The Central Spine

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REPOTTING CACTUS AND SUCCULENTS

Jim Oravetz

From time to time, it becomes necessary to pot up or repot plants in our collections. Although for many of us this is not a major problem, some of us shudder at the thought. How do I get this spiny thing out of the pot? Will I damage the roots? How, how, how?? Well, - - - I will try to answer some of the hows for you.

If you have ever transplanted a gerainium from a small pot to a larger one, you are half way there.

The best time to repot plants in your collection is in the spring when plants begin to show some growth after their winter rest. Have everything you will need ready before you begin. Clean pot, soil mix, grit or gravel topping, clippers, tweezers, chop stick or other small tapered stick.

Begin by removing any gravel or topping in the pot your going to remove the plant from. Next, place a layer of fresh soil into the bottom of the new pot and press it down firmly. Set the smaller pot with the plant inside the larger and check for proper plant height. Leave enough room for topping and space for water. Add or remove fresh soil from the larger pot until proper height is found. Gently remove your plant from its pot. For cactus use gloves, an old piece of carpet or rolled up newspaper. Support the body of the plant firmly but gently. Holding the pot and plant, turn upside down and rap pot edge/rim on table edge sharply and the root ball should slide out of the pot.

At this point, examine the root for insect pests and damage. Spray insect pests with malothion. If root damage or root rot is found, gently remove all the soil from the roots and cut damage back to sound fresh root material. Treat cut areas with a

liquid or powder fungicide. Place plant in full shade for at least one week or until cut root heals over. Assuming there is no root problem, set plant and root ball into the new pot. Make a final check for proper plant height and begin to add fresh soil mix around the root ball. Fill the pot about half full and use the chop stick to gently tamp down the soil. Fill the pot to the proper level with fresh soil, tamp down firmly and add your topper.

Place your newly repotted plant in full or simi-shade for one week and do not water. It will not be necessary to feed your plant for several months, as your new potting soil should supply food during this time. If you feel that you must feed, use a liquid food at one quarter strength.

Now, for our plant with the root problem. After the roots have healed, prepare to pot up using the same information above. However, hold your plant slightly higher in the new pot, add small amounts of potting soil and use the chop stick to gently work the soil in between the roots. When the pot is full, rap it firmly on the table top to settle the soil. Add your topper nad place in shade for one week.

MAMMILLARIA FASCICULATA ENGELM.

ARIZONA U.S.A.

This is a very attractive, freely clustering and flowering species, which under ideal conditions grow into clumps of a hundred or more heads. Heads rarely exceed four inches in height, and it is not uncommon for a large specimen to die back and then rebranch through the dead remains of the original heads.

It requires a rather sandy humus soil mixture, less water than average unless the weather is very hot when extra water can be given.

Best results are obtained when it is grown under slightly shaded glass.

In winter it should be left completely dry, when it is quite safe down to 40 degrees Fahrenheit. Under cool conditions with high humidity a higher minimum temperature can be safer.

E. and B. M. Lamb.

--From Lew Steichman's collection of research papers.

WHY SO MANY "ENGELMANII" ?

DR. GEORGE ENGELMANN, BOTANIST SUPREME by VERA GAMET

The lives of the people memorialized in the names of the plants they discovered, worked with, or are honored by should not be lost.

Ehhinocactus, Engelmann, Coryphantha Engelmann,Peniocereus Engelmann---- the list goes on and on.

Dr. George Engelmann was the first great student of the cacti of North America. He was primarily a medical doctor with a substantial practice which he established in St. Louis, Missouri in the autumn of 1835. At that time St. Louis was more of a frontier trading post than a town and the point of embarkation for daring adventurers, con men, missionaries and visionaries, dreaming of starting a new life somewhere beyond the great Missouri.

It was a wild and tumultous time. Territorial expansion, "Manifest Destiny" and American greed were riding high in the saddle.

Great emigrant trains of covered wagons departed the east bank of the Missouri River spurred on by high expectations fed by missionary reports, over-drawn travel descriptions, and the extravagant fiction of the day.

In 1844 James K Polk (D) was elected president. Obsessed with the idea of territorial expansion Polk privately confided that by the end of his term the western boundaries of hhe United States would reach the Pacific.

By the end of the Mexican War (Mr. Polk's War and probably the most popular war the United States ever engaged in) California and the vast territory of Northern Mexico had fallen from the feeble grasp of Mexican hands to American hands. Texas had been annexed, and the loud talk of "Fifty-Four Forty or Fight" about the Oregon Boundary had been compromised at the 49th parallel. The later Gadsen Purchase in 1853 brought the southern border of the young Republic to about where it is today. The American dream of the nation reaching from ocean to ocean had become a reality.

Political and military turbulence was accompanied by an equally restless intellectual ferment.

The country was in the throes of an educational awakening.

The cultural scene saw the heyday of the lydeum circuits in a nationwide attempt to increase the "diffusion" of learning with public lectures. Public libraries were established, Normal schools were founded to raise teaching standards.

But abbve all interest in science, especially the study of nature, was sharply on the increase. New theories and new discoveried were challenging the Biblical version of Creation.

The inferential perception of the day was toward a great and wonderful future.

When Engelmann took his degreeoof Doctor of Medicine in 1831 at Wurtzburg, Germany, he made his inaugural dissertation on a preliminary study of the morphology of monstrosas, a selection which testifies to this lifelong predisposition toward botany.

Living in St. Louis when it was the entry point to and from all regions west of the Mississippi, Englemann enjoyed considerable advantage by being consulted by every collector going or coming from the West.

Never forsaking his medical profession, never turning away anyone who needed help, he used his residual hours studying specimens and descriptions, primarily of cactus, sent in by botanists on early governmental surveys of the West.

Wislizenus, Wright, Bigelow, Parry, Poselgar, Nuttal were the botnaical heroes of these expiditions.

And hardy souls they were, keeping up with survey trains over rough trails or no trails at all, throughout mountain ranges, deep canyons and open deserts, scurrying into almost inaccessible pockets of habitat to bring back specimens of strange new cacti, then at night dissecting them for descriptions, writing out their findings, and finally packing the whole spiny mess up to ship to Engelmann opportunity, occasions sometimes few and widely separated.

The logistics of such a trip stagger the mind. Much arrived at Englemann's home and much was lost enroute.

Engelmann faced the formidable task of listing and describing huge populations of unknown cacti. He often named a species honoring the man who discovered and sent it in. His preference was to use descriptive names, and he coined names to describe forms and features, and worked out something of their relationships. His drawings were exquisite and accurate.

Although his material for examination was sometimes necessarily inadequate and so his descriptions consequently deficient, he gave the botanical world the first information we have on approximately two thirds of the cacti of the United States.

Nothing escaped his attention and he methodically secured his observations with notes. He was acute in his observations, critical of his judgments, and unyielding in his perseverence in devoting himself to a genus until had had clearly identified its features. Still he had a good natured open-mindedness about him which enabled him to continuously revise old conclusions in the light of new facts.

He essentially for the first time, established the classification of cacti upon their floral and carpological characteristics. His work was as extensive and important as it was difficult.

Englemann began publishing with his sketch of the botany of Dr. A. Wislizenus's "Expedition from Missouri to Northern Mexico."

The "The Giant Cactus of the Gila River (Cereus giganteus) and Allied Species" followed in 1852. His synopsis of the "Cactacae of the United States" was published in 1856, and two illustrated memoirs, a volume on the "Pacific Railroad Reports" and one on Emory's "Report of the Mexican Boundary Expedition."

Englemann also did significant work on Cuscuta (dodder, a parasitic twining plant), Coniferae (gymnosperms) and Vitis (the grape family), Yucca and Agave.

During the latter part of his busy life he found time to explore in the mountains of North Carolina and Tennessee, the Lake Superior region, the Rocky

Mountains and environs.

Engelmann had made preparations for an enlarged and greatly needed work on North American Cactaceae but his health was failing and a sudden illness took his life at the age of 75 in 1884.

His collections and sketches housed in the St. Louis Botanical Garden will be indispensable to future botanists, but so much knowledge was lost by his death it may take decades for the work of other scientists to recover it.

ECHINOCEREUS TRIGLOCHIDIATUS ENGLEMANII

Lyman Benson in his book "THE CACTI OF ARIZONA" listed five varieties of triglochidiatus in addition to the type species, whereas Del Weniger in his book "CACTI OF THE SOUTHWEST" listed three in addition to the type species.

Both of these experts, one living in Arizona and the other in Texas, have been able to carry out extensive field-study programs, but with quite differing results.

To most people the waxy long lasting red flowers belong within the triglochidiatus complex. Therefore E. coccineus Eng. also belongs here along with varities of conoideus Eng. Some of the "triglochidiatus" varieties are sometimes to be seen listed as varieties of E. polyacanthus Eng., the type species which came from Chihuahua, in Mexico.

None of these species or varieties present as many problems in cultivation as they do with identification.

It is usually reckoned that most of the E. triglochidiatus can be shy bloomers, unless they have experienced sufficiently cool conditions during the previous winter. In fact, it has beem reported from the "wild" that many more flowers appear in a spring following a cold winter, when the plants had endured frost and even snow.

Certainly many of the Echinocerei from the Soutwest areas of the United States flower better when they have been kept dry and really cool during the previous winter.

One feature of the triglochidiatus group, using its loosiest interpretation, is that the flowers stay open day and night, -- quite an attraction.

E. & B. M. LAMB
---from the research papers of Louis Steichman.

ON UNEXPECTED PLEASURERS

ON A RECENT TOUR THROUGH MY COLLECTION, I STOPPED TO PONDER THE SOURCE OF SOME OF MY PLANTS AND SEEDLINGS, AND IT BROUGHT TO MIND THE JOY AND EXCITEMENT OF OBTAINING MATERIAL FROM UINUSUAL SOURCES.

MY MOST RECENT EXPERIENCE WAS THE RATHER UNEXPECTED ARRIVAL OF A PACKAGE CONTAINING SEEDS FROM ZIMBABWE. DURING THE LAST C.S.S.A. CONVENTION IN DENVER, I HAD THE CHANCE TO SPEAK WITH ANTHON ELLERT (WHO HAD BEEN A SPEAKER AT ONE OF OUR MEETINGS WHICH I WAS UNABLE TO ATTEND), AND HE RELATED SOME OF HIS EXPERIENCES AT COLLECTING SEEDS AND PLANTS IN THE WILDS OF ZIMBABWE. A PROMISE WAS MADE TO SEND SOME SEEDS, BUT AFTER 8 MONTHS HAD PASSED, IT HAD SLIPPED FROM MY MIND. SO WHEN AN ENVELOPE ARRIVED FROM ANTHON, IT CAME AS A GREAT SURPRISE. IT IS HARD TO PUT YOUR FINGER ON, BUT THERE IS SOMETHING SO MUCH MORE EXCITING ABOUT ADDITIONS TO A COLLECTION THAT CARRY A LITTLE MORE THAN JUST A CATALOGUE NUMBER FROM A NURSERYMAN. THAT EXTRA KNOWLEDGE ABOUT THE SOURCE OF THE SEED, OR ITS DIFFICULTY IN COLLECTION, MULTIPLIES THE INTEREST, AND HEIGHTENS THE ANTICIPATION OF GERMINATION OR FURTHER GROWTH. AND THE POSSIBILITY OF GROWING SOMETHING REALLY UNUSUAL (DOSE ANYONE KNOW WHAT A DREGE GENUS IS ?) MAKES IT ALL THE MORE EXCITING.

SO I NOW LOOK FORWARD TO THE FUTURE ARRIVAL OF MORE UNUSUAL SEED, BUT EVEN MORE TO THE EXCHANGE OF INFORMATION ABOUT THE SEED AND THE COLLECTOR. AND IF THE OPPORTUNITY SHOULD PRESENT ITSELF, DO NOT HESITATE TO DO WHAT IT TAKES TO GET YOUR OWN SOURCE OF ANTICIPATION AND EXCITEMENT STARTED, ITS WELL WORTH THE EFFORT.

MIKE GALLAGHER

OPUNTIA schottii Engelm.
South and West Texas U.S.A.

This is a very fiercely spined, low growing species related to Opuntia grahamii in the Corynopuntia group, which is more common in West Texas.

It can form into large low growing mats, a beautiful sight when in flower, as the bright yellow flowers often exceed 1-1/2" in diameter.

It will grow in most soils, with plenty of water during the spring to autumn period, when best results are obtained in full sun for beautiful spination and flowers.

In winter if dry it can stand a few degrees of frost.

E. and B. M. Lamb.

--from Lew Steichman's collection of research papers.