WHY LEAVE CREOSOTES ALONE?

DUST: Note that when the wind blows, there is NO DUST rising from native undisturbed desert. Dust comes from roads and scraped or disturbed areas.

WEEDS: Note that weeds, particularly tumbleweeds, mustards, goat heads, foxtails, etc. do not grow in native undisturbed desert, only along roads and scraped areas.

SNAKES: "Clearing land will keep snakes away". Nope. When snakes hunt (when the temperatures are between 60° and 90°F), they wander all over the desert, often seeking scraped areas because it's easier for them to pick up a scent track.

WILDFLOWERS: Note that desert wildflowers grow only in native, undisturbed desert. The few plants which do grow in scraped areas or along roadsides are introduced Mediterranean weeds.

WILDLIFE: Creosotes and the other native plants provide homes and food for native desert animals, and perches and shelter for birds.

WATER SAVING: Native vegetation, including Creosote, requires no irrigation, though these bushes will grow more vigorously if supplied with a little water once in a while.

CREOSOTES ARE SUPREMELY IMPORTANT TO OUR DESERT ECOSYSTEM!

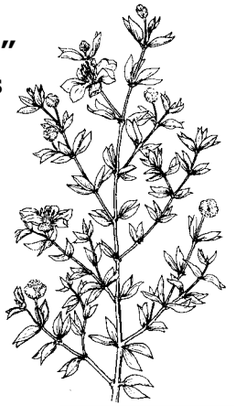
LONG MAY THEY LIVE!

This information is provided by the Creosote Ring Sub-chapter (of the Bristlecone Chapter), California Native Plant Society. We are based in the Indian Wells Valley and provide programs and outings for native plant lovers in eastern Kern County and southern Inyo County. For information on our activities, please send an e-mail to desert_encelia@verizon.net.

CREOSOTE BUSH

Larrea tridentata

WAIT!! Before you scrape all those "useless bushes" off your property, learn about these amazing plants and the reasons why you should leave them where they are, as much as possible!!



from *The Jepson Desert Manual*

Creosote Bush, *Larrea tridentata*, is native to the dry desert areas of California, Arizona, Utah, New Mexico, Texas, and into Mexico. It is an "indicator plant" of the Mojave, Sonora, and Chihuahuan Deserts, growing in sandy soils from sea level to about 5000 ft. It does not tolerate prolonged cold, which is why it is not found in the Great Basin Desert. Prolonged heat does not bother it. There are other closely related species (*Larrea divericata*) of this plant found in the deserts of South America as well—all along the Atacama desert, and in Patagonia, growing right next to glacial lakes!

In the Mojave desert the usual associate of Creosote is Burroweed, (Burrobush, Burr Sage), *Ambrosia dumosa*. These short, gray bushes often outnumber the Creosotes 10:1, but because Creosotes are larger and greener, your eye notices them more. When they are the dominant plant in an area, the plant community is called "creosote bush scrub". All of the area in the Indian Wells Valley except the Pleistocene lake bottom is covered with creosote bush scrub. Creosotes don't like the clays, caliche, or saline soils usually associated dry lakebeds.

Creosotes are erroneously given other names like "greasewood" but that common name actually belongs to another totally unrelated and much less interesting plant, *Sarcobates vermiculatus*. And they are not "sagebrush" either; they are not even remotely related. In Spanish, it is called *Gobernadora* (Governor), as it covers so much of the warm North American deserts.

DESCRIPTION

Given water, these hardy bushes can grow to 15 feet or so, and be quite bushy. However, as they are the most drought tolerant perennial plant in North America, they are quite happy with no additional water and can survive two years without a drop of rain. This makes them a perfect plant for Xeriscaping. If it fails to rain very much, their leaves turn brown and the plant shuts down. When rains do come, the plant will put out new shiny leaves within three days of adequate rain (usually at least 10 mm)—you can watch them shed their old leaves and pop out the new ones all in one day!

Creosotes bloom bright yellow flowers in the Spring, after adequate rainfall, and sometimes in the fall if there are September rains. The 5 petals twist like a windmill after the flower is pollinated. They then drop off and the ovary develops into a very fuzzy seed pod which you can break into 5 sections. Each section has about 6 seeds in it. The plants seem to shimmer when covered with these seed pods.

The small, waxy leaves of Creosote are divided almost to the bottom; hence it's former name "divericata", but that name has been given to the South American species as it was named first, and now "tridentata" refers to some minute characteristic within the flower. The woody stems have darkened "nodes" which, along with the resinous leaves, contain terpenes that are very similar to wood- preserving creosote made from petroleum. The chemical creosote is NOT derived from these bushes (they don't make enough of it), but the terpenes do account for the lovely smell after rains.

It may be that creosotes make some sort of chemical inhibitor which they distribute from their roots to keep their seeds (or any other perennial's) from sprouting under the parent plant. However, annuals grow profusely under Creosote bushes in the somewhat richer "duff" of old leaves and other organic matter trapped there. Creosotes are great "nurse plants" for many desert annuals.

Creosote bushes do spread themselves out rather evenly across the desert. This is most likely due to "water wars" between the roots of other Creosote bushes, rather than to inhibiting chemicals. In drier areas, like the Panamint Valley which receives much less rainfall than the Indian Wells Valley, the Creosote bushes are much smaller and more widely spaced, and there aren't many Burroweeds there either. On alluvial fans, where there might be underground water, Creosotes grow taller and closer together.

MEDICINAL USES

Native Americans used the plant internally as a general tonic (leaf, flower or twig tea —very bitter) to treat many ailments such as coughs, colds, diarrhea, dysentery, stomach problems, toothache, venereal infections, urinary infections, leukemia. External uses as a wash or poultice included wounds, swollen limbs, dandruff, disinfectant, insect bites, sore and aching joints and muscles. The plant contains potent antimicrobial, antiviral, antioxidant and hyperglycemic constituents. Although banned for sale as an herbal remedy for several years in the early 1990s, testing allowed its return to the market. [*Healing with Plants in the American and Mexican West,* Margarita Artschwager Kay, 1996]

EDIBLE USES

It is claimed that flower buds can be pickled in vinegar and used as a caper substitute. The resin from the leaves and twigs is supposed to delay or prevent oils and fats from becoming rancid.

HORTICULTURAL USES

Creosote is not easy to transplant, but if you want to try, get very small bushes in the spring before they send down a long tap root. It's probably easier to gather up the fuzzy seed pods and plant them, then thin the seedlings. Water a little to get the plants going, but then be sparing with water. Don't plant creosote near water pipes, as the roots will seek water like those of Cottonwood trees! If they get into the septic system leech lines they will be HUGE.

ROLE IN THE PLANT COMMUNITY

Creosote bushes provide shade and shelter for many desert annual plants, particularly Phacelia species. The roots also hold mounds of dirt and allow burrowing animals to dig safe holes under them, especially Kangaroo Rats and Antelope Ground Squirrels. Resident birds like California Quail, Roadrunners Verdins, Say's Phoebe's and migrating birds like Warblers use them as perches, to glean food from, and as shade and protection. There are many parasites and insects involved with Creosotes, notably the "bag worm" moth whose caterpillars make a cocoon of leaves, and galls caused by various wasps and midges. Bright orange parasitic Dodder can invade the bushes, as can a particular species of mistletoe.

What makes Creosotes VERY SPECIAL

They can live a very long time, thousands of years! When plants are in a particularly favorable area, they will slowly form a circular growth pattern, with individual stems in the center of the plant dying and being replaced by stem further out, forming a ring. Over many years, the rings get bigger and bigger—some have been measured at 50 to 60 feet in diameter! We have especially large rings in the Indian Wells Valley north of B Mountain, and on the hill as you turn west from Hwy 14 to Hwy 178, but there are smaller rings all over, especially on alluvial fans.

By counting annual rings in the wood, one can try to age the plants. However we don't know if they make one ring per year/winter like a tree, or if they make a ring every time it rains a lot, then dries out. Whatever, between counting rings and using Carbon 14 to date the wood, larger rings have been dated to 9,000 to 11,000 years!!! That long ago, the climate was VERY different in our valley. China Lake would have been quite full of water, and camels, mastodons, and other interesting animals, which are now only fossils in the lake clays, lived here and thrived. The climate has been steadily getting drier and warmer since then, and our area has been a "desert" climate as we know it for only about the past 3000-4000 years. So the Creosote bush is also VERY adaptable, as those big rings didn't start out in a desert climate, but in one which was cooler and wetter. They have Plastic DNA.