



CENTRAL ARIZONA  
CACTUS & SUCCULENT SOCIETY

# THE CENTRAL SPINE

CHRISTMAS ISSUE 1979

## EUPHORBISIA NEWSII

CONGRATULATIONS!! to Lou Bremer for his excellent article on a new species, Coryphantha laui, which was published in the November-December issue of the Cactus & Succulent Journal. I hope everyone gets a chance to read his article.

Martha Passwater and Joan Skirvin are teaming up to teach a class at the Desert Botanical Garden in January on "getting ready for the Cactus Show." Martha will talk about dish gardens, and demonstrate how to create one, and Joan will give tips on how to pot, display, and care for a specimen plant. This class will be a great help to anyone who has never entered a Cactus Show before, or for those who may have entered, but have never won a ribbon. Check the calendar (on back cover) for dates and times.

One final reminder: Membership dues are needed this month! Dues will be going up to \$19.50 starting in January, so get yours in now while it's still only \$16.50. All money should be given to Martha Passwater, treasurer.

# MERRY

# CHRISTMAS!

Kent Newland: a pair of Happy Trails jogging shoes, so he can "run" down to Baja anytime

John Graham: a fine blend of Pereskia-leaf tobacco for his pipe

Frank Hennessey: a collection of Lithops, (living rocks) so he can combine his two hobbies into one!

Fran Tolleson: some nice plants so she can finally win a ribbon at Cactus Show

Jackson Fitz-Randolph: 2000 ping-pong balls, to put over the sharp tips of his Agave collection

CACSS Board Meeting - November 18, 1979

President Kent Newland called the meeting to order at 1:05 p. m. Nominations for officers for 1980 were reviewed. Emmy La Tempa stated all individuals contacted by the nominating committee had accepted nominations. Newland stated that nominations would be accepted from the floor at the November and December meetings.

Plans for the Christmas party were discussed. The party, to be held at the La Tempa's, will be a pot luck. Fran Tolleson stated the food plans were well under way.

The Metrocenter show was discussed. The concensus was that things went well for the most part. However, we did not have enough take down time. We were expected to have the place vacated in one hour's time, which was just not enough.

The Cactus Show, scheduled for early March, was discussed. La Tempa suggested a more organized effort be made by the Society in helping the Garden in preparation and execution of the Show. She was appointed by Newland to be a liason person with the Garden for that purpose.

La Tempa suggested that, due to our many recently acquired members, we have our January program on how to prepare plants to show in the DBG's Cactus show.

The meeting was adjourned at 1:45 p. m.

Respectfully submitted,

*Emmy La Tempa*  
Emmy La Tempa  
Secretary



CACSS Members Meeting - November 18, 1979

President Kent Newland called the meeting to order at 2 p.m. He briefly shared his experiences on a recent trip to Baja with us. Newland stated Fran Tolleson, food chairman for the Christmas party, and her committee, Joan Skirvin and Elaine Moulis, will be calling all members, asking them to bring various dishes for the Christmas party, slated for Sunday, December 18th.

Emmy La Tempa reported that 24 members and 2 guests were present. She also stated the Garden's second annual Luminaria Night will be held Tuesday, December 18, 7-9 p. m. The Garden needs volunteers in a variety of capacities for the event, including cookie baking. A list was passed for everyone to sign up.

Newland stated the International Organization of Succulent Plant Study Congress is scheduled for March 23-30 1980 in Mexico City. A pre-meeting tour of the southern Chihuahuan Desert is also available. More information can be obtained from him. He also mentioned some very fine door prize plants were purchased on the California trip from funds allocated by the Society for than purpose.

Newland announced the following people had been nominated as CACSS officers for 1980:

President	Frank Hennessey
Vice President	John Graham
Secretary	Marilyn Fitz-Randolph
Treasurer	Martha Passwater
Affiliate Dir.	Bob Moulis
Board Member	Fran Tolleson
Board Member	Jackson Fitz-Randolph

There were no nominations from the floor at that time.

Kent Newland gave a mini-course in botany on window succulents, that was most informative. Bob Pribbinow showed an expose of our recent trip to Tucson by bus. Anyone who did not make the trip had an excellent idea of the events of the day after seeing this five minute compilation of the day's activities.

The program was a most enjoyable slide show and monologue of the flora and fauna of Arizona by Bob Moulis. Following the program, the meeting was adjourned.

Respectfully submitted,  
*Emmy La Tempa*  
Emmy La Tempa  
Secretary

## SLUGS

by Lou Steichman

Slugs are capable of causing extensive injury to ornamental, vegetable and succulent plants. Seedlings are especially attractive to slugs, and under home garden conditions entire plantings may be severely injured or damaged to such an extent that replanting is necessary. Young slugs rasp away at plant surfaces and often leave tiny holes covered with a thin layer of plant tissue. Older slugs will eat irregular holes through plant material. Frequently, insects are blamed for the problem; a careful inspection, however, will usually reveal slime trails, a slug's "calling card." The nocturnal habits of slugs require night inspection by gardeners if slugs are to be caught in the act of feeding. Sometimes overcast, damp, cool days will entice slugs out feeding on favorite garden plants.

"Snails without shells" is a description often applied to slugs, and is quite an appropriate definition, because both snails and slugs are mollusks. They move from one place to another on an elongated ventral organ called a "foot."

There are several types of slugs found throughout the United States. Their color varies with species and age. Some common colors include black, brown, light gray, "dirty" orange, and gray with black spots. The size range depends again on species and age, but the common size range in home gardens is from 13mm ( $\frac{1}{2}$  in.) to 38mm ( $1\frac{1}{2}$  in.) in length.

Slugs are hermaphroditic, which means that each individual slug has both male and female reproductive systems. Offspring are produced by cross fertilization or mating. Usually, slugs first develop male sex organs. After male development occurs, female organs can develop in addition to male organs, or male organs can degenerate leaving a strictly female slug.

In areas subject to significant seasonal changes, mating takes place from August to mid-October with eggs being deposited 30-40 days afterward. Under greenhouse conditions mating and egg-laying can be conducted throughout the year.

All slugs lay eggs. Each slug can deposit up to 400 eggs a year. The number of eggs laid at any one time may vary from two to as many as one hundred. The average is from 20-30 eggs. Generally, younger slugs deposit fewer eggs at one time than older slugs.

Eggs are laid in a concealed moist location such as under boards, rocks, flats, pots, or in mulch, decomposing leaves or plant debris. The greenhouse slug generally buries its eggs in tunnels beneath the soil. The cool, moist, hidden locations provide an excellent environment for protecting eggs as well as insuring their development. If hot, dry conditions are encountered, egg hatching is delayed until the weather becomes more favorable.

The round or oval egg is about 3mm ( $\frac{1}{8}$ " ) to 6mm ( $\frac{1}{4}$ " ) in diameter, colorless to milky-white, with a gelatinous, watery appearance. Slug

eggs may reflect or take on the coloration of surrounding materials.

Length of time for egg development and maturation of young slugs depends upon the species of slugs involved. Most species over-winter in the egg stage with little or no development, occurring until the following spring before the eggs hatch. If favorable conditions prevail, the rate of development is accelerated and eggs can be laid in the summer for a second generation during the same year. Under high temperatures and moist conditions, such as those common to greenhouses, eggs hatch within 10-21 days.

Young slugs resemble adults in shape but are usually lighter in color. As soon as they hatch, slugs are capable of feeding. Their rate of growth is dependent upon temperature and humidity, as well as feeding habits and type and amount of available food. Optimum environmental conditions include humidity of 85% or more within a temperature range of 15.5°C (60F) to 21°C (70F).

Most slugs reach full size in three months to a year. Little is known about their maximum length of life. Under greenhouse conditions, however, where moisture and relatively high temperature persists, slugs can survive for more than a year.

CONTROL

In order to tilt the competition between slugs and man for the same plants in favor of man, all pertinent advances of scientific technology through the ages have been utilized. Primitive man utilized such mechanical control practices as handpicking, cutting with sharp implements, and stabbing and squashing individual slugs—daily chores still in use today. Domesticated birds such as ducks and geese are effective predators and have been utilized for reducing slug populations. Mockingbirds also have a great love for slugs. Other animals, including various snakes, frogs and toads have been recorded as occasional predators of slugs, but none are useful as practical and effective control measures.

Sanitation has emerged as one of the key factors in slug control. The removal of tall grass, weeds, decomposing organic matter and debris adjacent to garden areas will reduce many of the favored habitats and over-wintering sites for slugs. If slugs are a constant problem, special attention should be devoted to sanitation by utilizing the information known about critical factors for slug survival, especially moisture, organic matter and favorable temperatures.

The use of wood ashes, cinders, wood chips and builders sand scattered around plants or spread in a band adjacent to plants of each side of a row has reduced feeding injury by slugs in home gardens. This technique is especially useful for protection of seedlings. After plants begin to grow, leaves and stems provide ample shelter and slugs remain on host plants rather than wandering across the soil surface to other plants.

Beer has long been recognized as an attractive food for slugs, and it can be utilized in gardens for purposes of control. Stale beer apparently has greater attractive powers than fresh beer. The beer is placed in shallow pans and situated in areas likely to be attractive to slugs. A word of caution, however! Dogs on occasion have been

Band and Control Methods, 11/18/79

known to imbibe beer used for slug control; therefore, carefully secure the beer pans as well as possible. They can be covered with chicken wire screening. Author's no

Author's note: No better control is known here in the Valley of the Sun and it is the best use of beer that I know of.\*

No insecticides or fungicides have given consistent slug control. During the 1930's a chance observation led to the discovery of metaldehyde as a slug control chemical. Metaldehyde was one of the principal ingredients in "metafuel" or "canned heat" and it was observed that slugs exposed to metafuel were soon killed.

Metaldehyde is available as pelletized bait, dust and in liquid formulations. Baits are often used, but they tend to get moldy quite rapidly and should be replaced at frequent intervals, because moldy baits lost their attractiveness for slugs. Metaldehyde baits can be used in ornamental plantings and edible crop plantings if the material does not come into contact with edible portions of the plant. Therefore, metaldehyde baits should be placed around the perimeter of the garden and on soil between rows under flat boards. Incidentally, many gardeners place flat boards in their gardens to provide a favorable retreat for slugs. Then, during the day the boards are turned over, exposing the slugs to the full wrath of the gardeners.

When using metaldehyde baits in the hot, dry weather, it is helpful to wait until evening, to scatter the bait, then sprinkle the area with water to activate the slugs. Remember when using baits, DO NOT form or place the bait in piles because it may be attractive to dogs or cats. Slug tolerance to metaldehyde seems to be increasing, so some formulators have added other ingredients to their baits. Carefully read the label BEFORE applying baits to garden areas.

Experiments have shown that some carbamate materials, including an ethylcarbamate compound, commonly known as Measurol are equal to or more effective than metaldehyde. A 2% pelletized brand bait of Measurol is now available and has given faster and greater slug control than standard metaldehyde baits. The bait is registered for using only in ornamental plantings. Measurol is not registered for use in vegetable plantings at the present time.

In addition, there are commercially prepared sprays, dusts and foam sold for slug control. PLEASE READ THE LABEL and follow directions for their use.

\*Editors note: Some CACSS members may contest this point!

QUESTION: How do CACSS members get rid of other pests (such as scale, mealy bugs, cochineal, etc.) in your own garden? Please write to the editor, Sylvia Forbes, in care of the Desert Botanical Garden, with your solutions to these pest problems.

## Useful Euphorbias

The Euphorbia genus is grouped in a family of plants which occurs worldwide, called the Euphorbiaceae. There are approximately 300 genera, which include 5,000 species. The genus Euphorbia includes about 2/5 of these species. Within the genus, species vary widely, from annuals to perennials and from delicate flowers to shrubs, and even huge trees.

A common feature of almost all the species of Euphorbia is the white, milky sap which is exuded when part of the plant is cut or a piece broken off. Often members of the Euphorbia family cause skin irritations, and can be very poisonous, especially if taken internally. General procedures when working with the plant include washing hands thoroughly and often. A recommended antedote to the Euphorbia poison (used externally) is sap squeezed from the leaf of Aeonium lindleyi.

Historically, the Roman writer Plinius records that King Juba II discovered a plant, sometime between 25 BC and 18 AD, to which he gave the name Euphorbia, in recognition of his doctor Euphorbus (the brother of Musa), who saved the life of Kaiser Augustus. The adjective euphorbus means "well fed". Both the doctor and the plant were fleshy and fat, so there is some question as to which one the term modified.

Attention was first given to the Euphorbia about 2,500 years ago, because of the latex in their stems. This latex is believed to have medicinal qualities. The latex of the Euphorbias is distributed throughout the plants by a series of freely branching latex tubes. When the latex is drawn from the plants and exposed to the air, it hardens and forms a gummy substance, Euphorbium. Euphorbium occurs in small lumps, and it is in this form that the commercial Euphorbia product is sold.

In modern medicine Euphorbium has become an obsolete and unnecessary drug, though it still has some application as a counter-irritant in veterinary practice. Euphorbia latex is still used among the primitive natives in some of the remoter parts of Africa, such as Great Namaqualand in South West Africa, and Sekukuniland in the Transvaal.

Over the years, people have found many uses for Euphorbias. The uses vary from poisons to medicine, and from mosquito repellent to tattoos. Latex was put in ointments for treatment of diseases of the head, stomach and bladder. Euphorbia sap was used in treatment of nervous disorders and migraine as well as for loss of memory and lethargy, and as a cure for sciatica and jaundice.

One species, from the East Indies, E. antiquorum, grows into a fleshy shrub or small tree. Juice from this plant had many uses in treatment of nerve disorders, dropsy, as a purgative and digestive, and for removing warts. A decoction of the stems was used in treating gout, and a saline extract of the plant was found to be active against Staphylococcus aureus and E. coli bacteria. The latex was used to kill maggots in wounds.

Another plant, E. nerifolia, is a large succulent shrub, or small tree up to 6 meters tall. The juice from this plant was used as a remedy for warts, earaches, whooping cough, and skin eruptions. The juice, mixed in equal parts with a simple syrup, was said to give relief from asthma. In another preparation, the juice was mixed with soot and applied for eye problems. The juice could also be rubbed on the hands and used as an insect repellent.

E. antisiphilitica, from the United States and Mexico, has been used medicinally as well as in many other ways. The waxy stem coating is used in coating phonograph records, as indulation coatings, finishes, sizings, polishes, water-wax emulsions, in making candles, as bases for chewing gum, and currently it is found as an ingredient in Dynamints, a breath mint sold commercially today.

E. resinifera, a native to Morocco, is a fleshy, cactus-like plant. It contains euphorbium, which was obtained from the plant and used medicinally as an emetic and cathartic. E. royleana, found on slopes of the Western Himalayas, also contains latex which has cathartic properties.

E. ingens, a spiny tree from South Africa which grows up to 10 meters high, contains a latex which is very irritating to the skin. The Zulu take small doses of the latex as a purgative, and also use it in the treatment of skin diseases. Some African tribes use the latex in aiding them to catch fish. They wrap some grass around a rock, then saturate the grass with the juice from E. ingens. The rock is thrown into a pond, and a few minutes later the stunned fish rise to the surface.

E. candelabrum is also used as a fish poison, and for poisoning arrows by Bushmen. East Africans use the juice for treatment of eye tumors, as an emetic, and in the treatment of snake bite. E. candelabrum, along with E. tetragona, and E. tirucalli, all have a latex that yields crude rubber. E. candelabrum had the highest yield, which is about 20% of the latex.

E. tirucalli is an unarmed shrub or small tree, native to South Africa and India. In addition to its rubber-yielding latex, the latex is a purgative in small doses, and is also used in treating coughs, asthma and earache. A decoction of branches and roots is administered for colic and gastralgia. The latex is toxic to fish and rats. In Tanzania it is used as a mosquito repellent and also to treat snake bites.

Other uses of Euphorbias include E. coerulescens, used by South African farmers as fodder during droughts, however, the thorns have to be removed first with a blow torch. The sticky juice of E. grandidens is used for caulking boats in Mozambique.

There are many other reported uses of Euphorbias. For those interested in further information, The Succulent Euphorbiae, by White, Dyer, and Sloane, 1941, is an excellent reference.



The Cactophile File

by

Calliandra

This issue I am reviewing two cactus nurseries, both in east Mesa and both specializing in landscape plants rather than container plants. Both nurseries' plant selection were mundane for the most part. However, each had a "rose among the thorns." Read on and find out.

Superstition Cactus Sales is owned and operated by Glen and Doris Limestall. The nursery, located at 8024 E. Apache Trail, Mesa, has been in operation for five years; the Limestalls have had it for three. I visited with Doris Limestall for over an hour as she showed me the nursery, which consisted mainly of typical landscape plant material. Of interest were one large crested saguaro and some multi-headed barrels. There was a definite rabbit problem here as evidenced by many half eaten *Opuntia* pads. In fact, a bed of *O. verschaaffeltii* recently planted had been decimated. Almost all of the golden barrels were sunburned; numerous plants had frost damage from last winter. When asked by this writer how cold it got at the nursery Mrs. Limestall replied she didn't know. It was evident that however cold or hot, these growers made no effort to protect their plants from the elements.

In addition to the landscape plants, there were also some *Mammillarias*, *Trichocereus* and *Ferocactus* species in pots, most of which were not labeled.

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For those of you reading this to find out what gem could possibly be in a place like this, here it is: an 18" boojum tree - an excellent specimen priced at \$125.

My second stop was at Desert Air Nursery, 6728 E. Apache Trail, just west of Bush Highway. This nursery is run by Aaron Gray and his two sons, Ronald and Charles Gray. They have owned and operated it for nine years. I took a quick look around and spoke with Ronald. Again, it was essentially the same type of place. However, this nursery had a few more interesting items: An assortment of good sized *Astrophytum*s in one gallon cans; some *Ariocarpus* species, well acclimatized; some *Ferocactus glaucescens* plants in good condition. I point out the condition of the plants because some of the plants here were also frost damaged.

The most striking plant by far was *Cephalocereus polylophus*, a native of eastern Mexico. There were two breathtaking specimens here, both about five feet in height (the plant grows much taller). It is deep green in color, has numerous ribs and a diameter of approximately six to eight inches. What makes the plant so striking is the dense golden-brown spinage occurring on the top half of the plant. I was so sure the Garden didn't have this plant that I contacted Victor Gass. We did locate one well over 12 feet, in the bed just outside the Auditorium, leaning up against the building and the water spout. This plant illustrates dramatically how two plants of the same exact species can look so different. I hope the Garden will make an attempt to acquire at least one of these plants. It would be an asset.

Neither of these nurseries get my endorsement. Unless you are specifically interested in a plant mentioned in this article, I don't recommend making the trip to east Mesa to see these nurseries.

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### CALENDAR

Tuesday, December 18th 7-9 p.m. LUMINARIA NIGHT at the Desert Botanical Garden. No admission charge.

Wednesday, January 16th GETTING READY FOR THE CACTUS SHOW workshop at the Desert Botanical Garden.

10:00 a.m. Specimen Plants Joan Skirvin  
lunch break

1:00 p.m. Dish Gardens Martha Passwater

January 26th through February 3rd 9-5 p.m. PHOTOGRAPHY EXHIBITION at the Desert Botanical Garden.