

Snakeweed: An Unusual Plant
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Born and raised in the arid southwestern deserts of New Mexico, the Broom Snakeweed (*Gutierrezia sarothrae* (Pursh) Britt. et. Rusby) was a familiar sight to me growing up. We learned early in life that it was a nuisance and considered a weed to be pulled. As I continue to learn through naturalist and aromatherapy studies, I have come to regard this plant in a slightly different (a little more reverent) way. I do, however, still pull them as soon as they sprout in our natural landscape.

Broom Snakeweed (snakeweed) grows on dry plains and slopes throughout arid deserts in altitudes ranging from 3,000 to 9,000 feet elevation. This native perennial, warm-season plant grows up to two feet tall and is a semi-shrub with a woody stalk. It has very narrow leaves and small, inconspicuous yellow flowers (which bloom from August to October).ⁱ Scientific name synonyms include: *Xanthocephalum sarothrae* (Pursh) and *Shinners Solidago sarothrae* Pursh. There are at least 12 different species of snakeweed, all from the Asteraceae (Sunflower) family.ⁱⁱ

Snakeweed aggressively takes over areas where lands have been damaged by overgrazing or in certain weather conditions, such as extensive drought. Dense snakeweed stands suppresses desirable native grass production and can take over any space.ⁱⁱⁱ It is commonly confused with rabbitbrush, but can be distinguished by the presence of ray flowers.^{iv} It is considered a noxious weed and, once established, is difficult to remove. The best method of removal is to pull the plant out with the roots intact. If the plant has populated a large area, herbicide may be the only choice, but that has its own set of problems.

Some people incorporate this plant into their rock gardens or xeric gardens because it is drought tolerant and can be considered attractive and a source of greenery. For those who introduce it, they quickly learn how invasive and difficult it is to control.^v

Snakeweed can be toxic to domestic cattle, goats and sheep during early spring or winter when animals may be forced to consume large quantities of it due to lack of other forage. The saponins within the plant are responsible for the poisoning which can cause illness, death or abortion.^{vi}

It is believed by some that for plant dangers that exist in an environment, there also exists a plant remedy for it. Native Americans are known to have used this plant for a variety of medicinal purposes including as an herbal steam for respiratory ailments; a decoction to treat colds and coughs; and in a poultice for snake and insect bites. Today, herbalists continue to use it as an herbal remedy through tinctures, teas and salves. Mr. Kane states, "Snakeweed is mainly used externally to reduce joint soreness, particularly from rheumatoid arthritis. Being broadly anti-inflammatory and especially calming to muscular-skeletal pain, it will be found particularly helpful to sufferers of 'fibromyalgia'."^{vii}

Snakeweed essential oil is not common and not offered by many essential oil suppliers or distillers. The aroma is fresh, herbaceous and slightly woody. The essential oil comes from the leaves of the plant through steam or hydro-distillation. It is mainly wild harvested from plants in the southwest.

A recent scientific study found that cryptone (6.4%) and β -eudesmol (5.9%) were the only compounds in the oil, comprising more than 5% of the chromatographic peak area through steam distillation. Using solid phase microextraction (SPME), 53% of extracted volatiles identified limonene (10.4%), β -pinene (9.6%), β -eudesmol (8.0%), sabinene (7.8%), cryptone (6.5%), α -pinene (5.5%) and o-cymene (5.2%).^{viii}

Previous studies found slightly different compounds: geraniol and γ -humulene were found in 1979 in Eunice, NM; myrentol and cis-3-pinene-2-ol compounds were found in 1987 in Muskrat Canyon, UT. It is understood that plant genetics, environmental factors and sampling processes have an effect on the test results.

Overall, the most consistently reported compounds from three tests studied reveal that snakeweed essential oil has a high percentage composition of β -pinene, α -pinene and limonene and thus, is high in monoterpenes and sesquiterpenes.^{ix} It is important, however, to obtain the Gas Chromatography/Mass Spectrometry (GCMS) report for the snakeweed essential oil purchased to fully understand the composition of the oil.

Similar to the herbal characteristics, snakeweed essential oil has the following therapeutic qualities: anti-inflammatory, anti-rheumatic, analgesic, anti-infectious, anti-microbial and decongestant. Some potential risks with this essential oil are: possible abortifacient, not water soluble and is a potential skin irritant and allergen when oxidized.^x In addition, there are many who have histamine reactions to this plant which can be quite severe. It is always best to ask your client if they have any allergies. Remember that there are several species of this plant, which could make a difference to that allergy sufferer.

The energetics of this essential oil, as indicated by the plant itself are survival, support, protective, purifying, and grounding with the large tap root able to sustain it during long periods of drought. This essential oil is great for use on the Base Chakra (grounding) and the Solar Plexus Chakra (protector and purifier).^{xi}

If this is a plant you wish to distill for the essential oils or an herb you want to incorporate into your repertoire, my guess is that land owners' would be happy to let you to pull and take them away, although, I would suggest asking first. Use caution not to enter public lands to "harvest" snakeweed without first getting permission from the local land management unit.

As a certified aromatherapist, understanding the actual plant, it's native environment, as well as the properties of the essential oils are important considerations in formulating blends for my clients.

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ⁱ Author Unknown (2004). *New Mexico Range Plants*. Circular 374, 81. New Mexico State University Cooperative Extension Service.

ⁱⁱ NRCS Plants Database. Retrieved August 12, 2019. <https://plants.sc.egov.usda.gov/java/nameSearch/snakeweed>

ⁱⁱⁱ Ralphs, Michael and Mcdaniel, Kirk. (2011). *Broom snakeweed (Gutierrezia sarothrae): Toxicology, ecology, control, and management*. Agricultural Research Service.

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^{iv} Pratt, Mindy S. (no date). *Range Plants of Utah: Broom Snakeweed*. Utah State University Extension.

https://extension.usu.edu/rangeplants/shrubs-and-trees/Broom_Snakeweed

^v Weinstein, Gayle (2004). *Ortho's All About Dry Climate Gardening*. 114. Bittersweet Lane Publishing.

^{vi} Voss, James L. (2019). *Guide to Poisonous Plants*. Colorado State University Veterinary Teaching Hospital.

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^{vii} Kane, Charles W. (August 1, 2011). *Medicinal Plants of the American Southwest (Herbal Medicine of the American Southwest)*. Lincoln Town Press.

^{viii} Mary E. Lucero, Ed L. Fredrickson, Rick E. Estell, Andrine A. Morrison, & David B. Richman (2006) *Volatile Composition of Gutierrezia sarothrae (Broom Snakeweed) as Determined by Steam Distillation and Solid Phase Microextraction*, *Journal of Essential Oil Research*, 18:2, 122-123. DOI: 10.1080/10412905.2006.9699039

^{ix} IBID, Mary E. Lucero, Ed L. Fredrickson, Rick E. Estell, Andrine A. Morrison, & David B. Richman, 124-125.

^x Musacchio, Virginia (2014) *Aromatherapy Certification Program*. Stillpoint Studies.

^{xi} Davis, Patricia. (1991, reprint 2011). *Subtle Aromatherapy*. C.W. Daniel Company Limited, United Kingdom.