

California Phenology Project: species profile for Creosote Bush (*Larrea tridentata*)



CPP site(s) where this species is monitored: Joshua Tree National Park



Photo credit: R.A. Howard, Smithsonian Institute

What does this species look like?

Creosote bush is a drought tolerant evergreen shrub growing up to 4 meters tall. The stems are generally flexible. The waxy small leaves are dark green and very resinous. After rainfall, these leaves emit a characteristic strong odor. Its yellow flowers have five petals and are bisexual, having both male and female parts. Under particularly dry conditions, the foliage appears greenish-orange from a distance.

When monitoring this species, use the USA-NPN **broadleaf evergreen trees and shrubs (no buds)** datasheet.

Species facts!

- The CPP four letter code for this species is **LATR**.
- The oldest living plant is a Creosote bush in the Mojave Desert, estimated to be between 9,400 and 11,000 years old.
- The flowers are visited by over 120 bee species; 22 of these exclusively use Creosote pollen as their food source.
- Native Americans used a dry powder prepared from the leaves as an antibacterial treatment for wounds and burns.



Photo credit: Sue in AZ (Wikipedia)



King Clone, the oldest known plant

Photo credit: Klokied (Wikipedia)

Where is this species found?

- Grows in gravelly and sandy soils that are well drained.
- Can tolerate a wide range of water availability and temperatures (5 to 120°F).
- Found in valley plains, mesas, arroyos, alluvial fans, and gentle slopes within the three Southwest deserts (Mojave, Sonoran and Chihuahuan).

For more information about phenology and the California Phenology Project (CPP), please visit the CPP website (www.usanpn.org/cpp) and the USA-NPN website (www.usanpn.org)

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Young leaves

In this species, young leaves are thin, bright green in color, and appear in pairs, usually at the stem tips.

Similar to other species in Mediterranean and desert ecosystems, Creosote may respond to precipitation events with a flush of new leaf production. If water becomes unavailable after growth is initiated, however, then leaf expansion may be arrested, resulting in many small leaves on the plant. These responses to water availability (initiation of growth followed by arrested growth when the resources give out) can be confusing for observers. If you are unsure of what you are seeing, do not hesitate to circle ? on the NPN datasheets. With more experience, you may be able to distinguish between newly produced young leaves vs. small, old leaves. As you observe this species throughout the year, take note of the differences between new and old leaves—color, texture, and size can all be used to identify young leaves!



Flowers or flower buds

The flowers appear singly and have both male and female parts. A flower bud (or unopened flower) can be seen in the background of this photo.



Open flowers

Can you see the anthers and stigma?

Note: flower phenophases are nested; if you record **Y** for “open flowers” you should also record **Y** to “flowers or flower buds”



Fruits

The fruit is capsule-like and fuzzy with white hairs; it changes from green to dark brown, and splits apart into 5 sections.



Ripe fruits

The fruit is ripe when it is dark brown; it usually splits into five sections when ripe.

Note: fruit phenophases are nested; if you record **Y** for “ripe fruits” you should also record **Y** to “fruits”

Phenophases not pictured: **Recent fruit or seed drop**