WILLOWS FOUND AND DOCUMENTED AT JASPER RIDGE
BY TONI CORELLI

Although we have five willows in the family Salicaceae (willow family), in the genus *Salix*, listed in the Vascular Plant List, I have only found four at the Preserve. Three of these are fairly common and one is uncommon at JRBP.

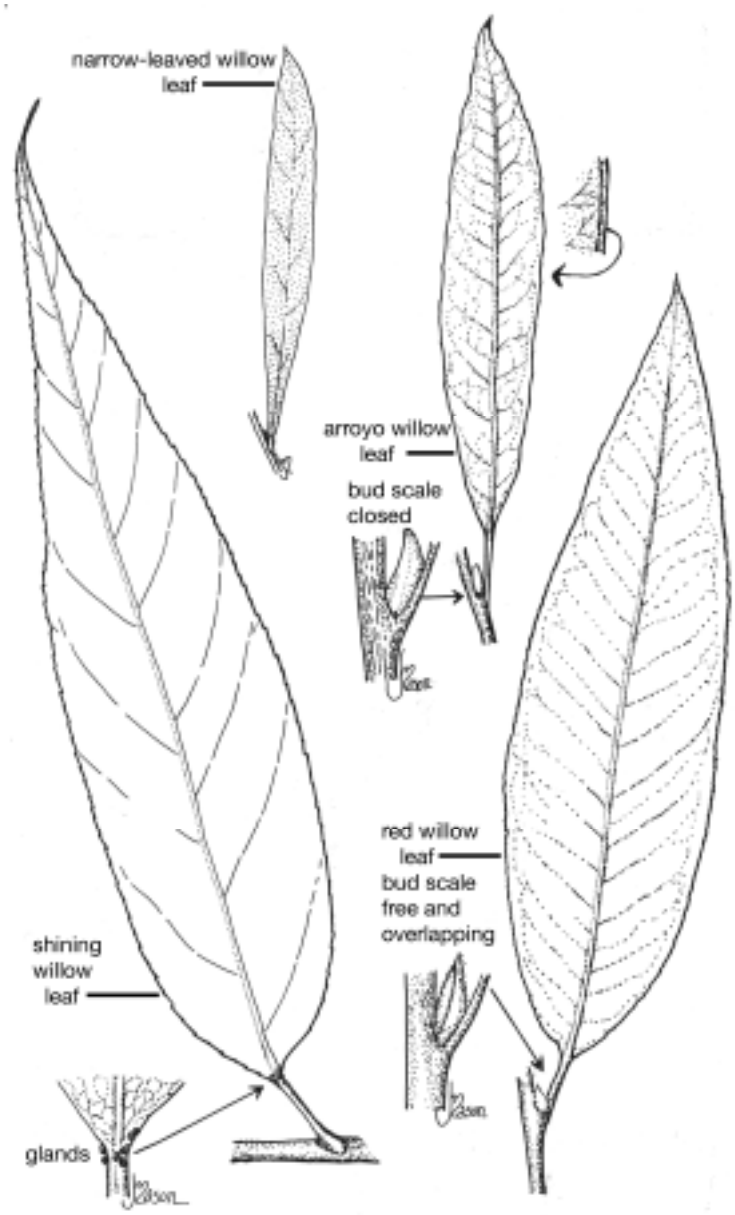

Illustration by Judy Mason

Common features of the willows are: woody plants, shrubs or trees; deciduous, all leaves are lost every year; dioecious (two houses), male and female flowers are on separate plants; flowers lack sepals and petals, but have scale-like bracts (a structure at the base of each flower) and nectar glands associated with each flower; flowers are arranged in catkins, a spike-like inflorescence of many unisexual flowers, usually pendent; fruit is a capsule with many seeds, each seed is covered with fine or cottony hairs and these can be seen floating in the air in late winter through summer. Habitat: moist areas.

Plants with flowers arranged in catkins as in the willows, also our oaks, alders, and others are usually wind pollinated. The stamen shed the pollen and it is blown in the wind to the pistillate flowers. However, the willows have 1-2 nectary glands associated with each flower, which produces nectar that is a reward for visiting insect vectors that can pick up the pollen and deliver it to the other plants it also visits. Either the wind and/or an insect vector can pollinate the willows so it's not just "The Wind in the Willows."

The willows are in flower now and are also getting their new leaves. To understand the various terms refer to the illustration on this page.

Name	Bud Scale	Young Leaves	Mature Leaves	Stipules	Glands	Flowers and Leaves	Stamen Number	Common or Uncommon
Salix exigua narrow-leaved willow	fused	both surfaces gray silky hairy	both surfaces gray silky hairy; narrow, linear	without stipules	without glands on vegetative parts	flowers appear with new leaves	2	Common
Salix laevigata red willow	free and over-lapping	white-rusty-hairy, or not hairy	upper shiny, lower white and waxy	stipules with glands	glands on petiole and stipules	flowers appear with or after leaves	5	Uncommon
Salix lasiolepis arroyo willow	fused	sparsely or moderately hairy	upper shiny, lower white and waxy	small or lacking, without glands	without glands on vegetative parts	flowers appear before new leaves	2	Common
Salix lucida ssp. ***lasiandra*** shining willow	fused	white-rusty-hairy, or not hairy	upper shiny, lower white and waxy	stipules with glands	glands on leaf margins, on base of leaf blades, and on stipules	flowers appear with new leaves	3-5	Common

Key to willows found at Jasper Ridge Biological Preserve

1. Leaves narrow and linear, both sides gray silky hairy; stamens 2; ovary without hairs or silky hairy.....…….*Salix exigua* (narrow-leaved willow)

1’ Leaves not narrow and linear, not gray silky on both sides

2. Bud scale free; stamens 5; ovary without hairs; petiole generally with glands; twigs red to yellow brown.....……...*Salix laevigata* (red willow)

2’ Bud scales fused

3. Glands on stipules, petiole, base of leaf blade; leaf margins fine toothed, gland-tipped; stamens 3-5; ovary without hairs.....
.....*Salix lucida* ssp. *lasiandra* (shining willow)

3’ Without glands on stipules or petioles; stamens 2; ovary without hairs
.....*Salix lasiolepis* (arroyo willow)

Willow not found recently at JRBP but on a historical plant list:

Salix sitchensis **Bong**. - **Sitka willow** - Shrub, small tree; twigs yellowish or reddish brown covered with silky hairs lost with age; upper leaf surface dull green, with a few or many silky hairs that are lost with age, lower blade densely silky hairy; stipules small, or lacking; bud scale margin fused; inflorescence appearing just before or with the leaves; flower bract tawny or brown; stamen 1; ovary silky. Synonym *S. coulteri*.

References:

Hickman, J.C. (Editor). (1993). *The Jepson Manual: Higher Plants of California.* University of California Press, Berkeley, California.
West-Bourke, Diane. (1985). *Entomophily and anemophily in three sympatric willows*: Salix hindsiana, S. lasiandra, *and* S. lasiolepis. M.A. thesis, Department of Biological Sciences, San Jose State University.