



Canker disease of evergreen Chinese elm in the San Francisco Bay area causes ugly lenticular-shaped cankers. Fungicides offer some control of the disease, but the best control seems to be to not plant susceptible cultivars of evergreen Chinese elm in areas where anthracnose and canker diseases occur.

Fusarium lateritium and *Diplodia* sp., in inoculation trials with these fungi the disease did not result. *Diplodia* sp. and other fungi are present in the woody portions of cankers, but removing a narrow section of the canker margin effectively stops development at this point. If these wood-invading fungi were a cause of the disease, one would expect that infections would not be arrested by removal of bark.

Our observations and inoculation studies revealed that the 'Drake' cultivar of *U. parvifolia* is resistant to anthracnose and also to the canker disease. 'Truegreen' and 'Evergreen' are, however, susceptible to both anthracnose and the canker disease; leaf and young terminal growth of 'Truegreen' and 'Evergreen' trees became infected following inoculation with *S. ulmea* and incubation in the greenhouse. This very slow growing fungus infects young leaves and, under particularly favorable conditions for the disease, dieback of shoots and twigs occurs. As this dieback continues, small cankers are found on branches, identical to the large trunk cankers.

For control of the problem, susceptible cultivars of evergreen Chinese elm should not be planted in areas where the anthracnose and canker diseases occur. The fungicide benomyl offers some control on existing plantings but must be applied as new growth occurs in the spring and repeated at 14-day intervals as long as rainy weather continues.

Cankers can also be cured by excision of a narrow band of healthy tissue at the canker margin. The regrowth at the edge of the excised cankers is healthy, and in time the canker will be covered by healthy bark.

It is interesting to note that careful observations alone have resulted in methods of controlling this serious disease.

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Canker disease of evergreen Chinese elm

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Evergreen Chinese elm, *Ulmus parvifolia*, is a popular tree planted along streets and in gardens throughout California. While it has been relatively free of insect pests and diseases in the drier southern part of the state, a serious trunk and limb canker disease occurs on many trees in the San Francisco Bay area. The disease has been found in all of the San Francisco Bay area counties and in the city of Monterey, concomitantly with the foliage disease anthracnose.

Lenticular-shaped cankers are found on trunks and branches. The cankers are perennial and slowly expand, often girdling limbs and weakening branches and the trunk. Originating from twig and branch infections that slowly cause a dieback, eventually the cankers result when the infection reaches a larger branch. The tree attempts to heal them, typically producing concentric zones in the cankers; enlargement is faster in the vertical plane, leading to the lenticular shape. Cankers as old as eight years have been found in Berkeley, and large cankers also have been observed in Richmond.

Anthracnose may be the cause

The canker disease of evergreen Chinese elm may be caused by the anthracnose fungus, *Stegophora ulmea*, because the disease has been found only on trees susceptible to anthracnose and not on trees resistant to it. While we found other fungi existing in association with cankers, notably