



## Garden Learning – Riparian Demonstration Garden

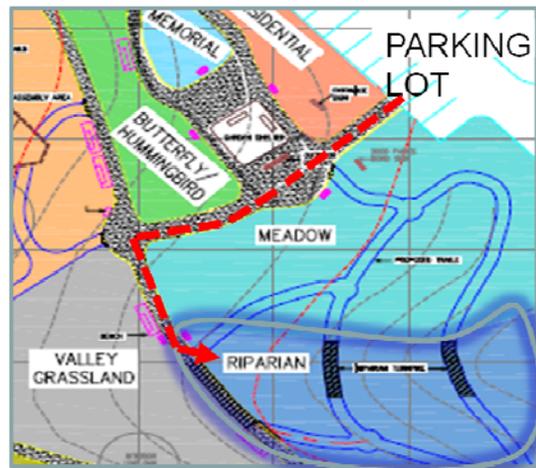
The Garden Learning program is a monthly publication that provides volunteers information about a specific area in the Forrest Deaner Native Plant Botanic Garden. As we learned in the September edition, there are six demonstration gardens and 5 plant community areas. This month we will focus on the Riparian Garden.

The Natural Resources Conservation Service of the US Department of Agriculture defines riparian areas as ecosystems that occur along watercourses and water bodies. Typical examples include floodplains, stream banks, and lakeshores. They are distinctly different from surrounding lands because of unique soil and vegetation characteristics that are strongly influenced by the presence of water. General indicators of riparian areas include:

- **Vegetation**  
The kinds and amounts of vegetation differ from adjacent upland vegetation because more water is supplied to plants from the associated watercourse or water body.
- **Soil**  
Soil in natural riparian areas consists of stratified sediments of varying textures that are subject to intermittent flooding or fluctuating water tables that may reach the surface. The duration of soil wetness depends on the water levels of the adjacent water body.
- **Water**  
Riparian areas are directly influenced by water from a watercourse or water body. They occur along natural watercourses or next to natural lakes

and constructed water bodies such as ditches, canals, ponds, and reservoirs.

The red arrow in picture below shows the starting point for the Riparian plant community. The plants for this area are located on the upward hill slope under a series of trees and shade cover.



The Riparian Garden is located on southeast part of the garden, which is at the lowest elevation area of the garden. It slopes downhill from the west towards the Hampton Bay. A drainage trench along the north edge of the area runs eastward to a water tunnel under the road that ends at the Southampton marsh. An Eagle Scout Leadership Service Project led by Matt Elias & his team extended the trench by approximately 20' and reinforced it with "berms" of rip-rock, backfilled with gravel, in June 2005. This area stays relatively moist from November-December, when the rains start through the early summer

Riparian zones are significant in ecology, environmental management, and civil

engineering because of their role in soil conservation, their habitat biodiversity, and the influence they have on fauna and aquatic ecosystems, including grassland, woodland, and wetland or even non-vegetative.

Factoid: The word "riparian" is derived from Latin *ripa*, meaning river bank. The riparian is an important feature of a wetland because it allows us to gain an insight of its health.



Serpentine Columbine (*Aquilegia eximia*) in the Riparian Area  
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## Native Plants of the Riparian Garden

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The Riparian Garden consists of 19 species of trees, shrubs, vines, and perennial plants native to California.

### Perennials:

Scientific Name	Common Name	Family
<i>Aquilegia eximia</i>	Serpentine Columbine	Ranunculaceae

### Shrubs:

Scientific Name	Common Name	Family
<i>Atriplex lentiformis</i>	Quailbush	Chenopodiaceae
<i>Baccharis pilularis</i>	Coyote Brush	Asteraceae
<i>Cephalanthus occidentalis</i>	Button Willow	Rubiaceae
<i>Cornus sericea</i> ssp. <i>sericea</i>	Creek Dogwood	Cornaceae
<i>Corylus cornuta</i> var. <i>californica</i>	California Hazelnut	Betulaceae
<i>Ribes menziesii</i>	Canyon Gooseberry	Grossulariaceae
<i>Ribes sanguineum</i>	Red Flowering Currant	Grossulariaceae
<i>Rosa californica</i>	California Rose	Rosaceae
<i>Symphoricarpos albus</i>	Common Snowberry	Caprifoliaceae

### Trees:

Scientific Name	Common Name	Family
<i>Acer macrophyllum</i>	Big-Leaf Maple	Aceraceae
<i>Alnus rhombifolia</i>	White Alder	Betulaceae
<i>Calocedrus decurrens</i>	Incense Cedar	Cupressaceae
<i>Juglans californica</i> v. <i>hindsii</i>	California Black Walnut	Juglandaceae
<i>Quercus agrifolia</i>	Coast Live Oak	Fagaceae

### Vines:

Scientific Name	Common Name	Family
<i>Aristolochia californica</i>	California Dutchman's Pipe	Aristolochiaceae
<i>Clematis ligusticifolia</i>	White Clematis	Ranunculaceae
<i>Lonicera hispidula</i> var. <i>vacillans</i>	California Honeysuckle	Caprifoliaceae
<i>Vitis californica</i>	California Grape	Vitaceae

## Native Plant Featured this Month

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This month's Native Plant of Month is the "Aristolochia californica", known by its common name as California Dutchman's Pipe. This is a special plant because it only grows in California. From the picture below, can you tell why the common name would include "Dutchman's Pipe"?

- The flower of the plant is in the shape of a smoking pipe which was used in historic times before people understood the hazards of smoking.

The plant is a vigorous growing vine which is often used as a natural "screen" for home landscaping projects.

The Dutchman's Pipe Vine also has a special connection to wild life:

- It is one of the plants that the Pipevine Swallowtail Butterfly (*Battus philenor*) lays its eggs on and upon which its caterpillars can feed (Virginia Snakeroot is another plant it will use). The Larvae will not eat any other types of plants. A larva is the name used to describe young caterpillars.

From Calflora:

### Aristolochia californica

*Aristolochia californica*, a dicot, is a **vine or shrub** that is **native** to California and is endemic (limited) to California alone.

<b>Common names:</b>	California Pipe Vine, California pipevine, Dutchman's pipe, Dutchmans pipe
<b>Communities:</b>	Foothill Woodland, Chaparral, Mixed Evergreen Forest
<b>Habitat:</b>	streambanks <a href="#">[Walker]</a>
<b>Elevation:</b>	between 0 and 1500 feet



California Dutchman's Pipe  
© 2004 George W. Hartwell



Pipevine Swallowtail Butterfly  
© 2008 Drstaven

## **Invasive Plant Featured this Month, otherwise known as “Weed of the Month”**

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For this month’s Weed of the Month, we focus on a plant with the common name of Alkali Mallow, belonging to the Malvaceae family. Before writing this paper, I did not know the full common name. Friends told me it was a Mallow. Let’s investigate how to learn more about a plant when you do not have the scientific name.

This Mallow grows all over the Forrest Deaner Native Plant Botanic Garden and especially in the waterway by the Riparian area. Below is a picture taken in the Garden showing Mallow:



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So if Alkali Mallow is a California Native plant, it must have a scientific name and perhaps other common names. Let’s take a Google search on the net to find out more about Mallow:

1. First we go to Google and type in “mallow plant calflora”. The first selection on the resulting list is:

<http://www.calflora.org/cgi-bin/specieslist.cgi?where-family=Malvaceae>

which is a family of plants similar to our own rapidly spreading mallow. There are over 124 species of Malvaceae.

2. Second we scan the family and find ones that have similar leaves:

3. *Herissantia crispera* (bladder mallow) is one on the list that is close to the above picture, but when selecting the detail link, it seems it has only been spotted in southern CA and is a rare plant so that is most likely not the plant we are looking for. The hunt is on!
4. Next I check out one called *Malvella leprosa* (alkali mallow), and on its detail link it shows it is found all over California, and has the following warning:
  - ✓ *Malvella leprosa* is also classified by the California Department of Food and Agriculture as a Noxious Weed List C: Control required in nurseries, not required elsewhere. [CDFA Weeds 2000]

Yep it sounds like our Mallow! From the calflora site you can next go to CALPhoto and see lots of pictures of the plant. It is starting to look really good that we have the right name for our Mallow. We could check the pretty little white flower when it blooms; however our Garden volunteers are vigilant and on the task of keeping our Garden weed free so we will have to see if we can keep one plant for our research purposes.

*You can follow the same steps used in this search for other searches of plants. Note that for this plant I did have both a picture and part of the common name. These two "things" are known as "search starting conditions". I wonder what I would have done if I only had the picture?*

From the Calflora Website:

### **Malvella leprosa** (Orteg) Krapov.

*Malvella leprosa*, a dicot, is a **perennial herb** that is **native** to California and is also found elsewhere in North America and beyond.

*Malvella leprosa* is also classified by the California Department of Food and Agriculture as a Noxious Weed List C: Control required in nurseries, not required elsewhere. [CDFA Weeds 2000]

**Common names:** alkali mallow

**Communities:** (many plant communities), wetland-riparian

**Wetlands:** equally likely to occur in wetlands or non wetlands [U.S. Fish & Wildlife Service.]

**Elevation:** between 0 and 6000 feet

**Family:** Malvaceae



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## Puzzlers Page

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**Plant Riddle:** What plant am I if grow under a “Big Leaf Maple” tree on the hill slopes of the Riparian plant community in the Forrest Deaner Native Botanic Plant Garden?

### Word Search:

A X B O J S B Q J T W G I L J X D A L Z P V B  
A M L L D P V U M D P C R V S G E X V D M B D  
I H G Z U C I A O B L A C K W A L N U T C T Z  
C Y R B B T T I J B L L I Y E T R U R E P S H  
T P I C U Q I L I C C N S C L P K A S M R E O  
M W E V T F S B N V O I A Z V A G O A W J R N  
D F Z O T U G U G H T L Z X O K R V G A Q P E  
I I R C O R T S V A U H U E W A M Z W N U E Y  
B N J Y N U A H M T C J V M I S B Y D B E N S  
N C L D W F X E E S B I E N B B R B O Z R T U  
O E L B I Z L B H Y L X R R X I B W H N C I C  
J N M C L C T K E T P O R Y W E N S H Y U N K  
L S Z I L S C E S E F M R O Z T U E S V S E L  
F E H Z O D E A Q I Y R O W I G B R C C E C E  
J C O A W G O S L A E G E K I O Z I M L C G M  
K E U E L C J A E B J I M N H T O R P D A R I  
O D X R B D C E W R X J X B B X G A B P S Y B  
O E S N N U E O Z K Z K T G I X M W M F I Z S  
S R P U G U N R A I V O O T U J V S T H S B F  
M V L F Z S Y R J U K U V N I E M B M Y K Z L

Alder	Betulaceae	Black Walnut
Button Willow	California Rose	Clematis
Coast Live Oak	Columbine	Honeysuckle
Incense Ceder	Maple	Quailbush
Quercus	Serpentine	Snowberry
Vitis		

## Test your Learning

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*Question 1:* What is the definition of a Riparian Zone?

*Question 2:* What are the three indicators of a Riparian Zone?

*Question 3:* What butterfly is connected to the California Dutchman's Pipe?

*Question 4:* What is the name of a noxious weed that is also a California native plant?

*Question 5:* How do you find the scientific name of plant if you have a picture and/or know part of the common name of the plant?

## Read more about this Month's Topics at these References:

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California Native Plant Society Website: <http://www.cnps.org/>

Calflora website: <http://www.calflora.org/>

Riparian Zones: [http://en.wikipedia.org/wiki/Riparian\\_zone](http://en.wikipedia.org/wiki/Riparian_zone)

Natural Resources Conservation Service (USDA):  
<http://www.nrcs.usda.gov/technical/rca/ib11text.html>

### Web Sites for Riparian Plant List

The Center for Social and Environmental Stewardship  
[http://www.crpinc.org/pages/92\\_riparian\\_plant\\_list.htm](http://www.crpinc.org/pages/92_riparian_plant_list.htm)

Field Guide for the Identification & Use of Common Riparian Woody Plants of the Intermountain West and Pacific Northwest Region (NRCS-USDA):  
<http://www.plant-materials.nrcs.usda.gov/pubs/idpmcpu7428.pdf>

Las Positas Nursery:  
<http://www.laspilitas.com/nature-of-california/communities/riparian-rivers-and-creeks>

## **Answers to Last Month's "Test your Learning":**

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*Answer 1:* Forrest Deaner started the Solano County chapter of the California Native Plant Society, and was its founding President.

*Answer 2:* The Anise Swallowtail (*Papilio zelicaon*) is the butterfly that is especially attracted to the Coyote Mint Plant.

*Answer 3:* The California Spanish use Coyote Mint for a cure for sore throats between 1697 and 1821.

*Answer 4:* The Ohlone Indians use Coyote Mint for hot compresses to draw out "bad blood" for bad cases of pneumonia. They also used it to make decoctions, poultices and salves for treating other respiratory problems

*Answer 5:* Invasive weeds are bad for California Native Plants because they crowd out the environment and in some cases poison the soil preventing natives from growing.

*Puzzle Page Riddle:* The plant that is located in the center or near center of the Memorial Garden is the Shasta Snowwreath (*Neviusia cliftonii*)



**Aquilegia eximia / Serpentine Columbine**  
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