

Native Plants of Deer Canyon Preserve

Fendler's bladderpod: March, 2009



With the coming of spring, we eagerly anticipate the appearance of wildflowers and usually one of the first to appear in Deer Canyon Preserve is Fendler's bladderpod, *Physaria fendleri*. I noticed a rather early single bloom along a trail in Goat Canyon on March 1 this year, and now that we are at the end of the month, these bright yellow flowers are turning up much more frequently. This perennial herb will bloom throughout the spring and sometimes plants will flower again in the summer after a rain. The name bladderpod refers to the shape of the small fruits (inflated spherical pods that are between $\frac{1}{4}$ " and $\frac{1}{2}$ " in diameter). Other common names for this plant are yellowtop and popweed, the latter for the sound that may result from stepping on the pods. The genus name comes from the Greek word *physa* meaning bellows (another reference to the inflated pods) and the specific epithet honors Augustus Fendler, a German plant collector who arrived in Santa Fe in 1846 and collected over 1,000 specimens in New Mexico.

Fendler's bladderpod is fairly easy to recognize even when it is not flowering because of the silvery cast on its stems and leaves. This small, spreading plant rarely grows above one foot high and can be found in creek beds, canyons, sandy openings, and shrublands throughout the middle elevations of our area. It is

especially prevalent in disturbed soils where it first appears as a clump of lance-shaped oblong gray green leaves. As the plant matures additional branches grow forming a low, rounded clump of leaf-covered stems. The plant's distinctive silvery gray color results from microscopic hairs that cover the leaves and stems forming delicate starburst patterns.



The flowers are borne in loose elongated clusters along the end of stems, an arrangement that botanists call a panicle. Each flower has four yellow petals usually with orange at their center and along the inner veins. As is typical of all members of the mustard family (*Brassicaceae*), there are six stamens surrounding a single pistil; two of the stamens are distinctly shorter than the other four. Individual bladderpod flowers are almost one inch in diameter. Fruits are nearly spherical with smooth outer surfaces. They stand erect on the stem and often have the remnant of the style (stalk of the pistil) still attached to the fruit. Inside each fruit there will usually be 10 - 26 seeds.



Bladderpods have made news in the botanical world recently for two different reasons. This species had previously been named *Lesquerella fendleri* after the American born, Swiss educated botanist Leo Lesquereux. Members of the genus *Lesquerella* were merged into the genus *Physaria* in 2002, so one will frequently see Fendler's bladderpod still listed as *Lesquerella fendleri* in many references. According to the most recent nomenclature, there are 16 species of *Physaria* occurring in New Mexico. The second reason involves suggestions for developing bladderpod as a crop plant. Bladderpod oil, which makes up 24% of the seed contents is very similar to castor oil and consequently may have applications in the cosmetics, plastics and lubricant industries. In addition a natural gum may be extracted from the seed coat that has potential as a food additive. And to top it off the mash that remains after processing the seeds is particularly high in protein making it a good candidate for use as animal fodder. Whether or not bladderpods ever become a commercially viable crop remains to be seen.

It is perhaps instructive that there is no evidence of Native Americans using bladderpods as a food. The only references are a few medicinal uses such as for rubbing on swellings and to treat spider bites. For me, utility need not be measured exclusively in a cash product or an effective medical application. The joy and satisfaction I find in seeing these small tufts of silver tucked like mosses among the rocks and then their brilliant display of flowers in the early spring announcing the promise of many more colors to come are most meaningful rewards.