

MAMMILLARIA THORNERI

Espinas y Flores

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

Volume XXIV, Number 12

December 9, 1989

DECEMBER MEETING

Saturday December 9, 1989

1:30 P.M.

Allow time to look at the gift plants

Casa Del Prado, Room 101, Balboa Park



RAT A TAT



PROGRAM

Election of a New Board

Special Plant Exchange

Dinner Promptly at 2:00 pm

Distribution of gift plants to all members present.

No LIBRARY

No PLANT SALES

PS. Deadline for dinner reservation is Wed. Dec. 6.
RSVP to Treasurer \$5.00 each

DEADLINE - Anytime before the 1st of the year.

Thanks and Happy Holidays.

Mary

The following people are running for the Board of Directors:

- Helen Barkdoll
- Joey Betzler
- Donna Couchman
- Mike Cullen
- Dorothy Dunn
- Beverly Kirkegaard
- Madelyn Lee
- Rudy Lime
- Bob Marder
- Mark St. Clair



The term of office is two years. We need to elect six people.

Welcome to New Members -----

Wesley Humphrey - Fallbrook

Lorraine Eldredge - Des Moines, Iowa

Delores Kirk - Griswold, Iowa

Erick Altona - San Diego

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

SAN DIEGO CACTUS & SUCCULENT SOCIETY
MEMBERSHIP APPLICATION

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

** PLEASE PRINT **

NAME: _____

ADDRESS: _____ PHONE: _____

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Additional members:

Name: _____ Name: _____

PLEASE CHECK IF:

_____ You are a new member

_____ You subscribe to the Cactus & Succulent Journal

** COMPLETE AND MAIL TO **

DANA ADAMS: Treasurer, 7305 Rock Canyon Drive, San Diego, CA 92126

AMOUNT ENCLOSED \$ _____

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

BOOK REVIEW

BAJA CALIFORNIA PLANT FIELD GUIDE

By Norman C. Roberts. 1989. Natural History Publishing Company.
La Jolla, California. Paperback. 309 pp. \$22.95.

By Dorothy Dunn

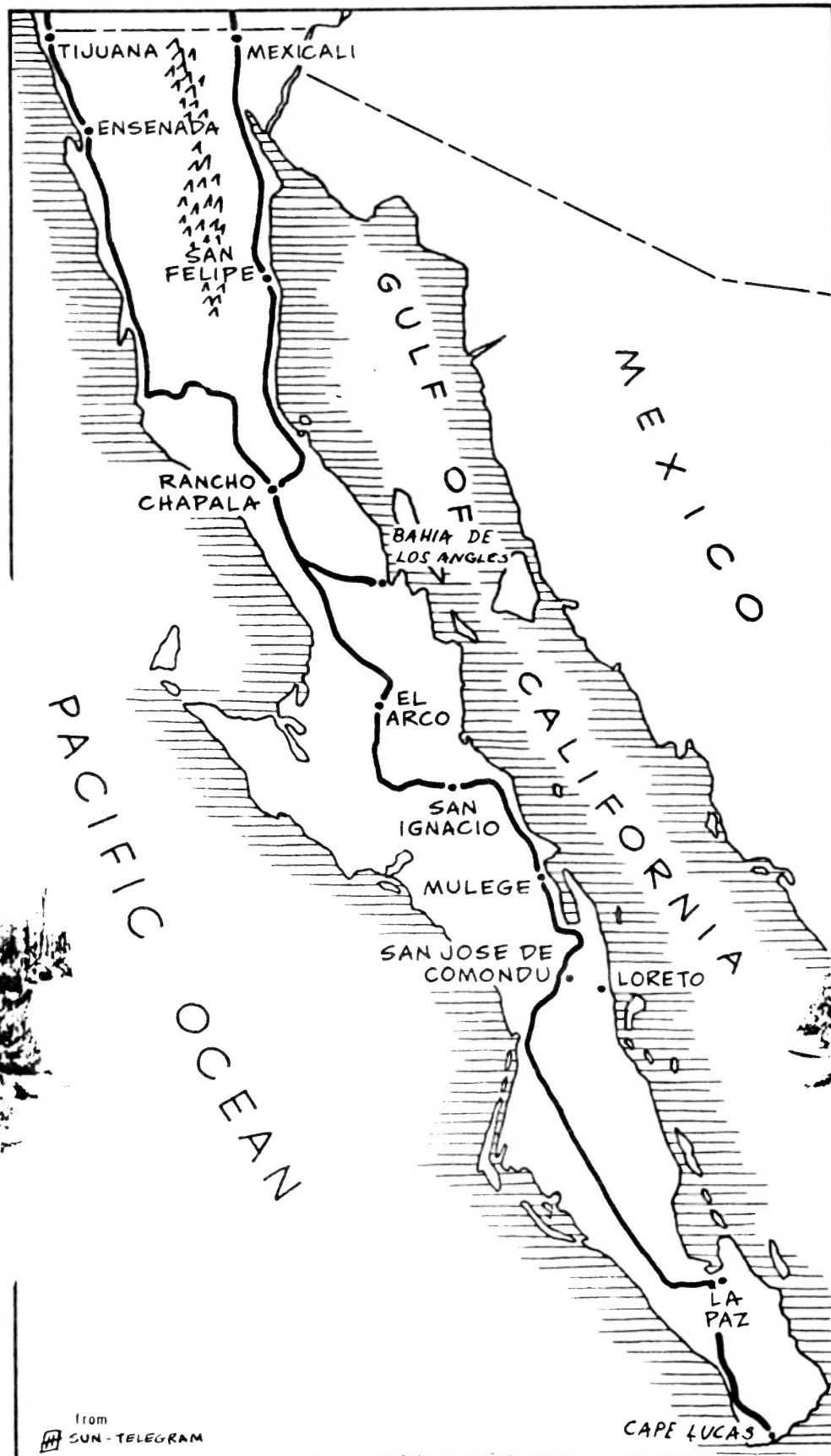
This is a revised and much-expanded version of A Field Guide to the Common and Interesting Plants of Baja California (Coyle and Roberts, 1975) and, despite several errors, is a considerable improvement over the original edition. The introductory material includes two maps: a geographic map showing place names referred to in the book, and a phytogeographic map which delineates the broad vegetative regions of the peninsula, as well as sections on the physical geography, geology, climate, endemism, and phytogeographic areas. The section on Physical Geography discusses in some detail features of the various sierras or mountain ranges, the coastline, bays, lagoons, and islands. The section on Geology describes how the peninsula was formed and the factors contributing to its current topography. The section on Climate emphasizes its variability as pertains to temperatures, wind, fog, rainfall, and summer and winter storms. The section on the Phytogeographic Areas is particularly helpful for those seriously interested in the flora of the peninsula. These are followed by a comprehensive key written by Geoffrey A. Levin of the San Diego Natural History Museum. There is also a section listing all plant families, genera, and species covered in the text.

The major portion of the book is devoted to a description of each of the species, giving the scientific names followed by the English-language common names and the native, or Spanish-language, common names. All photographs (over 275 of them) are in color, although not every species discussed is pictured. The book concludes with a useful glossary which contains both the botanical and common plant names, as well as the native names and other Spanish words used in the text. This is followed by an extensive bibliography.

One feature I found particularly useful in the field was the sketches of leaves and fruit which accompanied the sections on Bursera, Cercidium, Acacia, and Mesquite. I was also able to identify several non-succulent plants which previously had puzzled me. (One plant, Harfordia macroptera, which had previously gone unnoticed - and unheard of! - until I saw its unique flower, belongs to a genus which is endemic to the Pacific coast of Baja.) Also helpful were the localities or general ranges where various species are to be found (although some of these proved to be erroneous). Frequent mention of the native or medicinal usages of the plants was informative, enlightening, and often entertaining. One major criticism, voiced by more than one, had to do with the

omission of botanical names under the photographs; only native or common names are used in the captions. This was especially confusing in the case of the Ferocacti, which were all labelled simply biznaga, and Mammillarias, which were identified only as viejita.

All in all, this book should prove to be an indispensable tool for serious students of the flora, both succulent and non-succulent, of this unique and remarkable region called Baja California.



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 carnegieana.
- Crown gall forms galls or rounded growths on the stems or roots of larger 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.

Reprinted from the April '81 Issue - Espinas y Flores

CHRISTMAS PLANT EXCHANGE

There will be our usual plant exchange this December meeting, whereby members bring a plant and receive one in exchange. This is how it works: bring a cactus or other succulent plant. It should be in good condition and nicely potted. Include a label that identifies the plant on one side, with your name on the other side. The best plant is selected to be auctioned off. The person who brought that plant gets the first choice of all the remaining plants. Whenever a plant is selected, the person who brought it gets the next choice, so the better the plant you bring the earlier you will get your chance. Sorry, only one plant per person. The Christmas Plant Exchange is in addition to the distribution of gift plants.

Member Interviews: Madelyn R. Lee

by Marcia Monroe

Madelyn was born in Martinez, California, and ten years later the family moved to Bellingham, Washington. It is here that she received most of her formal education graduating from West Washington College. Subsequently, she was an administrator for Bank of America in Los Angeles for 15 years, and at the present time she is living in Vista (with her father) managing the Grigsby Cactus Gardens.

While on a trip to the Paiutes, she virtually "fell into the hobby" when she became entangled with Cylindropuntia. This necessitated a visit to the local hospital to have a doctor pull out several spines (spines were still attached to the stems) from her lower extremities. She later tried to kill the pieces by throwing them on a compost heap, but they kept growing. She became more curious visited the nearest library where she checked out The Book of Cacti and Other Succulents by Claude Chidamian (for beginners, the author gives an enthusiastic coverage of the hobby). This stimulated her interest and she became an active collector.

For eleven years she has been a serious collector and she has gone on collecting trips in California, Baja California and Mexico.

Madelyn has been a member of several Affiliate Societies, and during her membership in our Society she has held these positions: Treasurer and Education Committee (Plant of the Month). For CSSA she was a member of the Board of Directors and a member of the Conservation Committee, and with her past experience as a judge, Madelyn is now on the Judge's Qualification Committee.

One of her major projects was the compilation of a Fifty Year Index (1929 through 1979) for the Cactus & Succulent Journal, Published by CSSA.

Studying and researching euphorbias, and learning how to propagate and how to acquire them is Madelyn's speciality, and at the present time she is compiling a checklist of succulent euphorbias with a list of 1700 proven names.

The plant that Madelyn is viewing at the moment is the one she enjoys most, but she is also interested in growing ferocacti, haworthias, pelargoniums, pachypodiums etc. In her greenhouse there are various microclimates that allow her to grow such lovely succulents and cacti: Euphorbia francoisii, E. baioensis n.n., E. stellata, E. capsaintmariensis, Othonna euphorbioides, Haworthia maughanii, Discocactus horstii, Drimiopsis kirkii, Astrophytum ornatum var. and Pachypodium namaquanum.

The right soil mix is the secret for growing plants successfully, and Madelyn adapts the soil in the different pots to her way of watering. She uses a basic soil mix (with more or less drainage to suit the plant). She waters her euphorbias once a week and she treats all her other plants the same. Weekly, during the growing season, she feeds her plants ¼ strength fertilizer (10-10-5). In addition, Liqua-Nox[®], a wetting agent, is used to make the water wetter.

Since 1970, Madelyn has been taking three or four trips a year to Joshua National Park where she can observe growth changes in plants on a certain plot of land. Too, she is concerned with the decreasing number of California poppies in habitat and she reseeds whenever possible.

SAN DIEGO CACTUS & SUCCULENT SOCIETY

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The San Diego Cactus & Succulent Society is open to all persons interested in growing cacti or other succulent and exotic plants. Meetings are held the second Saturday of each month at 1:30 p.m. in Room 101, Casa del Prado, Balboa Park. Board of Directors meetings are held after the general meetings. Annual dues are \$8.00 per single member per year, and \$2.00 for each additional member of a household within the family. Single copies of Espinas y Flores are 60¢.

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