

MAMMILLARIA THORBERTI

Espinas y Flores

BULLETIN OF THE SAN DIEGO CACTUS AND SUCCULENT SOCIETY
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July 11, 1987



JULY MEETING

Saturday, July 11, 1987

1:30 p.m.

Casa del Prado, Room 101, Balboa Park

Program: SUCCULENTS OF NAMAQUALAND

by Darrel C.H. Plowes

Our speaker this month is the former Provincial Agriculturist for the province of Manicaland in Rhodesia (now Zimbabwe) and noted authority on stapeliads. Mr. Plowes, who is now retired and living in Khartoum, Sudan, has been collecting, studying and photographing members of the Stapeliae for over 30 years. He will present an illustrated program on the succulent plants of Namaqualand, based upon his many years of travel and study of plants in this part of South Africa. In consideration of Mr. Plowes' travel schedule, we will reverse our normal order of business at this month's meeting and begin with the program at 1:30 p.m. Also, Joe Betzler has volunteered to coordinate an exhibition of plants from Namaqualand, in addition to our regular plants of the month and brag plant features. So, bring in any plants from your collection that are native to Namaqualand that you would like to display.

Please Note: On Wednesday evening, July 8th, at 7:30 p.m. in the same meeting room where our monthly meeting is held, Mr. Plowes will present an illustrated talk on the "Wildflowers of Namaqualand" to the San Diego Epiphyllum Society. Like our meeting, it is open to the public.

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Deadline for the next issue of E y F is July 25, 1987

Thanks

Succulent-of-the-Month

ADENIAS (THE SUCCULENT PASSION FLOWERS)

By C. Glass and R. Foster

Passion flowers to most people produce visions of showy tropical flowers and sweet, mild-scented fruit. The succulent members of this family (Passifloraceae) are quite another experience altogether. These are grown and enjoyed for their arresting and often beautifully grotesque tuberous roots and stems and their usually somewhat delicate leaves.

These pages will make no attempt to give the complete story on the genus Adenia, but will try to introduce the reader to several of its more interesting members.

Beginning from bottom up, the tuber of an Adenia is classified as a root if it grows underground and a succulent stem if the swollen part is above ground. Some species, however, are swollen both below and above! With few exceptions all of the plant above the soil level is smooth and green. Even in the dormant state this green coloration makes the plants attractive and the ensuing leaves and flowers are an added bonus.

The stems growing out of the tuber vary considerably from species to species. Some are very long, twining, vine-like branches with long tendrils, and others are reduced to a round, short, stubby, dowel-like shape. The leaves produced from these stems are in most species palmate (or hand shaped). These palmate leaves are among the most beautiful in the entire succulent world. Some species have these leaves reduced to a very small and insignificant size. Most of the species of Adenia which are available to collectors have the climbing shoots and very strong tendrils that begin as tender straight green appendages and harden into woody, coiled, added attractions to the plant.

Flowers are produced singly or in small clusters at the base of the leaves. Separate sexes are produced on individual plants, a plant bearing only male or female flowers during its entire lifetime. These flowers are not as showy as one might be inclined to expect. Most are pale yellow or off-white and about 3/4 inch long and 1/4 inch wide. When a long stem is in full flower, however, with a hundred or more flowers open at once, it is very beautiful and could be likened to a spray of Forsythia.

Cultivation of Adenia is generally very easy, especially if compared to that of plants like Adenium, Pachypodium, etc. Collected plants re-root easily in an open, sandy mix when supplied with a considerable amount of water. Adenias are not the highly succulent-bodied type of plants that rot at the slightest provocation. Cuttings of many species root easily, if somewhat slowly, and will make a

sizeable, tuberous trunk in a comparatively short time. In cultivation most plants are grown by this method as it can be very unusual and lucky to have a male and female in flower at the same time in order to produce seed.

The leaves and trunks of several members of this genus are reported to be extremely poisonous. However, as most succulent collectors do not eat their plants, the main importance of this fact only affects root grubbing for food in the wild.

The succulent species of Adenia occur in the southern, eastern and north-eastern portions of Africa. The most cultivated species grow in the areas of South Africa, Kenya and Somalia. Many non-succulent members of the genus occur throughout Africa, Malesia, S.E. Asia, Indo-China and Australia. These are primarily vining, liana-type vegetation of the damper, more forested areas.

Most if not all species of Adenia have a dormant period of two to three months in the winter, and most will be leafless during this time. Some species may occasionally hold some leaves even in the dormant period if kept warm. From a cultivator's standpoint, however, it is very exciting in the spring to have plants emerge with tender new growth after a long period of dormancy.

The genus Adenia was proposed in 1775 by Forskal, based on the species Adenia venenata from Somalia. Various species have from time to time been placed in the genera Paschanthus, Machadoa, Echinothamnus, Ophiocaulon and Modecca. All of these genera have now been grouped in the common genus Adenia.

ADENIA GLAUCA: This species is the most often encountered in cultivation, and deservedly so. When grown from seed it very quickly makes a cone-shaped, green trunk topped with delicate, digitate leaves. Adenia glauca is found in the northern part of the Republic of South Africa in the area of the Transvaal, under trees and shrubs. Plants may be up to 3 feet tall excluding the branches. The twining shoots clamber through the overhead growth with their strong tendrils. In cultivation the plant is much more attractive if these long shoots are kept cut back to within a few inches of the trunk. This being done, the branches will rebranch and produce a compact head of foliage.

Cuttings of Adenia glauca root readily and quickly begin to thicken into a swollen trunk; however, it still takes a year or two to have a plant of an inch or two in diameter. Seedlings grow at about the same rate, but make more perfect plants.

All species of Adenia we have cultivated have grown well with the same cultural methods. During the winter they are kept moderately dry and warm. In summer they need good, bright light and a considerable amount of water and frequent, light applications of fertilizer. These plants have very large, tuberous root systems and should have ample root room for best growth.

ADENIA FRUTICOSA: This is one of the largest species of the genus Adenia, the trunk growing to a height of 5-6 feet tall and 2 or more in diameter. The twining stems that emanate from the top of the flask-shaped trunk may reach 18-20 feet in length.

The three subspecies of A. fruticosa vary in habitat from Southern Rhodesia to the Transvaal and Natal in Southern Africa. These subspecies vary primarily in their leaf size and shape.

Adenia fruticosa cuttings root somewhat easily and form the swollen trunk at an early age. In our experience the hardwood portions of the stems root much more easily than the soft, newer growth.

ADENIA SPINOSA: When out of leaf this is unquestionably the most beautiful of all of the species of Adenia. The tuberous trunk is always a bright, rich green color. A mature specimen of A. spinosa may be up to 18 inches high and as much as 6 feet in diameter. The branches which arise from this barrel are covered with long, coiled tendrils. The leaves drop soon after they reach maturity, thus exposing these now woody, curled spines. These are one of the plant's most interesting assets.

The native habitat is again the area of the Transvaal in the northern part of the Republic of South Africa, and it has also been found in the southern part of Rhodesia. A. spinosa is often similar to A. glauca and A. fruticosa in general appearance. The leaves of A. spinosa are normally ovate whereas those of the other are divided into 3-5 parts. Also, the stem of A. spinosa is usually a much brighter green color.

ADENIA PECHUELI: This species is attractive in the way only a mother (or succulent collector) can understand. The large tuber sits above ground among the rocks in the very arid wastes of South West Africa. For those who can still remember back to their youth, this plant looks very much like a multitude of tinker toys stuck haphazardly into a large lump of grayish-green flour dough. (After this description, those of you still reading must be the true succulent collectors).

Adenia pechuelii is actually a fascinating plant. It is, up to this time, still to be considered a very rare and seldom seen plant. To our knowledge no seed has ever been imported or produced on the few plants in cultivation. Cuttings, however, root fairly readily, but it is a long, slow process to grow a tuber of any size.

While at present this plant is not available from any commercial sources, it should be near the top of any want-list as it is indeed one of the most fascinating of all succulent plants.

ADENIA GLOBOSA: Adenia globosa is very different in plant form from the other members of the genus. The photograph of this species does not well represent the look of a large old plant in the wild. The tuberous trunk reaches a diameter of 6-7 feet and a height of somewhat less. This is topped with recurved bundles of leafless, spiny branches.

Most of the chlorophyll manufacture and assimilation is performed by the deep green trunk and branches. The leaves are very small and drop very soon after being formed on the new growth.

Three subspecies have been described. The overall look of all of them is very similar. The subspecies pseudoglobosa and ssp. curvata vary from the typical form somewhat in flower character and branching habit. All three have the great ponderous green tuberous base.

Cuttings of the branches root readily, but seem to take a very long time to begin to form the thickened main stem. Rooted branch cuttings do flower well, however, bearing their creamy yellow, sweet-scented clusters of flowers at the base of the spines.

These three subspecies of Adenia globosa grow in dry, stony areas of Kenya and Tanzania. Very few collected specimens have ever been introduced into cultivation in the United States.

ADENIA BALLYI: This species is closely allied to Adenia globosa, differing by its gray-green rather than dark green trunk and by its larger flowers and fruits. It is very rare in cultivation and so far can be propagated only very slowly from cuttings.

In its homeland of Somalia this species grows in the very arid desert areas. In nature it has the appearance of a rock with spiny stems stuck in the top.

ADENIA VENENATA: This interesting species is, as has been previously stated, the first species to be described. A. venenata has a somewhat wide range through the Congo, Ethiopia, Sudan, and the horn of Africa. Though the range is wide, the number of plants ever to reach cultivation has been very small. It has reportedly been used medicinally by many of the native people of Africa and has been transported in cultivation to a number of new habitats. The appropriateness of "venenata", meaning venemous or poisonous, is somewhat in doubt. Still, it may be best to leave the plant in a pot, not on a plate.

Mature plants may have a trunk of 5 or 6 feet high and a foot or two in diameter. This is topped by branches that can vary from short to several meters long. The leaves are deeply lobed and a dark, shiny green. Cuttings of A. venenata root easily and make the swollen trunk much faster than any other species we have grown. Unfortunately this is another species which is not at present available commercially.

ADENIA FIRINGALAVENSIS: Many species of Adenia are found on the island of Madagascar, this being one of the most interesting. Specimens of most of the Madagascar species are not found in even the largest of botanical gardens.

This species is another of the climbers. The trunk may reach a height of 5-6 feet and a diameter of 18 inches. Usually one long, up to 50 foot, clambering vine arises from the top of the trunk and grows through the surrounding trees and shrubs. Cuttings of the vining portion of A. firingalavensis root slowly and in time should swell to make the heavy trunk.

ADENIA KERAMANTHUS: This species is an exception in the genus because of the covering of fine hairs on the trunk and leaves. It is very little known in cultivation, very few plants having ever been imported. The plant in the Abbey Garden collection was received as a small, non-descript cutting. Very quickly it developed the typical knotty and tomentose trunk. A. keramanthus may have a trunk up to 3 feet tall in its habitat in Kenya, where it is reported to be somewhat rare. The general habit is that of a succulent, few-stemmed shrub rather than the vining form of many other species.

ADENIA ACULEATA: As can be seen from the photographs, this is a very different plant from the others discussed here. A. aculeata is basically a strong climber that may reach a length of 70-80 feet. This fact immediately makes one assume that it is not a succulent for the average collector, but as a pot plant it behaves very properly and slowly builds up the thickened stems covered with long jet black spines. These spines are the plant's most distinctive feature. It is reported that with age the spines fork and re-fork, antlerlike. Our plants to date have only the solitary spines, but we can hope.

Two subspecies have been named of this species, ssp. manganiana and ssp. inermis, our plants representing the typical form. The plants are native to the areas of Somalia, E. Ethiopia and No. Kenya in the region of the Horn of Africa.

Presumably this species also can be propagated from cuttings; to date, however, we have not had enough stems to try.

Adenias are among the prizes of any rare plant collection. These bizarre inhabitants of the dry forests of Africa and Madagascar, these marvelous oddities of the plant kingdom, have only recently begun to find their way into our succulent collections. Among other species to be sought by the pioneering succulent collector are Adenia schweinfurthii, A. gummifera, A. huillensis, A. repanda and A. volkensii. For additional information on this interesting genus we recommend Jacobsen's Handbook of Succulent Plants and the new work on the Genus Adenia (A Monograph of the Genus Adenia Forsk.) by W.J.J.O. de Wilde.

(Reprinted from the March-April issue of the CSSA Journal)



Killing Cactus and Other Succulents

When I agreed to answer "botanical" questions (volunteer? - never), I had in mind sharing my experience in trying to make things grow. There will be no competition with the Club library or with the experts. And I intended to encourage the easy questions, like "how does one get rid of spurge in the cactus garden?" Unfortunately the first questions are mostly complex, and only a few comments rather than complete replies are possible. The questions are here shortened into a few introductory words.

1. Control of spider mites: He who has the answer will be even more popular than the guy who builds a better mouse trap. The Sunset "New Western Garden Book" (page 59) says about all there is to say on the subject. Except in desperation, I hesitate to use insecticide, since we already use so much attempting to control more common pests. Overhead watering and frequent inspection with a spray bottle of agricultural soap in hand may work, even if not completely satisfactorily. In my experience, the mites have aimed at specific plants and when present in my collection have not been wide-spread.

2. Greenhouse ventilation and temperatures: The ideal greenhouse is one where the sides may be easily removed whenever the temperature climbs. More control would not be necessary. My greenhouse, sixteen feet long, gets all the ventilation it seems to need by having "windows" open at both ends twenty-four hours a day. If your greenhouse is going to be airtight, however, it would seem best to follow the manufacturer's recommendation on ventilation. As for a suitable maximum temperature in the greenhouse, I do not know what to say. My plants get whatever the day has to offer them, plus, in the greenhouse, as much as 20-plus degrees more. You see a great deal of variability from collector to collector, all of them doing well. Unless your greenhouse sits in an Anza-Borrego drywash, extra-high temperatures would be a threat only to seedlings or to plants suddenly placed in unaccustomed temperatures or when the high temperatures exist without adequate ventilation.

3. Relief from the sun: Some growers are able successfully to pursue pot culture in full sun, but in my mind that is best done in the fog belt or similar climes. Inland, most unprotected pot plants almost always seem to be more or less stressed, if not on the way to their maker. And you have to watch the watering like a hawk. For protection, I prefer shade cloth (55%) to lath because the former allows more even light. Whitewash is another option, with which, however, I have no experience. When pressed for space, I allow plants to sit a half day in full sun (usually the morning), with protection from the house or trees during the other half, but have found it preferable to start this procedure during the shorter days of the year to avoid sun-burned plants.

4. Sun preference of specified genera: One of the

Kent-guaranteed ways to kill plants is to treat all the plants in a specific genus as having identical light requirements. Don't do it! Most plants will, however, accept the compromise which shade cloth or some similar protection provides. There are exceptions. Astrophytums like a great deal of light, for example, to look their best, and Ferocactus spination may lose some or much of its attractiveness if not given strong light. There is tremendous variation in light requirements in the genus Mammillaria in habitat. Some species grow only in full sun, others only deep under bushes or trees or are given extra protection or exposure by their position in rocks or on cliff facings. My experience at home with the small South American cacti is that all do better with some protection from the sun. In fact without it, many will burn up. Among the succulents, Euphorbias are like Mammillarias - there is great variation in light requirements. My experience with others: Lithops -- as much light as possible but not full sun all day; Conophytum -- no direct experience, but seen in another collection, their light requirements do not seem as high as Lithops; Aloe -- when they are small or immature part shade, and when the big ones start to get big, all the sun they can get; Agave -- most grow in full sun in nature, although again the immature ones enjoy protection from too much direct sun; and Echeveria -- in my experience, the specie plants do well in a half day of full sun and the hybrids like some shade.

Space and time prevent more needed discussion of several of the above subjects, and I hope to go into greater detail in the future. Those who disagree with what has been written or wish to add their own thoughts are invited to direct them to the editor and they will be incorporated into future comments. We reserve the right to edit submissions but not to change the views or suggestions made.

For those of you who have read through to the end and are still wondering how to get spurge out of the cactus garden, the answer is liberal doses of undiluted Roundup followed by a one-quarter inch layer of used crankcase oil. But that, you may say, will kill the cactus. Yeah, but then you will have eliminated the problem of spurge in your cactus garden.

- Bob Kent



THE 1987 SDCSS SHOW

TROPHY WINNERS

Best Cactus (Phillip Corliss)[Donated by SDCSS](K)-----Beverly Kent
Best Succulent (Ruby Falk)[SDCSS](A)-----Martin Mooney
Best Exhibit (Reuben Vaughan)[SDCSS](E)-----Lit Phan
Most Artistic Display (Walter & Hazel Scott)[SDCSS](P)---M. & J. Buckner
Best Educational Display (CSSA)[CSSA](A)-----Rudy Lime
Best Mexican Plant (Dudley B. Gold)[Paul & Joan Johnson](S)-Beverly Kent
Best Euphorbia (Lydia Evans)[Russel Evans](T)-----Martin Mooney
Best Graft (Bob & Suzanne Taylor)[Dr. L. N. Phelps](P)-----John Pasek
Best Aloe (Barbara Jeppe)[Martin & Pat Mooney](A)-----Shirley Berry
Best Bonsai Succulent(Rudy & Teresita Lime)[R. & T. Lime](B)-M/J Buckner
Best Echeverioideae (Oliver & Sophie Loyland)[R. Latimer](X)----D. Dunn
Best Epicactus (Bill & Ruth Nelson)[Rick Latimer](T)----Bob & Lois Burks
Best San Diego County Native (Julianne Rice)[R. Latimer](I)----M. Mooney
Best Pelargonium/Sarcocaulon [Wilna Johnson](P)-----R. & T. Lime
Best Opuntieae [Jim & Shirley Berry](O)-----Shirley Berry
High Points 50 Entries or under [Jim & Shirley Berry]-----Shirley Berry
Sweepstakes [Dr. Ronald & Marcia Monroe](M)-----Dorothy Dunn

FRONT PAGE KEY

Top Left = Class 54 with Class 55 immediately behind and Classes 42,39, & 32 visible in the back (and Bill Crowley),
Top Right = Class 23 with Classes 11, 10, & 9 immediately behind and Classes 3-6 and 59 visible in the back,
Middle Left = Class 16,
Middle Right = Class 60 (portion of Mike & Joyce Buckner's display (P),
Bottom Left = Individual Trophy Winners:(Left to Right, Front to Back)
Q, X, T, K, P, B, I, A, Y, O, R, I,
Bottom Right = Class 47 with Class 33 behind (and Mitch Bahr).

EXHIBITOR KEY

(CDA)=Chuck & Dana Adams (DD)=Dorothy Dunn
(GA)=Gloria Alexanderson (JD)=Jearette Dutton
(MA)=Mary Ann Alexanderson (PF)=Phyllis Flechsig
(WA)=Warren Alexanderson (EF)=Evelyn Fried
(BA)=Bud Aubuchon (CF)=Cathy Frost
(MB)=Mitch Bahr (SF)=Sandy Frost
(ShB)=Shirley Bahr (VG)=Virginia Green
(SB)=Shirley Berry (EG)=Elizabeth Glover
(JB)=Joey Betzler (WG)=Wilbur Glover
(JWB)=Jerry Brattmiller (DG)=Dave Grigsby
(MJB)=Mike & Joyce Buckner (JJ)=Joan Johnson
(BB)=Bob & Lois Burks (FJ)=Frances Johnson
(AC)=Amna Cornett (BK)=Beverly Kent
(BC)=Bill Crowley (Bkd)=Beverly Kirkegaard
(DC)=Diane Crowley (DL)=Dorothy Larberg
(DLC)=Donna Couchman (RL)=Rick Latimer
(MC)=Mike Cullen (ML)=Madelyn Lee

(DML)=Dr. & Mrs. Lemrow (HR)=Harold Richter
(RTL)=Rudy & Teresita Lime (GR)=Gerald Rudy
(EM)= Elibet Marshall (BS)=Brunhilde Scheffler
(JM)=Joan Miller (BSh)=Betty Shor
(RM)=Ron Miller (ES)=Ron & Eileen Smith
(MM)=Martin Mooney (BT)=Bob Taylor
(TN)=Ted Nelson (FT)=Frank Thrombley
(JP)=John Pasek (JW)=John Williams
(MP)=Marie Pearce (RW)=Ruby Winters
(LVP)=Lit Phan (JWd)=Joseph Wood
(LP)=Lee Phelps (LZ)=Lois Zaranka
(JPr)=Judy Pitre (WZ)=Wayne Zaranka

RIBBON & TROPHY WINNERS

1A:Opuntia pachypus(JP), O. microdasys alba(LP), O. microdasys rufida(EM).
1B:Tephrocactus atroviridis(SB)[O], T. subterraneus(BK), O. invicta(JW).
2A:Pseudozygocactus epiphyllodes var. epiphyllodes(BB)[T], Pz. ep.var. bradei(BB), Schlumbergera sp. monstrosus(BB).
2B:Rhipsalis horrida(JW), Epiphyllum "Avery Fuller"(WG), Epiphyllum "Challenge(WG).
3A:---,---, Machaerocereus gummosus(SB).
3B:Cephalocereus senilis(EG), Backebergia militaris(RTL), Cphc. palmeri(SB).
4A:Pseudopilocereus rosea(JP), Pspc. superfloccosus(SB), ---.
4B:Micranthocereus densiflorus(DD), Oreocereus trollii(SB), Borzicactus icosagonus(DD) and Austrocephalocereus estevesii(DD).
5A:---, Eomatucana oreodoxa(SB), Oroya peruviana(DLC).
5B:Denmoza erythrocephala(JJ),---,Matucana comacephala(SB).
6A:Neoporteria nidus(BK), N. nidus-senilis(SB), Neochilenia napina(PF).
6B:Nc. aerocarpa v. fulva(SB),---,---.
7A:---, Copiapoa marginata(RM), C. magnifica(JWB).
7B:C. humilis(BK), C.krainziana(DD), C. humilis(BK).
8A:---, Buiningia purpurea(SB), ---.
8B:Melocactus disciformis(SB), B. brevicylindrica(BK), M. conoides(RM).
9A:Uebelmannia pectinifera(SB) and U. pectinifera(DG), Discocactus araneispinus(SB), U. pectinifera(PF).
9B:---,---,---.
10A:Notocactus scopa v. murelli(SB), N. neobueneckeri(CDA), N. scopa v. murelli(WZ).
10B:N. neobueneckeri(BK)[K], N.neobueneckeri(DD), N. leninghausii(DD).
11A:Parodia laui(CDA), P. miguelensis(SB), P. nivosa(JWB).
11B:P. amblayensis(DD), P. penicillata(DD), P. penicillata(RW).
12A:Gymnocalycium eurypleurum(RW), G. spegazzinii(SB), G. cardenasianum(BK).
12B:G. veiterii(BK), G. zegarrae(DD), G. denudatum(RW) and G. pflanzii v. albidulpa

- 13A: *Sulcorebutia canigueralii*(DD), *S. verticillacantha* v. *minima*(BK), *W. neocumingii*(WZ).
- 13B: *Weingartia pulquensis*(WZ), *S. flavissima*(DD), *Soehrensia* sp. "Belen, Argentina?".
- 14A: *Rebutia heliosa*(MM), *R. perplexa*(LZ), *R. heliosa* v. *condorensis*(SB).
- 14B: *R. heliosa* v. *heliosa*(SB), *R. "Lemon Queen"*(DL), *R. muscula*(DD).
- 15A: *Echinocereus pectinatus* v. *rubrispinus*(BKd), *E. pectinatus* v. *laui*(BK), *E. nivosus*(SB).
- 15B: *E. delaetii*(DD), *E. baileyi* v. *caespitosus*(SB), *E. nivosus*(DD).
- 16A: *Echinofossulocactus hastatus*(DL), *E. albatus*(JJ), *Ancistrocactus uncinatus*(PF).
- 16B: *Ferocactus chrysacanthus*(DD), *F. rectispinus*(DD), *F. diguetii*(DD) and *F. herrerae*.
- 17A: ---, ---, ---.
- 17B: *Astrophytum ornatum* v. *mirabellii*(DD), *A. capricorne*(BKd), *A. myriostigma*(SB).
- 18A: *Obregonia denegrii*(MM), *Ariocarpus trigonus*(JJ), *O. denegrii*(SB).
- 18B: *Ariocarpus retusus*(BKd), *Leuchtenbergia principis*(MM), *A. furfuraceus*(BKd).
- 19A: *Epithelantha micromeris* v. *unguispina*(MM), *Pediocactus knowltonii*(JJ), ---.
- 19B: ---, ---, ---.
- 20A: *Escobaria minima*(JWB), ---, *Coryphantha organensis*(JJ).
- 20B: ---, *Coryphantha andreae*(SB), ---.
- 21A: *Mammillaria humboldtii*(BKd), *M. candida*(BK), *M. sempervivi* v. *tetracantha*(BK).
- 21B: *M. plumosa*(BK)[Ξ], *M. canelensis*(DD) and *M. crinita*(DD) and *M. scheidiana*(BK), *M. magnifica*(DD) and *M. nejapensis*(JPr).
- 22A: *Wilcoxia schmollii*(RW), ---, ---.
- 22B: *Cochemia setispina*(DD), *Malacocarpus hennisii*(SB), *X Ferobergia "Gil Tegelberg"*(DD).
- 23A: *Lemaireocereus hollianus cristatus*(DD), *Rooksbya euphorbioides cristata*(DD), *Notocactus leninghausii cristatus*(DD).
- 23B: *Astrophytum myriostigma monstrosus*(SB), *Espostoa nana cristata*(DD), *Cephalocereus senilis cristatus*(DD).
- 24A: *Alluaudia montagnacii*(JWB), *Didierea madagascariensis*(AC), *Alluaudia ascendens*(JP).
- 24B: *D. madagascariensis*(BKd), *Decarya madagascariensis*(PF), *A. montagnacii*(JP).
- 25A: *Conophytum uvaeforme*(JJ), *C. sp.* (CDA), *Pleiospilos prismaticus*(CDA).
- 25B: ---, ---, ---.
- 26A: *Trichodiadema bulbosum*(DC), *Mestoklema*(BC), *T. densum*(BC).
- 26B: *M. tuberosum*(RTL), *M. tuberosum*(RTL), *M. tuberosum*(BC).
- 27A: *Alainopsis hilmari*(LP), *A. rubrolineata*(DC), *Bergeranthus jamesii*(BC).
- 27B: ---, *A. schooneesii*(BC), *Aptenia cordifolia*(MP).
- 28A: *Talinum caffrum*(JWB), *Anacampseros wischkoni*(AC), *A. lubbersi*(AC).
- 28B: ---, *Portulacaria afra variegata*(RTL), *P. afra variegata*(RTL).
- 29A: ---, *Kalanchoe tetraphylla*(JB), *K. fedtschenkoi variegata*(BSh) and *K. millottii*(JB).
- 29B: ---, *K. beharensis*(WZ), *K. thyrsiflora*(BS).
- 30A: *Cotyledon buchholziana*(JP), *C. transvenosus*(ML), *C. reticulata*(RTL).
- 30B: *C. buchholziana*(MM), *C. reticulata*(LP), *C. orbiculata* v. *oophylla*(SB).
- 31A: *Crassula ausensis* v. *giessii*(SF), ---, *C. 'earlobes'*(EM).
- 31B: *C. suzannae*(BKd), *C. 'Gollum'*(MM), *C. 'Hobbit'*(JW).
- 32A: *Sempervivum 'Black Prince'*(SB), ---, *Aeonium holochrysum*(EM).
- 32B: *Monanthes muralis*(JWd), *S. 'Commander Hay'*(SB), *S. 'Safari'*(SB).
- 33A: *Sedum furfuraceum*(SB), *S. tornosum*(MM), *S. sp.*(MP)
- 33B: *S. frutescens*(MM), *S. oxypetalum*(PF), *S. frutescens*(RM).
- 34A: ---, *Echeveria agavoides*(BSh), *E. chihuahuensis*(SB).
- 34B: *Graptopetalum amethystinum*(JWd), *E. 'Black Prince'*(GA), *E. set-oliver*(MP).
- 35A: *Dudleya greenii "White Sprite"*(DML), ---, ---.
- 35B: *D. Greenii "White Sprite"*(DD)[X], *D. pulverulenta*(EM), *D. caespitosa*(SB).
- 36A: *Sesamothamnus lugardae*(JB), *Bursera* sp.(LP), *Pachycormus discolor*(BC).
- 36B: *B. semirubra*(MJB)[B], *B. fagaroides*(RTL), *B. fagaroides*(RTL).
- 37A: *Ficus palmeri*(DC), *Dorstenia "taba'a gorge"*(RW), *D. crispa*(BC) and *Cissus tuberosa*(BC).
- 37B: *Cyphostemma juttiae*(BC), *Ficus palmeri*(BC), *F. petiolaris*(FJ).
- 38A: *Sarcocaulon vanderietiae*(RTL), *P. crithnifolium*(SB), *P. trieste*(RTL).
- 38B: *P. "Clan Williams"*(RTL)[♥], *P. cotyledonis*(LP), ---.
- 39A: *Pachypodium horombense*(JWB), *P. rosulatum* v. *gracilius*(BC), *P. rosulatum*(RTL).
- 39B: *P. namaquanum*(MM)[▲], *P. horombense*(JJ) and *Adenium somalense*(BC), *P. namaquanum*(JP)[♣].
- 40A: *Caralluma dodsoniana*(JB), *Echidnopsis bihendullensis*(JB), *C. ubomboensis*(JB) and *C. gemugofana*(JB).
- 40B: *Hoodia bainii*(BKd), *Huernia hystrix*(VG), *Orbea variegata cristata*(HR).
- 41A: ---, *Raphionacme zeyheri*(BC), *Cynanchum marnierianum*(RL).
- 41B: *Fockea edulis*(JW), *Fockea edulis*(RTL), *F. edulis*(RTL).
- 42A: *Senecio scaposus*(RTL), ---, *S. articulatus*(BSh).
- 42B: *S. deflersii*(DD), *Othonna euphorbioides*(LP), *S. deflersii*(GA) and *S.-tropaeolifolius*(DC).
- 43A: *Euphorbia sepulta*(ML), *E. cap-saintemariensis*(DC) and *E. pachyclada*(RW), *E. cylindrifolia* v. *tuberifera*(RTL) and *E. neohumbertii* v. *aureiflora*(AC)
- 43B: *Euphorbia polygona*(MM)[♣], *E. horrida* v. *striata*(MM) and *E. polygona "Superwhite"*, *E. fruticosa*(ML) and *E. knuthii*(BC).

also Euphorbia misera(MM)[I].

44A: Monadenium reflexum(RW), Jatropha cathartica(BC), M. rhizophorum(MB).
44B: M. arborescens(DD), J. podagrica(DD), M. magnificum(DD).

45A: Fouquieria fasciculata(RTL), F. purpusii(RTL), ---.
45B: F. fasciculata(RTL), F. purpusii(RTL), ---.

46A: Ipomoea bolusii(RTL), Raphionacme burkii(RTL), ---.
46B: Adenia spinosa(DG), A. sp. nova (Madagascar)(ML), Gerrardanthus macrorrhizus(LP) and Ibervillea tenuisecta(RTL).

47A: Aloe erinaceae(SB)[A], A. 'Lizard Lips'(JJ), A. parvula(AC).
47B: A. ramosissima(DML), A. sinkatana(PF), A. vanbalenii(RL).

48A: Gasteria armstrongii(PF), G. sp.(RTL), G. liliputana(DL).
48B: G. liliputana(JWB), G. carinata(DML), ---.

49A: Haworthia comptoniana fa. comptoniana(BB), H. mutica(BB) and H. semi-viva(BB), Astroloba foliosa(SB) and H. emelyae(BB).
49B: A. herrei(SB), H. retusa (giant form), H. emelyae(ML).

50A: Sansevieria kirkii v. pulchra(RTL), ---, ---.
50B: S. pinguicula(DD), S. sp. (GC78-126 Malawi)(MB), S. suffruticosa(DML).

51A: Agave parviflora(JWB), A. filifera compacta(SB), A. filifera compacta(DML).
51B: A. pelona(DD), A. polyanthiflora(DL), A. schidigera(SB).

52A: Yucca endlichiana(JP), ---, ---.
52B: Beaucarnea inermis(MJB), Calibanus hookerii(JPr), C. hookerii(BA).

53A: ---, ---, ---.
53B: ---, Acanthostachys strobilacea(HR), ---.

54A: Pterodiscus speciosus(MM), Cussonia natalensis(RTL), Coleus sp.(SB).
54B: Brachychiton discolor(MJB), B. rupestris(RTL) and Welwitschia mirabilis(MM), Sinningia cardinalis(DD).

55A: Haworthia retusa "Grey Ghost"(BB), Echeveria 'Fred Ives' crest, ---.
55B: Euphorbia grandicornis cristata(DD), E. lactea cristata(RM), E. ingens monstrosa(EM).

56: ---, ---, ---.

57: Haworthias(BB), Euphorbias(RTL), Euphorbias(FJ).

58: ---, ---, ---.

59A: ---, Echeveria derrenbergias(EM), Gymnocalycium mihanovichii v. friedrichii cv. "Hibotan-Nishiki"(RTL).
59B: Lithops spp. (city)(MM), Crassulaceae(JWd), "Sand Garden(DC).

60: (LVP)[E] and (RTL)[A] and (MJB)[P], Agaves(FT).
also (DD)[S] and (SB)[H].

THANK YOU!

I wish to thank all of those who made our 1987 San Diego Cactus and Succulent Society Plant Show and Sale another one in a long series of successes! To the exhibitors; sales plant selectors, pricers, haulers, and sellers; hosts and hostesses, question answerers, plant watchers, visitor counters; table coverers and uncoverers, floor sweepers, cleaner uppers; cooks and chefs; and clerks and the Judges; I thank you. One can not find a better group of people to put on a show, anywhere. It is always has been a lot of work to put on such a show, but with this group it is always a great deal of fun.

Rick Latimer, Show Chairman

NEW BOOKS IN OUR LIBRARY

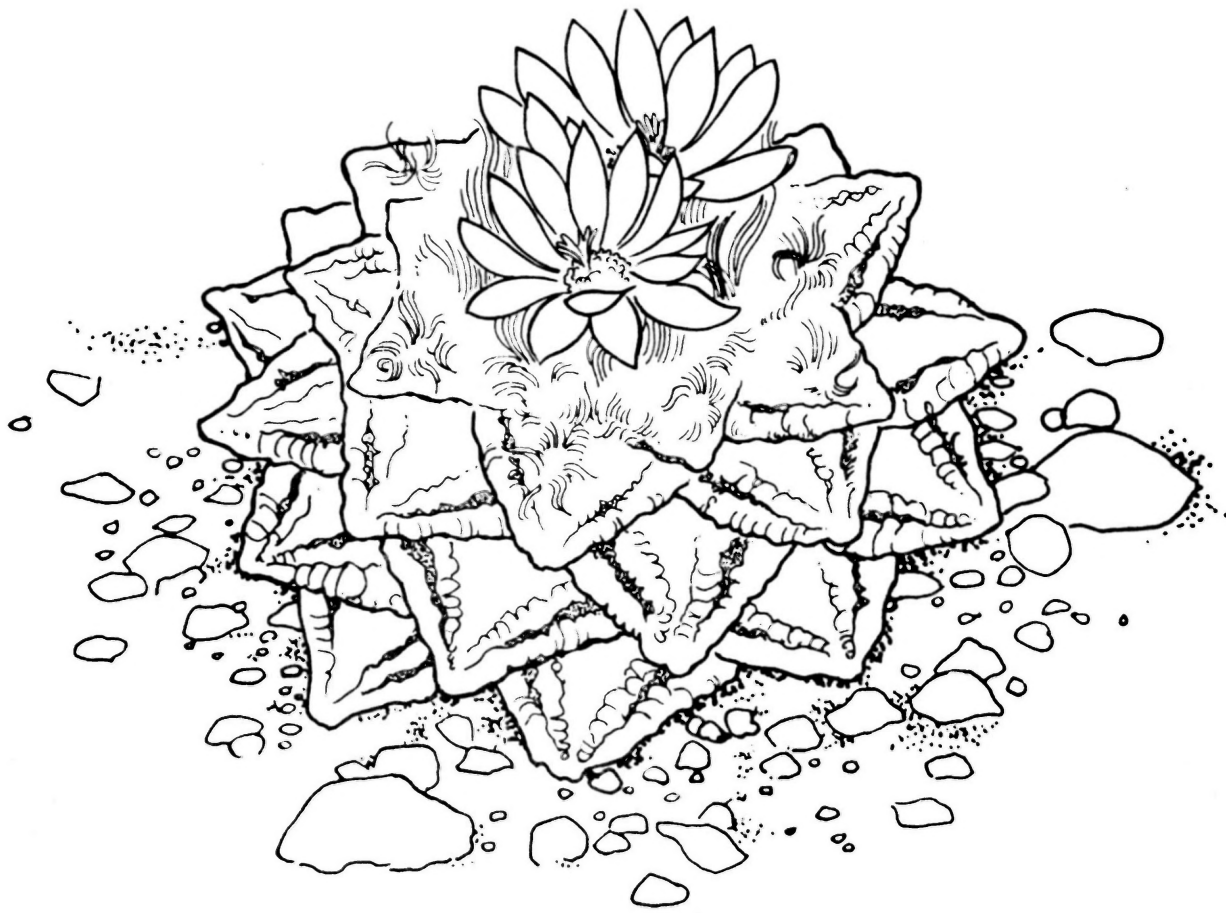
Victor Graham, Growing Succulent Plants Including Cacti (two)
Takashi Hashizume, Epiphyllums (actual title? - in Japanese)(two)
Michael J. Kimberley, ed., Excelsa 12 (JACSSZ)
Deborah R. Koreshoff, Bonsai, Its Art, Science, History, and Philosophy
Beat Ernst Leuenberger, Pereskia (two)
John Pilbeam, Cacti for the Connoisseur (two)
Gordon D. Rowley, Caudiciform and Pachycaul Succulents (two)
William Trelease, Agave in the West Indies (1913)
Ira L. Wiggins, Flora of Baja California
Ira Wiggins and Duncan M. Porter, Flora of the Galapagos Islands

Donated by Brunhilde Scheffler:

James E. Gick, Cacti & Succulents from Mother Nature
Charles Glass & Robert Foster, Cacti and Succulents for the Amateur
W. J. Jankowitz, Aloes of South West Africa
Edgar and Brian Lamb, Popular Exotic Cacti in Color

Rick Latimer, Librarian





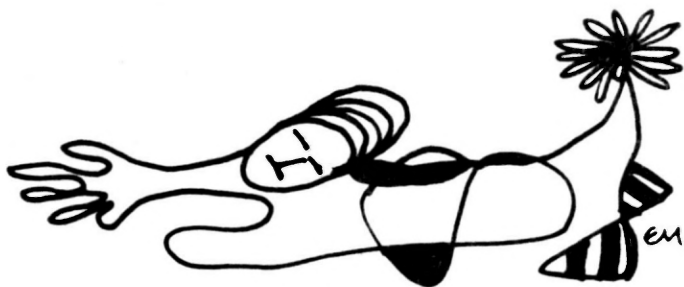
ARIOCARPUS FISSURATUS (*Living rock cactus*). Mexico.
A very slow-growing species which appears lifeless due to its rock-hard texture and dark, fissured skin. Only the appearance of the purplish-pink flowers or a slight increase in the amount of wool at the top of the plant identifies periods of

"active" growth. Requires very porous soil with additional lime and a location in full sun. It must be watered very sparingly, even in summer. A long, completely dry winter rest period is essential.

This is from the Stefen Bernath - The Cactus Coloring Book
The regular article did come to me before press time.

Editor

Mary Aubuchon
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Chula Vista, CA 92011



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