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'Roger's Red'



Vitis 'Roger's Red' in autumn. Photograph by Philip Van Soelen

Vitis 'Roger's Red'

ROGER RAICHE

The colorful grape known as 'Roger's Red' has become a popular ornamental vine, valued for its brilliant red fall color, vigorous growth, and ease of cultivation. I originally collected it as a variant of our native grape (*Vitis californica*), which typically has soft yellow foliage in autumn. The identity of 'Roger's Red' as an unusual form of the native grape has been questioned for the past couple decades, but recent genetic studies done by Gerald Dangl at the University of California, Davis, Foundation Plant Services, have conclusively determined that it is of hybrid origin.¹

I first saw the grape in late October 1983, on Palmer Creek Road in rural Sonoma County, west of Healdsburg, California. I had been enjoying the lovely fall color of the native grapes scrambling up into the oaks and redwoods when I drove under a canopy of glowing red foliage mixed with the more common soft yellow color of *Vitis californica*. I was so impressed that I pulled over and got out to look more closely at the vines. To all appearances, the red-leaved vines were identical to the

yellow ones except for the color of the leaves, but the intensity of the red was impressive. All the vines were quite old and growing in high-quality native habitat; at that time, the nearest vineyards were about four miles east in Dry Creek Valley. I felt confident that I had found an exceptional variant of our native grape. I was then in charge of the Native Plant collection at the UC Botanical Garden at Berkeley (UCBG), so I took some cuttings back with me to the garden.

In the following spring, I planted the well-rooted cuttings in the Native Area at UCBG where they grew vigorously, producing the same scarlet crimson fall color later that year. Realizing the value of an easily grown vine with such excellent autumn color, I returned to Palmer Creek Road and took more cuttings in the fall of 1984, as I did not want to take any material from my still-young plants at the garden. I gave some cuttings to Myrtle Wolf, a dear friend and volunteer propagator at the nearby Tilden Botanical Garden (now East Bay Regional Parks Botanical Garden at Tilden Park), who, with other volunteers, raised native plants for sale to support the Garden. When she struck the cuttings, she placed a label in the flat saying simply "Roger's red grape." When

¹ Genetic Composition of the Ornamental Grape 'Roger's Red', Dangl et al, *American Journal of Enology and Viticulture*, 61:2 (2010), 266-271.

those plants were sold, the name was born, although the cultivar 'Roger's Red' has never been registered or patented.

The grapes grew rapidly at UCBG. They soon climbed into trees and covered chain-link fences. Each fall, they provided a dazzling display both to garden visitors and to the public using Centennial Drive to reach the university campus. Soon people were asking for their own 'Roger's Red'; indeed, the grape was one of most popular plants at the UCBG fall plant sales. Other nurseries started propagating it, and it was especially popular in native plant circles. The fall color held up whether it was grown in Seattle or San Diego, it attracted wildlife, and the small but copious fruits made an excellent jelly.

Even during the first decade of its introduction, there were concerns raised by some who questioned its nativity. One grape enthusiast, Steve Abbors, even suggested, in the early nineties, that it might be a hybrid with the European wine grape *Vitis vinifera* 'Alicante Bouschet', since the fruit pulp (not just the skin) was also deep red, a characteristic almost uniquely associated with this nineteenth century grape cultivar. 'Alicante Bouschet' is a teinturier, a grape used to add color to wine; it was planted extensively in the late nineteenth and early twentieth centuries in Sonoma County and in other wine-producing areas of California. Several characteristics inconsistent with the native California grape were noted by others. Gradually, a consensus developed that the grape was probably a hybrid and most native plant nurseries treated it this way; however, there was no real proof. There matters stood until 2009, when Jerry Dangl began his DNA fingerprinting studies of 'Roger's Red' (see box at right).

Like most grapes, 'Roger's Red' is a vigorous grower adapted to a range of soils and exposures; *Sunset* lists it for zones 2-24. It is readily available at most nurseries throughout the West Coast states. Now that the parentage question has been resolved, 'Roger's Red' should continue to be enjoyed as an ornamental grape. Those who require a purely native grape for their garden or for a restoration project should employ other selections. 🍷

Fingerprinting 'Roger's Red'

In 2009, *Vitis* 'Roger's Red' was collected by researchers at the University of California, Davis as a control for an unrelated virus study. The samples ended up in my lab at UC Davis Foundation Plant Services. The FPS Plant Identification Lab uses DNA fingerprinting technology—the same as that employed by police forensic labs to identify human criminals or for human paternity testing—to settle identity and paternity issues in plants, including grape (*Vitis*), walnut (*Juglans*), strawberry (*Fragaria*), and stone fruits (*Prunus*). For paternity issues, the technology takes advantage of the fact that plants, like people, have two sets of every gene—one from the mother and one from the father. DNA fingerprinting examines particular locations along the chromosomes that are highly variable; the length of these sections forms a pattern unique to a particular genetic individual. Since grape cultivars are propagated from cuttings, all individual grapevines of the same cultivar have the same DNA fingerprint.

The DNA fingerprints of our native *Vitis californica* are quite different from those found in the cultivated European wine grape (*V. vinifera*). The genotype of 'Roger's Red' was not fully consistent with either species, but contained elements of both, suggesting that it was, as suspected, a hybrid. Given the age of the original 'Roger's Red' vine and the length of time since it was first collected, it was unlikely that the wild parent was still alive to be identified. However, thanks to human propagation, *V. vinifera* cultivars can often measure their lifespans in centuries. The 'Roger's Red' DNA fingerprint was compared to a database containing over 800 *V. vinifera* DNA fingerprints using a paternity test. The program identified which fingerprints in the database had patterns that were consistent with their having contributed the *V. vinifera* half of the 'Roger's Red' fingerprint. The paternity test confirmed what had long been suspected: 'Roger's Red' was a hybrid between a native grape (*V. californica*) and a wine grape cultivar (*V. vinifera* 'Alicante Bouschet'). The same genetics that allowed 'Alicante Bouschet' to add color to red wines were responsible for the spectacular crimson display that made 'Roger's Red' so distinctive in autumn.

Gerald Dangl