



Espinas y Flores

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

Vol. XVI, No. 4

April 1981

April Meeting

Saturday, April 11, 1981
1:30 pm
Casa del Prado, Room 101, Balboa Park

The Genus "Dudleya"

by Paul H. Thomson

Paul H. Thomson will give a slide program titled "The Genus Dudleya". There are approximately 43 species of dudleyas all of which are exclusively American. Members are encouraged to bring samples of their dudleyas for all of us to enjoy. Paul will also answer any questions pertaining to this genus-- so lets see if we can stump him.

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SUCCULENTS OF THE MONTH FOR APRIL

Bulbine
Gasteria .. family; Liliaceae
Bowiaea

These plants are often ignored as 'common' by many collectors. Here in Southern California they require little effort or time to grow and everyone seems to have at least three. However each genera has plants with charm and uniqueness that sets them apart from the general classification of 'common'.

Bulbine

This genus from S. Africa and E. Australia is usually thought of as having bright green strap-like leaves and yellow flowers. B. caulescens is the 'usual' plant we think of. It is excellent for a filler in the odd space in the garden that needs color and little care.

There are other species that have tuberous roots and are very un-plant like in habit. B. mesembrianthoides is a case in point. Called 'Water Bubble' in South Africa, this tiny plant is anything but common to find or to grow. The small caudex produces one or two almost transparent lithop-like leaves in the winter. After flowering the leaves disappear in the summer until the next growing season.

Bulbine prefer a long summer rest and less water during this time.

Gasteria

The species names of this African genus are not easy to nail down as they do not look the same when young as they do when old. The young plants have two ranks of opposing leaves and old plants are rosette shaped. The name game is further complicated by 'volunteer' seedlings. Gasterias, Haworthias, and Aloes seem to have an irresistible appeal for each other and they hybridize almost by magic.

Some plants are only two inches in diameter, others can grow to two feet. The cheerful reddish flowers with green tips are stomach (gaster) shaped and arranged on a tall spike which can appear anytime of year.

Gasterias generally dislike full sun and grow very well in shade or indoors. They prefer a little less water in winter. Propagation is by leaf cutting or offsets.

Bowiea

Bowiea volubilis is one 'pregnant onion' almost every plant lover has grown at one time or the other.

The bright-green multibranched vine, growing out of the bright-green bulb, is eye-catching and almost irresistible. There is so much green you hardly notice the greenish-white flowers.

B. kilimandscharica is the other species. It looks very much the same but has yellow flowers and is much harder to pronounce.

The bulbs should be grown above ground in a rich sandy soil. A long, dry winter rest period is needed. Propagation is by small bulblets which come up between layers of the old bulb or seed.

For more information read;

Lexicon of Succulent Plants by H. Jacobson
Cactus and Succulents by W. Haage
Encyclopedia of Succulents by G. Rowley
Cactus and Succulent Journal U.S. (many articles)

CACTUS-OF-THE-MONTH

Weingartia

Dr. R.E. Monroe

The genus Weingartia had a very stormy beginning and it now appears that history is trying to repeat itself because some authors are intent on either destroying the genus per se (Brandt, 1976; by transfer to Sulcorebutia) or dividing it into subgenera (Brandt, 1977; Weingartia: Section Spegazzinia and Section Sulcorebutia) or reducing the number of species within the genus (Donald, 1979). The first indication of the status of these plants began when Backeberg (1933) honored the Argentinian botanist, Dr. Carlos Spegazzini, by naming a new genus of cactus for him, Spegazzinia fidaianus. But there was already a plant named Spegazzinia (an algae), so Werdermann (1937) changed the name to Weingartia in honor of Wilhelm Weingart. Also, only the latest review literature considers the genus at all (Anon., 1974: 20 species; Backeberg, 1977: 21 species and Donald, 1979: six species, six subspecies and seven varieties).

Weingartia are small, spherical cacti, that are closely allied to Sulcorebutia and Gymnocalycium with the ribs divided into tubercles. The plants are simple to caespitose and may possess a neck-constriction of the napiform root and the areoles are somewhat similar to those of species of Sulcorebutia in that they sit on the top of the tubercles and the spines can be either very short or extremely long depending upon the species and the growth regimen. The flowers are produced on older areoles (about one third the distance from the plant apex) and are somewhat small with a short tube. The flower colors range from buttercup yellow to reddish, but few persons have ever seen the orange or red-flowering forms.

The distribution of Weingartia is nearly parallel to that of Sulcorebutia: the dry, steep eastern slopes of the Andes of South Bolivia (Department Cochabamba and Department Chuquisaca) and extending into north Argentina (north of Humahuaca). The plants are found at very high altitudes (1300-3000m) and are very hardy and can take considerable frost.

Although there are several recent introductions (by K. Knize, Peru) into this country, most of these plants are merely phenotypes of already existing species and do not warrant the "new names". Some of the more common species in collections (and the flower color) is: W. neocumingii (yellow to orange), W. neocumingii subsp. pulquinensis v. corroana (yellow), W. neocumingii subsp. pulquinensis v. multispina (yellow), W. neocumingii subsp. sucrensis (yellow to reddish), W. lanata (yellow to orange), W. westii (yellow), W. purpurea (red to purple) and W. neumanniana (burnt orange to red). The rarest species in this country are W. purpurea, W. torotorensis (red) and W. kargliana (yellow).

Although Weingartia are extremely easy to grow, like other Andean globular cacti, they do require filtered sun. This can be accomplished by using either shade cloth (50-63 percent) or a frosted fiberglass greenhouse. They are not particular as to potting soil (supersoil-sand 1:1 is excellent) and they do like their water. Feed only occasionally with a low nitrogen fertilizer (2-10-10 is recommended) and a water-free period for rest during November to March is beneficial for heavy bloom. Propagation is normally by seed, but caespitose plants can be cut up and the offsets easily rooted.

Pests commonly attacking these plants are mealy bugs, spider mite and scale insects and can be controlled by Cygon.2E or Orthene soluble powder.

References cited

Anonymous. 1974 Species list. Ashingtonia.

Backeberg, Curt. 1933. Der Kakteenfreund 2: 9, 117.

_____. 1977. Kakteen and Orchideen Rundschau 5: 69-70.

Donald, John. 1979. Occasional generic review No. 6: Weingartia.
Ashingtonia 3: 87-139.

Werdermann, Erich. 1937. Kakteenkunde 20: 20-21.

New Publication

EXCELSA No. 9. Published by the Aloe, Cactus & Succulent Society of Zimbabwe, October, 1980; In one volume, 100 pages and 52 color and 65 black and white photographs. In this annual journal are excellent discussions by different botanical experts on the following subjects: Colour Aberrations in Lithops by Desmond T. Cole; Cycads in Zimbabwe (Rhodesia) by Michael J. Kimberley; Tree Aloes in Zimbabwe by Michael J. Kimberley; The Maculate Aloes of Zimbabwe with Thoughts on the Status of a Few Allied Species by Alan Percy Lancaster; Gasteria by M. Bruce Bayer; The Stapeliads of North East Africa (with a description of each species, habitat data and a outstanding map) by Darrel C.H. Plowes; Specially Protected Plants in Zimbabwe by Michael J. Kimberley; Aloes of the World--A Checklist, Index and Code by Trevor B.C. Harding (A reference to the original description and the type locality is given for each Aloe species with a code letter for each plant taxa making easy location on a superbly drawn (in colour) map) and Notes on Recently Published Books by Michael J. Kimberley. This publication is highly recommended to all members who are interested in African succulents, and it can be easily purchased for \$12.00 including family membership with U.S. currency (International Money Order) from the Secretary, The Aloe, Cactus & Succulent Society of Zimbabwe, P.O. Box 8514, Causeway, Salisbury, Zimbabwe, and in the very near future the San Diego Cactus & Succulent Society library will be putting this journal on order. Reviewed by M. Monroe.

Conservation

F. C. Thrombley

Can conservation compete with greed and/or progress? Attitudes toward conservation differ widely. At one extreme we have the ultra observer of all formalities. At the other extreme are those who happily leave plants to die, because this is the pattern on which evolution has always run. Unfortunately, I believe, these two extremes are the minority. The majority are the ones who are responsible for the declining populations of wild plants and they do it because of greed, progress and/or ignorance.

Two articles in the September-October 1980 issue of the Cactus and Succulent Journal describe the need for conservation very aptly.

The first article was written by H. A. Harrington and is titled, "The Need for Protection of our Native Cactus". In it he relates his experience while on a photographic tour of the big bend area of Texas. He came across stores, gas stations, nurseries, roadside stands and cactus dealers with countless piles of bare-root cactus plants of every species within a 100 mile radius. Some mounds were four feet high, literally truck loads. Huge numbers of the plants were long since uprooted and either totally dessicated or rotting. Mr. Harrington told of meeting a Mexican itinerant who was paid five cents for each bare-root cactus he dug. His days picking cleaned off acres and acres of plants. At the end of each day he packed them in baskets and boxes and transported them to a central loading point near the highway. It was estimated, one lone scavenger could scrape bare a ten mile square stretch of countryside in a few weeks.

That is greed!

The second article was written by Alan Craig Beverly, and is titled, "The Ecologic Status and Environment of Aloe Polyphylla in Lesotho". His article starts by telling of G. W. Reynolds 1934 article on Aloe polyphylla, in which it states, "growing in a locality of such difficult access, and large specimens being too heavy to move, plant lovers can rejoice in the knowledge that there need be little fear of this remarkable and unique aloe ever being eradicated". Mr. Beverly went on to say that of the 48 known sites, 11 populations are now extinct today due to poaching in the 1960-1970 illicit trade. In 34 other sites he studied, habitat deterioration has been triggered by overgrazing and is threatening the future existence of the population. This plant is unique in that it grows at high altitudes on basalt slopes with no soil cover. Its root system firmly anchors the plant in crevices and fractures. It receives a continuous flow of water in the summer from thick grassland bogs above them. This spongy bog also releases nutrients to the aloe. Thus the native grasses play a critical role in the habitat of Aloe polyphylla. The lush grass attracts mixed herds of cattle, sheep and goats. The heavy cattle break the soil cover and the sheep and goats eat the grass down very closely. As Africa grows, man has steadily moved into this lush summer grazing range that is common ground for all.

The grazing ethic locks each herdsman into competition for the available range. Man is moving into these areas because he has to expand, due to progress. The tribal chiefs allow the overgrazing because they are ignorant of the consequences. One can almost be assured that grazing of these herds will not be controlled and the consequence will be the loss of the watershed in that area of the country.

Finally lets look at a plant that grows on our hillsides in the county of San Diego, California. Ferocactus viridescens occurs only in the coastal range of the county from Escondido into northern Baja, California. Along the interstate highway 15 corridor from Lake Hodges to Miramar Naval Station a vast number of these plants grew. In a six month period in 1980, a colony of approximately 1000, (my estimate) of these cactus were buried by the earth movers blades. And, this happened within 1000 acres of land adjacent to the southern hills of Rancho Bernardo. Further, this whole corridor has been sold for home and shopping center development. In ten years there will not be a Ferocactus viridescens in habitat left in this ten mile stretch.

All due to progress!!

Conservation - a losing battle?

Reference Used

Cactus and Succulent Journal, Vol. 52, No. 5
September-October Issue, 1980

Pests of Succulent Plants

Part XVI. Bacteria

Dr. Ronald E. Monroe

One seldom thinks of succulent plants having bacterial diseases; however, there are not only several genera and species of bacteria that do invade these plants, but they are just as devastating as the fungi in regard to their damage. Indeed, most will confuse a bacteroid disease with a fungal disease or vice versa, but the bacteroid-diseased plant is nearly impossible to salvage by conventional chemical means.

Systematics -- Bacteria are one-celled microorganisms that are placed under the broad biological division of Protista (= first). They typically have no chlorophyll, multiply by simple division and are microscopic. Usually they are speciated or identified by their ability to stain with certain dyes or their ability to grow or produce certain metabolites on various growth media. They can be either aerobic (require oxygen) or anaerobic (no oxygen requirement). Normally, they are separated into three main forms: spherical (the cocci), rod-shaped (the bacilli) and spiral (the spirilla). Although some are free-living, many are parasitic and cause diseases many of which are vectored (carried from plant to plant by some other organism). The bacteria known to cause diseases in succulent plants have been reviewed by Wescott, 1950; Streets, 1969 and Pirone, 1970, and the more common ones encountered are as follows:

- Bacterial blight the most important disease of Carnegiea gigantea and appears as small, dark spots on the surface of the stem. It is a wound parasite and enters through mechanical injury or from burrowing larvae of a tiny moth, Cactoblastis. The spots enlarge, the tissue cracks and a brown liquid oozes out. Eventually, the whole plant dies. The causative agent is Erwinia carnegiana.
- Crown gall forms galls or rounded growths on the stems or roots of larger ceroid cacti (such as Carnegiea gigantea). The galls may attain a diameter of two feet and weigh seven to eight pounds. It is caused by Erwinia tumefaciens.
- Crown rot attacks species of Agave and collapses the outer fleshy leaves; it soon involves the whole plant which soon dies. The disease is caused by Erwinia carotovora and is vectored by a black beetle.

Numerous other species of bacteria have been associated with Mammillaria, Opuntia, Echinocactus and Euphorbia; however, the extent of the damage was not reported nor was the description of the damage characterized. Thus, these microorganisms are excluded from the review, but the reader must be aware that they do exist as succulent plant pests.

Plant damage -- In some cases, the plant is merely disfigured (galls seldom kill the plant); however, it must be pointed out that abnormal growths do sap the plant of vital nutrients and that such a plant will be weakened toward other possible diseases. The blights and rots, however, do kill the plant(s) eventually, and, importantly, an infected plant may serve as a source of infection to neighboring healthy plants.

Biology -- The bacteria reproduce by simple, asexual division, and like the fungi, find the moist, dark nutrient-laden interiors of stems and fleshy leaves as an excellent medium for their growth and reproduction.

Control -- There is very little that one can do to control a bacterial disease in succulent plants. The best control is the ounce of prevention: healthy, insect-free plants are seldom bothered by bacterial invasion in potted plant culture. Most importantly, diseased plants should be immediately destroyed, potting soil should be sterilized and recycled pots should be washed in a weak hypochlorite solution (Chlorox®). Too, one should be careful in regard to being a mechanical vector by carrying a disease from a sickened plant to a healthy one.

References

- Pirone, Pascal P. 1970. Diseases and Pests of Ornamental Plants. The Ronald Press Co., New York. 546 pp.
- Streets, Robert B., Sr. 1969. Diseases of Cultivated Plants of the Southwest. The University of Arizona Press, Tucson, Arizona. 390 pp.
- Westcott, Cynthia. 1950. Plant disease handbook. D. van Nostrand Co., Inc., New York. 746 pp.

Member Interviews Sophie and Oliver Loyland

by Marcia Monroe

Sophie Loyland was born in Chicago, Illinois, but she moved to rural Wisconsin where she received her education. In later years she returned to Chicago where she was employed for eight years as a governess for a doctor's family. She was also employed by the Baby Ruth Company and the J.P. Harding Restaurant for 25 years where she worked her way up from coffee girl to assistant manager. After the restaurant was sold, she worked in her neighborhood as assistant manager for the Board of Education's lunch room.

Oliver Loyland was born in Grand Forks County, North Dakota, twelve miles South of the city of Grand Forks, on the banks of the Red River of the North. In 1904 The U.S. Government offered some Indian Territory for sale at auction for \$10.10 per acre and his parents purchased some of this land. This land was located at Thief River Falls, Minnesota, where he attended rural grade school and Lincoln High School. In 1925 he moved to Chicago where he was employed in construction for four years; then, after working for the Anaconda American Brass Company for 35 years, he retired in 1965.

While visiting Oliver's sister in San Diego, The Loylands decided they wanted to spend their retirement years here. So when his sister's house in Mission Hills was put up for sale, they purchased it.

Emily Park, a Society member and a member of their church, introduced them to the Club. They joined our Group in 1966 when Doc. Vaughan was still President. In 1969 Oliver was elected 2nd Vice President in charge of the plant sales table and with his wife's help sold plants and supplies for 5 years.

Sophie has a fondness for all plants but her love for succulents are "un-surpassed". Her favorites are echeverias, agaves, aloes, kalanchoes, sedums, haworthias, aeoniums, crassulas and Baby Toes (Fenestraria rhopalophylla). In her spare time she bakes, sews and does volunteer work.

For their dedication and hard work, the Loylands were honored in 1979 by being made Life Members of the San Diego Cactus & Succulent Society.

It is with great sadness that we announce the death of Lydia Evans. Lydia was a native of South Dakota and she was a resident of San Diego County for over 30 years. She is survived by her husband, Russel, and both have been long time active members of the San Diego Cactus & Succulent Society.

Coming--A Very Special Event

In preparation for the Society's annual show on August 29-30, an informative event will be held. Instead of the annual picnic in July, we will meet, as usual, in Balboa Park, but with a new format for that day. All members can participate and we can all learn more about our plants. An outline of this special meeting will be in the May issue of ESPINAS Y FLORES. PLAN TO ATTEND THE JULY 11, 1981 MEETING. Program Chairman Frank Thrombley..

Special Announcements

San Diego Botanical Garden Foundation Show Schedule in Balboa Park (Casa del Prado), San Diego, California, 92101:

April 12	Convair Garden Club Rose Show	Sun: 1-5 pm
April 18 & 19	San Diego Rose Show (Conference Building)	Sat: 2-9 pm Sun: 10 am-6 pm
April 25 & 26	San Diego Bonsai Spring Show	Sat: & Sun: 10 am-4:30 pm
May 2 & 3	San Diego-Imperial Co. Iris Show	Sat: 12-5 Sun: 10 am-5 pm

Green Thumb Show-----at the Wild Animal Park

May 2 & 3 San Diego Epiphyllum Society Show

The San Diego Epiphyllum Society will have an Epiphyllum Show and Sale on the covered walkway in Nairobi Village, 9 am to 6:30 pm each day.

Show Talk

Spring is here and we should start to think about grooming and repotting our plants for the San Diego Cactus & Succulent Society's Annual Show August 29-30. If you have any questions and/or would like to volunteer to help at this gala event, contact Martin Mooney, Committee Chairman.

Members, who wish to sell their plants or sell plants for the Club at the Show, should contact John Pasek at the "Plant Sale" table. Plant donations are always accepted.

News of Interest

John Pasek reports that the Plant-of-the-Month (this month Weingarta, Bulbine, Gasteria and Bowiea) plus other plant taxa will be for sale at each meeting at the "Plant Sales" table.

After purchasing plants at the "Plant Sales" table, members should not place them back on that table again. Another member may think that lovely plant of yours is for sale.

Those members, who have questions, should write them on a small piece of paper; then place the piece of paper in the "Question Box" at the front of the meeting room. We will try to answer your questions as soon as time allows.

Name tags (1 by 4 inches), with the San Diego Cactus & Succulent Society's logo on the upper left hand corner, will be on sale for \$2.00 at the reception desk. Members going to the CSSA Convention in June should have one of these tags to represent our Club. Please contact Perlso Lewis who will order your tag with your name printed on it.

We welcome this month the following new members:

Terry Farr, Del Mar
Rudy Lime, San Diego
Dr. Larry Mitich, Davis
Roxanne Rayburn, San Diego
Dave & Irene Grigsby, Vista
Angelina Henderson, Carlsbad

Please--let the Editor know if any names have been misspelled.

A reminder that the following members have signed up to provide refreshments for the April meeting:

Sophie Loyland, Verna Pasek, Marianne Thrombley, Virginia Buckner, John Cirrito, Laura Caulfield, Judy Hannula, Bruthilde Grothe, Helen Brinkley, Anna Cornett and Del Cover.

Winners of the "Bragging Plant" competition for March were:

1st: Mammillaria schiedeana - Floyd Cable
2nd: Adromischus tricolor - Vangie Englert
3rd: Jatropha podagrica - John Pasek

We would like to extend our special thanks to Shirley Berry for her plant donations at the "Plant Sales" table and for her lovely display of haworthias and allied species when John Pilbeam was our guest speaker in March.

The March "V.I.P. Table" featured an outstanding display of cacti and succulents by Joan Johnson. A few of the plants put on exhibit were: Senecio scaposus, Euphorbia pseudotuberosa, E. horrida v. nova, Echinofossulocactus vaupelianus, Copiapoa tenuis-sima and Echinomastus unguispinus.

-----Deadline for the May issue is April 23-----

San Diego Cactus & Succulent Society

Officers

President - Rick Latimer	5900 Lake Murray Blvd., La Mesa, CA. 92041	463-1655
1st V. Pres. - Frank Thrombly	16333 Roca Drive, San Diego, CA. 92128	487-5544
2nd V. Pres - John Pasek	10283 Covina Place, San Diego, CA. 92126	271-0515
Recording Secretary - Beverly Kirkegaard	10009 Ronnie Vista, La Mesa, CA 92041	463-2801
Treasurer - Joan Johnson	3599 Via Zara, Fallbrook, CA. 92028	728-7317
Corresponding Secretary - Anna Cornett	3905 Ibis St., San Diego, CA. 92103	.291-6426
Immediate Past Pres. - Tom Hamecher	996 Terrace Crest, El Cajon, CA. 92020	440-6245

Board of Directors

Elizabeth Athy, Shirley Perry, Dr. Ronald Monroe
Martin Mooney, Lee Phelps & Phyllis Fiechsig

Committees

- Activities: H. Warren Buckner
- Audit: James Berry
- Conservation: Dr. Ronald Monroe
- Education:
 - Cacti - Frank Thrombly and Dr. Ronald Monroe
 - Succulents - Madelyn Lee and Dr. Leroy Phelps
- Exhibits:
 - Bragging Table - Shirley Berry
 - V.I.P. (Very Important Plants) Table - Sandra Buck
- Historian: Rick Latimer
- Library: Elizabeth Athy, Ruth Nelson and Caroline Miller
- Membership: Joan Johnson
- Open House: Martin Mooney
- Plant Exchange Table: John Roth
- Plants & Supplies Table:
- Programs: Frank Thrombly
- Publication: Marcia Monroe (ph. 461-9444)
- Reception: Rose D'Attilio and Carlos Lewis
- Registration: Nancy Roth
- Representatives:
 - Balboa Park Desert Garden - John Pasek
 - Quail Botanical Garden - Audrey Johnson
 - S. D. Botanical Garden Foundation -
 - S. D. Floral Association - Verna Pasek

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 \$7.00 per family. Single copies of Espinas y Flores are 60¢.

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