

THE SECRET LIFE OF VINEGAR WEED

by **Chris Gray**
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The author photographing a vinegar weed plant in its preferred habitat of dry, open areas. Photo by **Susan Gallagher**.

I had my first close encounter with vinegar weed in the early 1990s while exploring the City of Redding's newly acquired Benton Ranch property, a sizable tract of oak savanna and pine and oak woodland lying along the Sacramento River, across from Turtle Bay. The property would soon become the site of the new Redding Arboretum. Walking along a graded dirt trail, I came upon an area where the dry grass and weeds had been mowed. Growing out of the golden stubble here and there were a few clusters of foot-tall, purplish green weedy plants that I couldn't identify. It was a hot, late summer afternoon, and I wondered how this plant could still be green and growing in such a seemingly unfriendly environment. There was a faint herbal scent in the still air and, curious, I reached down and rubbed one of the slightly hairy, oily, lance-shaped leaves, discovering, as I did so, a couple of frilly-looking pinkish purple flowers near the upper end of

one of the basal, upright stems. Bringing my fingertips up to my nose, I experienced the intense, sinus-clearing realization that this plant was the source of that airborne herbal aroma!

It wasn't until sometime later that I was formally introduced to vinegar weed by my friend, horticulturist **Gary Matson**, who wrote about the plant in the newsletter of the Redding Arboretum Natural Park and Gardens (now the McConnell Arboretum, a part of the Turtle Bay Exploration Park). In that article, Gary pointed out that most spring annual plants had cycled through seed production and died by mid-summer, but a group of tough, drought- and heat-adapted annuals—including native Californians vinegar weed, turkey mullein, and tar weeds—actually begin their main growth periods then. Their mechanisms for survival and growth include fibrous roots that can extend below soil layers used by earlier annuals; the ability to extract



Vinegar weed is a purplish green, weedy native with upright basal stems that reach about 1 foot in height.
Photo by **Chris Gray**.

tightly bound (hygroscopic) water from hard clays; and tough-skinned, glandular, dull green or silver-gray colored leaves that reduce moisture loss.

I was surprised but pleased to learn that vinegar weed is a native plant. Most weedy annuals we see growing wild in California's fields, hillsides, and roadsides today are naturalized, meaning that they have been introduced from other regions or continents by humans, intentionally or not. Often the non-natives—free of natural controls that kept their populations in check in their native lands—out-compete natives and take over ecosystems. For now, vinegar weed seems to be holding its own.

In the years following my initial encounter with vinegar weed, I spent a lot of time tramping around Redding's new Arboretum, both as an employee of the Shasta Natural Science Association, the non-profit organization that initially sponsored the project, and to

simply unwind at the end of work days. During the summer and early fall months, I encountered several populations of the plant each year. One large patch that occupied a graded area near piles of dredger tailings showed unusual color variation in its flowers, ranging from pale pink to medium purple.



Vinegar weed flowers can range in color from pale pink to medium purple. Photo by **Chris Gray**.

Here are some basic facts about vinegar weed:

- Scientific name: *Trichostema lanceolatum*. Vinegar weed is a member of the mint family (Lamiaceae), which is known for its many highly scented species.
- Oil glands in the leaves are the source of the pungent scent given off by the plant, described by some as “medicinal,” and by others as “strongly vinegar.” Many people don't like the scent. Others think it's fine. I tend to like it... at arm's length.
- Despite its humble status as a little known native plant, vinegar weed has relatives in high places. Its closest cousin (same genus) is woolly bluecurls, a popular garden landscape plant in California and the Southwest. A more distant relative (same family, different genus) is rosemary, a Mediterranean native and famous culinary and landscape plant. Rosemary flowers look like smaller versions of those borne along the stems of our little native.
- Vinegar weed is an important bee plant. The flowers, ranging in color from shades of pink to medium purple, have a lovely orchid-like form,



Vinegar weed flowers are similar to the flowers of the Mediterranean rosemary. Photo by **Chris Gray**.



Vinegar weed flowers have a lovely five-lobed, orchid-like shape. Note the lance-shaped leaves. Photo by **Don Burk**.

with five petal-like lobes extending from the top of a half-inch recurved tube, and overarched by a striking bow-shaped tube containing four thread-like stamens, tipped with pollen-bearing anthers (male structure), and a longer thread-like style with a forked stigma at the end (female structure). When a nectar-seeking bee or hover fly lands on the flower's lower middle tongue-shaped lobe, its weight bends the recurved tube forward, allowing access to the nectar, while bringing the arched tube down to tap the back of the insect's thorax or abdomen, depositing pollen grains and allowing the female stigma to contact pollen from other vinegar weed plants for cross pollination. A classic design for exploiting flying insect pollinators.



The vinegar weed flower in profile. Note the forked stigma protruding from the arched tube of stamens. Photo by **Chris Gray**.

In recent years, my interest in vinegar weed and other drought-adapted plants has grown, and I'm happy to report that many new information resources for

these plants, including detailed identification keys, are now available online. Simply google “vinegar weed” and you’ll find links to great sites like Calflora, Jepson Herbarium, and Encyclopedia of Life. Also, visit your

local California Native Plant Society, Shasta Chapter website at shastacnps.org for informative articles and news of upcoming meetings and fieldtrips



Vinegar weed can be found blooming around the northern Sacramento Valley foothills from late August to early November on dry, open sites. Photo by **Don Burk**.