDS

PROGRAM:

ISLAND SUCCULENTS

- *Succulent Flora of the Galapagos*
Edward P. Anderson, Whitman College, Walla Walla, Washington
- *Flora of the Canary Islands*
David Bramwell, Jardin Botanico "Viera y Clavijo," Gran Canaria, Canary Islands, Spain
- *Island Biology*
Sherwin Carlquist, Rancho Santa Ana Botanic Garden, Claremont, California
- *The Island World of Madagascar*
Gary James, Orange Coast College, Costa Mesa, California
- *Sailing the Sea of Cortez: Gulf Succulents*
George Lindsay, California Academy of Sciences, San Francisco, California
- *Islands of the Californias, with emphasis on Guadalupe Island*
Reid Moran, San Sebastopol, California

OTHER EVENTS:

- Succulent Plant Sales
- Silent Auction of Rare & Unusual Succulents

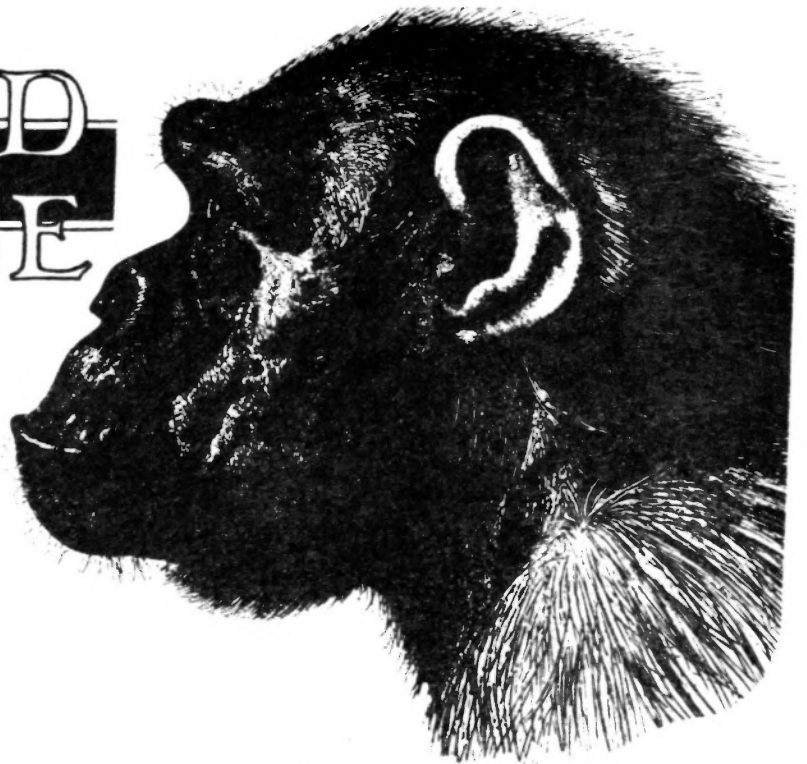
DATE & TIME: Saturday, 21 September 1991

Continental breakfast and registration start at 8:00 A.M. Programs from 8:30 A.M. until 6:00 P.M. will include speaker presentations, silent auction, refreshments, box lunch, and post-symposium wine and cheese reception. (Pre-symposium reception and barbecue Friday evening. Details upon registration).

LOCATION: Friends' Hall, The Huntington Library, Art Collections, and Botanical Gardens, 1151 Oxford Road, San Marino, California 91108, (818) 405-2160, FAX (818)405-0225

WISE AND OTHERWISE

by Michael Buckner



I would not enter on my
list of friends
(Though graced with
polished manners and
a fine sense,
Yet wanting sensibility),
The man who needlessly
sets foot upon a worm.

from "Winter Walk at Noon"
by William Cowper (1731-1800)

CHRISTOPHER STONE HAD ARGUED IN 1972 FOR INCLUDING THE INTERESTS OF THE ANIMALS, PLANTS, AND EVEN PLACES IN THE AMERICAN SYSTEM OF JUSTICE, AND THE ENDANGERED SPECIES ACT OF 1973 COULD BE REGARDED AS THE FIRST STEP IN THAT DIRECTION. IT ENCOURAGED LEGAL ACTION IN DEFENSE OF THE RIGHTS OF NATURE. AS STONE LATER NOTED, BETWEEN 1974 AND 1979 CITIZENS USED THE COURTS TO FILE COMPLAINTS IN THE NAME OF A POLLUTED RIVER, A MARSH, A BROOK, A BEACH, A SPECIES, AND A TREE. THE SPECIES WAS A SMALL HAWAIIAN BIRD, THE PALILA, WHOSE HABITAT HAD BEEN REDUCED TO A SMALL SECTION OF THE SLOPES OF THE VOLCANO, MAUNA KEA. ON JANUARY 27, 1978, THE SIERRA CLUB LEGAL DEFENSE FUND AND THE HAWAIIAN AUDUBON SOCIETY ENTERED A SUIT ON BEHALF OF THE FEW REMAINING PALILA TO STOP THE GRAZING OF CATTLE, SHEEP, AND GOATS IN THE BIRD'S HABITAT. THE CASE WAS FILED AS PALILA vs HAWAIIAN DEPARTMENT OF LAND AND NATURAL RESOURCES. FOR THE FIRST TIME IN AMERICAN LEGAL HISTORY A NON-HUMAN BECAME A PLAINTIFF IN COURT. MOREOVER, THE BIRD WON! IN JUNE 1979 A FEDERAL JUDGE RULED FOR THE PALILA. HAWAII WAS GIVEN TWO YEARS TO ELIMINATE LIVESTOCK GRAZING ON MAUNA KEA.

From "The Rights of Nature" by Roderick Frazier Nash
University of Wisconsin Press, copy 1989

"Never a day passes but that I do myself the honor to commune with some of nature's varied forms." George Washington Carver

Some species of cacti have downward-directed spines, and water concentrates on the points, which, like the elongated leaf tips of many tropical plants, form "drip-tips". Thus, a light rain or even a dense fog may be converted into large water drops, which fall near the base of the plant. As the young giant cactus or Saguaro is developing, the principle spines are directed downward. This promotes concentration of water drops near the base of the plant, as well as providing protection from rodents, which otherwise would climb up and eat the stem to secure food and water. After the stem reaches 5 or 6 feet and flowering begins, the saguaro produces a different type of spine, one not directed downward. This is correlated with protection from rodents by the spines on the lower part of the stem and with the wider - spreading root system of the older plant.

The water from the downward-directed spine around the base of the plant has become only a minor factor in providing water. The curvature of stems - for example, of the joints of the prickly pear or the "arms" of the saguaro - also promotes concentration of water into large drops or even small "streams".

From "The Native Cacti of California" by Lyman Benson
Stanford University Press, 1969

WISE AND

"QUOTATIONS WHEN ENGRAVED UPON THE MEMORY GIVE YOU GOOD THOUGHTS. THEY ALSO MAKE YOU ANXIOUS TO READ THE AUTHOR AND TO LOOK FOR MORE."

Sir Winston Churchill in "Nature Interlude" 1953

"The popularity of cycads as horticultural subjects has given rise to many stories of their ability to overcome the trauma of uprooting and transplantation. One case-history may serve to illustrate just how resilient a Thunberg's Cycad (*Encephalartos longifolius*) can be. The plant in question had a one-meter-high stem and was removed from a private collection in 1949, left in a sack for five months and then replanted. In 1951 it was again dug up, wrapped in sacking and stored for about a year. It was replanted and remained in the ground until 1958 when it was again exhumed and stored in sacking for 11 months before being transferred to another garden. In 1961 it was dug up and replanted. In 1962 it spent another eight months in storage before another transplant and in 1971 it was removed to a Natal garden where it flourishes to this day. Over 22 years this cycad spent almost 37 months out of the ground."

From "Cycads of Africa" by Douglas Goode c. 1989

"I QUOTE OTHERS ONLY TO BETTER EXPRESS MYSELF"

Michel de Montaigne (1533-1592)

OTHERWISE

If Justice Douglas has his way -
O come not that dreadful day -
We'll be sued by lakes and hills
Seeking a redress of ills.
Great mountain peaks of name prestigious
Will suddenly become litigious.
Our brooks will babble in the courts
Seeking damage for torts.
How can I rest beneath a tree
If it may soon be suing me?
Or enjoy the playful porpoise
While it's seeking Habeas Corpus?
Every beast within his paws
Will clutch an order to show cause.
The courts, besieged on every hand,
Will crowd with suits by chunks of land.
Ah! But vengeance will be sweet,
Since this must be a two-way street
I'll promptly sue my neighbor's tree
For shedding all its leaves on me.

From "Reflections on the Dissent of Douglas,
in Sierra Club vs Norton," American Bar
Association Journal 58 (Dec 1972)
Anon.. poem written by lawyer

Univ. of California Agricultural Publications Catalog Now Available

A recently updated publications catalog from the University of California is one of the easiest ways to tap in the university's vast storehouse of agricultural and natural resources information.

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BORZICACTUS

by Joe Clements

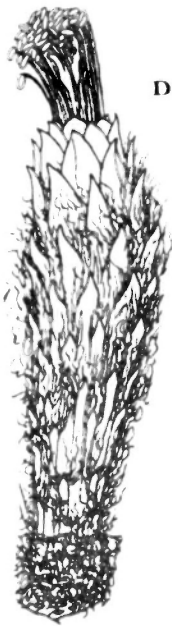
Riccobono (1909)

Kimnach (1960)

FLOWERS OF GENERA OF BORZICACTINAE:
AFTER KIMNACH, 1960



BORZICACTUS



DENMOSA



CLEISTOACTUS

This genus was originally taken to include only certain columnar cacti from Peru and Ecuador. Later a number of related genera were described from the South American Andes, some consisting of spherical forms and these are referred to *Borzicactus* by many taxonomist. Myron Kimnach, 1960, placed the following genera into *Borzicactus*: *Akersia*, *Arequipa*, *Bolivocereus*, *Clistantbocereus*, *Hildawinteria*, *Loxantbocereus*, *Matucana*, *Orocereus* and *Seticereus*. To the taxonomist all this lumping makes sense but if you told my Argentine friend Victor Turecek that his beloved *Oreocereus* was now a *Borzicactus* he would think you are loco. It's not just *Oreocereus* that raises the hackles of the collector it could be *Borzicactus*(*Matucana*) *madisoniorum* or even others. Today taxonomist are eyeing *Borzicactus* itself and considering plunging it into *Cleistocactus*. How does the name *Cleistocactus trollii* sound?

Well what are Borzicacti? The basic concept of *Borzicactus* is the diurnal flower which has an expanded zygomorphic limb with tepals on one side of the tube that are almost erect while on the other they are recurved. Body shapes can be globular (*B. madisoniorum*) to erect and wooly (*B. celsianus*).

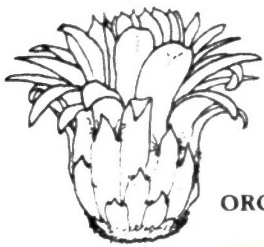
Often neglected in collections, some species are quite attractive. They are generally underrated as collectors' plants, but most will flower at a modest size compared with many cereoids. Often they are clothed with gold spines as in *B. samaipatanus* which has such wonderful bright red flowers with pink edges.

With its recumbent stems, *B. aurispinus* makes a wonderful hanging plant if placed in good light where it will produce a succession of flowers throughout the spring and summer. Older stems should be cut off this plant to encourage new younger ones.

To the collector the most prized *Borzicactus* is probably *Borzicactus* (*Oreocereus*) *celsianus* with stiff gold spines that protrude through a covering of wooly hair. *Oreocerei* are quite frost tolerant plants and make fine garden or pot plants.

Another group of merit are the Matucanas. Generally they are globular shaped but vary a great deal in spination. Perhaps the best known is *Borzicactus*(*Matucana*) *madisoniorum*, a discovery by our last month's speaker (Paul Hutchison) in Peru. This beautiful species has a blue-green outer skin with few spines and vermilion flowers. If unmarked its a great plant for the show table.

With the diversity of shapes and forms as well as flowers *Borzicacti* are well worth having your collection.



OROYA

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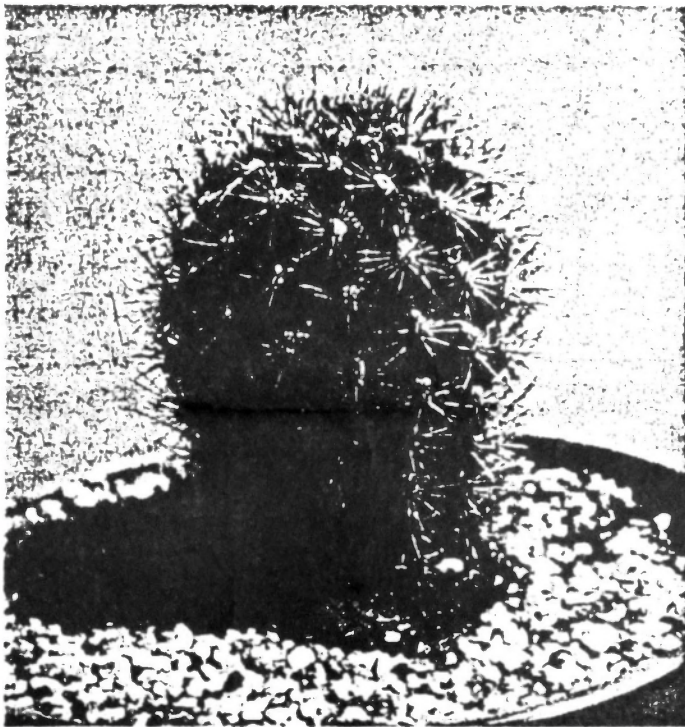
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BORZICACTUS icosagonus

Cactaceae

High light. Allow the soil to become slightly dry between waterings in spring and summer. Soil can be kept drier in winter. Fertilize monthly and discontinue completely in winter. Propagate from seeds. Erect plant grows to five feet and offsets at the base. Body is covered with numerous golden-yellow spines. Flowers are red-orange. Native to Equador.

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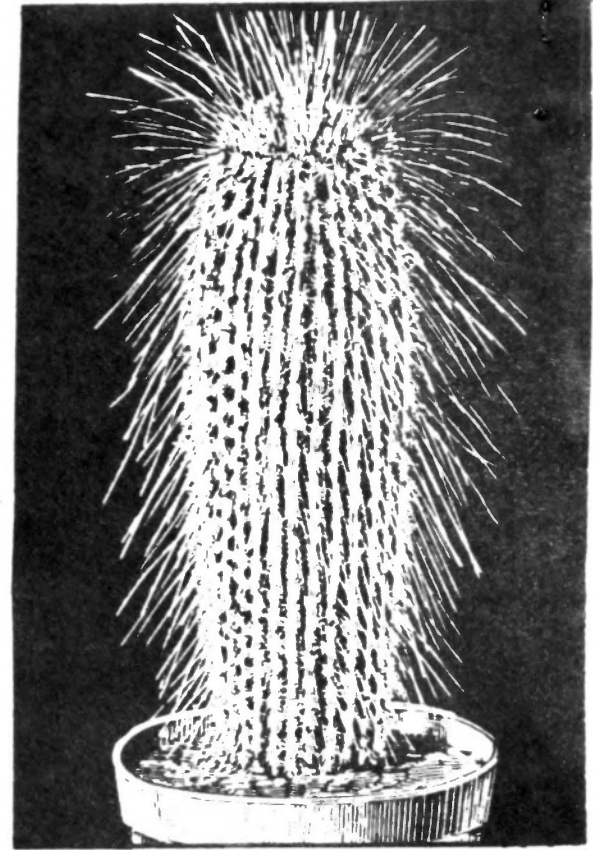
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Rare Succulents

The San Diego Cactus & Succulent Society, Inc. is open to all persons interested in growing cacti or other succulent and exotic plants. Meetings are held the second Saturday of each month at 1:30 p.m. in Room 101, Casa del Prado, Balboa Park. Board of Directors meetings are held after the general meetings. Annual dues are \$8.00 per single member per year, and \$2.00 for each additional member of a household within the family. Single copies of Espinas y Flores are 60¢. Affiliated with the Cactus & Succulent Society of America, Inc.

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