

Greetings and welcome to the Summer 2021 issue of *To The Point*.

With everyone carrying a phone / camera in their pocket, we are able to capture plants at their most gorgeous moments. After all, flowers, like those of epiphyllum, have a very short span of perfection. In this issue, an article on Mobile Photography alerted me to some simple features in my phone's camera that I hadn't found before - I've been oblivious as a point and shoot photographer. However, I'm having fun trying these few simple tricks and may even learn a few more on my own.

Thank you very much for joining TTP for the 4th issue. Feel free to email with suggestions or ideas. -Ed.

Echinocereus pentalophus
extreme closeup of pistil (left)
Echinocereus pentalophus (below)

Photos: Irwin Lightstone

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CSSA Calendar of Events 2021

Full details and updates at

[**CSSA Calendar**](#)

CSSA SEED DEPOT 2021

The Seed Depot is a service for CSSA members. Price: \$1.25 apiece. Generally 20–25 seeds are included per packet, unless the list specifies otherwise. A number of items on this Addendum are available in small quantities, as indicated by the number in brackets. Please list substitutes, or they will be made at Director Sue Haffner's discretion. Recent Seed Depot donors include Doug Anderson, Russell Wagner, Leo Martin, Brian Kemble, Matt Opel, Dan Gale, Frank Breckenridge, Robert Savage and Liliana Cracraft. Many thanks to them. If you would like to donate seeds, don't hesitate to get in touch with me: sueh@mail.fresnostate.edu

Postage: U.S., \$5.00 per order; Canada and other countries, \$15.00. Payment must be made in U.S. currency—cash or money order—or check drawn on a U.S. bank (payable to CSSA Seed Depot.) California customers should add 7.25% sales tax on the seeds + postage total. Orders should be sent to: CSSA Seed Depot, 3015 Timmy Ave, Clovis CA 93612. You may also order by credit card from the secure CSSA site: <http://cactusandsucculentsociety.org>
For questions regarding the Seed Depot, email sueh@mail.fresnostate.edu.

This list supersedes all other lists.

1. *Acanthocalycium ferrari*
2. *Adenium arabicum* [10]
3. *Adenium obesum* [10]
4. *Adenium swazicum* [5]
5. *Adenium 'Thai Socotranum'* [10]
6. *Agave arizonica* [10]
7. *Agave filifera 'Compacta'*
8. *Agave marmorata*

9. *Agave nickelsiae*
10. *Agave ovatifolia* [10]
11. *Agave tenuifolia*
12. *Agave tequilana*
13. *Agave xylonacantha*
14. *Aloe deltoideodanta* subsp. *candicans*
15. *Aloe 'Ed Hummel'* - toothy form
16. *Aloe elegans*
17. *Aloe elgonica*
18. *Aloe ferox*
19. *Aloe laeta*
20. *Aloe marlothii*
21. *Aloe plicatilis* [10]
22. *Aloe pratensis*
23. *Aloe squarrosa* x *A. deltoideodanta*
24. *Aloe striata*
25. *Aloe vaombe*
26. *Aloe variegata*
27. *Aloe wickensii*
28. *Ariocarpus fissuratus* [5]
29. *Ariocarpus retusus* [5]
30. *Ariocarpus trigonus* [5]
31. *Astrophytum capricorne*
32. *Astrophytum myriostigma*
33. *Astrophytum ornatum*
34. *Aylostera fiebrigii*
35. *Aylostera kupperiana*
36. *Aylostera pseudodeminuta*
37. *Bolivicactus tuberculatus*
38. *Borzicactus aurispinus*
39. *Borzicactus icosagonus*
40. *Borzicactus samaipatanus*
41. *Bowiea volubilis* [5]
42. *Bulbine alooides*
43. *Bulbine fallax*
44. *Cheiridopsis peculiaris*
45. *Cleistocactus baumannii*
46. *Cleistocactus buchtienii*
47. *Cleistocactus strausii*
48. *Cleistocactus tominensis*
49. *Conophytum acutum*
50. *Conophytum bachelorum* MRO 213
51. *Conophytum bicarinatum*
52. *Conophytum burgeri* SH 409
53. *Conophytum chauviniae*
54. *Conophytum ernstii* EVJ 8512
55. *Conophytum hammeri* SH 2108
56. *Conophytum cf. longum* MRO 61
57. *Conophytum maughanii* SB 802
58. *Conophytum minimum*
59. *Conophytum mirabile*
60. *Conophytum obcordellum*
61. *Conophytum obcordellum* subsp. *ceresianum* MRO 202
62. *Conophytum pageae* (various forms)
63. *Conophytum pellucidum* subsp. *terricolor* MRO 19
64. *Conophytum tantillum* subsp. *inexpectatum*
65. *Copiapoa humilis* (=tenuissima) [10]
66. *Copiapoa hypogaea* 'Lizard Skin' [10]
67. *Copiapoa megarhiza* FK 142 {10}
68. *Copiapoa taltalensis* [10]
69. *Coryphantha delaetiana*
70. *Coryphantha durangensis*
71. *Coryphantha macromeris* subsp. *runyonii* [10]
72. *Coryphantha micromeris* [10]
73. *Coryphantha recurvata*
74. *Dinteranthus microspermus* subsp. *puberulus* (white flower)
75. *Dinteranthus microspermus* subsp. *puberulus* (yellow flower)
76. *Dinteranthus wilmotianus*
77. *Dioscorea sylvatica* [5]
78. *Diplosoma luckhoffii*
79. *Dyckia encholirioides*
80. *Dyckia goiana*
81. *Dyckia cultivar special*: 3 pkts for the price of 1, Director's choice
82. *Echinocactus grusonii*
83. *Echinocereus coccineus*
84. *Echinocereus dasyacanthus*
85. *Echinocereus enneacanthus*
86. *Echinocereus fasciculatus*
87. *Echinocereus fendleri*
88. *Echinocereus fendleri* subsp. *hempelii*
89. *Echinocereus fendleri* 'longispinus'
90. *Echinocereus ferreirianus*
91. *Echinocereus ferreirianus* subsp. *lindsayi*
92. *Echinocereus nicholii*
93. *Echinocereus pentalophus*
94. *Echinocereus polyacanthus*
95. *Echinocereus primolanatus*
96. *Echinocereus reichenbachii*
97. *Echinocereus reichenbachii* subsp. *baileyi*
98. *Echinocereus rigidissimus*

99. *Echinocereus rigidissimus* subsp. *rubispinus*
 100. *Echinocereus scheeri* subsp. *gentryi*
 101. *Echinocereus stramineus*
 102. *Echinocereus subinermis*
 103. *Echinocereus subinermis* var. *aculeatus*
 104. *Echinocereus triglochidiatus*
 105. *Echinopsis deserticola*
 106. *Echinopsis huascha*
 107. *Echinopsis mamillosa*
 108. *Echinopsis schickendantsii*
 109. *Echinopsis spachiana*
 110. *Echinopsis subdenudata*
 111. *Echinopsis* 'Epic' – bright red flower
 112. *Echinopsis* 'White Knight'
 113. *Echinopsis* cv – yellow flower
 114. *Epithelantha micromeris* [10]
 115. *Eriosyce chilensis* subsp. *albidiflora* FK 192
 116. *Eriosyce curvispina* subsp. *armata* FK 480
 117. *Eriosyce senilis*
 118. *Eriosyce simulans* FK 82
 119. *Eriosyce tenuis* FK 116
 120. *Escobaria emskoetteriana*
 121. *Escobaria hesteri*
 122. *Escobaria lloydii* [10]
 123. *Escobaria missouriensis* [10]
 124. *Escobaria vivipara*
 125. *Ferocactus acanthodes*
 126. *Ferocactus alamosanus*
 127. *Ferocactus emoryi*
 128. *Ferocactus glaucescens*
 129. *Ferocactus gracilis*
 130. *Ferocactus gracilis* subsp. *coloratus*
 131. *Ferocactus gracilis* subsp. *gatesii*
 132. *Ferocactus hamatacanthus*
 133. *Ferocactus hamatacanthus* subsp. *sinuatus*
 134. *Ferocactus latispinus*
 135. *Ferocactus macrodiscus*
 136. *Ferocactus peninsulae*
 137. *Ferocactus peninsulae* subsp. *viscainensis*
 138. *Ferocactus pottsii*
 139. *Ferocactus robustus*
 140. *Ferocactus schwarzii*
 141. *Ferocactus wislizenii*
 142. *Ferocactus wislizenii* gold-spined form
 143. *Frailea mammiifera*
 144. *Gibbaeum velutinum*
 145. *Glandulicactus crassihamatus*
 146. *Gymnocalycium ambatoense*
 147. *Gymnocalycium amerhauseri*
 148. *Gymnocalycium bruchii*
 149. *Gymnocalycium castellanosi*
 150. *Gymnocalycium denudatum*
 151. *Gymnocalycium erinaceum*
 152. *Gymnocalycium glaucum*
 153. *Gymnocalycium marsoneri*
 154. *Gymnocalycium ochoterenae*
 155. *Gymnocalycium ochoterenae* subsp. *vatteri*
 156. *Gymnocalycium pugionacanthum*
 157. *Gymnocalycium quehlianum*
 158. *Gymnocalycium rhodantherum*
 159. *Gymnocalycium saglionis*
 160. *Gymnocalycium stenopleurum*
 161. *Hesperocallis undulata*
 162. *Idria columnaris* [10]
 163. *Ipomoea platensis* [5]
 164. *Lapidaria margaretae*
 165. *Leuchtenbergia principis*
 166. *Lithops aucampiae*
 167. *Lithops bromfeldii* subsp. *insularis*
 168. *Lithops coleorum* SH 1500
 169. *Lithops dinteri* subsp. *brevis*
 170. *Lithops gracilidelineata*
 171. *Lithops herrei* (transluscens)
 172. *Lithops hookeri* subsp. *elephina*
 173. *Lithops hookeri* subsp. *marginata*
 174. *Lithops hookeri* subsp. *susannae*
 175. *Lithops lesliei* 'Albinica'
 176. *Lithops lesliei* subsp. *hornii*
 177. *Lithops lesliei* subsp. *mariae*
 178. *Lithops lesliei* subsp. *minor*
 179. *Lithops lesliei* subsp. *venteri*
 180. *Lithops lesliei* 'Storms Albin-gold'
 181. *Lithops localis* (peersii)
 182. *Lithops marmorata*
 183. *Lithops marmorata* subsp. *elisiae*
 184. *Lithops olivacea*
 185. *Lobivia aurea*
 186. *Lobivia aurea* subsp. *leucomalla*
 187. *Lobivia haematantha* subsp. *amblayensis*
 188. *Lobivia ferox*
 189. *Mammillaria bombycina*
 190. *Mammillaria candida*
 191. *Mammillaria compressa*
 192. *Mammillaria densispina*
 193. *Mammillaria glassii* [5]
 194. *Mammillaria karwinskiana* subsp. *nejapensis*
 195. *Mammillaria mammillaris*
 196. *Mammillaria nivosa* [10]
 197. *Mammillaria petterssonii*
 198. *Mammillaria pottsii*
 199. *Mammillaria prolifera*
 200. *Mammillaria spinosissima*
 201. *Mammillaria thornberi*
 202. *Manfeda maculosa*
 203. *Matucana madisoniorum*
 204. *Matucana tuberculata*
 205. *Melocactus curvispinus*
 206. *Melocactus ernestii*
 207. *Melocactus levitestatus* subsp. *rubrispinus*
 208. *Melocactus matanzanus*
 209. *Melocactus neryi* from variegated plant
 210. *Melocactus oreas*
 211. *Melocactus salvadorensis*
 212. *Mestoklema tuberosum*
 213. *Neoporteria occulta*
 214. *Notocactus concinnus*
 215. *Notocactus crassigibbus*
 216. *Notocactus ottonis*
 217. *Orbea variegata* [5]
 218. *Oreocereus celsianus*
 219. *Oreocereus doelzianus*
 220. *Ornithogallum saundersii* [10]
 221. *Pachypodium lamerei* fa. *fiherenense* [5]
 222. *Parodia erubescens*
 223. *Parodia haselbergii*
 224. *Parodia haselbergii* subsp. *graessneri*
 225. *Parodia leninghausii*
 226. *Parodia magnifica*
 227. *Parodia mammulosa*
 228. *Parodia muelleri-melchersii*
 229. *Parodia rudibuenekeri*
 230. *Parodia schlosseri*
 231. *Pelargonium aridum* [5]
 232. *Pelargonium crithmifolium* [10]
 233. *Pelargonium incrassatum* [10]
 234. *Pfeiffera ianothothele*
 235. *Pilosocereus aurisetus*
 236. *Pilosocereus gounellei*
 237. *Pilosocereus leucocephalus*
 238. *Pseudobombax ellipticum* [5]
 239. *Pseudolithos miguritanus* [5]
 240. *Pseudorhipsalis ramulosa*
 241. *Puya chilensis*
 242. *Puya mirabilis*
 243. *Puya* sp. ex Annie's Annuals

244. *Rebutia 'Lemon Queen'*
 245. *Rebutia minuscula*
 246. *Schizobasis intricata*
 247. *Stapelia hirsuta* [5]
 248. *Stenocereus gummosus*
 249. *Stenocereus pruinosus*
 250. *Strombocactus disciformis*
 251. *Thelocactus bicolor* [10]
 252. *Thelocactus buekii* subsp.
matudae [10]
 253. *Thelocactus conothelos* [10]

254. *Thelocactus hexaedrophorus* [10]
 255. *Thelocactus macdowellii* [10]
 256. *Thelocactus rinconensis* [10]
 257. *Thelocactus setispinus* [10]
 258. *Thelocactus setispinus* subsp. *sinuatus* [10]
 259. *Turbincarpus alonsoi* [5]
 260. *Turbincarpus lophoroides* [5]

261. *Turbincarpus pseudomacrocbele* [10]
 262. *Turbincarpus schmiedickeanus* [5]
 263. *Turbincarpus schmiedickeanus* subsp. *dickisoniae* [5]
 264. *Turbincarpus schmiedickeanus* subsp. *klinkerianus* [10]
 265. *Turbincarpus swobodae* [10]
 266. *Turbincarpus hybrids*
 267. *Uebelmannia pectinifera* (green) [5]
 268. *Weingartia neocummingii*
 269. *Yucca aloifolia*
 270. *Yucca elata*

Seed Depot - Buy online at:
<https://cssa.myshopify.com/collections/seed-depot>

CCSS GOT A WEBSITE REFRESH!

Candi Hibert

To The Point, Cascade C&S Society March 2021

Chelsea Seydlitz did a fantastic job creating the foundation when she built our Cascade C&S Society website recently. I took on the easy part of simplifying some areas. That the site is more approachable and easier to navigate is our hope. Take a look for yourself:

www.cascadecss.com

There's a photo gallery with various member contributions. Select "i" on the bottom of a photo to read the plant description. Yes, I went crazy with the watermarks- sorry, but at least there's reassurance no one will be stealing them!

CSSA News

SF Affiliate opens YouTube channel

SFSCS Newsletter February 2021

Last month SFC&S Society launched a new YouTube channel! This has been a long time coming. Currently you can watch Robert Webb on "[Rethinking the Genus Sansevieria](#)". Stay tuned - more to come.

Date set for SD Epis online spring sale

Our online sale will open at noon on Monday, May 17th at sdepis.org. We will have hundreds of *Epiphyllum* hybrid cuttings and 4" plants – all of which can be shipped. In addition we are offering a limited selection of epiphytic species and epicacti. The sale will end when we run out of product. Last year we had a small sale and everything sold really fast, especially the rarer and hard-to-find hybrids. This year our inventory has expanded considerably so we have more hybrids available.

The sale is open to anyone in the U.S., but we can't fulfill international orders.

We will also have a selection of 1 gallon plants but those are for local pick-up only; we don't try to ship anything that large.

Building an Ethical Cactus and Succulent Collection

Reprinted from British Cactus & Succulent Society eNews, March 2021

Spring is here and many of us are sowing seeds. We are also adding to our collections by buying plants, mainly online as the pandemic is still preventing access to physical sales. Have a look at the poster, designed by Stefan Burger, and seriously consider where the plant you are buying has actually come from. Please try to make an informed decision.

Feel free to share this poster on Social Media and distribute it as much as possible in order to create awareness.

For your own copy of the poster visit:

www.ethicalcactus.com

BUILDING AN ETHICAL CACTUS AND SUCCULENT COLLECTION



Cactus and succulent species are at risk



One third of all cactus species (Cactaceae) are at risk of extinction¹, and so are many succulents, including *Dudleya*, *Dioscorea*, and *Pachypodium*². Half of threatened cacti are at-risk at least in part by the horticultural trade³. Social media platforms like Facebook and Instagram influences desire for old and rare cacti and succulents from habitat^{4, 5}.

Cactus and succulents are central in dry ecosystems



Cacti and succulents store water in their tissues, provide nesting areas and food for wildlife, photosynthesize, store carbon, and even provide a place for some insects to lay eggs where they can be protected until they develop into adults. These plants play an essential role in dryland ecosystems and must be protected.

Building your collection

<p>1 Check the source before you buy</p> <ul style="list-style-type: none"> Use caution when buying online. Was it nursery grown, or habitat collected? Is it a species at risk? 	<p>2 Buy from reputable plant sellers</p> <ul style="list-style-type: none"> Search for an approved grower. Ask your cactus and succulent community. Ask previous customers. 	<p>3 Grow your own cacti and succulents</p> <ul style="list-style-type: none"> Plant from seed. Propagate from a cutting or leaf. Buy and nurture young plants from collectors. 	<p>4 Educate yourself and spread the word</p> <ul style="list-style-type: none"> Learn more about poaching. Join a cactus club or online community. Volunteer with a conservation group.
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Plants to be cautious of when purchasing

Slow-growing rare plants sold online are more likely to be field-collected because their habitat characteristics are hard to replicate in a nursery and the time it takes to grow reduces practical and economic feasibility. If you're looking for rare plants for your collection, ask experts in your cactus and succulent community for help finding ethical sources or check the website for the Convention on International Trade in Endangered Species (CITES). Examples include:



Aztekium

Pachypodium

Dudleya

Identifying field-collected vs. greenhouse-grown

Wild plants tend to face harsher growing conditions than greenhouse-grown plants leading to features which can help you identify the source. These characteristics are not always diagnostic, so when in doubt ask a community expert.



Poaching impacts on wild populations



Wild populations can be significantly reduced by poaching. For example, in 2015, 3500 *Aniocardus fissuratus* were stolen from Big Bend National Park⁶. Large-scale harvest of slow-growing wild cacti can decimate habitat populations by removing the mature, reproductive plants. This demonstrates how wild and illegal field collection for the horticultural trade is a significant threat to the survival of cacti and succulents in habitat.

This map highlights regions with high levels of cacti and succulents at-risk including Southern Mexico, Chile, and southern Africa, including Madagascar, which face poaching impacts⁷.



Copiapoa cinerea which are ~45 cm/18 in. tall and take ~100 years to reach this size in habitat. When they are removed from the wild, all that is left are holes in the ground.

Find out more at: www.ethicalcactus.com

¹Goeblich, B., Hilton-Taylor, C., Cruz-Piñón, G. et al. High proportion of cactus species threatened with extinction. *Nature Plants*, 2015
²<https://www.iucn.org/eng/groups/plants/eng/cactaceae-and-succulents-plants-specialist-group/cites-species> (Accessed Jan 31 2021)
³Margolis, L.D. (2020). In *Frontiers in Ecology and Evolution* (Vol. 8, p. 167). <https://www.frontiersin.org/articles/10.3389/fecol.2020.004921>
⁴Hensley, A., Lee, T.E., Hanson, J.R., & Roberts, D.L. (2016). *Conservation Biology*, 30(5), 1038–1047. <https://doi.org/10.1111/cobi.12721>
⁵Messite McGivney. "Stealed from the ground": cactus theft is ravaging the American desert. *The Guardian* (Online). Published Feb. 20 2018.

Photos © Stefan Burger and Alex Gonzalez 2021
 Illustrations and design © Sarah C. Bird Illustration 2021
 Produced by Stefan Burger, Alex Gonzalez, and Sarah C. Bird 2021



Delosperma haraziana

Bob Stewart, Reprinted from The Eastern Spine, January 2021, National Capitol C&S

I bought and grew this batch of *Delosperma haraziana* seed in order to have plants to test their potential winter hardiness. Growing from seed gives you a relatively large supply of plants to use in such testing, or to sell or give away to others. Unfortunately, so far *Delosperma haraziana* doesn't seem to survive temperatures below 25°F. which excludes them from use in an outdoor hardy planting here. I did keep a couple of plants that are now part of my permanent C&S collection.



Turbinicarpus pseudomacrochele ssp pseudomacrochele All photos: Tom Glavich

Turbinicarpus is a genus of small plants from Northeastern and Central Mexico. In recent years it has swallowed several other genera, *Gymnocactus* being the largest and best known. Many of the species in *Turbinicarpus* come from relatively isolated locations with several species confined to a single locality. These 'island' populations have experienced local evolution through inbreeding and natural selection of variations that ensure survival long enough to produce

Beginner's Guide to Turbinicarpus

Thomas Glavich, Altadena, CA

flowers and set seed. This is analogous to what happens in *Lithops* and *Conophytum* and many of the other well-known genera of South Africa.

A review of any older or recent literature or any on-line search material will produce a variety of names for any given plant. Many

plants have made their way through 5 or 6 genera, including *Echinocactus*, *Gymnocactus*, *Turbinicarpus*, *Thelocactus*, and *Strombocactus*. Plants have been promoted to species, combined as subspecies and varieties, and been resurrected again as species. There are several definitive treatments of the genus, but they don't agree. For the collector there is nothing better

than a seed collection number and a locality for the plant. The collection number never changes. Geographical place names unfortunately change as often as genus names but are none-the-less traceable. Many growers keep the name that was on the plant when they bought it and keep a less certain paper trail of current nomenclature.

All of the *Turbinicarpus* species are worth growing. They are all small, most full sized in collections at an inch or two. A few will clump readily and make impressive show specimens, but still remain manageable. It's a rare *Turbinicarpus* that needs a 10-inch pot. A collection of all the species and varieties could fit on a table top.

Turbinicarpus are fairly easy to grow if attention is paid to their life cycle. They are dormant in winter from November through mid March. As they begin growth, watering should start slowly. If too much water and fertilizer are given at once it's possible to burst the skin of the plant. Once growth is established (May and after) water freely. *Turbinicarpus* love heat and they need moving air. If there is moving air, *Turbinicarpus*



Turbinicarpus beguinii ssp zaragozae

can take very hot environments. If the air is still and the *Turbinicarpus* are in pots it is possible to burn the epidermis, cook the roots and kill the plant. This is particularly true for seedlings. They do best in a very quick draining potting mix with little organic matter. Many of the species will develop a wooly apex. This wool compacts and washes off easily. Bottom watering (dunking the pot in water so the top of the pot is just covered) completely wets the root, promotes better growth, and gives a much better-looking plant.

If a head splits, all is not lost. The entire head can be removed, and the top of the tuberous root left half an inch above the soil. If it is kept dry, it will usually start two or three new heads. Removing a head is also a great method of vegetative propagation. *Turbinicarpus* root as easily as any other cactus.

Turbinicarpus have large tuberous roots which are their primary food and water storage source in times of drought. Over much of their habitat, rain falls during the summer and growth is most rapid during this period.

Turbinicarpus are easily raised from seed. They are slow for the first year but reasonable size plants can be grown in a year or two and flowers the size of the plant may appear by the second year. Producing clumps as shown in some of the attached pictures will only take a few years longer. Many varieties are only available as seed and the CSSA seed bank is often a source of good affordable seeds from some of the rare species.

Terrific Turbs:

Turbinicarpus pseudomacrolele v. *pseudomacrolele* (pictured, page 6) is from Queretaro, it has white flowers with yellow centers. A young plant is shown in the picture. It is woolly with unruly spines and clumps quickly. It is easily grown and a great start to any collection.

Turbinicarpus beguinii ssp. *zaragozae* (page 7) is from Nuevo Leon. The picture shows its spectacular flowers, probably the best of the genus, with bright green centers, and white petals with pink stripes. It is clearly an attention getter. Unfortunately it has been moved to *Rapicactus*, but most often still seen as a *Turbinicarpus*.

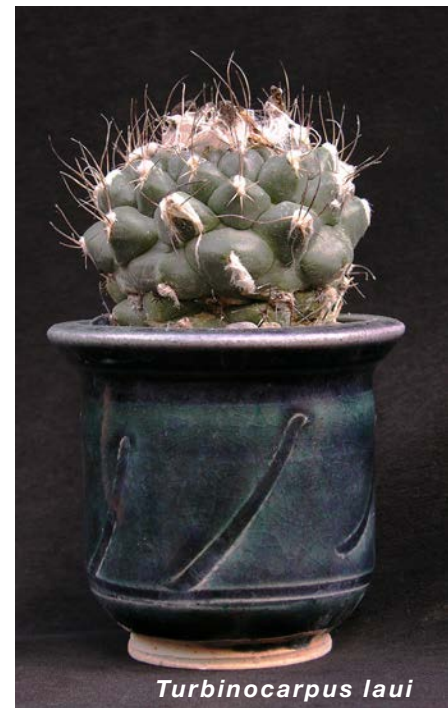
Turbinicarpus laui (pictured, top right) stays small, rarely more than an inch and a half in habitat, but easily twice that or more in cultivation. It has woolly areoles and crown and pink flowers. It is from San Luis Potosi.

Turbinicarpus lophophoroides sometimes remains solitary but occasionally clusters with age. Its name gives away its resemblance to the genus *Lophophora*. Careful watering away from the body of the plant will allow the areoles to keep their wool. The white crown will offset the white flower. This is one of the species that does particularly well with bottom watering.

Turbinicarpus pseudopectinatus has small sets of comb-like spikes at each areole. It usually remains solitary, and grows to two inches or so high and an inch in diameter. From Tamaulipas and Nuevo Leon it has large pink flowers. It is one of the great miniatures of the cactus family. The small white spines provide perfect cover for mealybugs, so frequent close inspection is worthwhile.

Turbinicarpus schmiedickeanus (pictured, bottom right) is a very variable species, with at least half a dozen named varieties. This species has the largest spines of any of the *Turbinicarpus*, with the spines often as large as the body of the plant. The named variations differ in the width, color and length of the spines. The spines of this species are hollow with narrow cracks. Water condensing on the spines runs through the spines and is used by the growing plant. This is a widespread species from Tamaulipas, San Luis Potosi, and Nuevo Leon. The plant pictured shows *Turbinicarpus schmiedickeanus* ssp. *macrochele* in flower.

Turbinicarpus valdezianus is another small bodied pectinate species with red and white striped flowers. In this species, the pectinate spines are not in the two neat rows as in *T. pseudopectinatus*, but are more spherical, and almost mashed.



Turbinicarpus laui



Turbinicarpus schmiedickeanus

A Filmmaker's Contribution

Buck Hemenway

My wife and I decided some years ago to move from sunny Southern California to sunny South Africa. We have settled in Calitzdorp, a tiny town in the Klein Karoo, which is home to a large number of succulent plants, many of which are endemic to the area.

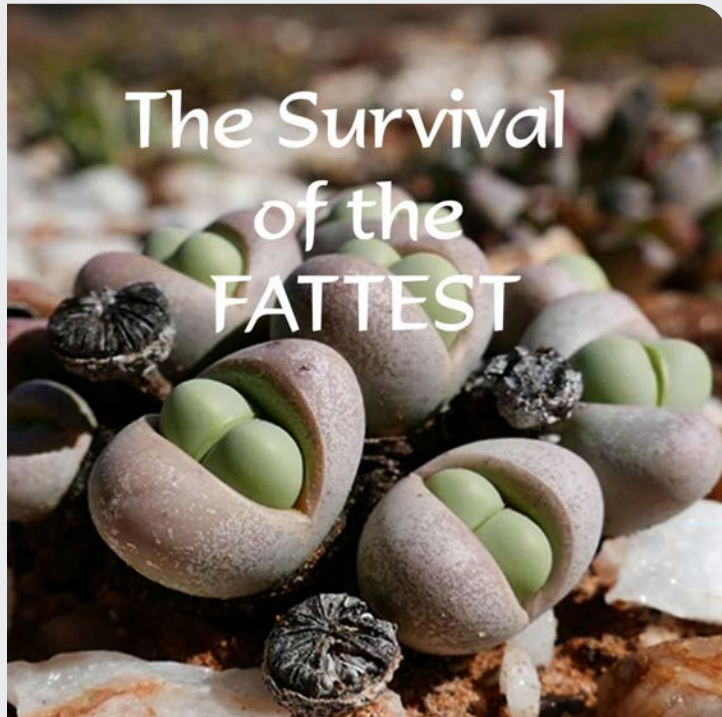
It continues to amaze us that people are simply unaware of the existence of these plants in their own back yards and on their farms. There are, now in the year 2021 exactly 2 local organizations in the entire country which support programs and education about the conservation and study of succulent plants. One of these is the Calitzdorp Succulent Society.

In the years since the founding of CSS, the members have energetically championed the idea that these rare and many times endangered plants are of extreme value to the historical and cultural heritage of South Africa.

Our neighbors here in Calitzdorp range from those with great interest and knowledge in succulent plants to those who consider them weeds. The ones with interest have gravitated to the society and have all gained knowledge from sharing at meetings and outings.

One such neighbor is Neil Curry. He was one of our founding members. His interest is not as a plant enthusiast (although we are converting him), but as a keen observer of nature. His life's work is as a cinematographer making films on all variety of natural things in southern Africa. For more than 50 years he has been one of the most active documentary filmmakers in this country.

So, one day, Neil came to me and said



Watch
The Survival of the Fattest
on YouTube at
<https://youtu.be/3PlyzqfYK9Y>

that he was not able to contribute much in the way of plant knowledge, but he might be able to produce a film that could tell a story about our favorite plants. I thought that this was a terrific idea, and the project was born.

Neil sought the advice of two long time explorers and documentors of succulent plants in Frans Noltee and George Hattingh. Between them, they devised a script that would tell the story of succulents and how they survive the extreme climatic conditions in which they grow.

I can say that I have listened to presentations by the most knowledgeable people in our hobby in efforts to tell this story. The story of survival is what binds most succulent lovers to these incredible plants.

The result of this collaboration is a short (34 minute) movie "The Survival of the Fattest" which is the most beautiful telling of the story I have seen. Not one scientific binomial name used. Just beautiful pictures and a story that wraps the viewer up in the telling.

I TALK TO MY CACTI, BUT CAN THEY HEAR ME?

RESEARCHING ACOUSTIC SENSITIVITY IN PLANTS

Chaden Yafi, Houston, TX

Since the beginning of Covid-19 and throughout the seemingly endless quarantine, I have been spending most of my free time in the garden with my beloved cacti, succulents, and other plants. Perhaps, due to the social isolation, I developed the habit of talking to them. Sometimes I would beg my cacti, "Please give me a beautiful flower." The next day, if I see buds, I would become content and happy and would tell myself that they heard me and responded!



having specific organs for hearing, like the ear, in animals and humans.

However, not all animals have ears. We know that birds and frogs don't have the same ear structure as mammals. They do not have outer ears but they do have eardrums. Nevertheless, their ability to hear is sometimes better than that of humans: Other animals don't even have eardrums like snakes and worms but are still able to "hear." Plants also hear in a similar way of those reptiles.

I know I am not the only one who talks to plants. Charles, The Prince of Wales, is known for communicating with plants and even shaking hands with them (I wouldn't recommend that with a cactus!) He said in an interview, "I just come and talk to the plants, really – very important to talk to them. They respond." ¹

Do plants actually hear and respond to our talking, sounds, or music in general?

These questions have been in the minds of people for a long time. In 1968, an organist and opera singer named Dorothy Retallack in Denver was inspired by the song, "The hills are alive with the sound of music", and started to research the influence of music on plants. She published a book about all of her experiments. However, her book was debunked later by scientists as her experiments showed many flaws.

The interest in this topic emerged again in the 21st century with all of the new research trends that focus on plant behavior and signaling.

It was important to determine first how plants could possess the ability to hear without

Hearing in snakes and worms happens by capturing the vibrations carried by the earth. Their sense of hearing is not concentrated in a specific organ like the ear for humans and mammals. Scientist Stefano Mancos imagined that a plant is covered with millions of tiny ears. The plants' sense of hearing was a biological necessity for their conditions, with half of their body submerged in soil.³ Science has shown that plants have mechano-receptors and are able to hear through sophisticated mechano-sensitive channels.

Now since plants have the ability to hear, can they enjoy music?

In Montalcino, Italy, a wine grower, in collaboration with botanists, performed an experiment where he played music for his grapevines for 5 years. The result was remarkable: the vines grew better than those who had not been exposed to music, and they gave ripened grapes earlier with more flavor and color!⁴

Of course plants cannot favor a type of music over another. They reacted to frequencies of sound. Studies have shown that frequencies between 100

and 500 Hz stimulate plants' growth at any stage while higher frequencies inhibit their growth.⁵

In 2004 a study showed that music accelerated the speed of seed germination in zucchini and okra plants. Music made the seeds that were exposed to music sprout faster than the seeds that were not treated with music. The music used was from the albums of R. Carlos Nakai and Paul Horn.⁶

Frank W. Telewski, from the Department of Plant Biology in Michigan State University, East Lansing, published what is perhaps the most important study about mechanoperception in plants. He stated: "Recent advances have led to the proposal of a plant-specific mechanosensory network within plant cells that is similar to the previously described network in animal systems."⁷

Apart from the effect music has on plants, the ability to detect sound or "hear" for plants could have two main vital goals: the search for food source (water), and the defense against herbivores.

A study in 2014 examined how plants respond to the sound of an insect chewing on their leaf. The plant examined was the *Arabidopsis thaliana*. The study examined how it reacted to the chewing vibrations caused by caterpillars and how the plant could recognize this sound in preparation for further attacks. The study showed that "the plants exposed to chewing vibrations produced greater amounts of chemical defense in response to subsequent herbivory." What is more fascinating is that "the plants distinguished chewing vibrations from other environmental vibrations."⁸ In 2017, a study from the University of Western Australia, led by Monica Gagliano, examined if plants can detect acoustic vibrations in order to find water, if they could "hear" the sound of flowing water with the absence of any moisture, and how they would react. The



plant examined was the common pea. The study found that the roots of the plants travel toward water sources by sensing acoustic vibrations of water moving through pipes, even in the absence of any moisture in the soil.⁹

I have not yet come across a specific research study about acoustic sensitivities specifically in cacti and succulents as examples. I

have no doubt that we will be seeing more related studies in the future. Meanwhile, I keep gently asking my cacti to bloom, and they keep responding gracefully!

Acknowledgments

¹<https://www.nzherald.co.nz/lifestyle/prince-charles-shakes-hands-with-every-tree-he-plants/7PH3U6EUJMZ3MMWIJQCKTZB2K4/#:~:text=Prince%20Charles%20loving%20relationship%20with,They%20respond.%22>

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³Mancuso, S and V, Alessandra. Brilliant Green. Trans. J. Benham Washington: Island Press, 2015, p 74

⁴Ibid, 74-75

⁵Ibid, 76

⁶"Measuring Effects of Music, Noise, and Healing Energy Using a Seed Germination Bioassay" <https://pubmed.ncbi.nlm.nih.gov/15025885/>

⁷<https://bsapubs.onlinelibrary.wiley.com/doi/full/10.3732/ajb.93.10.1466>

⁸Appel, H. M., and R. B. Cocroft. "Plants Respond to Leaf Vibrations Caused by Insect Herbivore Chewing." *Oecologia*, vol. 175, no. 4, 2014, pp. 1257-1266.

⁹https://www.researchgate.net/publication/315811492_Tuned_in_plant_roots_use_sound_to_locate_water



Gymnocalycium mihanovichii 'Hibotan'

Bob Stewart, Reprinted from *The Eastern Spine*, November 2020, National Capitol C&SS

The story of the “Moon Cactus” begins in post-World War II Japan and centers around cactus grower Eiji Watanabe. He imported and planted several hundred seeds of the cactus *Gymnocalycium mihanovichii* he had obtained from a nursery in Germany.

From the plants he grew from those seeds, he collected several thousand seeds and planted those. In the plants he grew from this second seed batch, he found several plants with red body coloration instead of the normal green of *Gymnocalycium mihanovichii*. Since these plants lacked chlorophyll, he grafted them in order for them to survive. He cross-pollinated

the flowers of the red colored plants with other red colored plants and with regular green colored plants. He obtained seed that resulted in a wider variety of more colored plants. In 1948 he introduced the variety ‘Hibotan’, a red *Gymnocalycium mihanovichii* grafted onto a rooted cutting of a *Hylocereus undatus* cactus.

Under names such as Redcap and Ruby Ball, these grafted, colorful gymnocalycium mutated cacti begin to show up in American nurseries and garden centers in the 1960’s. They were not much of a success at first, but by the 1980’s had made their way into big box stores such as K-Mart and Walmart and became very popular.

Today these grafted Gymnos come in a variety of colors, including red, yellow and purple and are known as “Moon Cactus”.

For the average buyer the Moon Cactus appears as a strange cactus with a green, columnar body, and a colorful, globular flower on top. They do not realize they are actually buying two different cacti, a lower, green stock plant with a colorful hybrid scion on top. Most buyers begin to suspect something is strange when the flower never seems to fade or wither, but this simply adds to the magic of the “Moon Cactus”.

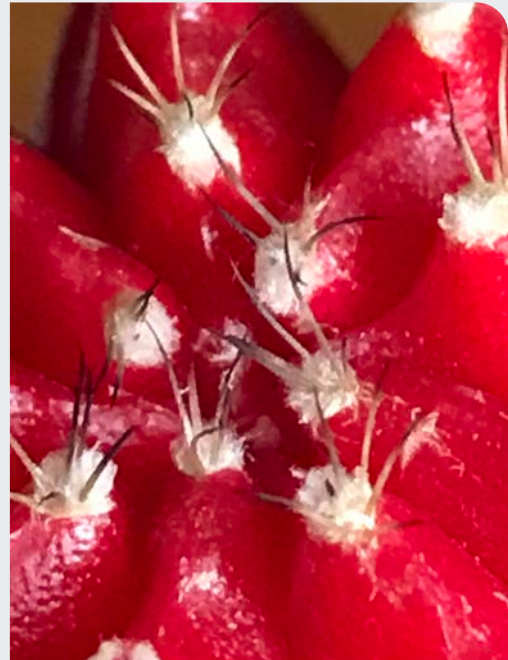
You should grow a moon cactus based on the needs of the stock, which is usually *Hylocereus undatus*. Best culture includes: several hours of sun each day, a well-draining potting mix, and temperatures above 50°F. Water on a regular basis and do not allow the potting mix to get completely dry; of course also do not allow the potting mix to remain soggy wet for extended periods. The hylocereus stock, the lower portion of the graft, provides the root system and prefers a more tropical rather than desert environment. If the hylocereus begins to produce side shoots, remove them as soon as possible.

Editor’s Note: This history of the moon cactus given here is a compilation of several sources. The exact origin of the Moon Cactus is the subject of some controversy.

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Gymnocalycium mihanovitchii ‘Hibotan’
close up (above)

A look at the variation in
Gymnocalycium mihanovitchii ‘Hibotan’
(below) Photo: One World Thailand -
https://upload.wikimedia.org/wikipedia/commons/5/5e/D85_9929_Plant_of_Thailand.jpg

Photos: Linda Tamblin - page 12 and top
of 13



SANSEVIERIA HALLII

Brian Kemble, SFSCS Newsletter February 2021



The most widely grown species in the genus *Sansevieria* is *S. trifasciata*, commonly seen in offices and homes around the world. However, it is one of the less succulent members of the genus, since its long sword-like leaves are more leathery than juicy. In contrast, quite a few other sansevierias have cylindrical leaves which are highly succulent, and *Sansevieria hallii* is an excellent example.

When *S. hallii* was first grown by nurseryman Dave Grigsby in the 1980's, it did not yet have a scientific name. Grigsby began calling it *Sansevieria* 'Baseball Bat', in reference to its thick cylindrical leaves, often a little wider in the upper part than at the base. Viewed from the back, a leaf of this species can certainly bring to mind a bat, but the reverse side is channeled. It was not described as a species until Juan Chahinian named it *Sansevieria hallii* in 1996, honoring Harry Hall, a British collector and horticulturist who took up residence in South Africa and worked at Kirstenbosch Botanical Garden. Hall had discovered it in southeastern Zimbabwe, and it was later found to grow in the adjacent northeastern corner of South Africa and along the western Mozambique border as well.



A potted plant at Grigsby Cactus Gardens in Vista, CA. Seen from the back, the leaves call to mind a group of green baseball bats. (Fig 1)

A plant in flower, grown indoors in San Francisco (Fig 2)

A close-up of the flowers of the same plant (Fig 3)

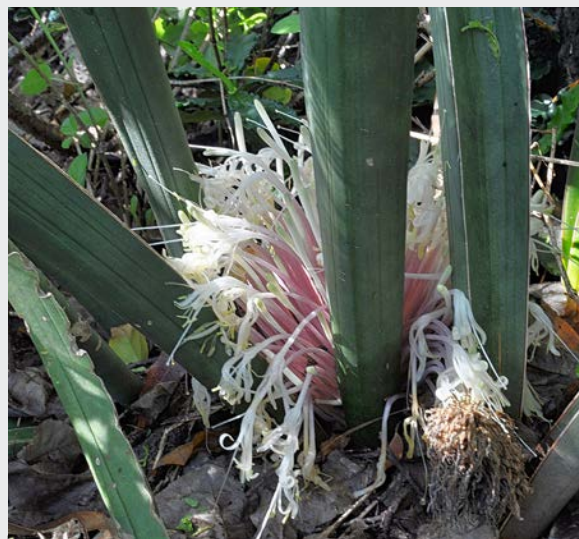
Many species of *Sansevieria* have thick fleshy rhizomes, with new shoots pushing out laterally under the ground, and then emerging to give rise to new rosettes in an expanding clump. Often the rhizomes are colorful, though this is not evident unless the plant is dug up. In the case of *Sansevieria hallii*, the rhizomes are orange, and the shoots that emerge generally have only two or three leaves (sometimes only a single leaf).

The leaves of *S. hallii* may be erect or arching to the side, with a length of one to two feet (30 to 60 cm) and a width of about two inches (5 cm).

The basic leaf color is a deep dull green, with darker green longitudinal grooves on both surfaces. In times of drought, the leaf contracts, and the grooves stand out more. The leaves have irregular cross-bands of lighter and darker green, more evident on younger leaves than on older ones. The lower leaf surface (the side facing outward when the leaf is upright) is convex, while the upper (or inward-facing) surface is concave, sometimes shallowly so and sometimes deeply, in the manner of a dugout canoe. There is a narrow band of reddish-brown running along the leaf margins, and an even narrower edging of white at the rim.

The thick club-like leaves of *S. hallii* are quite striking, but its extraordinary inflorescence adds another dimension to its appeal. While many sansevierias have spires of flowers, with the tubular blossoms arrayed along a stalk that rises up from among the leaves, other species have capitate inflorescences in which the flowers are held in a tight cluster. *Sansevieria hallii* is one of the latter, but the flower stalk emerges underground, with only the long narrow tubular flowers themselves rising above ground level. The greater part of each flower's length is a cylinder formed by the fusing of the six tepals*, with the ovary at the base of the tube and the six stamens plus the style rising up through the tube and emerging at the flower's mouth. Only at the tip does the tube separate into six narrow curled-back tepals. The slender filaments (tipped by yellow pollen-bearing anthers) and the equally slender style protrude well beyond the mouth of the flower. The elegantly coiled tepal tips are white, while the tube is violet or violet-pink. As with most species in the genus, the flowers open at night, remaining open into the following morning. Within the tube is clear sweet nectar, and this, along with the nocturnal opening, points to long-tongued moths as the pollinators. If pollinated, the flowers give rise to round orange fruits about 4/10ths of an inch in diameter (10 mm), bearing pale seeds a little less than a quarter-inch across (6 mm).

In cultivation, *Sansevieria hallii* is not a difficult plant to grow if given the good drainage required by most succulents. Because of its poor cold-tolerance, it is best grown indoors



A flowering plant grown outdoors in Hawaii. (Fig 4)

A close-up of the flowers of the plant in Fig. 4. (Fig 5)

All photos: Brian Kemble

except in tropical or sub-tropical regions. In nature, the species is usually found growing in bright shade, and when grown indoors it does best near a window, but not where it receives the brunt of the hot midday or afternoon sun. Plants should be watered at regular intervals during the warm part of the year, and allowed to have a dry resting period in the winter.

*Note that the term "tepals" is used, rather than "petals", for flowers without clearly distinct sepals and petals. This is the case with many monocots, from aloes to tulips.

MOBILE PHONE PHOTOGRAPHY

John Martinez

Reprinted: Conejo Cactus and Succulent Society
conejcoss@hotmail.com
Succulent Scoop February 2021

During these difficult times we are fortunate to have our hobby as a temporary retreat. Pre-COVID, gathering with other plant enthusiasts and sharing information was a big part of our enjoyment. With the inability to hold in-person gatherings, Zoom meetings and sharing our plants through photographs has become common place.

Since modern photography equipment can be quite expensive, mobile phone cameras have become an excellent alternative. Mobile phone cameras have come a long way in recent times and the technology keeps improving. There are many advantages to using our phone cameras - we take them where we go; the built-in cameras are easy to use and make for quick picture sharing; and, most importantly, they produce good quality images.

Below are some items to consider when using your mobile phone to take pictures.

Keep Your Camera Lens Clean

Since we carry our mobile phones with us most of the time, the camera lens will accumulate dust, dirt, and smudges. Cleaning your lens by wiping it with a soft cloth will help create a clear and sharper image.

Set Focus

When preparing to take a photograph simply tap the screen on the most important feature of your subject. A small yellow box will appear. This will be the area of the photograph that will have the sharpest focus. If you want to change the area of sharpest focus, simply tap the screen again to change the area of sharpest focus.

Adjust Exposure

To prevent your photograph from being too dark or too light your mobile phone camera will allow you to adjust the amount of exposure. To do this, tap the screen and the yellow focus box mentioned above will appear. Place your finger on the screen. Sliding your finger up will lighten the exposure, sliding your finger down will darken it.

Eliminate Camera Shake

Eliminating camera shake is the best way to improve image sharpness. Some suggestions include:

- Use a tripod with a mobile phone mount.
- Place your phone on a stationary object (tabletop, railing, sandbag, etc.). Hold your phone in both hands using a firm grip. Steady yourself by leaning against a firm object like a tree, wall, etc. Place both elbows against your body to steady your arms.

Lighting

- Avoid harsh lighting. The dark shadows created by harsh lighting can be distracting and will most likely reduce the impact of your image.



Composition

- Fill the frame with the subject. This is best accomplished by placing the camera closer to the subject. Using the zoom feature rather than moving the camera closer will reduce your image quality.
- Place the main feature of the subject off-center. This will create a more interesting image. Activating the “Grid” function in your camera app can assist in framing your photograph.
- Eliminate distracting elements in your photograph. When the background is too busy, the viewer’s attention is distracted from the main subject. Some examples of eliminating background distractions include: Move your subject to an area with limited background distractions.
- Try photographing your subject from different angles. Use a neutral, non-reflecting backdrop. A section of material is commonly used.

This overview is intended as a quick review of basic tips to consider when using a mobile phone to photograph your plants. Like many activities, exploration, experimentation, and practice will go a long way to improvement.



One of my original *Dyckia* hybrids in a Tom Glavich pot taken with an iPhone 8.



×*Alworthia* 'Black Gem'

Larry Andrews

Reprinted from The Point - Cascade Cactus and Succulent Society
February 2021

In August 2019, I visited friends in New York. I admired the small succulent on the kitchen sill and took an offset home. My friend, Frances, tells me that she has had it for at least 10 years (I suspect 20–30).

I potted it up in early September. It greened up, and by mid-Nov. there were three offsets. By mid-July, it was almost filling its pot. It hasn't grown since spring, but in early December, 2020, I'm seeing three new offsets already (left).

Our member, Jose Manuel Alvarez Guerrero, tells me that it's an ×*Alworthia* 'Black Gem'. It's an old hybrid of *Aloe speciosa* (now *Astroloba*) and *Haworthia cymbiformis*. It sometimes is called *Alworthia pentagona* or a lot of other names like *Aloe pentagona*.

I have it in a mixture of compost, perlite, and Soil Moist brand “water crystals”. I keep the soil consistently moist.

When it starts to grow, it's surprising how fast it makes offsets. It gets darker and redder, going almost to black, with enough sun. I don't seem to have that much sun. One web page said that it can survive down to 20°F if kept dry. I'm not going to test that.

AGAVES AND THE SPIRITS OBTAINED FROM THESE PLANTS

By Liliana Cracraft
Kactos Komments Jan/Feb 2021

Agave plants were first described by the Swedish naturalist Carl Linnaeus in 1753, taking the name from a Greek word that means “admirable.” These plants belong to the family Asparagaceae since 2009. Agaves are native of arid or semi-arid regions of the American Continent. There are 211 species in the genus *Agave*. México has 159 or 75% of these plants, with the State of Oaxaca having the highest variety with 38 species. Four of these were first discovered in 2018. In the United States they are commonly known as Century Plant, because people believed that it would take 100 years for them to bloom.

Agaves are characterized by a rosette of succulent leathery leaves that range in size from a few inches to 8 feet long in some species. This type of growth allows the plant to collect water efficiently, and direct it towards the roots. The color of the leaves varies from pale green to blue gray. They are thick and succulent with a waxy coat and all have a terminal spine. Most species may take 8 to 12 years to bloom. Their yellow, pale green or red flowers are born from a tall stalk that grows from the center of the plant and can reach 10 feet or higher in some species. The flowers are pollinated by bees, moths, or long-nose bats (*Agave tequilana*). Agaves are generally monocarpic, meaning that the plant dies after flowering and producing fruit.



Agave tequilana Webber, the Blue Agave (top)

https://upload.wikimedia.org/wikipedia/commons/2/22/Agaves_americanas_de_San_Carlos%2C_Tamaulipas.jpg

Identifying a ripe agave, at somewhere between 8 and 12 years old, requires a skilled agave farmer or *jimador* (bottom). Agaves that are not ripe enough, or too ripe, result in an unpleasant distillation. The *jimador* uses a tool, called a coa, to cut flower stalks and eventually harvest the piñas.

By Faguilal - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=37890015>

Agaves have a long history of ethnobotanical importance, especially to the peoples in México. Agaves appear in many pre-Hispanic graphic records because the plant offered multiple benefits. The leaves have strong fibrous tissue and were used to make ropes, brushes, sandals, nets and sleeping mats. The heart or the stalk of the plant are rich in carbohydrates and are edible. The Aztecs also obtained soap from the roots, and a naturally fermented drink from the sap called “iztac octli.” This was a sacred drink, and its consumption was carefully coordinated. The punishment for drunkenness could include a death penalty.

When the Spaniards arrived in México, they started observing the Aztecs customs and traditions and paid attention to the fermented drink, which they called pulque. Many agaves can be used for its production. They are usually very large plants and include *Agave atrovirens*, *A. lurida*, *A. ferox* and others. The Spaniards brought copper stills with them to the New World, and in the 1700’s, began fermenting, and then distilling the sap of many agave plants. They called this drink “mescal.”

Mezcal can be obtained from *A. augustifolia*, *A. rhodacantha*, *A. shrevei*, *A. palmeri* and others. It is interesting that the Spaniards never noticed the abundance of corn; otherwise, the history of bourbon would have been different.

Mezcal or Tequila?

All tequilas are mezcals; not all mezcals are tequilas.

- Authentic tequila is regulated by Consejo Regulador de Tequila. Like true Champagne originates only in the Champagne wine region of France, tequila may only be produced in five designated regions: Jalisco, Guanajuato, Michoacán, Nayarit, and Tamaulipas.
- Mezcal can only be made in Michoacán, Durango, Guanajuato, Guerrero, Puebla, San Luis Potosi, Tamaulipas, Zacatecas, and Oaxaca.

Agave harvest, yielding the heart or “piña”, starts the production of both mezcal and Tequila.

- In mezcal production, stone-lined pits are fueled with firewood and lava rock to roast the piñas - infusing the signature smokiness. The cooked, smoked agave is then crushed, mixed with water and left to ferment. After being twice distilled, the mezcal is ready for immediate consumption or can be left to age in clay pots for at least a year.
- Ovens are used to steam piñas when crafting tequila. The mash is then distilled several times to copper pots. It's then ready to drink or age.

Locally, a common and widespread name for agave is maguey (mah-gey).

- *Agave tequiliana* Webber (blue agave) is the only type of agave used, by law, for Tequila.
- Mezcal can be made from more than thirty different types of maguey, resulting in a range of flavors. Maguey espadin (*Agave angustifolia*), a native variety of agave in the Oaxaca region, is most commonly used in mezcal.

Resources:

<https://www.foodandwine.com/cocktails-spirits/differences-between-tequilaal#:~:text=Conversely%2C%20mezcal%20is%20produced%20in,of%20all%20mezcal%20is%20made.>

Mezcal vs. Tequila: Everything You Need to Know, By Tyler Moss, Mar 26, 2020 <https://www.afar.com/magazine/tequila-vs-mezcal-everything-you-need-to-know> Tequila or Mezcal



Classifications

Tequila designations start with the unaged blanco /silver/plato which is between 0-2 months, reposado a little older at 2-12 months and anejo between 1-3 years.

Mezcal also has three grades: Joven/blanco/ abacado means that batch is 0-2 months, reposado around 2-12 and anejo means it has aged one year or more.



An agave farm can supply edible flowers, leaves for fiber, flower stalks for a sweetener, the piñas or 'pineapples' for Mexican spirits, and more. Plants take between 8–12 years for the piñas to ripen, unlike corn or beans which yield in one year. Indigenous peoples in Mexico, as far back as prehistoric times, included agave as part of their diet.

Photo: Carlos Hernández - Imported from 500px (archived version) by the Archive Team, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=71349261>



Until the beginning of the 18th century, agaves were still wild. Gradually one species, *A. tequilana* begins to be cultivated, especially around the towns that had distilleries, called taberns at the time. The most important towns were Tequila, Amatitlán, and Arenal in the State of Jalisco. In 1753, Don Jose Cuervo obtains the first land grant from Spain to cultivate this agave. In 1902 this agave is renamed *Agave tequilana* Webber.

The mezcal made in the town of Tequila begins to be known outside of México. It had several names: mezcal de tequila, vino mezcal, or mezcal brandy. In 1873, tax records

show 3 barrels of mescal wine being sent to New México via El Paso using burros. It is not known exactly when the drink began to be called simply “Tequila,” but it may have happened after the drink had won several international awards in Chicago (1893), San Antonio (1910) and Rome, Italy (1923).

In addition to their ethnobotanical importance, agaves are beautiful additions to the landscape. They are amazing plants that require low maintenance and low irrigation. They can grow in full sun to partial shade, and do not require fertilizers. Some species can tolerate light freezes.

Get Your Facts First

Linda Sinkovic

Get your facts first, and then you can distort them as much as you please -- Mark Twain

I have a confession to make - I've always had a problem pronouncing an organism's scientific name, if I've only ever seen it written. My idea of a particular pronunciation is often incorrect¹ to the point of provoking quizzical looks from my listeners while they try to figure out what I am actually talking about. In an effort to better communicate, I've been looking at pronunciation guides for botanical Latin. And now I'm confident enough to discuss a *Rhipsalis* with a name which was formerly difficult for me to pronounce.²

The plant in question is *Rhipsalis hoelleri*. It is a fairly new species; it was collected³ in 1987 by Countess Beatrix Orssich⁴ and then grown at the University of Bonn Botanical Garden. Described in 1995 by Wilhelm Barthlott and Nigel P. Taylor, they named it for master gardener Werner Höller. At that time, Mr. Höller's duties at the Botanical Garden included taking care of the large collection of epiphytic cacti.

As epiphytic cacti go, *R. hoelleri* resembles its close relative *R. puniceodiscus*, at least in the shape and form of the branch segments.^{5,6} However its flowers are quite different from the flowers of *R. puniceodiscus*: *R. hoelleri* flowers are small and dark pinkish-purplish red.⁷ The fruit is red and smaller⁸ than that of *R. puniceodiscus*.

Culture is similar to that of *R. puniceodiscus*. *R. hoelleri* does not like to be overwatered and should be planted in a well-draining mixture. As with many *Rhipsalis* it likes semi shade. In the literature, blooming time is given as the spring, but my plant has bloomed as early as the beginning of May and as late as the beginning of September.

This plant has small flowers of an unusual color and is well worth growing in your shade house. It can be a little difficult to track down, but The Huntington Garden has offered it at past plant sales.

Notes:

*1 My guess is all those various pronunciation rules for different languages have become all mixed up in my brain, just like all the various vocabulary words; you know, like when you're trying to think of a word in German and your brain says, "Nope, can't help you! But how about this Japanese word instead? It means the same thing."

*2 You can pronounce it "hell er i", with the stress on the first syllable.

*3 The exact location where she collected it is not known, but it's thought to be near the town of Domingos Martins, in the state of Espírito Santo, in the mountains almost 400 miles to the northeast of the city of Rio de Janeiro.

*4 Yes, she is the person which *Schlumbergera orssichiana* is named after. At the time of collecting *R. hoelleri* she was living in Teresópolis, in the state of Rio de Janeiro, Brazil. This city is in the mountains, about 80 miles to the northeast of the city of Rio de Janeiro.

*5 See SDES Epi News Volume 45 Number 7 (July 2020) Get Your Facts First for some discussion of *Rhipsalis puniceodiscus*.

*6 The diameter of the branch segments is smaller than that of *R. puniceodiscus*; *R. hoelleri* branch segments are 3-4 mm diameter (0.12-0.15 inches).

*7 Flowers are up to 10 mm (0.4 inches) in diameter. This color, referred to as 'carmine red' in the descriptions, is an unusual color for *Rhipsalis* flowers; most *Rhipsalis* species have white to cream colored flowers. Judging by the number of photos I saw on Google Image, it's also a very popular color for Porsche cars.

*8 Fruit of *R. hoelleri* is 8 mm (0.3 inches) in diameter.

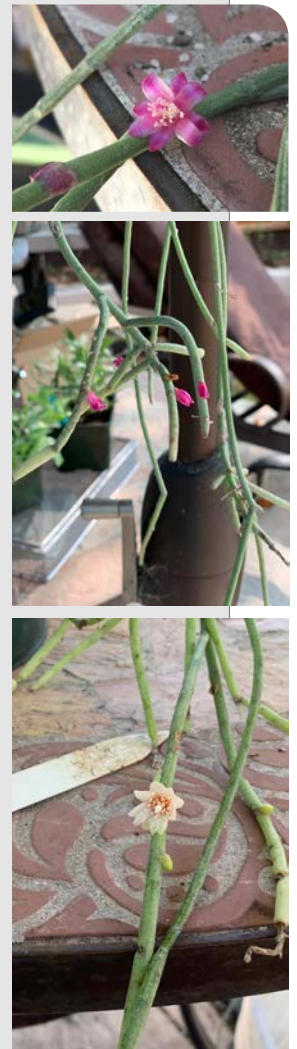
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Rhipsalis hoelleri flower (top)

R. hoelleri stems (center)

R. puniceodiscus (bottom)



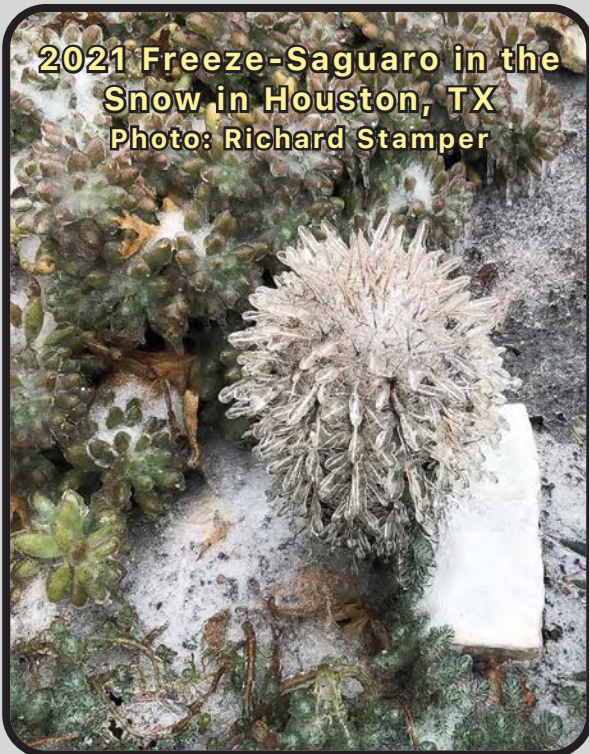
Photos: Gary Hunt



Senecio stapeliiformis
"Kilimanjaro"

The *Senecio stapeliiformis* 'Kilimanjaro' has its first bloom! I bought this succulent many months ago because the shape and color pattern (far right) caught my eye. I'm happy to see a colorful bloom shooting out of the top (above and left)!

Gary Hunt, Santa Barbara, CA



2021 Freeze-Saguaro in the Snow in Houston, TX
Photo: Richard Stamper



Sempervivums and sedums (above and right) that were re-planted last summer after squirrels dug them up (%#&!), are enjoying a cool and rainy Midwestern spring.

Linda Tamblyn, Merriam, KS



CSSA Affiliate Clubs

Find a local CSSA Affiliate or update your local Affiliate with contact numbers and website information. It's all on-line so it's quick and easy.

<http://cactusandsucculentsociety.org/Affiliates/affiliates.html>

2021 RESOURCE GUIDE

CSSA Calendar of Events

Keep up to date and in the know! Bookmark your CSSA Calendar of Events today. It's the place to find out about shows, sales, upcoming conferences and webinars. (Currently most of our events are on hold due to the pandemic. We will be ramping up as soon as we are able, so stay tuned!)

http://cactusandsucculentsociety.org/calendar_of_events.html

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Ms. Laurel Woodley

Benefactor -\$5000-\$9999

Phuc Huynh
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Seedling - \$25-\$99

Big Sky Cafe
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gunnar.eisel@gmail.com



Ptilosocereus magnificus Photo: Irwin Lightstone

GENERAL INFORMATION

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Seed orders: [Sue Hafner](#)
CSSA Affiliate Club: [MA Bjarkman](#)

Website:
<http://cactusandsucculentsociety.org>

I hope this message finds you doing well. The past year has been a difficult one for us all. A year ago, I never could have imagined how much everything was about to change. I'm hopeful that we will begin to see things return to normal within the next few months. I'm certainly ready to attend a local club meeting again in person and go to plant shows and sales.

Unfortunately, we won't be able to hold our biennial convention this summer in Colorado Springs. Even though there's a chance that things may be better by the summer, there was too much uncertainty to make definitive plans, and we had to cancel. The Colorado Cactus and Succulent Society has graciously agreed to host the convention in 2023. As the Huntington is not allowing any events for the foreseeable future, we are also unable to have the CSSA Show and Sale this summer. We

have discussed the possibility of having it in the fall if things open back up, but it is still too early to know if that can happen.

Even though I've grown tired of every meeting I attend being online, I must say that Zoom has helped our CSSA Board and committees to be much more productive over the past year. We have been able to meet more often, and I'm pleased with what we've been able to accomplish.

The webinar committee continues to find excellent speakers on diverse topics. I hope you're enjoying the series as much as I am. I love that we provide high-quality programs, not only to our members across the U.S., but also to people around the world. The webinars have attracted many new members to CSSA.

The conservation committee has been activated and has been meeting regularly. We've been working on an updated conservation

President's Letter

policy for CSSA and are identifying and evaluating potential conservation projects. As I've said before, so many of the plants we love are endangered, and I believe that it is our duty as a society to do everything we can to preserve these treasures for the future.

I hope you are enjoying the new digital *To The Point* newsletter. I'm delighted with how it's turned out and think it makes an excellent addition to CSSA's publications.

Once again, for 2021, CSSA has been offered a generous matching gift pledge of up to \$50,000 on donations received by December 31. Please consider a donation to help ensure the long-term financial health of CSSA.

Take care and good growing!

Jeff



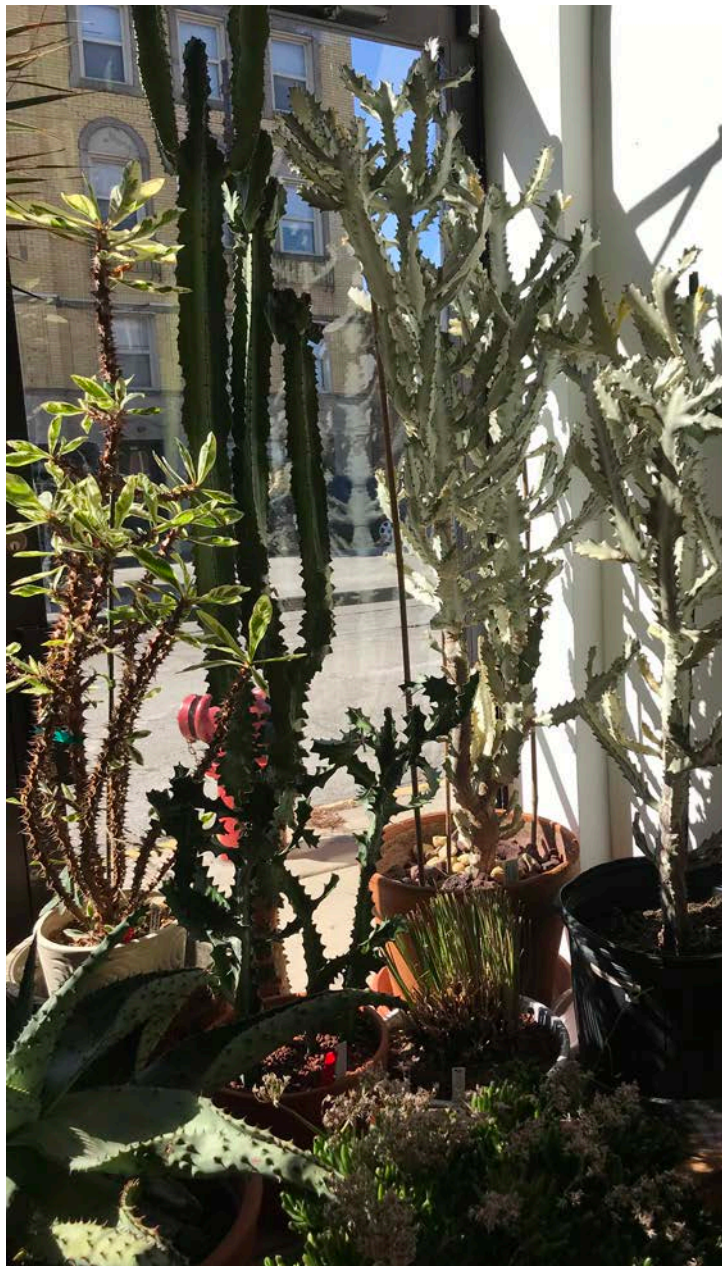
Aeonium 'Emerald Ice' Photo: Irwin Lightstone

To The Point Submissions

Send your newsletters, article submissions, affiliate events and news, photos, questions or growing tips to:

TTP.Editor@gmail.com

- Send submissions as a Word or Google document. Items can also be sent as text pasted into an email body. No PDFs.
- Please limit formatting. Avoid excessive bolding or tabs. Avoid words in all CAPS. Please proofread and spellcheck, esp. names. Preferred word count for articles is 100–200 words.
- Send photos as JPEGs at least 3" wide and 250 dpi. Individually attach photos to emails and submit to Editor. Use of photos is at Editor's discretion. All photos need caption and photographer's name and photographer's permission.
- Send videos as MP4 or as a YouTube link. Videos must have the permission of the videographer.
- Materials and submissions need contributor's name and either city or local C&S branch.
- Reprints are allowed with proper credit to author or photographer, any branch or affiliation credit and credit to *To The Point*.
- 2021 Submission due dates are as follows:
 - Spring - December 15
 - Summer - March 15
 - Fall - June 15
 - Winter - October 15



↑ Succulents in the city.
A front window of Plant Shop Chicago in the Albany Neighborhood of Chicago, IL.

Mission Statement

CSSA is a community of individuals who are passionate about promoting the appreciation, knowledge, and conservation of cacti and succulents in cultivation and in wild populations.

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