

## The Weekly Plant

### 31 March 2013

**Common names:** longleaf Mormon tea, longleaf jointfir, Mexican tea, canatilla (Spanish), kubgam (O'oodham)

**Scientific name:** *Ephedra trifurca*

#### TAV location:

*Female:* behind and to the left as you face the two yellow and black poles that are across Galileo from the drive to lots 169-172. *Male:* behind the fence and behind and to the left as you face the two yellow and black poles across Langtry from the bench near the Galileo/Langtry intersection.

#### Discussion:

I try to select the Weekly Plants from those that are flowering around the Village. This week I'm featuring a plant that will never, ever flower. It is not a flowering plant, it is a cone-bearing plant.

Like all human beings, botanists like to sort, subdivide, and categorize. They divide plants into vascular (most plants, which have a system to move water and nutrients from roots to leaves) and non-vascular plants (e.g. mosses). The vascular plants are divided into those that reproduce by spores (e.g. ferns, horsetails) and those that reproduce by seed (most plants). The seed-bearing plants are divided into angiosperms ("enclosed seed", the flowering plants) and gymnosperms ("naked seed", the non-flowering seed-bearing plants).

In this last division, the important part is not the showy flower petals but the female reproductive organ.

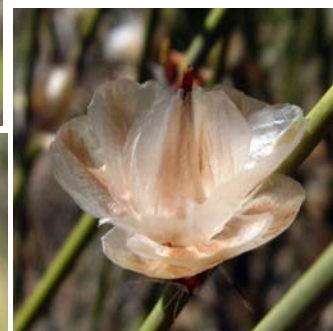
In flowering plants, the female organ is a pistil containing ovule(s) enclosed in an ovary. Each ovule produces an egg that, if fertilized, develops into a seed. The ovary covers all the seeds and becomes the fruit (think tomato).

In gymnosperms, the ovule is not enclosed and there is never a fruit that covers the seed (it's "naked"). Often ovules are held between woody scales in a structure we call a cone. These plants with cones are conifers, a word which conjures up visions of pine, fir, spruce, and juniper. The pollen is usually produced on separate, male cones. Sometimes both female and male cones are on the same plant; sometimes they are on separate plants.

Mormon tea is a gymnosperm closely related to our familiar conifers. The seeds are produced in cones that have papery, not woody, scales. Each plant has only male or only female cones. There are 60 species of *Ephedra* worldwide, 12 in North America north of Mexico. Many (but not all) of these plants contain ephedrine, a chemical that acts like adrenalin. *Ephedra* was used medicinally by many cultures, certainly as long ago as 5,000 years and possibly much longer. Both Native Americans and European settlers made tea from the stems of *Ephedra* species growing in the western US. **CAUTION:** I don't know which species were used or which species have high levels of ephedrine. Use extreme caution when experimenting with any plant.

Longleaf Mormon tea has 3 leaves whorled around the stem. They are less than an inch long and soon become dried, white, and shredded. The stems are green and slender, turning grey as they age. The cones are tan with a reddish tinge and are held on a short stalk. A key ID characteristic is the tip of the stem, which is sharply pointed. The male cones are very showy right now. The female cones (which contain only 1 ovule) will become showy as the seed matures and the scales open.

Photos and text by Mary Welch-Keesey



Counterclockwise from upper left: female cones, ovule (scales removed), mature female cone, male cones. Note leaves at base of cones.



Sharp point of stem tip. Note white, dried leaves to right.