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CONTENTS:

ON THE DRY SIDE "BUGS"

TIMOTHY CHAPMAN

THE REDISCOVERY OF DISCOCACTUS BIFORMIS
BY: CLARENCE K. HORICH
COURTESY OF JOAN SKIRVIN

CLARENCE HORICH

LOVE ME, LOVE MY JADE PLANT
From: THE BEAVER TALE, CACTUS AND SUCCULENT
SOCIETY OF SOUTHERN NEVADA

CEROPEGIA RENDALLI

JOAN SKIRVIN

ON THE DRY SIDE
by Timothy Chapman

The administrative assistant squints at the wriggling contents of the glass jar that I have put on her desk. "Well, all I know for sure is," she announces, "they're bugs."

I purse my lips; I was hoping for something a little more specific. I decide to sit and wait for someone whose expertise in insects is a little greater.

How have I wound up sitting in the depths of the ASU biology department with a salsa jar full of bugs anyway? It all started about a week before, when I had noticed that a nice clump of Echinopsis growing in my backyard was looking a rather sickly, mottled yellow. My first diagnosis was sunburn until I got close enough for my shadow to pass over the plant. As soon as that happened, the whole surface of the cactus lurched in a grotesque shimmy. It was crawling with hundreds of -- as my friend the assistant would later astutely declare -- bugs. As they scattered to hide among the ribs, I could see that my poor cactus was covered with sticky-looking secretions and remnants of cast-off skins. It looked as if they had sucked the chlorophyll right out of it. I became determined to discover the identity of this scourge and the means to its extermination.

Finally, a serious-looking man of entomology enters the room and scowls at my jar. After giving him all the information I can, he opens the jar. "Why are they on their backs?" he asks.

"Oh. Well, I wasn't sure if identification would be easier if they were dead or still crawling around," I explain, "so I sprayed a cotton ball with Raid and stuck it in the jar. By the time it started to work, I felt sorry for them and took it out. They're not dead, but they're not too happy."

"And what's that smell?"

"Um -- 'refreshing pine scent', I think."

He shakes the seven or so dazed specimens out onto the desk. The largest, a winged adult, is a little over half an inch long. The brown wings are folded flat against the back of its abdomen in beetle fashion. Its small, elongate head terminates in a long needle-like proboscis, the foul tool with which it feeds. The rest of the insects are smaller, wingless instars in various stages of development, with plump greenish bodies. They look

remarkably like giant aphids.

I am told that these are known as "cactus aphids," and indeed, are technically "bugs", which is to say they belong to the order Hemiptera (or Homoptera, depending on where one's taxonomic loyalties lie; apparently, cactophiles are not the only nature-lovers who argue over names). What's more, they are of the genus Chelinidea in the family Coriidae. The pinned and labeled specimen at ASU came from the Eureka Valley in the Mojave desert, so they are pretty wide-spread.

Left to their own simple tastes they enjoy various native opuntias, but they obviously do not turn up their pointed little noses at imported gourmet specialty items like gymnos or exotic barrels. From what I could observe, they do not like to work too hard for their suppers. Cacti with expanses of bare flesh rather than those with complicated or dense spination are favored. What's more, the yellow discoloration is probably the result of a virus that the bugs introduce when they plunge their unclean snouts into their meals. A three-year old Ferocactus seedling that had been attacked and slightly yellowed has cleared up nicely, but it will be a miracle if my Echinopsis ever returns to green.

If you are ever cursed by these little monsters, a laundry detergent solution applied to the insects with a squirt bottle gets rid of them nicely. If you persist over a few days, they will disappear and you will have no toxins in your garden or potting soil. I'm not sure what soapy water does to them, but they don't care for it much.

After I gather up my tiny captives and thank the bug experts, I look into the jar and give it a little wiggle; I'm soft-hearted by nature and hate to see things suffer. But when it comes to protecting my plants from marauding beasts, I suppose I become a bit beastly myself.



I am in love with this world. I have nestled lovingly in it. I have climbed its mountains, roamed its forests, sailed its waters, crossed its deserts, felt the sting of its frosts, the oppression of its heat, the drench of its rains, the fury of its winds, and always have ~~EEEE~~ beauty and joy waited on my comings and goings

JOHN BURROUGHS



THE REDISCOVERY OF DISOCACTUS BIFORMIS
By CLARENCE K. HORICH

On the night of February 20, 1957, in southern Sacatepequez, Guatemala, the giant Volcan de Fuego awoke to unleash his fury in violent eruptions of lava and ashes. Located at its base, the small town of Alotenango was threatened by lava streams that soon destroyed the cloud forests of the eastern slopes, and in Guatemala City plans were made to evacuate the town. However, the Volcano of Fire (as it would be known in English) was satisfied with this demonstration of its powers, dormant since the year 1931, and in grumbling and hissing it returned to slumber, wrapping itself in a thick cover of sulphuric haze.

Three weeks later, when I had the questionable privilege of visiting the volcanozone, its crest was still smoldering and the lava hardly cold. The fiery stream had turned south-east, touching a jungle area once known as Aguacatepeque. A prolonged eruption would have burned the region into dust and thereby eliminating the only known locality of a cactus species collected here more than six decades ago.

Disocactus biformis, an epiphyte with small purplish-red flowers, was first collected at an unknown locality in Honduras, but since then it had not been found again in that country. I was commissioned by the University of California Botanical Garden (Berkeley) to recollect the species, for it seemed no longer in cultivation. Mr. Hutchison sent me data from a herbarium sheet of a specimen collected by J. D. Smith, in 1892, at the only locality known for this species: Aguacatepec, Department Zacatepequez, Guatemala.

When I first tried to locate Aguacatepec on both old and new maps, I failed as completely as I had questioning dozens of truck drivers who regularly criss-cross the department of Sacatepequez and who usually prove to be the best sources of such information. Bringing back "lost" plants, animals, minerals and what-have-you is always in intriguing, difficult task. As in detective stories there is always a missing link somewhere, and usually it is the most essential one---the location itself! I well remembered the trouble encountered by George Wagner and myself in hunting down a lost orchid (Maxillaria sanderiana) in eastern Ecuador, and I know in advance it would be the same problem with Disocactus biformis: First find Aguacatepec and then there would be the probability of finding the plant---providing civilization hadn't moved in too far, for 65 years in quite a span of time.

The Direccion General de Cartografia in Guatemala City became the third negative source of information: "Sorry, we've checked all the maps we have and there is no such place as Aguacatepec in the Department of Sacatepequez. However, you could try the head office of statistics, as they have all habitations listed, including the smallest, most unimportant shacks."

And finally I did find the answer to my riddle.

There it was, in the 1950 civil register: "Canton de Alotenango: Finca Aguacatepeque; population, 3" -So that is the reason nobody had heard of the place. A locality inhabited by a Cakchiquel Indian and their child was sure to escape even the most elaborate attention.

On March 7th I was in Antigua, waiting my turn to catch one of the few busses that occasionally travel south, via Ciudad Vieja, to Alotenango. Here I was delayed again by vainly questioning the natives about Finca Aguacatepeque until one Indian told me it was about 6 km. south of Alotenango, somewhere around Barranca Honda or La Reunion, near the department boundary. At this moment an Excuintla-bound truck rolled by, and luck was with me in that the driver's grandparents, had many decades ago, lived in Aguacatepeque, which then had been a village.

According to the driver, Aguacatepeque had, at the beginning of the century, been abandoned because disease had attacked the village; most of the inhabitants had found a new home either on the Volcan de Agua or in Ciudad Vieja, and had finally settled in Alotenango. Since then the jungle had covered the site of ancient Aguacatepeque, now inhabited only by the Indian family.

About 5 km. south of Alotenango we stopped, facing the volcano's broad lava-stream to the west.

"The site of old Aguacatepeque begins here," I was told, "and it stretches to the south-west for about 6 km. What is now known by this name can be reached by walking 2 km. straight west from Finca La Reunion, which is along this road a few km. further south towards Barranca Honda."

By this time I had spotted plants of a cereoid epiphytic cactus (later identified as Werckleocereus glaber) on large trees lining the road. After gathering several specimens I believed them to be Disocactus biformis, for the natives described the flowers as being small and red, and the plant was narrow-branched and fragile, growing south only as far as Barranca Honda.

However, being in doubt, I walked south for some kilometers, crossing into the hotter Department of Escuintla after passing the dry creek bed of the boundary river, Rio de Lajas, and later reached the village of El Rodeo. But my feet were now blistering and I was becoming more confused still. I had found another cereoid cactus, an Epiphyllum (probably E. guatemalense,) and a glaucous form of Rhipsalis cassutha. As there was thus the probability of finding other cacti in the area I decided to resume my search the next day.

I found another species of Epiphyllum on March 8th,

Soon I reached the Río Guacalate near Finca Santa Gusta. In front of me was an old tree leaning over the river gorge, and in it I could see long ribbons of Werckleocereus stems and the bright green tangle of an Epiphyllum (later identified at U. C. Botanical Garden as E. thomasianum.) Another plant growing high upon the trunk and partly hidden by the Epiphyllum I at first thought was a Peperomia.

A minute later I was performing in the tree-tops a kind of hula-hula dance which, no doubt, would have been unanimously applauded by the Indians. There was a flowering specimen of Disocactus biformis hanging about me, while at the same time hundreds of vicious ants kept me desperately busy trying to dislodge them without plunging into the gorge. After all, one doesn't want to celebrate the rediscovery of a plant lost for 65 years by breaking one's neck.

The belligerent insects didn't like the dance and soon retreated after suffering severe casualties. Though badly stung, I couldn't have cared less when I finally bagged three specimens of D. biformis out of a total of five that grew on the tree:

Continuing my search, I found the species to be missing in all the trees investigated along the Guacalate River, between Finca Santa Gusta (about 4 km. south of Akotenango) and the Indian village of El Maton. I returned to Finca La Reunion and started out west, following the Aguacatepeque trail toward Volcan de Fuego for about 2 km. About 1.5 km. after leaving La Reunion I noticed another small plant of D. biformis in a tall tree near a lava-rock barranca together with typical epiphytes of the Aguacatepeque region at the altitude of 1300 to 1400 meters: Werckleocereus glaber, a few more Epiphyllums, Cattleya skinneri, C. aurantiaca, Epidendrum ciliare, Oncidium ornithorbynebum, spiny Pitcairnias, xerophytic Tillandsias, a few Philodendrons, Peperomias, Begonias and ferns.

Shortly thereafter I reached the trail going north over the upper part of Barranca Honda back to El Maton. Again the terrain offered nothing but dense, dry jungles, and a few large trees bearing only the above mentioned epiphytes and a few flowering plants of Lycaste arontatica and Trichopilia tortilis---but not one specimen of Disocactus.

The Barranca Honda range was completely impossible. The gulch was nothing but a river of lava, here some 300 feet wide, with a still smoldering bottom. While following the barranca uphill I was horrified when I stepped into a hidden hole filled with soft volcanic ashes, sinking down for about two feet into nearly burning temperatures. Quicksand couldn't have been worse. I pulled myself out instantly, grabbing hold of the nearest "lava bomb" (large rocks hurled out of a volcano during eruption,) but swore not to walk a step farther and returned to the barranca

but as there was no south-bound traffic that day, which delayed me considerably, and in the early afternoon I turned back to Alotenango.

"Manana is market day, " they told me, "there should be better traffic connections between Antigua and Escuintla, Senor!"

The next day, Saturday, was beautiful. The clouds had drifted away from the volcanoes, birds sang their beautiful melodies, and dozens of tropical lizards played on the sunny edges of the road. But there was no south-bound traffic that morning and I went on foot again from Ciudad Vieja to Rio Las Lajas and, in the afternoon back toward Alotenango---quite a stretch I assure you.

At about 3 p. m. I met a group of Spanish-speaking Cakchiquel Indians in the forest, and since I was back again on the border of Aguacatepeque I again crossed-examined them about the local occurrence of other pitahayas (the native name for any scandent cacti and their fruits.) I had little success, for the most notorious habit of present-day Indians is that of answering all questions simply with "Si, Senor" in order to please his interrogator. A beaten race, accustomed to centuries of suppression by their conquerors, these people prefer to invent the most startling exaggerations and lies, possibly fearing to lose face, or worse. You can ask them if the moon is green, and if the Indian thinks you believe it yourself he will answer "yes" without hesitating.

Consequently, the game of questioning the colorfully dressed natives proceeded as follows: "Aren't there any pitahayas around here?"

"No, Senor, there aren't."

"But I see them with my own eyes in all the trees here! Don't you?"

"Si, Senor, we see them too."

"Are there any red flowers among them?"

"Si, there are!"

"Big or small?"

"Big and small!"

"What colors do you have among the pitahayas here? White, pink, orange?"

"Si, Senor, they all have white, pink and orange flowers."

"Hold it---all on the same plant I suppose??"

"Si, Senor."

"Blue, green, yellow and black, too?"

"Si, Senor."

That is when I gave up---a most confusing conversation indeed! I could just as well have been talking to a parrot. Disgusted, I strode off, feeling that our distrust was quite mutual: No man in his right mind walks unarmed through the back forests of Latin America---they didn't, and neither did I.

shores at once. Here the forest rim was burned or wilted, unfortunately including several old trees which might have hosted Disocactus.

In any event I found it futile trying to locate more specimens of this rare plant on these relative dry slopes and, felt convinced that D. biformis was a humidity requiring species confined in this area to the creek and river shores, those of the Rio Guacalate in particular. Possibly it also occurred in the cloud-touched forests of the central volcano, but these of course were now almost destroyed by lava---and again, it could be present on the adjoining, dormant Volcan de Acatenango.

The sun had now hidden behind the black threatening slopes of Volcan de Fuego and it was getting dark. I quickened my steps, carrying with me the flower which so much symbolized, in its glowing color and shape, the flaming outburst of the Volcano of Fire, which only three weeks ago had threatened to convert the home of this species into smoldering ashes.

(Taken from THE CACTUS AND SUCCULENT
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Ceropegia Rendalli: A Happy Finding by Joan Skirvin

Last summer my friend and I had a discussion about Ceropegia rendallii. She had lost hers and had called Dave Griggsby who had advertised it in a Wish List. He assured her it was always one of the first to be sold out. I have C. rendallii and we wondered if it could be propagated vegetatively. As my vine was growing vigorously, I decided to make cuttings and see. The answer is yes and the vine does make a caudex (tuber). Unfortunately, I did not date the cuttings, but in about 3 months the root had developed marble-sized tubers. C. rendallii is an interesting plant. It develops a caudex-like tuber at least 3-1/4 inches across and has 1" long white tubular flowers capped by a green four-leaf clover top. Neat!



LOVE ME, LOVE MY JADE PLANT

Has your jade plant bloomed yet this year? If it is a big, mature plant--at least 10 years old--you can expect it to bloom during the period of November to April, when the days are short. The small pinkish-white flowers are produced in airy sprays all over the plant.

The jade plant, *Crassula argentea*, is one of the most commonly cultivated succulents. It isn't often, though, that it is grown to its potential. How many of us have envied the big jade plants we see at the Fresno Fair each year? I always do. Given the right conditions, the jade plant can become a stout-trunked bush up to nine feet tall.

Cultural requirements are simple: good light (some protection from the hottest sun in our area); good watering during the spring and summer growing period (don't let it dry out completely); protection from frost; a rest after blooming, when watering should be decreased.

Why does my jade plant drop its leaves? This can be a reaction to the lower light intensity of winter, but is more likely to be the result of watering practices. Soil kept too dry can trigger leaf-drop. Sometimes, if your plant is pot-bound, water will run through the pot without wetting the soil ball. Repotting will take care of this problem.

What are these black-brown spots on the leaves? These are blisters caused, again, by faulty watering practices. You have probably let the plant get too dry, then flooded it. (Your editor has a tendency to do this!)

Why do the leaves turn yellow, dry up and fall off? Suspect red spider mite, especially if you can see little spider webs on the plant. There is nothing you can buy to kill mites. Washing the plants off with a fine spray is the best treatment. Be sure not to use malathion on jade plants--or on any other crassulas--as it will damage them.

How can I get my jade plant to grow a nice, fat stem? Give your plant a light, over-all pruning. Use a low-nitrogen fertilizer, one recommended for blooming plants, and grow it "hard" in strong light. It can easily be trained into an attractive tree shape.

Cuttings are easily rooted in moist sand. Good drainage is essential, as it is for established plants.

The December, 1989, issue of *Sunset* has a good article on some of the *C. argentea* cultivars, such as "Crosby's Compacta" and "Tricolor", as well as on *Portulacaria afra* and its variegated form.

How popular are these plants? Well, the cactus and succulent schedule of the Fresno Fair has four classes for the jade plant. When Ed Gay first judged at the Fair, he said, "Why are there so many classes for jade plants?" "Just wait 'til you see the entries come in," he was told. And they did.

A CROWD OF CRASSULAS

