



Agave and Succulents

And the Yucca moth

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Agave is a monocot found in arid regions of the Americas, known for its succulent and xerophytic species with large rosettes of strong, fleshy leaves.

Yucca is in the family Asparagaceae, subfamily Agavoideae with rosettes of evergreen, tough, sword-shaped leaves and large terminal panicles of white or whitish flowers.

Aloe vera is a succulent plant species of the genus Aloe.



Xeric adaptations—plants adapt to a dry environment and hot climate in many ways.

- Escape—annuals **begin to grow again (germinate) and bloom in the cool part of the year and re-seed strongly**—an example is the Texas bluebonnet.



- Evade—perennials have bulbs (parts of stems) like rain lilies, or tubers (parts of roots) like potatoes, to **store water** when it's wet and replace the water with the new rains. The underground part stays alive when water is scarce.



Endure--Xeric adaptation

- **Reduce leaf surface**—tiny leaves broken into little leaflets, or deeply toothed—
an example is the acacia.
- **Dropping leaves** like the mesquite.
- Shading leaves with **hairs** like the Artemisia.



From March to June yucca moths emerge from the ground.

The yucca moths (*Tegeticula yuccasella*) rest on the yucca plants near the flowers and at nighttime, the male and female yucca moths mate inside the yucca bloom. After mating and collecting flower pollen, the female yucca moth leaves and sets out in search of a yucca bloom and lays her eggs inside the ovary of the flower, depositing the pollen. The fertilized flower then forms fruit. In a few days, the yucca moths hatch and start feeding on the developing seeds. They chew their way out and drop to the ground, burrowing into the soil and creating a cocoon.

This is an example of obligate mutualism, the yucca needs the moth to pollinate the flowers, which only this moth can do; the moth needs the flower in which to deposit its eggs so the developing larvae can have a source of food.

Ballad of the *Tegeticula yuccasella* to *Clementine*

I'm *Tegeticula yuccasella* and in
yuccas I find mate (fingers
intertwining)

An example of relationship
mutualism obligate! (two hands
together0



You can be a yucca artist!

Add a green straw stem and fingerprint yucca flowers!



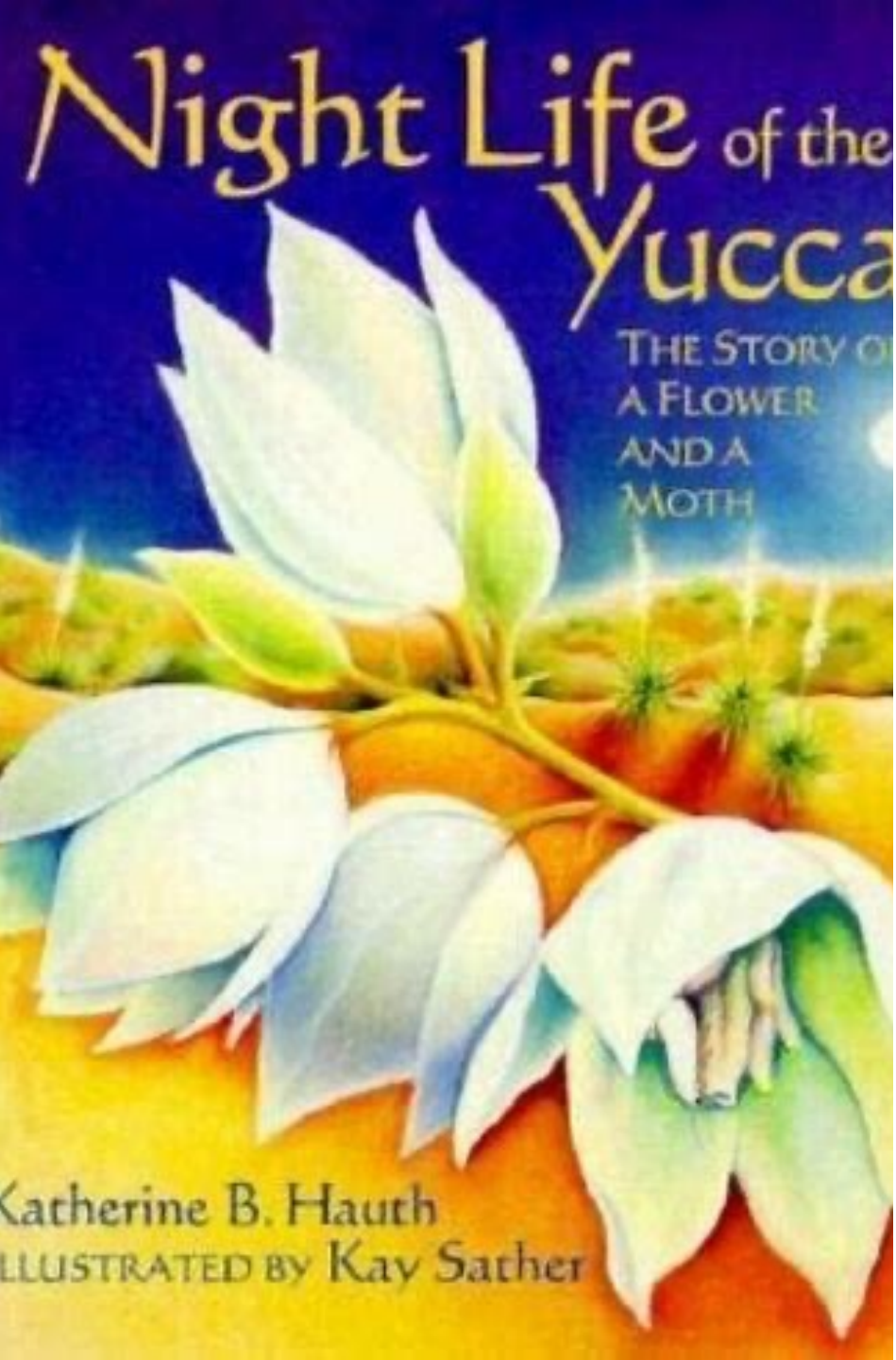
Yucca imagineering!

What yuccas and succulents can you find walking in the park?

What can you use to make a yucca snack? Celery stems? Scallion leaves?

White M&M flowers? Or perhaps agave syrup and gummy butterflies?





Obligate
mutualism