

Success with Cacti and Other Succulents as Houseplants



Rebutia donaldiana



Haworthia baccata

Coming to terms... ... “cactus” vs. “succulent”



Gymnocalycium saglionae



Agave patonii var. compacta

Succulent:

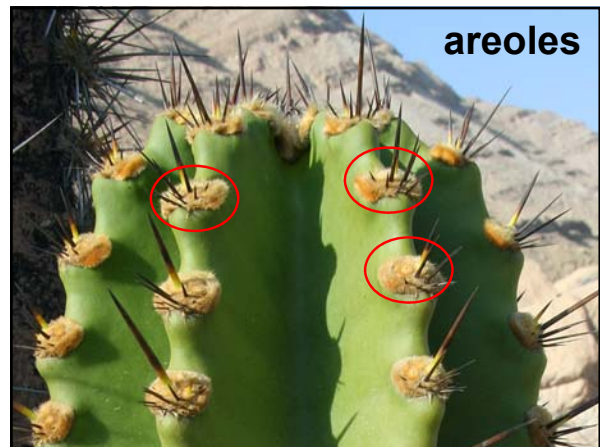
any plant that has modified organs (leaves, stems, or roots) for the primary purpose of water storage to survive periods of drought.

Succulence occurs to varying degrees in about **55 families** of plants.

Cactus:

any plant that is scientifically classified as a member of the plant family Cactaceae.

All cacti are succulents.
Not all succulents are cacti: only about 20%.



areoles

Growing Succulents as Houseplants. Dan Mahr.
Southwestern Wisconsin Master Gardeners. March 2018.






Growing Succulents as Houseplants. Dan Mahr.
 Southwestern Wisconsin Master Gardeners. March 2018.



Leaf Succulents



		
<small>Lithops bromfeldii</small>	<small>Adromischus alveolatus</small>	<small>Haworthia schuldiana whitesloani</small>

Stem Succulents

		
<small>Caralluma socotrana</small>	<small>Euphorbia persistens</small>	<small>Rebutia arenacea</small>

Growing Succulents as Houseplants. Dan Mahr.
Southwestern Wisconsin Master Gardeners. March 2018.

Root Succulents





Fockea edulis

Brachystelma pachypodium

"caudiciform" plants


Interrelated Factors for the Healthy Growth of Succulent Plants



- ✓ Light
- ✓ Temperature
- ✓ Air
- ✓ Soil
- ✓ Water
- ✓ Nutrients
- ✓ Container

Othonna cacalooides

Interrelated Factors for the Healthy Growth of Succulent Plants



- ✓ Light
- ✓ Temperature
- ✓ Air
- ✓ Soil
- ✓ Water
- ✓ Nutrients
- ✓ Container

Othonna cacalooides


LIGHT is the most essential element for good growth of succulent plants, but is often the most difficult requirement to provide.




Lithops julii var. *fulleri*

Rebutia heliosa var. *heliosa*

LIGHT: factors to consider:




- Intensity
- Angle
- Direction
- Duration (photoperiod)
- Match light to plant needs.

Artificial lights: intensity is the key to success.

Kalanchoe fedtschenkoi

Generally, the best TEMPERATURE for growth is 75-90 degrees.



- Tolerances vary.
- Some are hardy.
- Some cacti require a cool winter for good flowering.

Conophytum uvaeforme

Growing Succulents as Houseplants. Dan Mahr.
Southwestern Wisconsin Master Gardeners. March 2018.

AIR movement is beneficial;
cold drafts are not.



Pachypodium brevicaulis

Humidity should be low; 40-50% or less.



Trichodiadema densum

SOIL promotes root health and
provides support for the plant.



Pachypodium saundersii

Use a well-drained SOIL MIX.



Echinocereus triglochidiatus
in the Mojave Desert

- **Roughly 50% potting soil and 50% drainage material:**
 - sponge rock (Perlite)
 - coarse sand
 - poultry grit
 - horticultural pumice
- **Debate over peat.**
- **Avoid vermiculite.**



Improper WATERING is the
recipe for failure.



Aloe erinacea

- **Under-watering results in poor growth.**
- **Over-watering can be a disaster.**
- **Water regularly during the growing season.**
- **Water lightly & infrequently during dormancy.**
- **But some plants are winter growers!**

OVER-WATERING can result in root rot and loss of plant.



Rebutia albiflora

- Well-drained soil mix.
- Good root-to-soil ratio.
- Appropriate sized pot.
- Active growth and warm, sunny weather result in rapid evapotranspiration.

Golden Rules of Watering:

- If at all moist, don't.
- If in doubt, don't.

NUTRIENTS are required for healthy plants and flowering.



Avonia quinaria var. alstonii
(=Anacamperos alstonii)

- Most succulents live in nitrogen-poor soils.
- Use 1/4-1/2 strength soluble houseplant fertilizers.
- Fertilize only during active growth periods.
- High phosphorous fertilizers promote flowering and healthy roots.

The CONTAINER is the frame for your painting.



Rebutia verticillacantha var. albispina

- Porous vs. non-porous.
- Shallow vs. deep.
- Square vs. round.
- Utilitarian vs. aesthetic.
- MUST have drain holes.

DO NOT over-pot; balance pot size with root system.

Secondary Considerations for the Healthy Growth of Succulent Plants



Adenia glauca

- ✓ Repotting.
- ✓ Recognizing growth periods.
- ✓ Pests and diseases.
- ✓ Migrating plants.
- ✓ Sources of plants.
- ✓ More information.

REPOTTING should normally be done every 2-3 years.

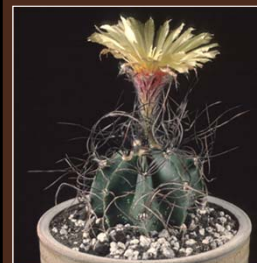


Disocactus flagelliformis

- Better growth.
- Promotes root health.
- Replenishes nutrients.
- Improves soil structure.
- Removes salts.

Repot at the beginning of the growing season.

When REPOTTING:



Astrophytum capricorne

- Inspect roots.
- If necessary, allow roots to dry.
- Use slightly damp soil.
- Do not water for 7-10 days after repotting; then water cautiously for first month.

Not all succulents have the same GROWTH PERIODS.



Petargonium rapaceum

- Most grow in summer.
- Some grow in spring and/or fall.
- A few are winter growers.
- Some are opportunists.

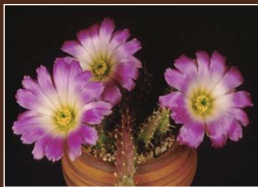
Cacti and succulents are not immune to PESTS and DISEASES.



Aloe Jacksoni

- Mealybugs.
- Spider mites.
- Whiteflies.
- Aphids.
- Root rots.
- Stem rots.
- Viruses.
- Physiological diseases.
- "The blahs" (check the roots!).

MIGRATING PLANTS



Echinocereus pentalophus

Check for hitchhikers!

- Plants can be wintered indoors and spend the summer in the sun.
- When moving out, expose to full sun gradually.
- When outside, protect from prolonged cool, wet weather.
- When in for the winter, provide as much light as possible.



SOURCES of PLANTS



Dorstenia foetida

- Garden centers.
- Chain stores.
- Friends.
- Specialist mail-order nurseries.
- e-bay.
- Web sites:
www.cactus-mall.com/

But please don't dig up the desert!

SOURCES: How to pick a healthy plant.



Notocactus sp.

- Avoid gimmicks.
- Has it had good light?
- Uniform shape.
- Uniform color.
- Avoid scarred plants.
- Is it well rooted?
- Check for pests.

Growing Succulents as Houseplants. Dan Mahr.
Southwestern Wisconsin Master Gardeners. March 2018.

Plants That Can Tolerate Lower Light
Mostly Small Species That Live Under Shrubs

Cacti

- Rebutia
- Gymnocalycium
- Lobivia
- Mammillaria




Lobivia tiegeliana var. pusilla


Plants That Can Tolerate Lower Light
Mostly Small Species That Live Under Shrubs

Succulents

- Haworthia
- Gasteria
- Small Aloes
- Sansevieria
- Madagascar Euphorbias



Haworthia starkiana



Gasteria ellaphieae

MORE INFORMATION

- **Books.**
- **Journals.**
- **Societies.**
- **Nurseries.**
- **The web.**




Euphorbia persistens

WORDS OF CAUTION!

Many cacti and other succulents have fierce spines or highly toxic chemicals to protect themselves from predation.

Use caution when handling plants, and protect children and pets.



Euphorbia obesa

Enjoy your plants!



Rebutia senilis