

The Weekly Plant

11 March 2012

Common names: Arizona jewel flower, Arizona twist flower, silver bells, lyreleaf jewelflower

Scientific name: *Streptanthus carinatus* ssp. *arizonicus*¹

TAV location:

Widespread in undisturbed areas. From the road:

1. Between O’Keeffe and Rainwater along the fence.
2. On the small rise south of Fye residence (lot 77), among the cacti.

Discussion:

This annual (sometimes a biennial) has 4 petals. Fruit is a slender pod, 3” long. Both are good indications the plant is in the mustard family. Coming to botany fairly recently, I learned this family as the Brassicaceae. Many people learned, and still use, an older family name – Cruciferae, meaning cross-bearing. All plants in this family have flowers with 4 petals.

What did I find interesting about this plant? Three things – flower structure, leaf structure, and subspecies differences.

For the first, we need a quick review of flower structure. Most flowers have 4 parts. Working inward, there are sepals (what you see when you look at a bud), petals (the showy parts), stamens (male sexual organs), and, in the center, pistils (female sexual organs). The sepals are usually green and unexciting. However, the sepals of jewel flower are the first things you notice. They are white and puffy. The 4 petals are almost hidden, just peeking out above the sepals. See photo to right for a look at the petals with the sepals removed. Go ahead, find a jewel flower and dissect it for yourself.

The leaves are interesting because the lowest leaves and the leaves on the flower stalk are sometimes very different in shape. This happens in many plants – the leaves on the flower stalk are often smaller and less lobed than the basal leaves (bottom photo). So, for plant ID, you need the whole plant, not just the flowers.

Jewel flower is native to Arizona, New Mexico, Texas, and adjacent Mexico. That’s where the subspecies come in. A subspecies is a subset of a species that differs in morphology from the species. Subspecies often vary in geographical distribution or ecological requirements². The two subspecies of jewel flower vary in geographical distribution. *Streptanthus carinatus* ssp. *arizonicus* is found mainly in Arizona and New Mexico; *Streptanthus carinatus* ssp. *carinatus* is found mainly in west Texas and adjacent New Mexico. Subspecies *arizonicus* has white or yellow sepals. Surprisingly, subspecies *carinatus* has purple sepals! See these websites for photos of yellow flowers (<http://tinyurl.com/jewelyellow>) and purple flowers (<http://tinyurl.com/jewelpurple>).



Jewel flower with sepals removed.



“Lyreleaf” basal leaf to right; oblong leaves to left

¹ GRIN Online Database is the source of the currently accepted scientific name.

² *Plant Systematics*, S.B. Jones and A.E. Luchsinger, McGraw-Hill, Inc, 1986.