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NEWS

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Mistletoe: Christmas Decoration or Parasite to Colorado Pines?

FORT COLLINS, Colo. – In Colorado, the term mistletoe can invoke images of either stolen kisses at Christmastime or parasitic infestations that mar majestic pine trees. So which is it?

“The truth is, mistletoe is responsible for both,” said Sky Stephens, forest entomologist for the Colorado State Forest Service.

Mistletoe is the common name for several families of parasitic plant species that grow on or within the branches of tree and shrubs. Mistletoe plants grow on a wide range of host trees and can reduce their growth, predispose them to other insects and disease and sometimes kill them. Some European cultures historically saw mistletoe as a representation of romance and fertility, however, and according to Christmas custom, when a man and woman meet under a hanging mistletoe plant, they are obliged to share a kiss.

The name “mistletoe” originally applied only to European mistletoe (*Viscum album*). This poisonous mistletoe species displays the characteristics of common Christmas mistletoe: smooth-edged, paired evergreen leaves along a woody stem, and waxy white berries growing in dense clusters. America’s leafy or true mistletoe bears a similar appearance. In Colorado, the only leafy or true mistletoe is found on junipers.

According to Stephens, six native species of the damaging parasitic plant are found in Colorado’s forests – five of which are dwarf mistletoes that look nothing like the traditional holiday mistletoe. Dwarf mistletoes are native to conifer forests of western North America, from Alaska south to Central America. Their branching, bulbous growths, which are olive-green, yellow or orange in color and up to 6 inches long, can cause severe tree damage. Dwarf mistletoes induce abnormal tree growth and produce a dense, tangled structure at the point of infection, known as a witches’ broom.

“Each dwarf mistletoe species in Colorado tends to confine its attacks to one species of tree,” Stephens said. Host trees are mostly pines: ponderosa, lodgepole, limber, bristlecone and piñon. Douglas-fir trees also serve as mistletoe hosts. Dwarf mistletoes can only survive on a living host, so when a host tree dies, so do its dwarf mistletoe plants.

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Dwarf mistletoe infections can retard tree growth, reduce tree-seed production and diminish wood quality. Heavy, long-term infections can even kill trees directly or predispose them to attack by other pests, such as bark beetles.

Dwarf mistletoe boasts one of the most effective means of seed dispersal among flowering plants – explosive germination. As seeds mature in female plants during late summer, pressure slowly builds inside the plant. Once the seeds mature, any disturbance can cause the plants to fire the seeds into the air, dispersing them an average of 30 feet at a speed of 60 mph.

“Mistletoe seeds are coated with a sticky substance that allows them to attach to the stems of other host trees, where new growths develop,” Stephens said.

Wildland fires provide a natural means of regulating the distribution and severity of dwarf mistletoe. Large, severe fires can effectively kill expansive areas of infected trees, also eliminating the parasite from tree stands. The tree seedlings that soon begin to sprout are then free of the parasite.

Landowners can deal with dwarf mistletoe infestations by pruning or removing infected trees, planting resistant trees after infected trees are removed, and by using approved sprays to reduce the risk of future infestation.

This holiday season, should you have a chance encounter under hanging mistletoe, be sure to share your knowledge about the plant before you steal a kiss. And the next time you find yourself in the snowy pines, see if you can spy a sprig of the pervasive parasite in the boughs above you.

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