

C h i h u a h u a n D e s e r t



E d u c a t i o n C o a l i t i o n

Sotol – *Dasyliirion wheeleri*

Other names: Common Sotol, Desert Spoon, Desert Candle



Fig1: *D. wheeleri* in the Franklin Mountains

The Sotol prefers limestone habitats. It is a perennial, evergreen, and drought tolerant shrub of the desert southwest of the US and neighboring Mexico and was assigned to the Agavaceae family, but most recently grouped with the Nolinaceae (Beargrass Family). Evergreens do photosynthesis throughout the year and thus are a continuous source of oxygen, which is especially important in deserts with their sparse plant growth.



Fig 2: Distribution map of *D. wheeleri* of the USDA

The crown (trunk) of the plant remains partially underground and from it ascends a dense rosette of slender, serrated leaves that are blue-green in color and covered with a waxy coat. The flower stalk grows very fast up to 10 feet high. The flowers are tiny and clumped around the upper half of the stalk. Three colors of flowers are found in the El Paso area and visible along Transmountain road: yellow, green and brown, with yellow being the most common and brown the least.

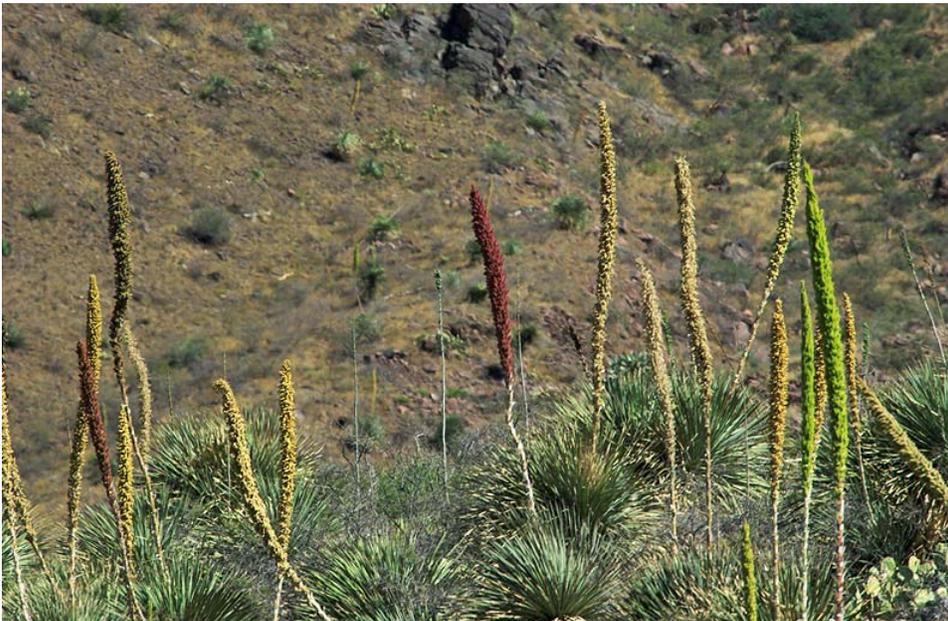


Fig3: The flowers can be yellow, green or brown.



Fig 4: Flowers on the stalk: left closed, right open.

The flowers attract bees, bumblebees, and hummingbirds and are available from May through July. The flowers are unisexual, which means that the plant is dioecious – there are male and female plants. Bees are usually found around the male flowers to collect pollen and nectar.



Fig 5: Serrated leaves of the Sotol; their base is wide and spoon-like. Dried and polished they can serve as spoons. (Photo from Sword of Survival)



The leaf base is spoon like and often dried, polished and used as spoons. In yard landscapes the leaves are sometimes trimmed off the trunk to prevent that people get hurt by the sharp teeth at the edge of the leaves. They then resemble somewhat an exotic grass palm.

Uses:

The crown of these plants is still used to make a fermented beverage (liquor), similar to agaves. Also the flower heads are used to make a juice that can be fermented. The Native Americans baked the central stem (heart) in a pit for 36-48 hours and pounded it into a pulp, which could be dried and eaten as a cake. The fresh stem contains poisonous compounds, mainly saponin, which are broken down by the heat. Also the young stalks could be eaten raw or boiled or roasted. All parts were also dried and eaten later or kept for the winter. The seeds are edible, too. Today the Sotol leaves are still used as fodder for animals during the winter.

The leaves were twilled into mats and baskets, the leaf fibers used to make headbands. Stalks and leaf base tissues were turned into cigarette papers. Today stalks are often sold as walking sticks, since they are very resilient, but light and easy to carry.

Dried stalks served as fire drill hearths. (watch on youtube: Finding fire in the Desert - Ray Mears Extreme Survival - BBC

@ https://www.youtube.com/watch?v=liKVq_-ne0Q). When you make a fire outdoors, always remember: also the desert can burn! Always make sure your fire is completely extinct **before** you leave the area.

References:

- Desert Ecology of Tucson, AZ @ http://wc.pima.edu/~bfiero/tucsonecology/plants/shrubs_sot.htm
- Finding fire in the Desert - Ray Mears Extreme Survival - BBC @ https://www.youtube.com/watch?v=liKVq_-ne0Q
- Ladybird Johnson Wildflower Center @ http://www.wildflower.org/plants/result.php?id_plant=DAWH2
- Ray Mears Extreme Survival - BBC @ https://www.youtube.com/watch?v=liKVq_-ne0Q)
- Sword of Survival @ <http://www.swordofsurvival.com/2010/11/sotol-desert-spoon.html>
- Texas Native Plant Database @ <http://aggie-horticulture.tamu.edu/ornamentals/nativeshrubs/dasyiliriontexan.htm>
- USDA plant profiles @ <http://plants.usda.gov/core/profile?symbol=dawh2>
and <http://herb.umd.umich.edu/herb/search.pl?searchstring=Dasylirion+wheele>
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Questions:

- What common names are used for the Sotol?
- The Sotol is an evergreen. What does this mean and why is it important for the desert?
- What is typical for the leaves of the Sotol?
- What is different in the Sotol flower from most other plants?
- Can you eat the crown (heart) of the Sotol?
- Name three important uses of the Sotol for the indigenous people living in the desert.



Questions & Answers:

- What common names are used for the Sotol?
 - o Common Sotol, Desert Spoon, Desert Candle
- The Sotol is an evergreen. What does this mean and why is it important for the desert?
 - o Evergreens do not shed their leaves and continuously do photosynthesis, which provides oxygen all year around.
- What is typical for the leaves of the Sotol?
 - o They have a serrated edge, with many sharp teeth.
- What is different in the Sotol flower from most other plants?
 - o It is either male or female – dioecious
- Can you eat the crown (heart) of the Sotol?
 - o Yes, but only after cooking or baking; it contains poisonous saponin that degrades in the heat.
- Name three important uses of the Sotol for the indigenous people living in the desert.
 - o They could use the heart for making cakes; the stalk could be used to make fire; the leaves were used to make baskets and mats.

