

# Ethnobotany Walk Around VLSB

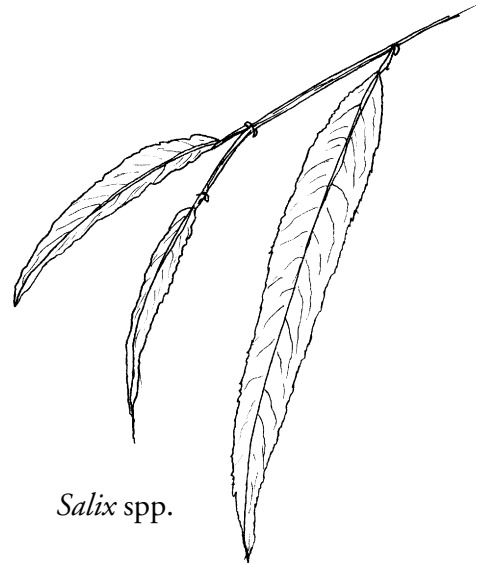
*Developed by Danica Harbaugh*

Welcome to the fascinating world of **ethnobotany**, in our own backyard! We have already begun exploring the science of **botany**, the study of plants. Now, we will see how plants and people (**ethno-**) interact in a science called ethnobotany. Ethnobotany is defined as “the plant lore and agricultural customs of people.”<sup>i</sup> In other words, it is the study of the many ways that people use plants, for such things as medicine, building materials, or even spiritual reasons.

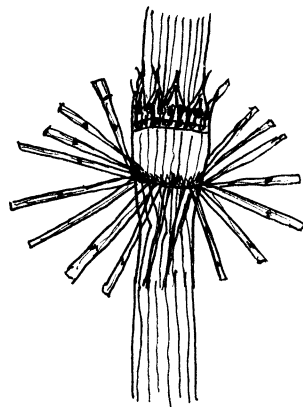
This short tour around Valley Life Sciences Building will take us from California, to such places as Europe, Australia and China; it will offer a glimpse into the diversity of plants in our own backyard and the extraordinary ways in which they can be used. (Note: Don't try any of these plants at home. Without proper identification and dosage, they may be dangerous!).

## Stop 1: Willow (*Salix* spp.)

This first plant is a very important plant for many of us. If you've ever consumed *Aspirin* then you've benefited from the pain relieving properties of a compound extracted from a willow tree similar to this one. In 1828, a French chemist first extracted salicin from the bark of a white willow tree, naming it for the Latin name *Salix*.<sup>ii</sup> This compound was later converted into *acetylsalicylic acid*, which the main active ingredient of Aspirin!



*Salix* spp.



*Equisetum* spp.

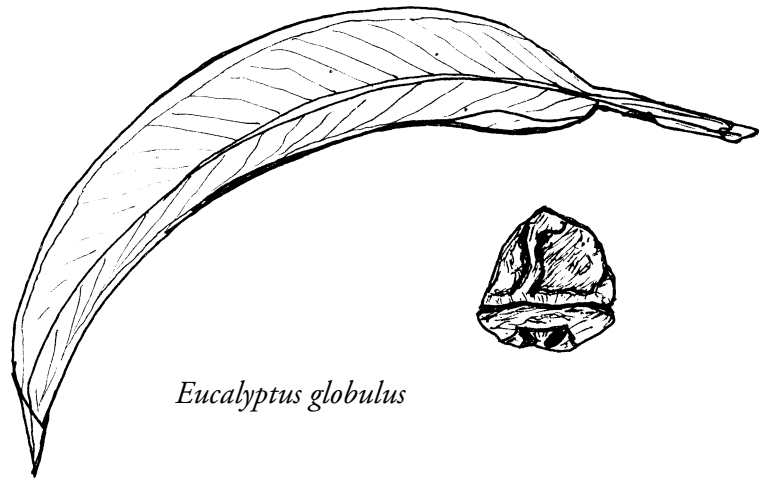
## Stop 2: Horsetail (*Equisetum* spp.)

Walk down to the banks of Strawberry Creek and feel the texture of one of the horsetails. What does it feel like? It is no wonder that Native Americans and Mexicans have used the stems for scouring pots, polishing wood, and even metal (hence its other common name, Scouring Rush). Cells lined with *silica*, the same mineral as in sand and stone, are responsible for its sandpaper-like texture.

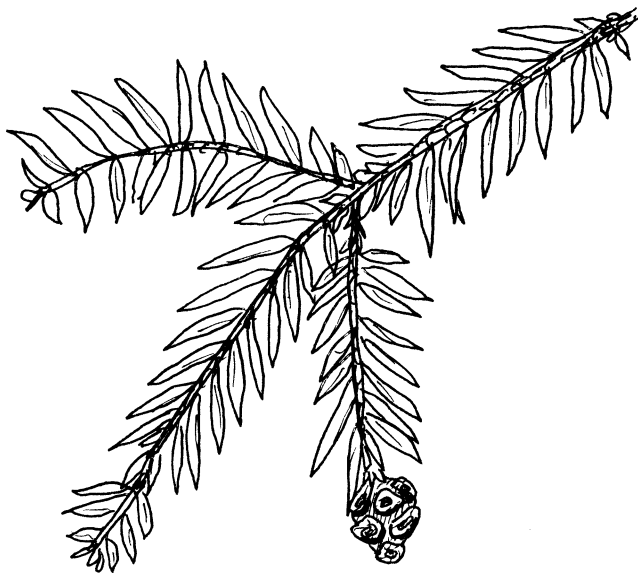
Believe it or not, native Californians even consumed horsetail to cure a variety of ailments. Whole stems were boiled and the water drunk for stomach sickness, or even rubbed on the skin to help heal the bites from venomous animals!<sup>iii</sup>

**Stop 3: Eucalyptus (*Eucalyptus globulus*)**

Originally from Australia, eucalyptus trees have become most common trees in Berkeley! It is hard to miss the strong fragrance of the long-curving leaves of the eucalyptus as you walk underneath them. A cup of tea made from boiled leaves is just like popping a Halls cough drop, which also contain eucalyptus oil!<sup>iv</sup> Not only is eucalyptus good for a cough or asthma, it is a great topical pain reliever. Or, string a few of the seedpods around your cat's neck to help keep away the pesky fleas!<sup>v</sup>



*Eucalyptus globulus*



*Sequoia sempervirens*

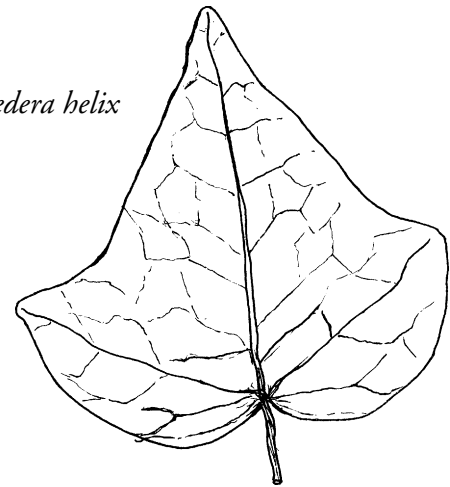
**Stop 4: Coast redwood (*Sequoia sempervirens*)**

If eucalyptus tea didn't do the trick to stop your throat irritation, try a tea made of coast redwood needles. Though be sparing, these majestic beauties are on the decline; over 90% of all redwood forests in California have been clear-cut, and it is predicted that more than half of what's left will be gone by the end of this century!<sup>vi</sup> When the coast redwood was more abundant, they were an important source of medicine for Native Californians: needles and branches were used to treat colds, lung infections and bladder infections. Essential oil from the needles has also demonstrated anti-fungal activity, important in the foggy weather of coastal California!

**Stop 5: English Ivy (*Hedera helix*)**

Our next plant is actually found along the entire walk around VLSB: ivy. Native to England, ivy has become one of the most common vines and groundcovers in Berkeley. If eucalyptus and redwood failed in treating your cough, a tea made from ivy leaves and berries may be just what the doctor ordered!

*Hedera helix*



*Cinnamomum camphor*

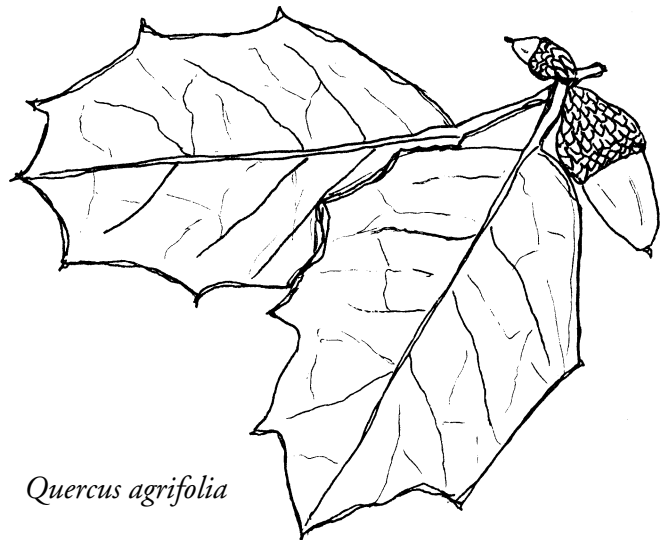
**Stop 6: Camphor (*Cinnamomum camphor*)**

Now we travel halfway around the world, to Taiwan. Camphor has been very important in herbal medicine of Asia, as well as here at home. Grab a leaf and crush it between your fingers. What does it smell like? It is commonly used in Tiger Balm, or mixed with the leaves of basil, chamomile and lemon balm to soothe away your pain, fever or infection.

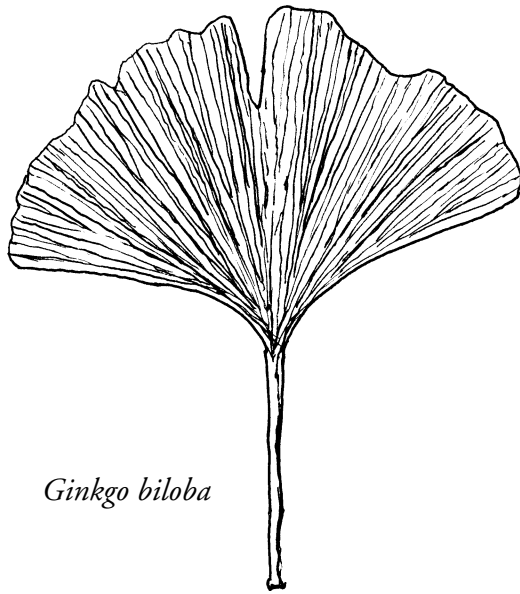
**Stop 7: Coast Live Oak (*Quercus agrifolia*)**

Can you believe that Oakland used to actually be covered with oak trees? Well, it's true! Oaks have been an extremely important part of the landscape of California. The seeds of the oak, the *acorns*, were of primary importance to many Native Americans. Acorns contain strong *tannins*, which are a valuable astringent to stop bleeding, and to heal second degree burns. An active compound in oaks is *quercin*, which is very similar to the pain fighting compound *salicin*, from the willow tree.<sup>vii</sup>

After the strong tannins were leached out of the acorns, acorns were an important food source for Native Americans. They were ground and crushed into a coarse meal and made into everything from bread to porridge and soup.<sup>viii</sup>



*Quercus agrifolia*



*Ginkgo biloba*

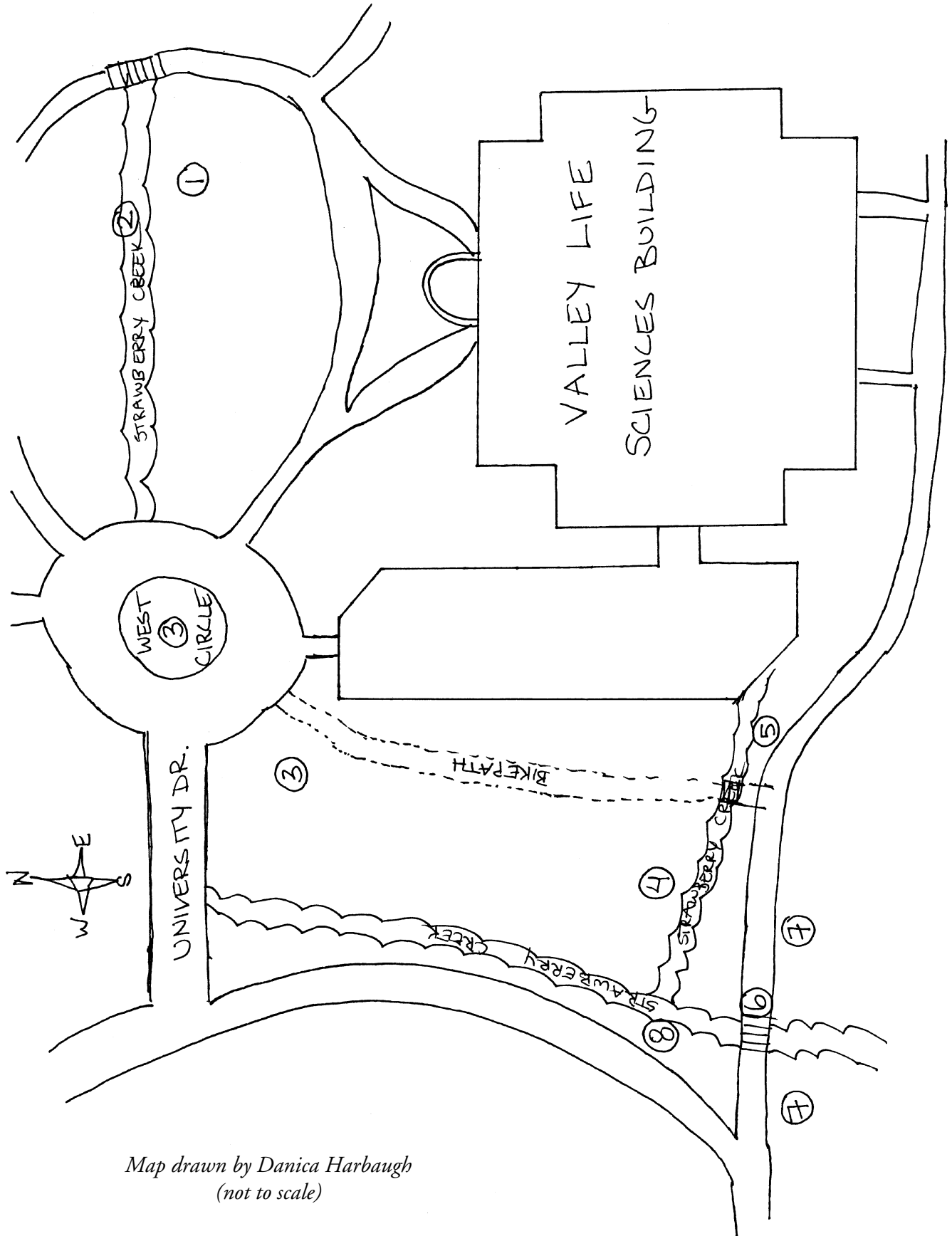
### **Stop 8: Ginkgo (*Ginkgo biloba*)**

Ginkgo is now one of the most well known herbs on the market for the enhancement of mental functioning and memory. However, a few hundred years ago it was on the brink of extinction. In fact, botanists had labeled it extinct, until in the late 1600s, it was discovered in Buddhist monasteries in Japan and China. The monks there knew of ginkgo's powerful qualities to treat memory loss, as well as increase blood circulation in the body and the brain. Now, because of its attractive bilobed leaves, *Ginkgo biloba* is a common ornamental tree, and lines Shattuck Ave. in north Berkeley.

### **References**

- <sup>i</sup> The *American Heritage Dictionary of the English Language*, Fourth Edition. 2000. Houghton Mifflin Co.
- <sup>ii</sup> <http://www.wikipedia.org/wiki/Aspirin>. 20 August 2003.
- <sup>iii</sup> Larsen, W. 1992. *A Field Folio of Indian and Pioneer Medicinal Plants*. Third Mesa Publishing Co. 16.
- <sup>iv</sup> Roos-Collins, M. 1990. *The Flavors of Home: A Guide to Wild Edible Plants of the San Francisco Bay Area*. Heyday Books: Berkeley, CA. 186-187.
- <sup>v</sup> Moore, M. 1989. *Medicinal Plants of the Desert and Canyon West*. Museum of New Mexico Press. 56-58.
- <sup>vi</sup> Moore, M. 1993. *Medicinal Plants of the Pacific West*. Red Crane Books, Santa Fe, NM. 219-220.
- <sup>vii</sup> Larsen, W. 1992. *A Field Folio of Indian and Pioneer Medicinal Plants*. Third Mesa Publishing Co. 34.
- <sup>viii</sup> Bringle-Clarke, C. 1977. *Edible and Useful Plants of California*. University of California Press. 66-69.

## Map for Ethnobotany Walk Around VLSB



*Map drawn by Danica Harbaugh  
(not to scale)*