

# The

# Central

# Spine

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ON THE DRY SIDE  
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I write about a lot of different plants and I love them all, but my absolute favorites are the euphorbias. Maybe the concept of the single genus Euphorbia needs work; it may one day be split into several smaller groups. Someone somewhere will certainly take a dim view of a single generic name encompassing such a vast array of shapes and sizes of plants. But I don't care. Their sheer variety is probably the reason I find them so fascinating. Of course, I'm just crazy for mammillarias. Easy to grow and a beautiful symmetry. Not that I demand symmetry, because I like the sprawling stapeliads. Amazing flowers. And you know, those agaves are really starting to grow on me. You should see the looks I get in the supermarket. Ah, then there's Dorstenia....

But I digress. Back to Euphorbia. I love 'em all. But there's one particular plant in my collection that I am very pleased with right now, and that's Euphorbia hallii. It is considered by some to be "difficult" to grow, and mine has been going strong for a couple of years now.

Euphorbia hallii was named in honor of Harry Hall, the former Senior Horticulturist at Kirstenbosch National Botanic Gardens in South Africa. Quite a guy... he has named about 130 new species of plants, and 30 have been in turn named after him. The plant discussed here is native to South Africa's Cape Province (Calvinia district) and grows in sandy clay soil. The cylindrical stem is a pale green color is covered with low tubercles. It occasionally branches but is normally solitary, and can reach a height of about 40 cm. The thin grooved leaves are confined to the apex and upper part of the stem. It has been reported that in habitat it leans northward, pointing into the sun and thereby reducing the amount of surface which is directly exposed to the hot sunlight. One remarkable aspect of this species is its large underground taproot which is often more massive than the above-ground part.

I really think my succes in growing Euphobia hallii is largely a matter of luck, but I do take some precautions. It is in a well-drained potting mix and I am careful not to overwater. The pot itself is deep enough to accomodate the tuberous root. The most important thing to know, however, is that in our northern hemisphere it is summer dormant and receives very little water; only with the arrival of the August rains this year did the green leaves begin to appear. During the cooler months of its winter growing season I all but lay it on a velvet cushion, exposing it to full sun during the day and bringing it indoors at night to protect it from low temperatures.

. It may sound like a lot of effort, but it's not, really. Euphorbia hallii is probably my favorite plant. Well, next to the caput-medusae euphorbias. Of course, when I gaze at my pediocacti, I might as well be gazing at diamonds. And those haworthias... does anyone else have this problem?



"If I had my life to live over, I'd try to make more mistakes next time. I would relax. I would limber up. I would be sillier than I have been on this trip. I know of very few things I would take seriously. I would be crazier. I would be less hygenic. I would take more chances. I would take more trips. I would climb more mountains, swim more rivers, and watch more sunsets....I would eat more iee cream and less beans. I would have actual troubles and fewer imaginary ones.

"You see I am one of those people who live prophylactically and sensibly and sanely, hour after hour, day after day.

"Oh, I have my moments and, if I had to do it over again, I'd have more of them. In fact, I'd try to have nothing else. Just moments, one after another, instead of living so many years ahead each day. I have been one of those people who never go anywhere without a thermometer, a hot water bottle, a gargle and a parachute. If I had to do it over again I would plan to go places and do things and much lighter than I have.

"If I had my life to live over I would start barefoot earlier in the spring and stay that way later in the fall. I would play hookey more. I would ride more merry-go-rounds. I'd pick more daisies."

By a Friar at Graymoor Monestary. New York.



## A PRICKLY PEAR A DAY

--From NATIVE SEEDS SEARCH 1991

Prickly pear as the healthy edible of the future?

Although the fruit (tuna) and flat fleshy pads (nopales) of Opuntia species are enormously popular foods in Mexico and South America, they have hardly caught on in the United States.

At the beginning of the century, Liberty Hyde Bailey noted this paradox: "Although extensively cultivated for their fruit in many countries, where they furnish an important article of diet for four or five months of the year, they do not as yet take a pomological rank with the horticulturist.....opuntias flourish best in regions where experimental horticultural receives little or no attention."

It seems that this neglect may soon end.

Donald A. Hegwood, professor of agriculture at Texas A&I University, writes in a recent issue of HORTSCIENCE that Opuntia species hold great potential as a horticultural crop because of their great adaptability and medicinal uses.

Although prickly pear has yet to be fully assessed for its nutrition and human health potential, the nopales of Opuntia species have been used to treat diabetes in Mexico for the last decade.

Research has shown that ingestion of broiled nopales before meals significantly reduced serum cholesterol, beta cholesterol, and triglycerides for obese and diabetic persons. Blood glucose levels were also decreased. Peter Felker, project leader of the Center for Semi-Arid Forest Resources at Texas A&I University, says that Mexicans are already processing prickly pears into pills to treat diabetics.

Prickly pear has recently attracted the attention of United States researchers, which Hegwood says may be due to the popularity of nopales and tunas among the rapidly increasing Hispanic population.

Felker became aware of the plant's medicinal potential when a Mexican who had seen him making repeated collections of the fruit in the wild inquired if he had diabetes.

Why haven't more scientists studied the prickly pear?

"We have a ethnocentric bias---it hasn't been in our mindset. Scientists have lacked the cultural sensitivity to plants that aren't in our mainstream," says Felker.

There are some 300 species of Opuntia native to the Americas, from Massachusetts and British Columbia to the Straits of Magellan. They thrive in arid and semiarid regions and are found in greatest quantities in the southwest United States and northern Mexico, where they are often become trees.

The nopales are consumed fresh, added to cooked dishes, and used in salads. They are often peeled, cubed and cooked like green beans. Tunas are eaten fresh or dried and processed into candies and fermented drinks.



#### GOD AND THE CACTUS

"If God would choose a plant to represent him, I think he would choose of all plants the cactus. The cactus has all the blessings He tried, but mostly failed, to give to men. Let me tell you how. It has humility, but is not submissive. It grows where no other plant will grow. It does not complain when the sun bakes it back or the wind tears it from the cliff or drowns it in the dry sand of the desert or when it is thirsty. When the rains come it stores water for the hard times ahead. In good times and in bad it will still flower. It protects itself against danger, but it harms no other plant. It adapts perfectly to almost any environment. It has patience and enjoys solitude. In Mexico there is a cactus that flowers only once every hundred years and at night. This is saintliness of an extraordinary kind, would you not agree? The cactus has properties that heals the wounds of men and from it come potions that can make man touch the face of God or stare into the mouth of hell. It is a plant of patience and solitude, love and madness, ugliness and beauty, toughness and gentleness. Of all plants surely God made the cactus in his own image? It has my enduring respect and is my passion."

From "THE POWER OF ONE" by Bryce Courtnay  
Page 154.

Publisher: Random House.

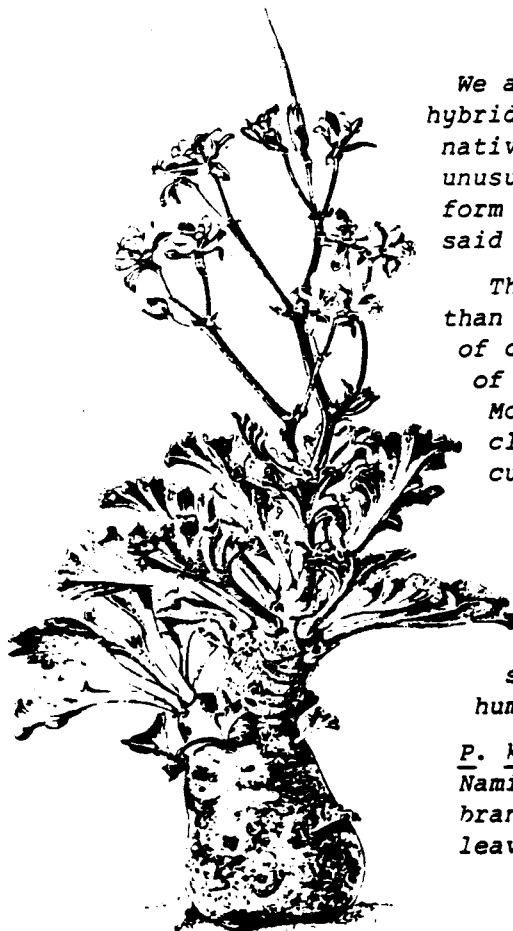


We are all familiar with "geraniums", those attractive blooming hybrid *Pelargoniums* grown either in pots or in the garden. Species native to the drylands of southern Africa, though, have undergone unusual transformations. Some have become stem succulents; others form caudexes; some have formed bulbous roots; a few can even be said to have become leaf succulents.

The flowers of these species are much smaller and less colorful than those of the hybrids, but can be appreciated for the subtlety of color and form they exhibit. The plants make up for any lack of outward showiness in the strangeness of their appearance. Most of the succulent geraniums are fairly adaptable to different climates and cultural conditions. Most bloom and set seed in cultivation.

The relatively large seeds employ a unique dispersal method. Each flower produces five seeds which are aided in their escape by the splitting of the style into five stringy strands (awns), each equipped with a parachute that carries the seeds away on the wind. Once on the ground, the seed is "screwed" into the soil by the awn, which twists in response to changes in air humidity.

*P. klinghardtense* is named for the Klinghardt Mountains in southern Namibia where it was first discovered. It is a stem succulent, branched mostly from the base, with characteristic large, succulent leaves and greenish flowers. Its habitat is a winter rainfall area, which means it is a summer grower for us. It should be kept dry and frost free in winter.



*P. klinghardtense*

Illustrations:

by Ellaphie Ward-Hilhorst, in:  
"Pelargoniums of southern Africa"  
v. 2 (1981)



*P. alternans*

*P. hystrix* (its name is from the Greek for "porcupine", referring to the persistent stipules on the stems) is a real collector's plant. It is a rare species, found in several locations in the western Karoo. This area suffers blistering hot summers and frost in the winter, when most of the about 10 inches of rainfall is produced. *Hystrix* blooms in October and November, after which the leaves die and the plants remain dormant until spring.

*P. alternans* (the name is from Latin for "alternating", referring to the alternately arranged leaflets) is a succulent shrublet with small, hairy leaves. It is native to the dry western and southern parts of the S.W. Cape Province, where it can be found growing in rocky areas. Despite being from a winter rainfall area, it blooms throughout the year, from April to January.



*P. hystrix*

There is a society devoted to the study of these plants: the Geraniaceae Section of the South African Pelargonium and Geranium Society. Its publication, *Hystrix*, appears twice a year. Members also have access to a large seed bank. Membership information is available from Sue Haffner.

We all have them. Those potted specimens that have gotten corky, crusty, stringy, puny, sunburned, frozen, dropped, scarred, chewed on, stepped on, split, goofy, surly, and just plain ugly. They'll never be prize-winners. They don't have the decency to simply perish, and you don't have the heart to put an end to their unfortunate lives; after all, it's probably your fault they ended up this way. What to do with them?

Try experimenting with them. The less-than-perfect plant is perfect for trying out some variation in growing technique that you wouldn't dare use on one of the plants that you're more attached to. Use a different soil mix. Change the light intensity. Try your hand at grafting. Those of you who have yards can plant them in the ground and see how they react to greater temperature extremes. See if they benefit from not having their roots confined to a small pot. That cactus or succulent that seemed so useless could add to your growing experience and yield valuable knowledge that you can share with others.

-Timothy Chapman-



"And when we rally to preserve the redwood forests or to protect the whooping crane, we are rallying to preserve ourselves, we are trying to keep in existence the organic variety, the whole span of natural resources upon which our future development will be based.

"If we surrender this variety too easily in one place, we shall lose it everywhere, and we shall find ourselves enclosed in a technological prison, without even the hope that sustains a prisoner in jail---- that someday we may get out."

Lewis Mumford  
1965 Conference.



## THE CASE OF THE WET-FOOTED CRASSULA

By Dr. Rob Wallace  
Department of Botany, Iowa State University

About 21 years ago, as an impressionable lad with an insatiable interest in succulents, I was given a small piece of an interesting plant, originally from South Africa, by one of my boyhood succulent mentors, Vincent Leix. He was the first person to introduce me to the wide variety of forms of the genus Haworthia, and also brought me to my first Cactus and Succulent Society meeting (C&S Society of New Jersey).

While dropping me off after one of the monthly Sunday meetings, he broke off a piece of a plant of what was called Crassula alycopodiodes (now called C. muscosa ?) which was about two inches long. He told me to root it in "anything" and it would be one of the easiest plants for me to grow. Little did he know that his prophecy would be completely true, to the point of apparent absurdity.

Over the next fifteen years that two-inch cutting produced tens, if not hundreds of vegetative propagules, making their way into a number of other private succulent collections, and are now part of the collections of no less than four academic institutions: Wilkes University, Pennsylvania; Rutgers University, New Jersey; University of Connecticut; and Iowa State University.

Throughout these years, this low growing plant would thrive on neglect, long-term dessication, extreme heat, too much sun and too much water!!

After finishing my Ph. D. degree at Rutgers University, I accepted a post-doctoral position at the University of Connecticut, and proceeded to move my succulent collection to Storrs, CT. from New Brunswick, New Jersey.

Anyone who has moved any number of plants from point to point knows this is no pleasant task, but after moving a still larger number of plants from Connecticut to Iowa, the New Jersey to Connecticut move was easy by comparison.

As I packed flat after flat, box after box of potted plants into my 1980 Ford Bronco, I finally realized that I really did have to love these plants to go through all this trouble.

In addition to my cacti and other succulents, I also had a small collection of carnivorous plants, several species of Sarracenia and Drosera, as well as several pots of Venus Fly Trap, Dionaea muscipula, all of which were growing in living sphagnum moss, and standing in distilled water, full time. These were transported to Connecticut in their bottom tray after the water had been drained out. As both carnivores and succulents were loaded into



the Bronco, it is here that xerophyte (desert plant) meets paludo<sup>8</sup>  
phyte (bog plant.)

Through the packing process, a small branch of Crassula muscosa broke off and landed in the wet, living sphagnum moss surrounding one of the Venus Fly Traps. I didn't think anything about it at the time, and completed their transport to the new, albeit temporary home in the greenhouses of UCONN. All the plants did well in their new home, and surprisingly the Crassula rooted and grew as a weed in the Dionea pot, despite the fact that these plants are grown in standing water halfway up the pots, and have live sphagnum moss growing in them!! The Crassula continued to grow very slowly, probably due to the low mineral nutrition and low PH (ca.4-5) and has flowered almost every year since that time.

This small plant is no more than four or five inches tall, has branched sparingly, and has lived with wet feet for over five years. I have been reluctant to change any of these conditions just to see how long this Crassula can hang-on in a simulated bog environment in our Iowa State greenhouses.

What this "wet-footed" example demonstrates is the extreme latitude some of the succulents have to growing conditions quite different from what they "should" be grown under.

White I wouldn't advise taking one's prizewinning Pelycyphora or Lithops and planting them in living sphagnum moss intentionally, experiments either accidental or deliberate with extra plants are informative and enlightening indeed.

There are no correct conditions under which our plants should be grown, since each situation is unique. It is my hope that those who read this epistle challenge the conventional wisdom and try new things in your own collections. Just don't blame me for the failures but thank me for the successes.

(Submitted by Sol Kleinman from **THE BEAVER TALE**,  
Cactus and Succulent Society of Southern Nevada.)



"If we love our children, we must love our earth with tender care and pass it on, diverse and beautiful so that man on a warm spring day 10,000 years hence, can feel peace in the sea of grass, can watch a bee visit a flower, can hear a sandpiper call in the sky and can find joy in being alive."

Hugh H. Iltis.

