

## Mistletoe

by Jim Gormely

As a youth I was introduced to mistletoe during the Christmas season; however I never thought much about where the plant grew. In our house a sprig of mistletoe was attached over a doorway and anyone caught under it was kissed. Now there is mistletoe etiquette – when a man kisses a woman he must remove a berry from the sprig. When all the berries are gone, there's no more kissing permitted.

A few years ago a neighbor told me that I should remove the mistletoe from my oak trees. "Really," I thought, "Why?" I was told that the seed can spread by wind to other trees at a speed of 100 miles per hour and that it can kill the trees. Wow, what is this plant? Looking for an answer, here is what I found:

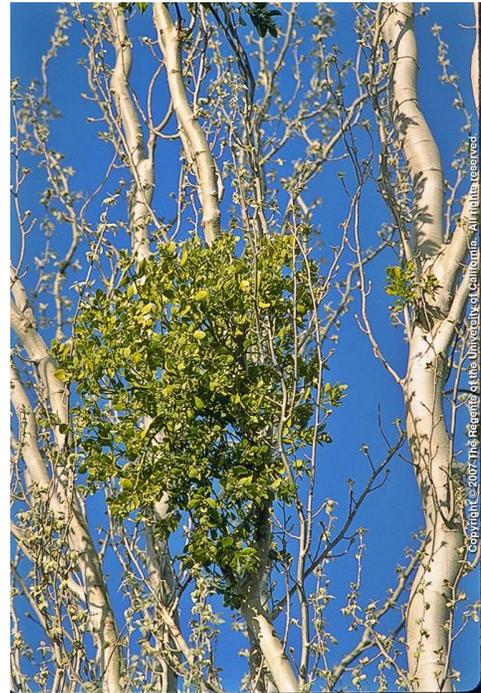
Mistletoe is a partial parasitic flowering plant that attaches to a host plant and relies on the host for water and minerals. However, it produces its own food through photosynthesis.

The seeds from mistletoe are spread by birds or the wind. Birds are attracted to the berries and may spend a good deal of time feeding on them. They either wipe the sticky seeds from their beaks onto neighboring branches or excrete them after eating the berries.

A mistletoe seed germinates in as little as six weeks. It begins growing through the bark and into the tree's water-conducting tissues where fine root-like threads, called haustoria, develop. The haustoria gradually extend up and down within the branch as the mistletoe grows. The plant will flower in four to five years. Mistletoe plants are either female (producing berries) or male (producing only pollen). If the visible portion of the mistletoe is removed (i.e. the part of the plant on the outside of the branch), new plants often sprout from the haustoria lying beneath the branch surface.

There are several species of mistletoe. In our area, the broadleaf mistletoe (*P. villosum*) only infests oak trees. I was very surprised last year when mistletoe appeared on a lower branch of a maple tree in my yard. This must have been another variety of mistletoe which is also found in California, (*Phoradendron macrophyllum*). This variety infests alder, Aristocrat flowering pear, ash, birch, box elder, cottonwood, locust, silver maple, and walnut.

Dwarf mistletoes are smaller plants than broadleaf mistletoes, with mature stems less than 6 inches long. Dwarf mistletoe shoots are non-woody, segmented and have small scale-like leaves. While broadleaf mistletoe seeds are spread by birds such as cedar waxwings and robins, dwarf mistletoe seeds spread mostly by their forcible discharge from fruit, which can propel seeds horizontally into trees up to 30 to 40 feet away. Dwarf mistletoes infect pines, firs and other conifers.



Mistletoe is poisonous to people and pets, although deer eat it as a source of protein. Mistletoe can weaken and damage trees. Therefore, it is smart to manage the spread of mistletoe by replacing susceptible cultivated trees with resistant species such as Chinese Pistache (City of Sonora's official tree), ginkgo, sycamore and conifers such as cedar. Trees that are infested can be pruned, if possible as soon as the parasite appears. Using thinning – type pruning cuts, remove infected branches at their point of origin or back to large lateral branches. Infected branches need to be cut at least a foot below the point of mistletoe attachment to completely remove embedded haustoria.

Although mistletoe can compromise a tree's health, it is also a source of food and nesting sites for birds and animals worldwide. Areas with mistletoe support a greater variety and higher densities of animal populations. Like most of Mother Nature, the mistletoe has a positive and negative side. At Christmas time, it is definitely a positive plant which can engender a spark of love between the people standing under it.

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