Caudiciforms

Tina Zucker - August 12th, 2017

This presentation will be available at
http://www.succulents.us/caudiciforms.html

If there is a particular slide you would like to ask about
Please Write down the slide number

Succulent Gardening
www.succulents.us
succulentsus@gmail.com
858 342 9781
I am not a mad scientist
And I did NOT study horticulture in school
I Garden from my heart!
It’s my love of nature that guides me along
I learned by listening and experimenting
Caudiciforms are an unscientific collection, across divisions, orders and families. A common denominator is the perennial swollen caudex/bulb/stem/rhizome. For most of the species, the caudex is a water-reservoir for a dry period. *Myrmecodia tuberosa* has a hollow caudex, in which ants live. In return for this home, they protect it from other insects. Some of the plants lose their branches and vines, when they dry out, leaving only the caudex and the bigger roots. This reduces evaporation. Others will (in nature) grow larger and larger, and only flower after many years. Some of my plants are dioecious, which means; there are different male- and female plants. Others are monoecious; both male- and female flowers on the same plant. Unfortunately, that doesn't necessary mean they can self-pollinate. Luckily, it is possible to make cuttings of many of them. But, the cuttings don't necessarily form a caudex. Some caudexes lay deep down in the ground, protected from extreme weather conditions and animals. Some of these won't stand to be exposed. Others are partly exposed, and finally those which are fully exposed. That can be a result of habitat: bare rocks with small cracks, leaving no room for a caudex. Some of the caudiciforms are used as a crop around the world, for instance the yam. Others are highly poisonous, as a natural result of living in hostile environments, where every leaf is valuable for both animals and plants.

http://www.bihrmann.dk/CAUDICIFORMS/DIV/intro.asp
### Families with Caudiciforms

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Bombax elipticium

**Family:** Bombacaceae  
**From:** Mexico  
**Spring/summer grower**
Bombax elipticum

When Grown in a taller pot, the plant grows taller than wider
Bombax elipticum
Cyphostemma cirrhosum

**Family:** Vitaceae

**Habitat:** Botswana, Namibia, South Africa, Zimbabwe

**spring/summer grower**

They lose their leaves in the fall/winter
**Trichodiadema bulbosum**

**Family:** Aizoaceae  
**Habitat:** South Africa  
**Spring/summer grower**
Trichodiadema bulbosum

Another Trichodiadema bulbosum photo after it’s haircut.
Ammocharis species - possibly coranica
Amaryllidaceae
From Sub Saharan Africa

Photo taken 7/31

Photo 8/5/17

Photo 8/6/17
Adenia glauca

Habitat: Africa, Madagascar
Spring summer grower
Family: Passifloraceae
Petopentia natalensis

Grown with seed donated by Peter
Only 1 year old and already
1 1/2 - 2” wide
Petopentia natalensis Is One of my favorites

Family: Periploceceae or Apocynaceae

Habitat: Southern Africa

Spring/summer grower
Petopentia natalensis
Gonolobus cyclophyllis

**Family:** Asclepiadaceae  
**From:** Mexico - Jalisco to Oaxaca  
**Spring/summer growers**  
**Polinated** by flies
Mestoklema arboriforme

**Family:** Aizoaceae  
**Habitat:** South Africa, Namibia

*flower in spring / summer*
Mestokleema tuberosa

**Family:** Aizoaceae  
**Habitat:** Eastern Cape of South Africa  
**flower in spring / summer**
Zygositys sp. nova

**Family:** Cucurbitaceae

**Habitat:** Northern Madagascar

*Grow in summer ~ generally have some leaves year round*
Zygosicyos sp. nova (nova=new) has not been given a formal name yet

Family: Cucurbitaceae
Habitat: Northern Madagascar
Spring/summer grower
Sinningia leucotricha

**Family:** Gesneriaceae

**Spring summer grower**

**Origin:** So. America
Sinningia tubiflora

**Origin:** Argentina and Uruguay

**Family:** Gesneriaceae

Spring summer grower
Gerrardanthus machrorrizus

**Family:** Cucurbitaceae

**from:** southern Africa

Very odd caudex on this one
Gerrardanthus machrorrizus
small flower
Gerrardanthus machroriza

**Family:** Cucurbitaceae

**Origin:** Southern Africa
Gerrardanthus machroriza
Caudex appx 6” wide
Uncarina roeoesliana with seed pods

Flowers - yellow

Family: Pedaliaceae
Habitat: No. Western Madagascar
Spring/summer grower
Uncarina
closerup of
seed pods
Uncarina peltata

Family: Pedaliaceae  
Habitat: North - Western Madagascar  
Spring/summer grower, This plant is about 6’ high and 7’ wide. Yellow flowers with purple inside.
Uncarina peltata
Magnificent caudex
Fockea edulis seedpod opened
Fockea edulis

**Family:** Asclepiadaceae or Apocynaceae  
**Habitat:** Southern Africa  
**Leaves year round**
Fockea edulis

**Family:** Asclepiadaceae or Apocynaceae  
**Habitat:** Southern Africa  
**Leaves year round**
Fockea comaru

Fockea multiflora
Cyphostemma juttae

**Family:** Vitaceae  
**Habitat:** Namibia, Southern Africa,  
Spring/summer grower
Cyphostemma mappia
family: Vitaceae.
origin: Mauritius south of Africa. Water rarely in winter.
Name this plant
Cephalopentandra ecirrhosa

Cucurbitaceae family.

From: Kenya, Uganda, Somalia and Ethiopia

Keep warm in winter

Plenty of water in spring

spring/summer grower
**Dendrosicyos socratana**

Origin Socotra
Spring summer grower
Family Cucurbitaceae
Pyrenacantha malvifolia

**Family:** Icacinaceae

**found in:** Somalia, Ethiopia, Kenya and Tanzania

**Spring/summer grower**
**Advice From A Tree**

- Stand Tall And Proud
- Go Out On A Limb
- Remember Your Roots
- Drink Plenty of Water
- Be Content with Your Natural Beauty
- Enjoy the View

**Be Like A Tree**

- Stay Grounded
- Connect With Your Roots
- Turn Over a New Leaf
- Bend Before You Break
- Enjoy Your Unique Natural Beauty
Name this plant
Othonna arbuscula

**Family:** Asteraceae  
**Origin:** southern Africa.  
**Winter Grower**  
**Othonna arbuscula**  
deciduous, perennial, shrub
Adenium obesum seedlings from my own plant

A few months old
Adenium obesum
Adenium shada
Adenium arabicum
Family: Apocynaceae
Habitat: Africa & Southern Arabia.
Spring/summer growers
Adenium ~ 2007 winter frost
cut back in spring after frost producing branching
Adenium obesum

Another 2007 frost victim
Ipomoea albivenia

**Family:** morning glory
Convolvulaceae

**Origin:** South Africa, Mozambique & Zimbabwe

**Spring/summer grower**
Gordon Rowley’s Thoughts about caudiciforms

https://www.jstor.org/stable/42791205?seq=1#page_scan_tab_contents

Caudex and Caudiciform: Definitions, Aims and Applications
by Gordon Rowley

I assumed the terms “caudex” and “caudiciform” from early nineteenth-century botany books thirty years ago, and, in absence of alternative, they have proved useful to access to a massibility of plants that has become increasingly popular with collections of unusual succulents. For a working definition of each—though far from ideal—I quote from Bot. Ann. Soc. Pl., Sec. 4 (1) 3, 1859:

CAUDEX: The axis of a plant, consisting of stem and root, usually used in reference to the true plants of succulent and semisucculent (Succ. Dist.) in succulents, that smaller, perennial organs (comprising stem or root or both, and often greased or barbed) from whose axes sterile, usually ephemeral photosynthesizing organs.

CAUDICIFORM: Resembling a caudex, specifically said of those succulents having a sharp distinction between the succulent, perennial, storage organ and stolon, often short-lived, photosynthesizing organs which may be shrubs, green succulencies or leaf rosettes. Examples: Euphorbias (cactus), sedum, succulent senecon, etc. Usually the storage organ is a greenish tuber.

It remains only to add that “caudiciform” is now often used as a noun, in the sense of “caudiciform plant”, as well as an adjective.

This act, it cannot be denied, that there has been considerable difference of opinion as to the exact limits of what is or is not to be accepted as caudiciform, and when these organs are rash enough to include a class for caudiciform plants, the names are liable to be.

Part of the problem arises from the attempt to ascertain what is really a physiological adaptation: a little term that shows peculiar division of labour between feeding and storage organs. This is a fact that emerges in the most obvious and most extreme forms but in the majority of them, the division of labour is not so clear. Consequently, members of the same genera can belong to different groups.

To examine the situation more thoroughly, I have listed a number of readily observable features associated with the caudiciform habit, and eliminated those which seemed too vague or individual, or were not reliable for scoring. I then selected 20 succulents to cover a range from those which have the division of labour in its most extreme form (Rhipsalis, Cleistocactus, etc.) to others which resemble certain caudiciform genera: Cactaceae and the true succulents. Each succulent

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<th>MAIN BODY (CAUDEX)</th>
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<tr>
<td>1. Photosynthesizing and storage organs sharply differentiated</td>
<td>4</td>
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<td>2. Not jointed</td>
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<td>3. Ribless, smooth or with randomly arranged tubercules</td>
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<td>4. Not green</td>
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<td>5. Some thin, non-succulent, more or less woody branches present</td>
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<td>6. Weakly prostrate, vining or twining</td>
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<td>7. Deciduous</td>
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<th>LEAVES</th>
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<td>8. Thin and mesophytic</td>
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<td>9. Lobed or compound</td>
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<tr>
<td>10. Deciduous</td>
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| STEM(s) uniformly succulent, without thin branches | 0 |
| Absent, or stiff and self-supporting | 0 |
| Persistent or undeveloped | 0 |
| Undeveloped or xerophytic, succulent | 0 |
| Undeveloped or simple, entire | 0 |
| Persistent or undeveloped | 0 |
The following link is Bihrmann’s list of plant families containing Caudiciforms:

http://www.bihrmann.com/caudiciforms/fami/fami.asp

This next link is a list of caudiciforms:

http://www.bihrmann.com/caudiciforms/DIV/a.asp

Next link is a list of caudiciforms by alphabet:

http://www.bihrmann.com/caudiciforms/

Links to caudiciform information:

http://davesgarden.com/guides/articles/view/266/#b

https://www.pacifichorticulture.org/articles/caudiciform-plants/

https://www.uaex.edu/yard-garden/resource-library/plant-week/caudiciform-6-30-10.aspx

http://www.bakersfieldcactus.org/thecactuspatch/articles/caudiciform/caudiciform.html

http://www.succulents.us/caudiciforms.html
Pest control
mama cat with Ivory, April 2016
& April 2017
Caudiciforms

The End

Thank you for listening
I hope you enjoyed my presentation

For more information on caudiciforms &
to see this presentation and view the links I have included
please visit
http://www.succulents.us/caudiciforms.html
in the middle of the page you will find a link to the presentation

Tina Zucker - August 12th, 2017

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