

Espinas y Flores

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

Volume XXI, Number 4

April 12, 1986

APRIL MEETING

Saturday April 12, 1986

Room 101, Casa del Prado, Balboa Park

1:30 p.m.

PROGRAM

SUPER MAM

by

John Pilbeam

Mr. Pilbeam is a noted British student of succulent plants who has authored a number of outstanding books on these plants, including Mammillaria; a Collectors Guide, his most recent work on the genus Sulcorebutia and three earlier books on haworthias. The program will feature his choice of "the best of the genus based on nearly 40 years of growing, caring for, and admiring this, the best of cactus genera."



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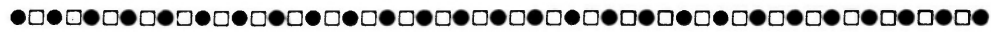


DEADLINE FOR THE APRIL ISSUE OF ESPINAS y FLORES is MARCH 28-

THANKS

MARY





The bragging plant winners for March are:

- 1st Place Lit Phan for his Iponea platense
- 2nd Place Chris Clements for his Euphorbia obesa
- 3rd Place Lee Phelps for his Pelargonium incrassatum



a new trophy

There will be a new trophy this year which some of you may want to compete for. It is a High Point Trophy for fifty entries or less (a "collection" would count as one entry; also, an individual display would count as a single entry). If you had more than fifty entries it would disqualify you for this trophy, but possibly put you in the running for the sweepstakes trophy. This trophy is donated to the club by Jim and Shirley Berry.



THANKS TO

Dorothy Dunn, Eleanor Dice, Joe Clements and Huntington Gardens for donating plants to our Balboa Gardens.
Also do yourself a favor and stop by to see what has been done at the Aloe and Cactus Gardens. Take the bridge over Park Blvd and the gardens are on the other side.



Those who have volunteered to bring refreshments for the April Meeting are:

- | | |
|------------------|-----------------|
| Susan Shepherd | Rose Robilotta |
| Diane Crowley | Lois Zaranka |
| Susan Clements | Melba Batchelor |
| Joan Miller | Dana Adams |
| Virginia Natwick | Judy Hannula |
| Rose D'Atillio | Frances Johnson |



SHOW SCHEDULE FOR APRIL AND MAY

Shows are held at the Casa Del Prado, Balboa Park unless otherwise indicated.

Apr. 6	Convair Garden Club Rose Show	Sun: 1:00 - 4:30 pm
Apr. 12 & 13	San Diego Rose Show (Balboa Park Club - Balboa Park)	Sat: 2:00-6:00pm Sun:10am-5:30pm admission
Apr. 19 & 20	San Diego-Imperial Co. Iris Show	Sat:10:30-5:00pm Sun:11am-5:00pm
Apr. 19 & 20	San Diego Co. Orchid Show Preview (Scottish Rite Memorial-Mission Valley)	Apr. 18th 7:00-10:00pm \$3.00 Sat:9am-9pm Sun:9am-5pm
Apr. 26 & 27	San Diego Bonsai Spring Show	Sat: & Sun:10:00am-5:00pm
Apr. 19 & 20	Koi Society Pond Show - Patio A	Sat:11am-6:00pm Sun:9:am-4:00pm
May 3 & 4	Balboa Park African Violet Show	Sat:12 - 6:00pm Sun:10am-4:00pm
May 11	San Diego Epiphyllum Show	Sun:11am - 5:00 pm

CACTUS OF THE MONTH
THE MAMMILLARIAS OF BAJA CALIFORNIA

By Phyllis Flechsig

The Mammillarias of Baja California fall into two broad groups: those with straight spines, milky sap, and brown seeds in the section Mammillaria (formerly Galactochylus); and those with hooked spines, watery sap, and (usually) black seeds in the section Hydrochylus. Their habitats vary from mountains to the seashore; often they grow in the shelter of bushes or rocks. Many are island species; often they grow on one, and only one, island.

On the mainland, the commonest, most ubiquitous species is M. dioica, a variable plant. In most parts of the peninsula, except perhaps near the Cape, any hooked-spined Mammillaria that you find is likely to be this species. M. dioica has a funnel-shaped flower, white or slightly yellowish with a faint midstripe, and a prominent greenish-yellow stigma. The axils of the tubercles have both wool and bristles, a characteristic that helps to identify the species. The name "dioica" means dioecious; that is, that male flowers (pollen only) appear on some plants, females (stigmas and ovary only) on others; however, Benson says that this is an error and that almost all plants have both pollen and stigmas. Look under any bush in Baja California and the chances are good that you will find a Mammillaria dioica!

Another nice hooked-spined plant you might find is the tiny M. blossfeldiana, which is very hard to locate unless it is blooming--the large (for the plant) bright pink flowers with white margins on the petals are very showy. This plant has wool in the axils, but no bristles. It grows in the central part of the peninsula, often hiding under rocks.

M. insularis, another of the hooked-spined group, grows on some of the islands at Los Angeles Bay (on the Gulf side of the peninsula) and also on the nearby mainland. It is another small plant, generally solitary, with large light pink flowers with white margins on the petals. Axils may have a little wool.

In the Cape region grows M. schumannii, once segregated in its own genus, Bartschella, because of the fruit that breaks off in the middle instead of coming out intact. This plant has a bluish body and large, showy pink flowers. It is rather tricky to grow in cultivation; it needs perfect drainage and strong light.

The group with straight spines and milky sap are not nearly as popular in collections, somehow lacking the glamor of the hooked-spined ones; flowers tend to be smaller and yellowish. The plants often grow very flat to the ground, and can be very hard to see under all the debris that collects on them. One that is well worth growing is M. petrophila, which has pretty needle-like brown and white spines, and bright greenish-yellow flowers.

Another straight-spined plant that grows in a wide area of the central desert of the peninsula is M. brandegeei, a flat-topped solitary plant. M. lewisiana is probably a variant of this species--it has very pretty black spines that arch over the top of the plant.

M. glareosa, which has short, straight spines, grows in silty flats on the Pacific coast southwest of Punta Prieta, at Santa Rosalillita Bay.

There are either several straight-spined species in the Cape region, or else one variable species, depending on your authority. *M. baxterana* is the one; *M. marshalliana* and *M. pacifica* are thought to be synonymous with it, and *M. arida* and *M. gatesii* may be also. *M. baxterana* and *M. gatesii* have one central spine and several radials, while *M. arida* has 4 to 7 centrals and 15 radials. All have flowers with purplish central stripes on the outer petals and greenish to yellow inner petals, sometimes with a stripe.

The genus *Cochemiea* is considered by some authorities to be a part of the genus *Mammillaria*, and all the *Cochemieas* are endemic to Baja California; however, since this is an arguable grouping, and since the genus has been discussed in this publication recently, I am not including them in this report.

Growing the *Mammillarias* of Baja California can be tricky. Obtaining them is not hard, as seed is available for most of them; you should not dig up wild plants, which are very likely to die in cultivation anyway. All need the most porous potting soil you can provide--"dirty pumice" is good. All need good light, just short of full sun.

LITERATURE CONSULTED

Craig, R.T. 1945. *The Mammillaria handbook*. Abbey Garden Press, Pasadena, CA.
 Pilbeam, J. 1981. *Mammillaria*. A collector's guide. B.T. Batsford, Ltd., London.
 Shreve, R., and I.L. Wiggins. 1964. *Vegetation and flora of the Sonoran desert*. Stanford University Press, Stanford, CA.
 Wiggins, I.L. 1980. *Flora of Baja California*. Stanford University Press, Stanford, CA.

CHECKLIST OF BAJA CALIFORNIA MAMMILLARIAS

I. Section *Mammillaria*

- M. arida* (may be form of *M. baxterana*)--La Paz
- M. baxterana* (incl. *M. pacifica*, *M. marshalliana*)--Cape
- M. brandegeei* (incl. *M. lewisiana*)--Vizcaino desert, S. Ignacio
- M. evermanniana*--Loreto to Cape; Cerralvo Island
- M. gatesii* (may be form of *M. baxterana*)--Cape
- M. glareosa* (incl. *M. Dawsonii*)--Santa Rosalillita Bay
- M. peninsularis*--Cabo San Lucas
- M. petrophila*--Mts. of Cape

II. Section *Hydrochylus*

- M. albicans*--Loreto to Cape, and nearby islands
- M. angelensis*--Los Angeles Bay
- M. armillata*--S. Jose del Cabo
- M. blossfeldiana* (incl. var. *shurlyana*)--Punta Prieta, Santa Rosalillita

II. Section *Hydrochylus* (cont.)

- M. capensis*--Todos Santos, Bahia de los Muertos (Cape)
- M. cerralboa*--Cerralvo Island
- M. dioica*--San Diego County, most of Baja peninsula
- M. estebanensis*--S. Esteban Island
- M. fraileana*--La Paz & nearby Islands
- M. goodridgii*--Cedros & Guadalupe Islands
- M. hutchisoniana* (incl. *M. bullardiana*)--central & southern parts of peninsula
- M. insularis*--Los Angeles Bay & its islands
- M. louisiae*--Socorro (west coast)
- M. microcarpa*--Southwest USA; northeast corner of peninsula
- M. neopalmeri* (incl. *M. verhaertiana*)--San Benito Island
- M. phitauiana*--Mts. near Todos Santos
- M. schumannii* (*Bartschella*)--Cape
- M. slevinii*--San Jose, San Francisco Islands
- M. tetrancistra*--Southwest USA; northeast corner of peninsula

HAWORTHIAS and ASTROLOBAS
(Liliaceae)

Dorothy Dunn

Haworthias and Astrolobas are both members of the large and varied Liliaceae family, which is familiar to all of us for such non-succulent favorites as tulips, hyacinths, and lilies, as well as asparagus and onions. They are closely related to Aloes and originally, along with Gasterias, were all lumped together under the broad classification of Aloe.

Haworthia is a very large genus of usually very dwarf leaf succulents, and is named after Adrian Haworth, a noted English botanist and collector. Depending upon which authority you consult, there are anywhere from 68 (Bayer) to 162 (Jacobsen) to almost 400 described species, varieties, and forms of species, with "new" ones still allegedly being discovered. According to Myron Kimnach in his review of Bayer's Haworthia Handbook (Cactus and Succulent Journal, March-April, 1979): "Haworthias are notoriously variable, many varieties or species gradually merging together in the field; as the intergrading forms do not often find their way into cultivation, the taxa may seem more distinct in collections than they really are in nature. One regrets to see Bayer reducing familiar names to synonymy, or, at best, to varietal status, but, with his advantage of field experience one can hardly reject his decisions."

A few species of Haworthia were known as early as 1700, and by the latter part of the 18th century quite a number had been introduced into Europe from South Africa. They are native to South Africa exclusively, with the coastal fringe of the Little Karroo seeming to have the greatest concentration of different species. They usually occur below 2,000 feet, and extend to sea level. They will tolerate temperatures well over 100 degrees down to within a few degrees of freezing. In habitat they are frequently protected by the shade of grass, bushes, or rocks, but some species, such as H. setata, H. pilifera, H. margaritifera, H. viscosa, H. retusa, and H. attenuata may often be found growing in full sun on rocky ground. Under these exposed conditions the plants are usually well withdrawn into the soil with just the upper parts of the leaves visible. Other species occur in almost complete shade in valleys rich with vegetation, including mosses. The soils in their natural habitats are always well-drained and rich in minerals.

In complete contrast to other genera, vegetative characteristics have always been the predominant basis for classification in Haworthia, and until fairly recently the genus was divided into 20 sections (Berger), with certain characteristics of each plant determining its placement in a particular section. This division was based primarily on the position and form of the leaves. However, Bayer, in his Haworthia Handbook, conceived the idea of dividing the genus into three rather broad subgenera according to floral characteristics. These subgenera are called

Haworthia, Hexangulares, and Robustipedunculares (whew!). In a still broader concept, you could also say that the genus is separated into just two very general sections: one consisting of those plants with very rigid, usually dark green leaves, often with a roughened texture or heavily tubercled (H. reinwardtii and its varieties, H. limifolia, H. margaritifera, H. fasciata, etc.), and the other comprising those species with highly-succulent, lighter green and usually "windowed" leaves (H. cymbiformis and its varieties, H. retusa, H. venosa, H. truncata, H. maughanii, H. springbokvlakensis, etc.) An excellent article by Werner Rauh explaining the "window leaf" phenomenon in Haworthias as well as other succulent genera appeared in the January-February, 1974 issue of the Cactus and Succulent Journal. Also, Bruce Bayer's Haworthia Handbook presents an exhaustive examination of many species of Haworthia, and proposes a revision of the nomenclature. Mr. Bayer says "The real problem in Haworthia has been and still is the question of deciding just what constitutes a species. No progress will be made toward a stable and rational nomenclature until names are firmly attached to field populations."

In their natural habitats Haworthias have developed various interesting ways of protecting themselves from extreme weather conditions during the hot dry season. In many of the longer-leaved forms, the leaf ends wither and turn brown, thus decreasing the leaf area exposed to the sun. Some of the more "warty" or tubercled species fold their leaves closely inwards, presenting the rough backs to the sun, and shading and protecting the growing point of the plant. The white tubercles themselves seem to play some part in protection from the sun; some experts believe they actually reflect the sun's glare off the leaf, while others theorize that they are another form of "window". Many species have tough, leathery leaves, and some of the more pronounced windowed varieties have contractile root systems which literally pull the plants down into the soil, leaving only the windowed tips visible. It is through these "windows" that light is assimilated into the interior of the plant body. Some species have also apparently developed protective colorations to escape the ravages of animals, such as H. browniana which grows in the wild in the open in reddish soil next to a ledge of rocks. Although they form large clusters and are prominent plants, they are not easily seen as they blend so well with the surroundings; the ledge of rocks is banded in a way which blends with the markings on the leaves

Haworthias are a good choice for the collector with limited space. They are not difficult to grow, they are moderately slow-growing and never attain any great size, although some varieties do cluster prolifically with age. They will never set the world on fire with exquisite colorations of foliage or spectacular flowers, but they have a definite appeal for those with an eye for symmetry and an appreciation for form. They come in all imaginable shades of green, from pale green through blue-greens to almost black-green. The windowed varieties are fascinating, some almost resembling chunks of translucent glass, and the heavily-tubercled species look as though they are covered with tiny white glistening pearls or sprinkled with sugar. While many people consider

their flowers to be insignificant - they are mostly whitish-green and small - they also possess a charm all their own, as they resemble miniature lilies. Some of them produce surprisingly large seed capsules after blooming, and now and then one will put out a new little plantlet along the bloom-stalk. Because of their small size, slow growth (sometimes excruciatingly slow, as in the case of H. viscosa and H. nigra) and wide range of interesting forms, they make ideal pot plants. However, many of them will do just as well in the ground, given proper conditions of light and drainage. They do need good drainage, and a fairly shady location to look their best. They are sensitive to strong sunshine and, when exposed, will quickly show their aversion to it by turning a reddish-brown color. However, they will usually "green up" again just as quickly when they are moved back again into the shade. They may go somewhat dormant during the peak summer temperatures; during this time they should be given less water, as well as during the coldest part of the winter. They are reasonably tolerant of most succulent soil mixtures as long as excellent drainage is provided. Even with adequate precautions for drainage some species have a tendency to rot off at the roots with age (John Pilbeam believes this may even be a natural process connected with dormancy), but are generally easy to re-root.

Pests and diseases are few; mealy-bugs can sometimes be a problem in the center of the rosettes and, believe it or not, Haworthias can get SCALE.

Propagation is usually by offsets - it's possible to grow them from seed, but of doubtful value in most cases because they hybridize so easily. Many species may also be grown from leaf cuttings if you have a considerable amount of patience.

Astrolobas are very closely related to Haworthias and were originally known as Apicras. Jacobsen lists 17 species and varieties; the J.R. Brown list consists of about 30, including some unnamed species. John Pilbeam, in his book Haworthia and Astroloba: A Collectors Guide (1983) has reduced this number to 10. The main difference between Haworthias and Astrolobas lies in the flower structure; otherwise most of the above information applies about equally well to both genera. All Astrolobas seem to be very slow-growing, and appreciate shade. To this date, I have had no success in growing any of them from leaves.

Literature consulted:

- | | |
|---------------|---|
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| | The New Haworthia Handbook (1982) |
| Haselton, S. | Succulents for the Amateur |
| Jacobsen, H. | Lexicon of Succulent Plants |
| Pilbeam, J.W. | The First Fifty Haworthias (1970) |
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| | Haworthia and Astroloba: A Collectors Guide (1983) |
| Rauh, Werner: | Window-Leaved Succulents (<u>Cactus and Succulent Journal</u> , Jan.-Feb., 1974) |
| Swan, Robert: | Growing Haworthias (<u>Cactus and Succulent Journal</u> , Nov.-Dec., 1976) |

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The San Diego Cactus & Succulent Society is open to all persons interested in growing cacti, other succulents and exotic plants. Meetings are held the **second Saturday** of each month at 1:30 pm 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 a family. Single copies of Espinas y Flores are 60 cents.

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