

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 10

October 11, 1986

OCTOBER MEETING

Saturday, October 11, 1986

Room 101, Casa del Prado, Balboa Park

1:30 p.m.

THE GENUS ADROMISCHUS

by

Henry Varney

Henry Varney, former CSSA Show Chairman and President of the Sunset Succulent Society, will present an illustrated program discussing the history, taxonomic relationships and cultural requirements of the genus Adromischus, South African members of the Crassula family. Please bring along any interesting members of this group from your own collections.

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NEWS NEWS NEWS - - - - -

WELCOME TO NEW MEMBERS

Dr. & Mrs. G.S. Bajwa - Lemon Grove

Mrs. Beatrice Raczkowski - Chula Vista

Christine Mitchell - Chula Vista

Donna Westlake - Spring Valley

As of September '86 we have 289 members. We are sending out 200 issue of Espinas y Flores.

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Bragging Plant winners for Septembers:

| | | |
|-----|-----------|--|
| | 1st Place | Beverly Kent for her <i>Gymnocelycium vatteri</i> |
| | 2nd Place | Phyllis Flechsig for her <i>Dioscorea elephantipes</i> |
| Tie | 3rd Place | Dorothy Dunn for her <i>Euphorbia suzzanae</i> |
| | | Beverly Kirkegaard for her <i>Mammillaria celsiana</i> |

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Those who have volunteered to bring refreshments to the next meeting

Beverly Kirkegaard
 Marie Pearce
 Bob Taylor
 Mike Cullen

Carrie Poulson
 Elibet Marshall
 Phyllis Sheldon
 Evelyn Fried

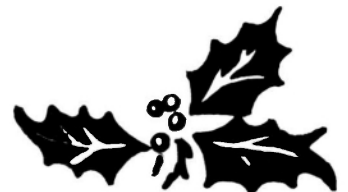
Kathe Roberts
 Evelyn Chatham
 Ernest Angus
 Marylyn Harms

Thanks

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Christmas Thoughts --



It is time to start thinking about preparing a plant for the special exchange at the Christmas party. More about that next month.

There will again be a nominal charge for the dinner. There will be a form to be filled out in the next issue of the Espinas y Flores.

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Deadline for the November issue is October 25, 1986 -

Mary

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Message from the President

The nominating committee was elected by the Board of Directors and I have appointed the Chair. It is: Perlso Lewis, Chair; Jim Dice, Sandy Frost and Carl McLeod. The committee will be looking for candidates for the major offices of the Society. Suggestions for nominees may be made to any member of the committee. They will report on nominations at the November meeting with elections to be held in December.

The Board has agreed to have our annual Christmas dinner. A report will be made to the Society at the October meeting concerning the party, and the members present will be asked to approve the arrangements. Frank Thrombly has agreed to make preliminary arrangements, and we need a person to work with him in the hope he/she will do the job in 1987. Any volunteers? See Frank or me.

The clean-up of the room was good, although as usual, two of our hardest working members were left to finish the job. Won't someone stay a few minutes over time and help out? Also, I was shocked to find used kleenexes thrown on the floor during the meeting--that is rude as well as dangerous. Put such things directly into a trash can to prevent the possible spread of diseases!

The exchange table has so improved in quality of materials available that now we must have better discipline--everyone seems to want what is available. There are two problems: first, I know that a plant I donated was removed from the table before the first number was called--unfair! These materials must be removed only with the permission of the donor, by the exchange table committee or by the person whose number was called. Secondly, the members are crowding around the exchange table so thickly that persons whose numbers are called can't get to the table. Stay away from the table until your number is called! I am instructing the exchange table committee to stop calling numbers if this happens in the future.

As of the last meeting the society has 271 members--it's huge! But the work of the society is still being done by 25 or so people--and that is usual. But there is room for more doers--won't some more of you get involved? Some of old timers would like to relax a little bit. You don't even have to formally volunteer--just start doing things and you'll be recognized.



NEW BOOKS IN THE LIBRARY

Donated by Paul & Joan Johnson:

E. J. Alexander, Succulent Plants of New and Old World Deserts.
Dr. Robert E. Atkinson, Cactus and Succulents in Your Home.
Dr. Robert E. Atkinson, Succulents in the Garden.
Stefen Bernath, The Cactus Coloring Book.
Raymond Carlson, The Flowering Cactus.
Ernest Chabot, The New Greenhouse Gardening for Everyone.
Ladislaus Cutak, Cactus Guide.
W. Hubert Earle, Cacti, Wildflowers, and Desert Plants of Arizona.
Scott E. Haselton, Cactus & Succulents and How to Grow Them.
Scott E. Haselton, Cacti for the Amateur.
REg Manning, What Kinda Cactus Izzat?
Sharon and Dick Nelson, Easy Field Guide to Common Desert Cactus of Arizona.
Paul C. Standley, "Trees and Shrubs of Mexico", Contributions from the United States National Herbarium, V. 23, parts 2,3, & 4.
Rudolf Subik, A Concise Guide in Color: Cacti and Succulents.
Sunset's Succulents and Cactus.
Sunset's Western Garden Guide.
Cactus Grower's Guide.

Rebound:

Jacobsen, Lexicon of Succulent Plants (copy 1).

Bound Volumes:

Bradleya (Yearbook of the British Cactus and Succulent Society) Vs. 1-4.
National Cactus and Succulent Journal (3 separate books), Vs. 29-30, 33-34, & 35-37.
CSSA Journals (from Peg Foret - 3 separate books), Vs. 43-44, 45-46, & 51-52.

New:

Dr. Willy Cullmann, Dr. Erich Goetz, & Dr. Gerhard Groener, The Encyclopedia of Cacti. [EXCELLENT PHOTOGRAPHY!] Quantity of 2

---Rick Latimer, SDCSS Librarian

CACTUS OF THE MONTH

ARROJADOA

by Phyllis Flechsig

Arrojadoa is the name applied by Britton and Rose to a small group of Brazilian cacti first discovered by Ernst Ule early in this century. These plants had originally been placed in the large Cereus group, and had been thought to be related to some of the Mexican columnar cacti such as Stenocereus; botanists now think they are not really closely related to any other known genus. The name commemorates a Brazilian scientist, Dr. Miguel Arrojado Lisboa.

Arrojadoas are very distinctive, with flowers unlike those of any other cactus genus; though the flowers are perhaps not to be considered beautiful, they are certainly interesting. The plants are columnar but not above 2 meters (6.5 feet) high, and most are much shorter than that. At the tip of the new growth they form a pseudocephalium of long bristles and some short wool, and the tubular flowers appear on the tip from within the bristles; then the tip of the plant grows on, leaving the bristles behind as a sort of collar on the stem, in time producing a new pseudocephalium on the tip and flowering anew. The old, left-behind pseudocephalium may continue to produce flowers also. The flowers are very peculiar: cylindrical, fleshy, hardly opening at all, with no scales or hairs on the flower tube, and a very shiny, waxy effect overall. Several of the species have flowers that are brilliant shocking pink. The flowers last only a day or two (though many may be produced in one season), then turn black, making a strange contrast to the bright pink of new flowers. The fruits are reddish and round. All the species are native to northern Brazil.

For many years, only two species were known: A. rhodantha and A. penicillata. Then in the 1970s the Dutch botanists Buining and Brederoo described several more. These first two species are still the best known; A. rhodantha has stems up to 2 inches thick and inch-long dark brown spines. A. penicillata has much narrower stems, only about half an inch wide or less, and very short spines. Both have tubular bright pink flowers.

Recently A. dinae has become available, and is instantly desired by many who see its handsome yellow flowers edged in red. It has narrow stems to about 1 foot tall. Another recent addition is A. aureispina, with stems about 2 inches thick and golden yellow spines, and rose-colored flowers that contrast handsomely with the spines. Some others, available at present only as seeds, sound promising: A. albiflora, which ought to have white flowers if it lives up to its name, and A. eriocaulis, whose pseudocephalium is said to have long, silky, yellowish-white hair.

Culture is fairly standard for these Brazilian species: no low temperatures, and a dry rest in winter. They do not seem to be especially prone to pest damage, but watch for mealybugs on the bases of the flowers or hiding in the long bristles. Propagation is from cuttings or from seeds. Seedlings grow to flowering size quite quickly.

LITERATURE CONSULTED

- Backeberg, C. 1976. *Cactus lexicon*. Blandford: Dorset, England.
- Buining, A.F.H., and A.J. Brederoo. 1972. *Arrojadoa canudosensis*. *Cactus & Succulent Journal* 44: 111-113.
- Cullmann, W., E. Goetz, and G. Groener. 1986. *The encyclopedia of cacti*. Alphabooks: Dorset, England.
- Glass, C., and R. Foster. 1970. *Cacti and succulents for the amateur*. *CSJ* 42: 148.
- International Succulent Institute, Inc. *Arrojadoa aurispina*. *CSJ* 49: 83.



Succulent-of-the-Month

PACHYPHYTUM, GRAPTOPETALUM, TACITUS

by Dorothy Dunn

Pachyphytum and Graptopetalum are two small genera belonging to the Crassulaceae family; both are native to somewhat the same areas in Mexico (Oaxaca, Hidalgo, Queretaro, San Luis Potosi), with the exception of Graptopetalum rusbyi, which extends into Arizona.

Although there are thirteen species of Graptopetalum, only about three are really common in cultivation (G. amethystinum, G. paraguayense - the familiar "Ghost Plant" - and G. filiferum). There is much variation in form in the genus, and partly for this reason G. paraguayense has at one time or another been classified in five different genera, although it is one of our most common succulents. (Incidentally, in spite of the name, G. paraguayense does not come from Paraguay; for an entertaining commentary on how it acquired this puzzling misnomer read Graptopetalum paraguayense: a History and a New Subspecies by Myron Kimmach and Reid Moran in the March-April 1986 issue of the Cactus and Succulent Journal).

Graptopetalums range in size and color from the tiny, bright green G. saxifragoides and the small lavender-gray, almost Dudleya-like G. rusbyi to the shrubby, somewhat sprawling G. paraguayense and the beautiful lavender-pink G. amethystinum. Their most obvious characteristic is the flower, with widely-spreading petals marked with distinctive cross-bands of reddish-brown. This inspired the generic name, which means "painted flower", and is derived from the Greek.

There are about thirteen species of Pachyphytum, with perhaps three or four commonly in cultivation. The generic name is also from the Greek and means "thick plant". They are among the most beautiful of leaf succulents with their subtle, delicate colorations, and this, combined with their easy cultivation and propagation, makes them valuable additions to our gardens. They flower in the late spring months; the flowers are colorful, bell-shaped, and produced at the ends of long, rather pendant stalks.

Graptopetalums and Pachyphytums are both undemanding in their cultural requirements, needing much the same treatment as Echeverias - strong, indirect light or filtered sun, a fairly rich but well-drained soil, good air circulation, and regular feeding and watering. The principal pests seem to be aphids, which are attracted to the flowers, and mealy-bugs on, under, and between the leaves. Propagation is simple from stem cuttings or leaves.

Both Pachyphytums and Graptopetalums hybridize readily with other members of the Crassulaceae, particularly Echeverias, and some very lovely recent man-made crosses (cultivars) are now available. These include xGraptoveria 'Silver Star' (G. filiferum x E. agavoides var. multifida), xGraptoveria 'Debbi' (apparently a na-

tural cross), xPachyveria 'Clare' and xP. 'Elaine Reinelt' (both from Dick Wright, and two old favorites, xP. leslei and xP. corneliusi, both of unknown parentage. These hybrids generally combine the best features of both parents, resulting in some very beautiful, vigorous, and easily-grown plants.

In 1972, a spectacular addition to this group of plants was discovered by Alfred Lau at an elevation of about 5400 feet on cliffs of the Sierra Obscura in western Chihuahua, Mexico. This is the much-sought-after Tacitus bellus, whose popularity ever since its discovery has been phenomenal. It is a very compact rosette of dark silvery-green leaves with an almost flattened surface, and the large brilliant flowers occur in spring and early summer. These are produced in small clusters on very short stems; the petals are a deep vivid reddish-pink and the stamens are white. There may be as many as ten blooms at once on a single stem. Most authorities now place this plant in Graptopetalum (G. bellum) as most of its botanical characteristics are inseparable from that genus. Whatever you choose to call it, it is a lovely and rewarding plant to grow.

LITERATURE CONSULTED:

- Davidson, W., Innes, C., and Bilton, R. (1984). Exotic Indoor Plants, pp. 132-133
- Haselton, Scott: Succulents for the Amateur (1946)
- Jacobsen, H. Lexicon of Succulent Plants (1970)
- Kimnach, M., and Moran, R. Graptopetalum paraguayense: A History and a New Subspecies. Cactus and Succulent Journal, March-April 1986, pp. 48-56
- Rowley, Gordon: Illustrated Encyclopedia of Succulents (1978)

SHOW SCHEDULE FOR THE REST OF THE YEAR

| | | | | | | | | |
|------|---------|---|-------------|----------------|------|-------------|------|-----------|
| Oct. | 4 & 5 | Balboa Park African Violet Fall Show | Sat & Sun | 10am - 4:00 pm | | | | |
| Oct. | 18 & 19 | San Diego Orchid Fall "mini" Show | Sat. | 12-5pm | Sun. | 10am-4:30pm | | |
| Oct. | 25 & 26 | Ikenobo Chapter of San Diego Show | Sat. & Sun. | 11am - 4:30 pm | | | | |
| Nov. | 1 & 2 | San Diego Tropical Fish Aquarium Show | Sat. | 12-6pm | Sun. | 9am-4:30pm | | |
| Nov. | 23 | Sumi-e Painting & Ikebana Show | Sun. | 11am - 4:00pm | | | | |
| Dec. | 5,6,7 | San Diego Floral Association Christmas Show
(Christmas on the Prado) | Fri. | 5: pm - 9:00pm | Sat. | 11am-9:00pm | Sun. | 11am-4 pm |

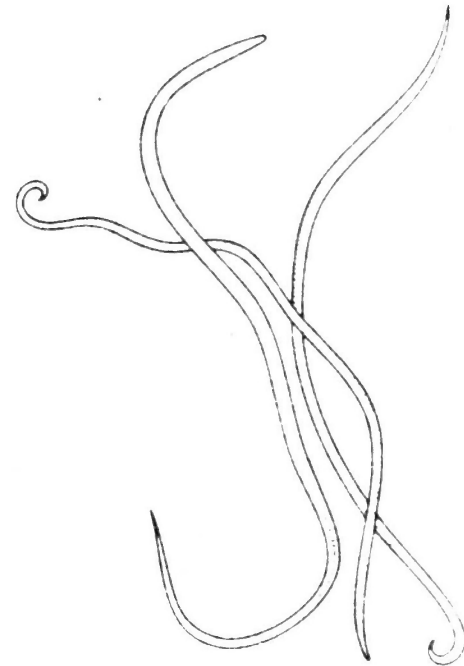
Pests of Succulent Plants

Part XIII. Nematodes

Dr. Ronald E. Monroe

Nematodes or eelworms are very common animals in most soils, regardless of composition, and several plant parasitic species have been the direct or indirect cause of plant damage or mortality in both nurseries and collections. Still, they are seldom implicated because of their microscopic size and the symptom(s) of disease may not be obvious to the untrained eye.

Systematics -- Nematodes, for the most part, are too small to see with the naked eye. Commonly called roundworms, they live in soil and water and most are free-living; however, many species are parasitic on plants (Norton, 1978) or animals (Cheng, 1973). Superficially, they resemble a whitish worm with a smooth cuticle and with few gross morphological distinguishing characters. Only by microscopic examination can any real morphological differences be found, and often a family, genus or species may be determined by behavioral damage or by anatomical differences in the males. Therefore, there are thousands of species belonging to numerous genera of the Class Nematoda, and new discoveries and revisions are occurring at a prodigious rate. Some of the common names and corresponding genera of plant parasitic forms are:



Nematodes

- Spiral nematodes Helicotylenchus
Rotylenchus
Scutellonema
Peltamigratus
Aorolaimus
- Lesion nematodes Pratylenchus
- Cyst nematodes Heterodera
- Root-knot nematodes Meloidogyne
Hypsoperine
Meloidodera
- Bulb and stem nematodes Ditylenchus
- Seed nematodes Anguina
- Stubby-root nematodes Trichodorus
- plus dozens of others too numerous to mention
(Jenkins and Taylor, 1967).

Two genera identified as causing diseases in succulents are the cactus cyst nematode (Heterodera cacti) and a root-knot nematode (Meloidogyne sp.) reported by Gilbert (1956) and Hague (1972).

Plant damage -- Nematodes are both endoparasites (causing internal injury) and ectoparasites (causing surface injury); Jenkins and Taylor, 1967. Damage is commonly attributed to disruption of flow of water and nutrients in the xylem system, formation of root galls or "knots", death of epidermal cells and the outermost layers of cortical cells, stunted growth and as vectors of plant disease such as fungi, bacteria and viruses (Metcalf et al., 1951; Jenkins and Taylor, 1967; Ware, 1978). Damage in succulent plants has been described by Gilbert (1956) for Meloidogyne sp. (the worm enters the roots near the growing point and feeds on the interior tissue causing a typical root gall) and for Heterodera cacti (enters the root zone and causes only slight swelling with formation of sand-sized cysts). Hague (1972) indicated that several genera of succulents are attacked and that Zygocactus truncatus was especially vulnerable (wilt symptoms and stem tops turning reddish in color). Although wilting, decreased growth or stunting is the most common symptom of nematode damage, it must be emphasized that considerable mortality is caused by secondary invasion: fungus, bacterial or virus infections.

Biology -- The biology of nematodes is extremely variable depending upon the species studied. Suffice it to say, however, that after mating, the females lay several hundred eggs which hatch into immature worms that closely resemble the adult. These juvenile worms may then penetrate the plant tissue and become free-living in soil before becoming parasitic themselves or, as in some species, they merely stay within the plant gall, etc. and mature in situ. The larvae normally moult (shed their outer cuticles) two or more times before becoming adults.

Control -- The best nematode control is prophylaxis (or prevention). By using only soil/sand mixtures that have been steam-sterilized, the worms seldom cause anyone a single problem or worry. Too, plants purchased should be repotted and their roots examined for damage (if galls or root-knot is observed, the infected parts should be cut off and destroyed). Soils used in nurseries or field growing areas may be treated with a good nematocide such as 1, 3-dichloropropene and 1, 2-dichloropropene or ethylenedibromide (soil fumigants) or by spraying the plants directly with a good systemic organophosphorus insecticide such as Disyston^R or Thimet^R (Ware, 1978).

References cited

- Cheng, Thomas C. 1973. General Parasitology. Academic Press, New York. 965 pp.
- Gilbert, C.E.L. 1956. A new cactus pest in England. Cact. and Succ. J. 28: 12-13.
- Hague, N.C.M. 1972. Nematode diseases of flower bulbs, glasshouse crops and ornamentals. In: Economic Nematology, ed. by J.M. Webster. Academic Press, New York. p. 409-434.

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|--|----------|
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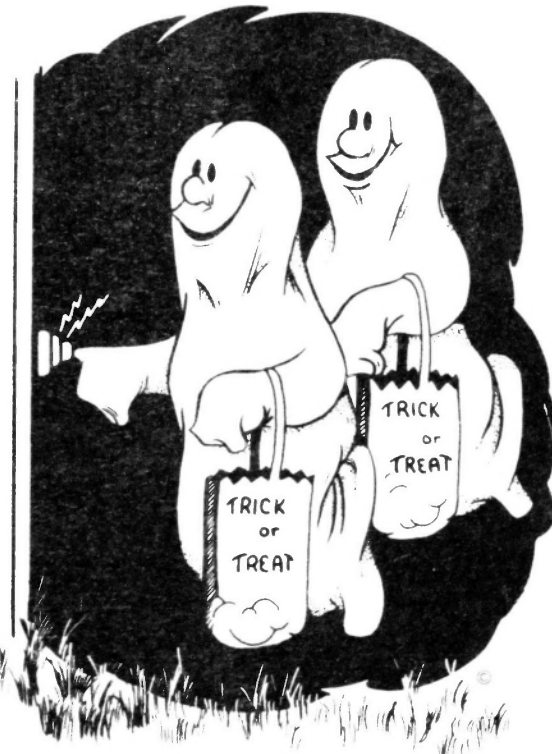
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The San Diego Cactus & Succulent Society is open to all persons interested in growing cacti, other succulents and exotic plants. Meetings are held the second Saturday of each month at 1:30 pm in Room 101, Casa del Prado, Balboa Park. Board of Directors 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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