

Espinas y Flores

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

Volume XXIII, Number 11

November 12, 1988

NOVEMBER MEETING

Saturday, November 12, 1988

1:30 p.m.

Casa del Prado, Room 101, Balboa Park

A CACTUS FIELD STUDY THROUGH VENEZUELA

by

Hans Britsch
Western Cactus Growers, Vista, CA

Mr. Britsch will present a slide show covering his recent trip through Venezuela, from the northernmost tip of the Andes, to the llanos and down to the Orinoco River. Habitat studies of Melocactus, Pilosocereus and other cactus genera will be featured. Please Note: This month's program will begin at 1:30 p.m.

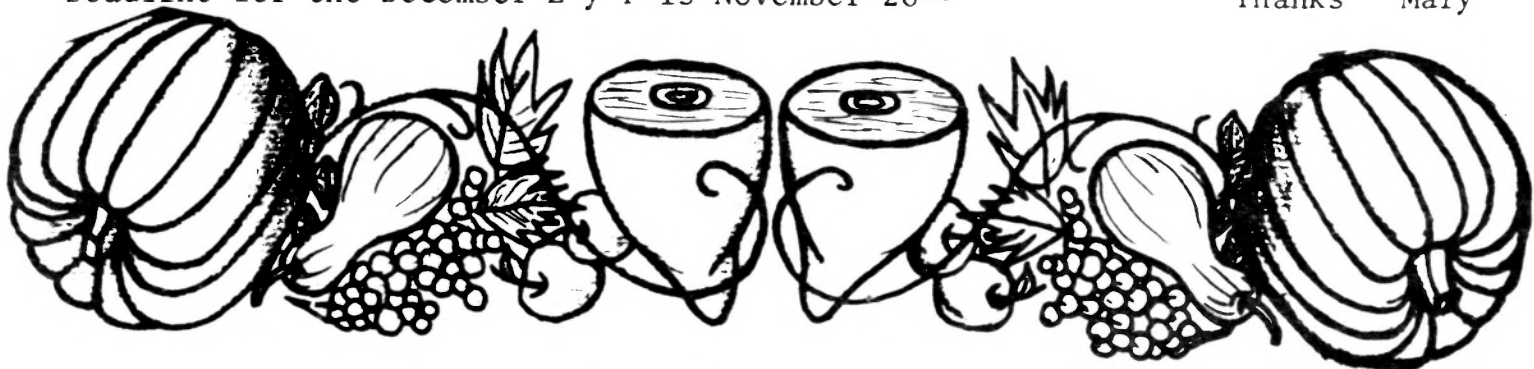
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Deadline for the December E y F is November 26--

Thanks Mary



NEWS NEWS NEWS - - - - -

WELCOME TO NEW MEMBERS - - -

Barbara Hamm - El Cajon

Mrs. Pat Harper - El Cajon

THOSE Who have signed up to bring refreshments for November are:

Joan E. Fleeer
Joan Miller
Sarah Jervey

Beverly Kirkegaard
Curt Hammel
Mary Aubuchon

Sue Nardi
Susan Barker

As you can see, this is not a very long list. List you feel like bringing something it would be appreciated.

Help!

We have received an appeal from Mrs. Joyce Tate for knowledge of the "Dailey's Laboratories. Their former address was 3680 University Avenue. This was as far back as April 1946. Mrs. Tate is trying to find the value of cactus in the treatment of diabetes.

If you have any information that may be of help to Mrs. Tate, Please send to: Mrs. Joyce L. Tate FCSS, 22111 Newport Ave., Space 83, Colton, CA 92324

Reprint below of an article she received recently

OPUNTIAS USES

Cactus used for diabetes

MEXICO CITY (UPI) — The lowly nopal cactus, which grows wild in nearly all of Mexico and is pictured on the national flag, could have a wide variety of medical benefits — for dieters as well as those suffering from diabetes and high cholesterol, researchers say.

Mexican scientists recently discovered that the juice of the nopal cactus may help alleviate a wide variety of illnesses and conditions — as many of the pre-Hispanic Indians who once lived in the area believed.

The nopal, native to Mexico and southwestern United States, can grow up to 6 feet tall and bears a fruit called the prickly pear or *tuna* in Spanish.

Its wide, thick leaves and the fruit are major ingredients for dozens of local dishes — from soup and salads to ice cream and pastries — and also serve as a base for shampoos and beauty creams.

"It has been proven that drinking nopal juice before each meal for at least

10 days lowers body weight as well as decreasing cholesterol, glucose and regulating insulin levels," said Dr. Frati Munari, who recently completed tests of the plant for the treatment of diabetes.

The cactus extract, however, is strictly in experimental stages. Dr. Javier Lozoya Legorretas, director of the Research Institute for Traditional Medicine, stresses that nopal is not a substitute for insulin.

EL PASO HERALD-POST Wednesday August 12, 1987

Succulent-of-the-Month

THE CAUDICIFORM CUCURBITACEAE

(or, The Case of the Cumbersome Cucumbers)

By Dorothy Dunn

It all started innocently enough, with those familiar denizens of so many backyard gardens, the cucumbers, squashes, melons, and gourds. Then, a handful of succulent enthusiasts got wind of the fact that, concealed (literally) within this family of lowly garden vegetables, there lurked a virtually untapped reservoir of those bulky, misshapen, much-sought-after lumps dear to the hearts of caudiciform lovers - and the hunt was on. Today, students of this large and varied family, the Cucurbitaceae, generally agree that the surface has barely been scratched as far as unearthing (literally!) the untold number of caudiciform species. Therefore, this article will be limited to the half-dozen or so genera now fairly common in cultivation - Ibervillea, Kedrostis, Melothria, Gerrardanthus, Seyrigia, and Xerosicyos.

As late as 1985 it was stated (Flowering Plants of the World, ed. Heywood) that "As ornamentals, Cucurbitaceae are of minor importance; Cucurbita pepo produces the ornamental gourds, and species of Momordica, Kedrostis, Corallocarpus, Ibervillea, Seyrigia, Gerrardanthus, Xerosicyos, and Cyclantheropsis are sometimes cultivated by succulent enthusiasts".

True, the undeniable economic value of this family is derived from its contribution to major food sources, including cucumbers, marrows, squashes, gourds, pumpkins, and melons. Also, the dried skeleton of the fruit of one member, Luffa cylindrica, is the source of loofah sponges. However, this family also contains the largest number of caudiciform species currently known. The Cucurbitaceae family encompasses, in general, about 90 genera and 700 species, with over 20 genera and hundreds of species recognized as caudiciforms. Botanically, it is a highly-specialized family, with representatives in both the Old and New Worlds. Its distribution is centered in the tropical regions of both the Old and New Worlds (particularly in rain-forest areas of South America and wood-, grass-, and bush-land areas of Africa), with some species occurring in semi-desert regions. The entire family is characterized by plants having palmately-veined leaves, rampant vines which are mostly clambering or clinging, spiralling tendrils, and unisexual flowers with yellowish petals. The plants may be either monoecious (both sexes occurring on the same plant) or dioecious, with separate male and female flowers on different plants. It is easy to distinguish the female flowers even in the bud stage because of the fat ovary which develops beneath the corolla. Bitter substances known as Cucurbitacins are widespread throughout the family.

Gerrardanthus is a genus of five species, four of them caudiciform, and all native to Africa, specifically the more arid regions of Kenya and Tanzania. The caudex is disc-like or spherical, and in nature is partly underground. In cultivation, seed-grown plants are much more typical; those grown from cuttings tend to have a lop-sided or uncharacteristic type of caudex.

The genus Kedrostis (syn. Pisosperma) contains 35 species, with at least 7 of them being caudiciform. They are native to the Tropics, especially Africa and Madagascar. The caudex is partly above-ground, and the fruit is a fleshy berry, usually red, unlike that of Gerrardanthus, which is a flask-shaped, dry, brownish capsule. Some species of Kedrostis are reportedly poisonous.

The closely-related (and possibly synonymous) genus Melothria (syn. Zehneria) is very widespread in its distribution, ranging from East and South Africa to parts of India, Malaysia, and the Phillipines. Although there are about 30 species, only one, M. punctata, can be considered caudiciform, and it is virtually indistinguishable from Kedrostis africana.

Ibervillea (syn. Maximowiczia) is one of the few caudiciform cucurbits native to the New World. There are only three species and one variety, and they range from western Texas to southeastern Arizona, northern Mexico, and southern Baja California. In the wild, old specimens can develop huge caudices, and usually what you see aboveground is only the tip of the iceberg. The most conspicuous feature of the plants is the fruit which, when ripe, is a bright orange-red and usually dangles tantalizingly from the highest branches of the thorniest Acacia trees. However, the thin, rampant vine will usually clamber over and into almost anything available. The green fruit bears a remarkable resemblance to miniature striped watermelons. The plants exude a rather rank smell when bruised. Another southwestern United States cucurbit is the rather notorious Echinocystis (Marah) macrocarpa ('Big Root') which possesses an underground water-storing caudex which reportedly can reach the size of a mans' body, and has deceived many a succulent collector into believing he has unearthed something totally new in the way of caudiciforms. There are 26 species of Echinocystis altogether.

Seyrigia is another small genus (only four species) native to Madagascar. However, probably only one species qualifies as a caudiciform. S. humbertii is a rather strange tuberous-rooted plant whose long, slender, quadrangular stems are clothed in white felt. Rather than a true caudex, the underground portion of the plant consists of a number of loose tubers about the size of small potatoes. The plant is leafless (in contrast to other succulent Cucurbits), but does produce tendrils. The inconspicuous flowers are pinkish-brown.

Xerosicyos, another small Madagascan genus, also has only four species. Only one, X. pubescens, is reportedly caudiciform, and it is unknown in cultivation and very possibly extinct in the wild since

its original habitat has been destroyed. It was described as having thin, velvety leaves, in contrast to the round, thick, fleshy leaves of the better-known species, X. danguyi and X. perrieri. These are both stout woody vines with small insignificant flowers.

All of the above seem to be rather easy to cultivate if a few simple guidelines are observed. Foremost among these would be the usual provision for good drainage, and very careful watering during their dormant season - that is, when they are not producing their yards and yards of rampant vine. The vines, of course, can be pruned back to make them more acceptable as neighbors to your tidier plants. Since they are native to tropical regions they do need some protection from frost. Principal pests (at least on my plants) seem to be white flies, aphids, and the ever-present mealy-bug.

Other genera worthy of mention in this family, although not yet common in cultivation are: Coccinea (Africa and Asia, with 30 species, 10 of which are caudiciform), Corallocarpus (34 species from Africa and Asia, 5 or 6 caudiciform), Momordica (Old World Tropics, 60 species, at least 11 of them caudiciform), Telfairia (3 species from Tropical Africa) and Zygosicyos (2 species, Madagascar). The monotypic Dendrosicyos socotrana, endemic to the island of Socotra, is extremely rare in collections, and is totally unlike other members of this family. It is tree-like in habit, with a massive tapering trunk which allegedly can reach a height of 20 feet and a diameter of 40 inches. Rowley classifies it as a pachycaul rather than a caudiciform.

Although the rampant vines and small, rather uninteresting flowers may discourage some collectors from acquiring these plants, the diversified, bizarre caudices and usually colorful fruits make them worthwhile and desirable additions to any collection.

Literature consulted:

- | | |
|----------------------|--|
| Heywood, V.H. (ed.): | <u>Flowering Plants of the World</u> (pp. 115-117) |
| Jacobsen, Hermann: | <u>Lexicon of Succulent Plants</u> |
| Martin and Chapman: | <u>Succulents and their Cultivation</u> (pp. 268-272) |
| Rauh, Werner: | <u>The Xerophytic Vegetation of Southwestern Madagascar</u> , part IV (CSSA Journal, Nov.-Dec. 1977) |
| Rowley, Gordon: | <u>Caudiciform and Pachycaul Succulents</u> |
| Rowley, G. | <u>Name That Succulent</u> , (pp. 160-162) |

(Note: Please bring any plants from this group to the meeting, as I do not have many. Thank you! D.D.)

Cactus-of-the-Month

OREOCEREUS and MORAWETZIA

By Dorothy Dunn

These two small genera of columnar South American cacti are very closely related to each other, and are now often included in the "umbrella" genus Borzicactus.

"Mountain Cereus" is the literal translation of the name Oreocereus (from the Greek 'Oros', meaning "mountain"), and this is not hard to understand when you take into consideration the fact that most of the species grow at altitudes of 9,000 to 10,000 feet in the mountainous regions of Peru, Chile, northern Bolivia and northern Argentina, where they often grow in very rocky ground. At these heights they are exposed to temperatures well below freezing. The plants are of medium height and branch from the base; in nature they eventually form large clumps. The areoles are large and pronounced, and the flowers are usually red, rather small, and diurnal. Although originally at least 10 species were described, there are probably no more than four valid species and one variety: Oreocereus celsianus, O. trollii, O. fossulatus, O. hendriksenianus, and O. hendriksenianus var. densilanatus, which is probably synonymous with Cullmann's O. ritterii. The plants are very slow-growing and extremely hairy, and as with most white "wooly" cacti (such as Espositoas) with age they become somewhat shabby and discolored around the base.

The genus Morawetzia was created by Backeberg for two species, M. doelziana and M. sericata, which are distinguished from Oreocereus only by the fact that they have a wooly, bristly apical cephalium and the flowers are produced on the ends of the branches rather than laterally, as in Oreocereus. Most authorities now routinely include them in Oreocereus. They are native to the central highlands of Peru, on the eastern slopes of the Andes.

All species of both genera are very easy to grow; their only requirements seem to be the usual well-draining soil and quantities of fresh air and sunshine. In warm weather they can be watered generously, and will tolerate quite cold temperatures in the winter, especially if they are kept on the dry side. Pests are minimal; I do not recall ever having had any serious insect or disease problems with these plants. Propagation is from seed, and although they are very slow-growing (especially O. trollii), they are very rewarding and undemanding plants to add to your collections.

For more details on Kimnach's inclusion of Oreocereus and Morawetzia in Borzicactus, please refer to the accompanying article on the Borzicactinae.

Literature consulted:

Backeberg, Curt: Cactus Lexicon
Borg, J. Cacti
Kinnach, Myron: A Revision of Borzicactus, CSSA Journal, 1960

THE GENUS BORZICACTUS (BORZICACTINAE)
(According to Myron Kimnach)

In dealing with this complex, confused, and very diverse group of plants, we are more or less forced to consider two almost totally opposed points of view - those of Kimnach, the "lumper", and Backeberg, the "splitter". Whereas Kimnach has reduced several former - and for the most part - familiar genera under his "umbrella" genus Borzicactus, and recognizes only 18 species and no varieties (as of 1960) Backeberg upholds all of these genera (and more!) as separate, distinct, and valid, and recognizes 70 species and numerous varieties. Kimnach defends his position as follows: "Far from being a reactionary procedure, as Backeberg has implied, the uniting of weak taxa is a basic, progressive technique in taxonomy, and one which has been insufficiently applied in the Cactaceae." Backeberg maintains that "any study of the strongly differentiated genera he (Kimnach) proposes uniting makes it clear that this is a needless reversion to outdated large genera".

According to Kimnach (and, earlier, Buxbaum) the subtribe Borzicactinae originally contained the following genera: Cleistocactus; Oreocereus; Borzicactus; Oroya; Denmoza; Arequipa; Matucana; Morawetzia; Seticereus; Clistanthocereus; Loxanthocereus; Arequipiopsis; Maritimocereus; Bolivocereus; Submatucana; and Cephalocleistocactus. In his Revision of Borzicactus (1960) Kimnach retains only four of these as separate and distinct genera under Borzicactinae. They are: (1) Oroya (the most botanically isolated genus), consisting of a single, highly variable species, O. peruviana, which Backeberg considers as being allied to such genera as Parodia and Gymnocalycium, and which Buxbaum and Kimnach regard as a highly-advanced member of the Borzicactinae; (2) Cleistocactus (including Cephalocleistocactus); (3) Denmoza, consisting of one or two species, and (4) Borzicactus, now containing the other eleven (former) genera. Kimnach does not regard stem form alone as sufficient to characterize a genus in this group and for this reason he rejects Arequipa and Matucana as untenable despite their globose forms. He also rejects spine characteristics as a basis for classification, so considers Oreocereus (with hirsute stems) and Cephalocleistocactus (with a pseudocephalium) unacceptable as separate genera. It all comes back to the fact that, as in all plant classification since the time of Linnaeus, the flower remains the primary basis for defining genera and determining species. And, in the case of Borzicactus, the deciding factor is just one portion of the flower, for Kimnach goes on to say: "The stems may be globose to columnar, hairy, spiny, or spineless, the flowers may even possess slight botanical differences, but they all have one conspicuous characteristic in common - the flowers all have an expanded zygomorphic limb, bilaterally symmetrical, and much resembling the flower of an Aporocactus ("Rat-tail") or Schlumbergera ("Christmas Cactus").

Kimnach, along with Buxbaum and Backeberg, believes that the Borzicactinae subtribe is an "advanced derivative" of the group containing Trichocereus and Haageocereus. The most primitive genera of the Borzicactinae are Loxanthocereus and Maritimocereus (which most resemble Haageocereus), and these are restricted to coastal Peru. A more advanced group contains Borzicactus, Clistanthocereus, and Seticereus, and Matucana (still more advanced), and Oroya (most advanced). These genera range from central Peru to Ecuador. The "southern line" - distributed over Chile, Argentina, Bolivia, Peru, Paraguay, and Uruguay - consists of Oreocereus, Morawetzia, Bolivocereus, Arequipa, Cleistocactus, Cephalocleistocactus, and Denmoza.

So, in the single genus Borzicactus we now have what is unavoidably a very diverse and, at first glance, seemingly unrelated group of plants of many different shapes and sizes, growth habits, and types of spination, and distributed geographically over quite a wide area of South America. The genus originally included only certain columnar species from Ecuador, Peru, And Chile, all with zygomorphic, mostly red flowers. The name commemorates Professor Antonio Borzi, the former director of the Botanical Garden at Palermo. One of the most familiar species, B. icosa-gonus, was discovered in 1802 in the Andes of southern Ecuador and northern Peru at altitudes between 5300 and 6500 feet. It grows on isolated rocky slopes, without any soil, in association with bromeliads such as Vriesas and Tillandsias. The plants are encrusted with lichens as a result of the high atmospheric moisture.

Borzicactus (Hildewintera) aureispinus, another familiar plant, was described in 1962 and is native to the foothills of the Andes, where it grows on sheer sandstone cliffs with the stems hanging down the rock face. It is a fast-growing, free-flowering pendant plant with dense delicate golden spines, branching freely from the base.

Closely related to B. aureispinus is another Bolivian cactus, Borzicactus (Bolivocereus) samaipatanus, which was discovered by Martin Cardenas and described in 1951. It grows at an elevation of about 6500 feet, and is also very free-flowering.

The species we have always known as Oreocereus, and which Kimnach now relegates to Borzicactus, are native to the eastern slopes of the Andes, growing at altitudes of about 10,000 feet. They branch from the base, are very hairy, and the flowers are small and red. The species usually seen in cultivation are B. trollii, B. celsianus, B. fossulatus, and B. hendriksenianus.

Borzicactus (Morawetzia) doelzianus is very closely related to Oreocereus, but differs in forming its cephalium on the ends of the flowering shoots. It grows on the eastern slopes of the Andes in Peru. The stems branch from the base and can reach a height of five feet. The flowers are red.

The plants formerly described as Matucanas are usually globular cacti, sometimes elongating with age and frequently offsetting. They occur at higher elevations of the Peruvian Andes (up to 13,500 feet). The popular species Borzicactus (Matucana) madisoniorum was discovered in 1963 by Paul Hutchison and is characterized by a beautiful unusually-textured epidermis, large orange-red flowers, and a body which is usually virtually spineless with maturity.

All of these plants are comparatively easy to grow, tolerating extreme winter cold because of their high-altitude origins. They are relatively pest-free, and can be watered quite generously in warm weather. Most species thrive in full sun, with the exception of B. aureispinus, which seems to prefer a filtered-light situation.

<u>References:</u>	Backeberg, Curt:	<u>Cactus Lexicon</u>
	Barthlott, Wilhelm:	<u>Cacti</u>
	Kimnach, Myron:	<u>A Revision of Borzicactus</u> (Cactus and Succulent Journal, Jan. - Aug., 1960)
	Martin, Chapman, Auger:	<u>Cacti and their Cultivation</u>
	Rowley, Gordon:	<u>Name that Succulent</u>

** DON'T FORGET **

ONLY REGISTERED MEMBERS OF OUR CLUB ARE INVITED TO THE CHRISTMAS PARTY

** NO GUESTS **



\$5.00 Registration each member for the Christmas party Dec. 10, 1988

Name: _____

Name: _____

Name: _____

** NOTE **

Registration MUST be in by November 28, 1988 AMOUNT ENCLOSED \$ _____

** COMPLETE AND MAIL TO **

Susan Shepherd: Treasurer
4537 Cochise Way, San Diego, CA 92117

PLEASE NOTE: Everyone's dues are due by the end of the year. These are annual dues that come from January to January.

SAN DIEGO CACTUS & SUCCULENT SOCIETY
MEMBERSHIP APPLICATION

\$8.00 - Single member per calendar year
\$2.00 - Each additional member of the same household

** PLEASE PRINT **

NAME: _____

ADDRESS: _____ PHONE: _____

CITY: _____ STATE: _____ ZIP: _____

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Name: _____ Name: _____

PLEASE CHECK IF:

_____ You are a new member

_____ You subscribe to the Cactus & Succulent Journal

** COMPLETE AND MAIL TO **

SUSAN SHEPHERD: Treasurer, 4537 Cochise Way, San Diego, CA 92117

AMOUNT ENCLOSED \$ _____

There are no back issues of the Espinas y Flores available for late payment. Have copies made if you do not want to tear up the paper

PLANT SCULPTING

For those of you who love caudiciform plants, and those who wonder why nature did not favor your plants as they did Rudy Lime's, this is your chance to learn some of Rudy's secrets. Rudy will be helping us emphasize the best features of our "little trees" when he resumes teaching the techniques of bonsai at 12 noon in our meeting room. Bring a plant you would like to have beautified and Rudy will show you how!

S. Berry



CHRISTMAS PLANT EXCHANGE

There will be our usual plant exchange this Christmas meeting whereby members bring a plant and take a plant in exchange. This is how it works: bring a cactus or other succulent, potted nicely, in good condition, labelled with your name on one side and the name of the plant on the other. The better the plant you bring, the earlier you will have your chance to select. (Bring one plant per person only). This event is in addition to our regular distribution of gift plants from our Club. Let's get our gift-exchange plant polished up for this event!

Shirley Berry

Show Schedule

Nov. 5 & 6	San Diego Tropical Fish Soc. 18th Show	Sat: Noon-6:00pm	Sun: 9am-4:30pm
Nov. 27	Sumi-e Painting & Ikebana 13th An. Show		Sun: 11am-4:00pm
Dec. 2-3-4	San Diego Floral Assoc. Christmas Show (Christmas on the Prado)	Fri: 5pm-9:00pm Sat: 11am-9:00pm	Sun: 11am-4:00pm

SAN DIEGO CACTUS & SUCCULENT SOCIETY OFFICERS

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Shirley Berry, Dorothy Dunn, Cathy Frost
Bob Kent, Madelyn Lee, Rudy Lime, John Pasek

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Jim Dice
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The San Diego Cactus & Succulent Society 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, \$2.00 for each additional member of a household within the family. Single copies of Espinas y Flores are 60¢.

Editor
Mary Aubuchon
1058 5th Avenue
Chula Vista, CA 92011



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