2. Cercospora Blight of Juniper

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Hosts

In forest nurseries, Cercospora blight of juniper, caused by the fungus *Cercospora sequoiae*, has been reported only on eastern red cedar and giant sequoia. However, it also occurs in plantation and ornamental plantings of other species, especially Arizona cypress, oriental arborvitae, and cryptomeria. The closely related fungus *C. sequoiae* var. *juniperi* sometimes causes severe damage to eastern red cedar in plantations but has not yet been observed in nurseries.

Distribution

The fungus has widespread distribution in the Southern States and has been reported as far north as Pennsylvania (fig. 2-1).

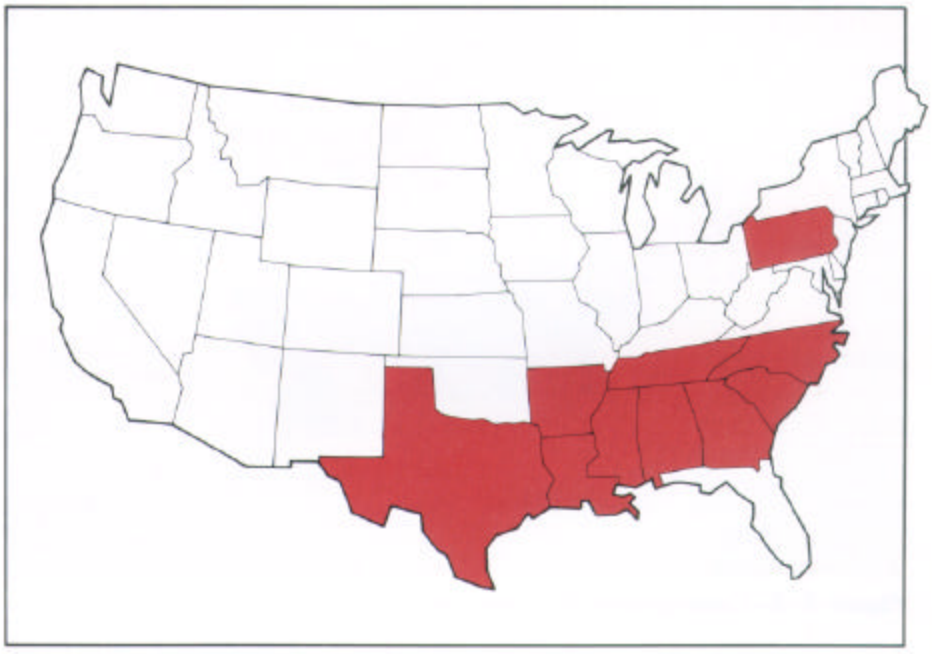

Figure 2-1—Distribution of *C. sequoiae*.

Damage

Infected seedlings are usually, only slightly damaged. However, almost complete defoliation of some seedlings has been observe No information is available on the survival of infected seedlings following outplanting.

Diagnosis

Look for discolored needles on the lower branches adjacent to the stem. On severely infected seedlings, only the needles at the tips of the upper branches remain green (fig. 2-2). The disease is thus easily distinguished from the more common Phomopsis blight (see chapter 14), which kills the tips of the branches.

Fungus stromata, visible with a 10 x hand lens, form profusely on the needles shortly after they turn brown. Stromata appear as tiny, dark pustules about 100 microns in diameter. Several brown, geniculate conidiophores 50 to 125 microns high arise from each stroma (fig. 2-3). The yellow-brown conidia are cylindrical to obclavate, echinulate, and average about 40 x 6 microns (fig. 2-4).

Figure 2-2—Typical symptoms of Cercospora blight. Note brown inner needles and green tips.

Biology

The fungus over winters on infected needles of living trees. Viable conidia are present throughout the spring and summer. Conidia are spread primarily by wind. Extensive infection in nurseries can usually be traced to heavily infected trees, primarily Arizona cypress and oriental arborvitae, in nearby windbreaks or landscape plantings.

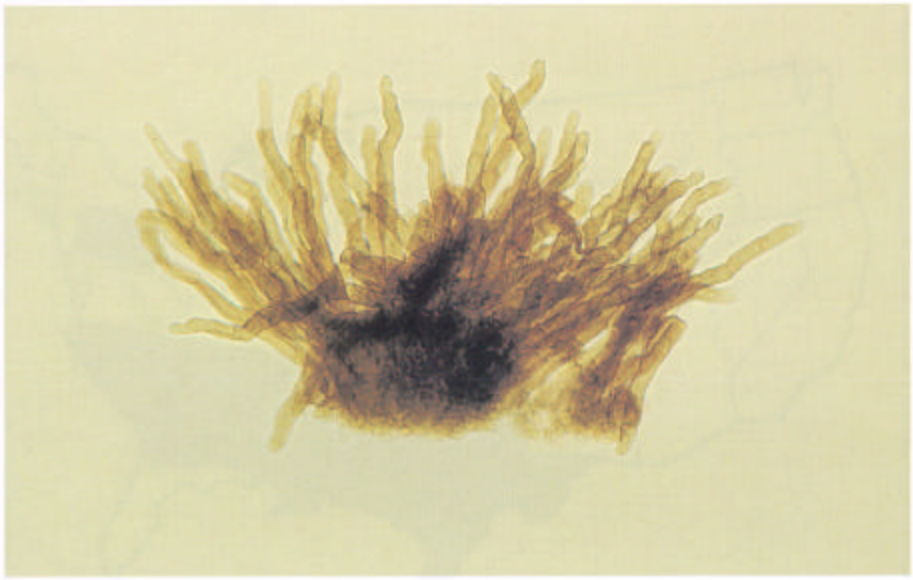

Figure 2-3—Conidiophores of *C. sequoiae*.

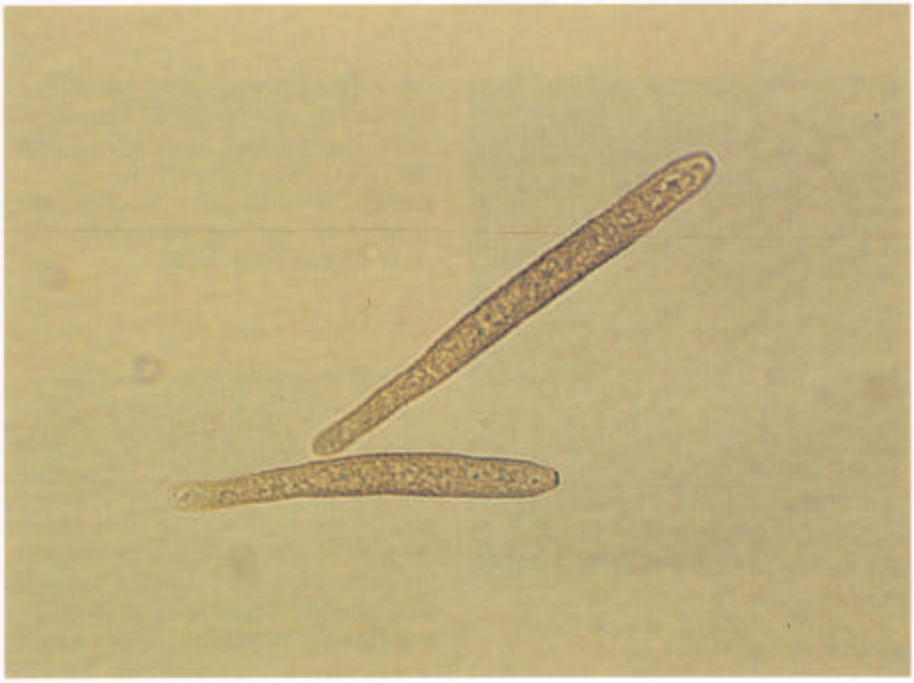

Figure 2-4—Conidia of *C. sequoiae*

Control

Prevention—Remove all infected trees in landscape and windbreak plantings near the nursery beds or spray infected trees with Bordeaux mixture.

Chemical—Following detection of the disease, spray seedlings with Bordeaux mixture at 7- to 10-day intervals. During periods of frequent disease occurrence, adopt a standard spray schedule. Begin spraying June 1 and continue throughout the summer.

Selected References

Hodges, C.S. 1975. Cercospora blight of juniper. In: Peterson, Glenn W.; Smith, Richard S., Jr., tech. coords. Forest nursery diseases in the United States. Agric. Handb. 470. Washington, DC: U.S. Department of Agriculture: 80-82.

Hodges, C.S. 1962. Comparison of four similar fungi from Juniperus and related conifers. Mycologia. 54: 62-69.