Espinas y Flores

BULLETIN OF THE SAN DIEGO CACTUS AND SUCCULENT SOCIETY

Affiliate of the Cactus and Succulent Society of America, Inc.

MAMMILLARIA THORNBERI

Volume XVIII, NUMBER 9 September 10, 1983

SEPTEMBER MEETING

Saturday September 10, 1983

1:30 P.M.

Casa Del Prado, Room 101, Balboa Park

PROGRAM

SUCCULENT PLANT USES

The Guest Speaker will be Joyce Tate, A member of the San Diego Cactus and Succulent Society. Her presentation wil be on the subject of Succulent Plant Uses. She will speak about such uses as Medication, Fibers for cloth, Soaps, Foods. Mrs Tate has had a cook book Published called CACTUS COOKBOOK. She will bring some copies so that our members will have the opportunity to buy one.

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Deadline for the October Issue - - - Spetember 25 Thanks, Mary

NEWS news NEWS

- Welcome to the new members who have joined us in August:

Kathe & David B. Roberts Jr. - El Centro
Douglas A. Shultz - El Cajon
Manon Wattel - El Cajon

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The following members are selling some of their cactus & succulent plants.

Helen Paulus	PH: 483-2218	- Moving east on September 15, 1983
'Del' Delcover	PH: 270-7739	- Reducing his collection
Sylvia Kramer	PH: 741-9981	- Reducing her collection

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- SHOW SCHEDULE FOR SEPTEMBER AND OCTOBER

Sept 17 & 18	San Diego Daytime African Violet Show	Sat:10am-4:30pm Sun:10am-4:30pm
Sept 24 &25	San Diego Bonsai Fall Show	Sat:10am-5:00pm Sun:10am - 5pm
Oct. 1 & 2	Balboa Park African Violet Fall "mini" Show	Sat:10am-5:00pm Sun;10am -4pm
Oct. 15 & 16	Ikenobo Chapter of San Diego Show	Sat:11am-4:30pm Sun:11am -4:30 pm
Oct. 23	Convair Garden Club Fall Show	Sun: 1pm - 4:30pm

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Members who have signed up to bring refreshments to the September meeting:

Flo Warner - Steve Hanna - Virginia Buckner - Karl Zanker
Frances Johnson - Barbara Olson

As you can see this is not a very long list, perhaps a few others could bring something. Thanks.

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Our Special Thanks to Sylvia Kramer and Shirley Berry for donating plants to the sale table in August.

SUCCULENT-OF-THE-MONTH

Caralluma and Frerea

by Rick Latimer

The Milkweed or Silkweed family (Asclepiadaceae)is generally considered to be the most difficult to cultivate of the "Big Four" 'succulent' families (the other three of course being the Cactaceae, Mesembrymaceae, and Crassulaceae). Many species are easy enough to grow, but this family seems to have the greatest concentration of tempermental species. The family distribution is world wide,mainly in tropical areas (especially South America); but many species also occur in temperate regions of both hemispheres. Species are usually herbs, shrubs, or small trees; often with a milky sap (chemically different from Euphorbia sap). The family is divided into six tribes. The most primitive tribe includes the genus Raphionacme, which has species with a caudex. The most advanced tribe is the Stapelieae; which includes all of the generally low growing, succulent stemmed plants with the manure scented, "starfish" flowers. A closely related family is Apocynaceae or oleander family, which includes the succulent genera Pachypodium and Adenium. As we saw at our special July meeting given by Gordon Rowley, both the Pachypodiums (and relatives) and the Stapeliads have flowers that are adapted to very specific (but in each case different) pollinators.

Like the other succulents, the Stapeliads have their own inventory of forbiddingly named genera: Caralluma, Duvalia, Echidnopsis (not to be confused with Echinopsis!), Edithcolea, Frerea, Hoodia, Huernia, Huerniopsis, Orbea, Pectinaria, Piaranthus, Pseudolithos, Pseudopectinaria, Rhytidocaulon, Stapelia, Stapelianthus, Stapeliopsis, Stultitia, Tavaresia, Trichocaulon, and Whitesloanea. The most primitive genus in this group is the monotypic Frerea (included in Caralluma by Rowley). Its only species F. indica is native to an area 65 miles southeast of Bombay India. Plants make excellent subjects for a hanging basket and its stems are unique in the Stapeliad group in that they bear leaves. The genus Caralluma was created by Robert Brown in 1809 and named after what Dr. William Roxburgh in 1785 had stated was the native name for the type species (C. ascendens), namely "Car-Allum". More recent Indian researchers were unable to verify that such a word ever existed. Prof. Dinter once made the amusremark that it is difficult to define the genus Caralluma because all of the Stapeliads that no other genus would take,have been placed in this genus. Or, one might say that Caralluma circumscribes the entire tribe, and that the other genera are simply amputations (large and small) made possible by some real or artifical distinction (sometimes a little far fetched). Some genera, such as Hoodia and Huernia have very distinctive flowers; but others such as Trichocaulon and Echidnopsis are separated solely on the characteristics of the stems. And when we come to the genus Stapelia, we find no single feature upon which to base a complete and logical separation.

The distribution of the genus Caralluma is very extensive. The eastern limit is near the "Road to Mandalay in Burma, west all the way to the Canary Islands, and all the way down to Capetown at the southern tip of Africa. The range spans one third of the globe in longitude and 70 degrees in laditude. In this broad range, there is hardly a country along the way that does not shelter at least one species: Burma (C. crenulata), India (C. stalagmifera), Pakistan (C. edulis), Sri Lanka (C. umbellata), Yemen (C. rauhii), Socotra (C. socotrana), Somalia (C. speciosa), Ethiopia (C. sacculata), Sudan (C. retrospiciens), Kenya (C. dicapuae), Tanzania (C. distincta), Malawi (C. caudata), Congo (C. schweinfurthii), Uganda (C. wilsoni), Zimbabwe (C. melanantha), Mozambique (C. lutea), Republic of South Africa (C. lugardi), Namibia (C. peschii), Angola (C. gossweileri), Mauritania (C. decaisneana), Algeria (C. venenosa), Morocco (C. joannis), Canary Islands (C. burchardii), Spain (C. europea), and Jordan (C. aaronis). One theory implies that since Caralluma is the second most (or most) primitive genus of the Stapeliad tribe, it is so widespread since it has had the most time to get around and that some of the other genera arose from in different locals due to different conditions. The stems of the species Carallumas are usually dwarf, clumping 3 to 6 angled stems that are toothed or toothless anong the angles. One of the "taller" species, C. retrospiciens, may exceed 2 feet in height. The flowers may bloom near the base, along the grooves, or form clumps at the apex (depending upon the species). There is a wide range of flower colors: brown (C. lugardi), red (C. socotrana), black (C. speciosa), purple (C. adeniensis), gray C. burchardii var. maura), green (C. sarkariae), yellow (C. lutea), and white to pink (C. incarnata). The sizes of flowers range from under ½ inch to over 4 inches. The flowers of many species are multicolored with spots or stripes and some have hairs. I have no data from one species to another about the potency of the scent of the flowers. We will have to test this attribute ourselves from the samples that will be brought in.

REFERENCES:

Clive Innes, The Complete Handbook of Cacti and Succulents.

Hermann Jacobsen, A Handbook of Succulent Plants.

Edgar Lamb, Stapeliads.

Carl August Luckhoff, The Stapelieae of Southern Africa.

F. A. Novak, The Pictorial Encyclopedia of Plants and Flowers.

Darrel C. H. Plowes, "Stapeliad Checklist", Excelsa (7).

G. Reese, "The Structure of the Highly Specialized Carrion-Flowers of Stapeliads", Cactus and Succulent Journal (45:1).

Gordon Rowley, The Illustrated Encyclopedia of Succulents.

J. Riha and R. Subik, The Illustrated Encyclopedia of Cacti and other Succulents.

Alain White and Boyd L. Sloane, The Stapelieae.

THE CACTUS OF THE MONTH

THE GENUS ECHINOFOSSULOCACTUS Lawr.

Joan Johnson

The echinofossulocacti, members of the echinocactanae, are closely related to the ferocacti of our August program

They are, as a genus, easily recognizable. They are small barrel cacti, up to 6-9 inches tall and 5 or 6 inches in diameter. Some species are smaller, particularly species that offset readily. Their most outstanding characteristic is the very numerous, thin and knifedged, slightly tuberculate, usually undulating ribs. Areoles are few, not more than 2 or 3 to a rib, round, felted when young and later naked. Most species are heavily spined with two types of centrals, one or two in the center of the areole, and usually two lateral centrals, distinguished from the much smaller radials on the outer edge of the areole, by their much larger size. Centrals can be up to 3½ - 4 inches long, some needlelike, curved or straight, some, the longest, papery and twisted, but never hooked. One species has one or two centrals, most have three or four, and one species has nine. Radials number from 2 to 16 and more per areole.

There are, basically two kinds of flowers, all more or less campanulate and funnelform. They are either yellowish or they are violet-purple with petals having a violet purple midstripe and a white or rose margin. There are also different sizes among flowers. The large-flowered species have funnelform flowers from 25 to 40 mm long, and the small-flowered species' flowers are from 15 to 22mm in size. They arise from the young areoles at the top of the plant very early in the spring, December to March, and have scales on the flower tubes and later the seedpods which dehisce around the bottom to spread their small black seeds. Size and color are the only important attributes of flowers in differentiating the species.

All the members of the genus are denizens of the Chihuahuan Desert and its outlying regions, all in Mexico. The high central plateau, 3800 ft to 8700 ft in elevation, where the species grow, includes the states of Durango, Zacatecas, southern Chihuahua, Aquascalientes, southern Coahuila, southern Nueva Leon, San Luis Potosi, Hidalgo, where more species grow than in any other state, Mexico, and down beyond the Oaxaca-Puebla border, considerably south of Mexico City. They occur mostly in two types of habitat, the sandy, dry mesquite and chapparal-covered plains, and the pine-oak forests of the foothills and mountain slopes. One can almost tell what the natural habitat of a species is by the spination that it carries. The species with heavy and thick radial spines occur in regions of lower elevation with hot and dry climates, while species of numerous, thin radials inhabit places of much higher elevation, mountain slopes and foothills of oak-pine forests in which the climate is more temperate with long dry periods.

Cultural needs are quite simple. A welldrained soil with some humus and coarse sand or gravel and a little limestone(less than 5% of volume) will keep them happy. Once the roots are established, they can handle a little more water than most cacti native to desert locations. They are fairly hardy and frost resistant, and would do well outdoors anywhere in San Diego County. They do grow better outdoors in the ground than in pots, best with partial wispy shade. Especially the species withwith dark green bodies need a little shade.

Echinofossulocacti, called Stenocacti until Britton and Rose dug up the impossibly long name in use now, have presented all sorts of classification problems for years. Species have rather similar characteristics, rather unconstant within a species and with few important differences. Many original descriptions were quite deficient and were based on very few specimens. These descriptions were frequently incomplete, especially as to flowers, fruit and seed, and included no type locality and distribution information. Nor did they take into account the modified characteristics, especially of spines, in the cultivated plants from which many descriptions were written. And there was no notice taken of variations within species nor of averages and extremes of populations.

Much field work needs to be done during the blooming periods in early spring in various areas of Mexico, especially north of Tehuacan, in Hidalgo, and between Querétaro and San Luis Potosí, and the latter and Zacatecas before a valid, thorough revision of the genus can successfully be made. This work is falling mainly to Drs. Helia Bravo and Jorge Meyrán of Mexico City, and they have been working on it since 1969, including extended fieldtrips and population studies.

They have come to the conclusion that:

1. There is much variation in the number of ribs within a species, and that the number of ribs, being so variable, is not important in separating related species.
2. Central and radial spine separation should be based on morphology, ie. lateral spines are centrals as they are much longer and stouter than radials.
3. In counting areoles, only those above ground are included.
4. The flowers are so similar from species to species that they have no diagnostic value except as to color and size (more than 22 mm or less).

As an indication of the state of confusion on the subject of echinofossulocacti, Britton and Rose listed 22 species, Borg had 26, and N.P. Taylor, with no field work, listed only 6, lumping into E. crispatus all species with numerous ribs and purple flowers regardless of flower size, spination characteristics, and areas of distribution. Backeberg listed 34 or 35 species "Cactus Lexicon", and even Helia Bravo, in her series of articles in "Cactaceas y Suculentas mexicanas", 1969, listed 34 species in her preliminary work on the genus. Finally, Jorge Mey-

rán, in a series of articles from mid-1972 to early 1981 in the same publication, concludes that there are in actuality many fewer true species than have so far been published, and that it would be helpful to use as many of the old names as possible in the revision. He places many names into synonomy while combining many species. He presents a total of about 16 species, but not including the northern plants from Chihuahua, Coahuila or Nueva Leon, which have not yet been studied.

I can't help but believe that Bravo and Meyrán will in the near future publish the definitive revision of Echinofossulocactus that we have all been waiting for.

REFERENCES USED

1. Britton & Rose, v. III, p. 109-123
2. J. Borg, "Cacti", p. 278-284
3. N.P. Taylor, "A Commentary on the Genus Echinofossulocactus"
   The Cactus and Succulent Journal of Great Britain, v. 41, 1979, p. 35-42
4. "The Genus Echinofossulocactus" by Helia Bravo
   Cactaceas y Suculentas mexicanas, 1969, p. 11-21, p. 34-46, p. 59-69, p. 83-89
5. Jorge Meyrán, "Studies on Echinofossulocactus"
   Cactaceas y Suculentas mexicanas, 1972, p. 35-46, 57-63; 1973, p. 40-46 and p. 101-108; 1975, p. 3-8, p. 35-38; 1976, p. 24-28, p. 51-55; 1979, p. 90-98; 1980, p. 60-64; 1981 p. 16-19

BRAG TABLE WINNERS

1st Place Wilna Johnson for her Pelargonium Cotyledonis

2nd Place Floyd Gable for his Euphorbia Obesa Hybrid

Tied for third
Bob Kent for his Mammillaria Schiedeana
Dorothy Dunn for her Monadenium Magnificum

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Orientation:

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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