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TWIG BLIGHT OF JUNIPER

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At one time southern redcedar, Juniperus silicicola (Small) Bailey, was so plentiful that it occurred in dense forests on the west coast of Florida, particularly in the Cedar Key area. However, heavy lumbering for items such as wooden pencils virtually eliminated trees of commercial size. Southern redcedar is still valued for many landscaping uses, in part because of its cold hardiness and salt resistance. It is also popular as a living Christmas tree (1). Southern redcedar, and its very similar relative J. virginiana L. (eastern redcedar) are plagued by twig blight caused by the fungus Phomopsis juniperovora Hahn. Twig blight is found throughout the central and eastern United States wherever redcedar, common juniper, and many of their varieties are grown. The twig blight fungus has also been reported on arborvitae, cypress, Douglas fir, fir, hemlock, larch, redwood, white-cedar, and yew. Several juniper varieties are reported to be resistant to the fungus under field conditions (2).

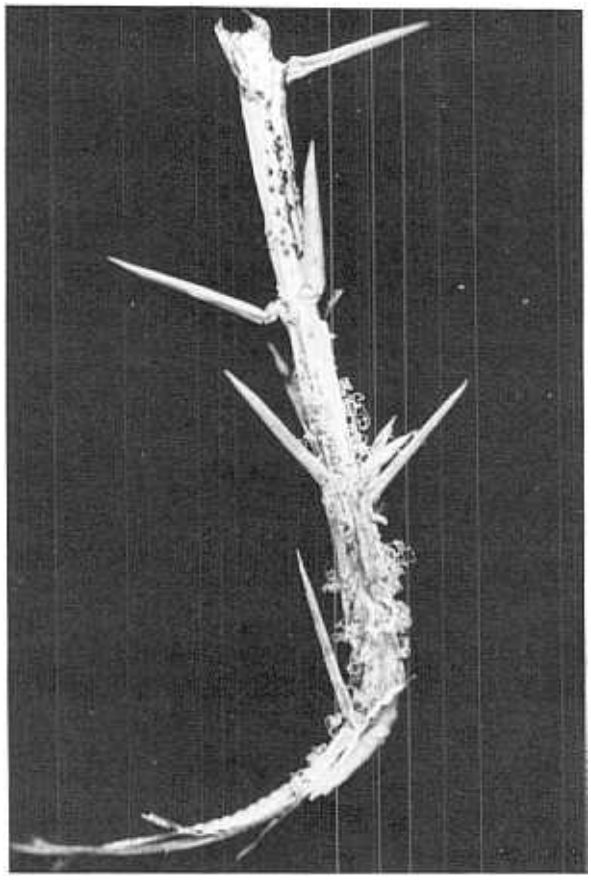

Fig. 1. Segment of main stem of a southern redcedar seedling infected with Phomopsis juniperovora. Black pycnidia are visible on stem at top of segment, and pycnidia exuding cirrhi (spore horns or tendrils) are present on lower end of stem segment.

SYMPTOMS. Tips of twigs affected by this disease first turn light- to gray-green, then tan-brown, and eventually ashy gray. Tip blight may be followed by a progressive dying back of the entire branch and even girdling of the main stem at the axil of the infected branch. Small black fruiting structures (pycnidia) of the fungus may be observed on the dead tissue (Fig. 1).

Twig blight is primarily a disease of seedlings and nursery stock, although it is not unknown on larger trees. Usually, little damage occurs on trees over 5 years old. Junipers from cuttings of mature foliage generally have less of a problem with Phomopsis blight than seedlings or cuttings with juvenile foliage.

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DISEASE DEVELOPMENT. Spores from diseased tissue are splashed and/or wind-blown to healthy young needles. Infection may occur in a short period (7 hours) of 100 percent relative humidity. Infection is optimum at 24C, but disease development is favored by higher temperatures (32C). Symptoms may develop in as little as 3-5 days, but pycnidia are usually not seen for 3-4 weeks, after the tissue has dried. Fruiting bodies on dead tissue may continue to produce spores for as long as two years (4).

CONTROL. Seedling twig blight should be controlled in the nursery, before trees are planted out. Losses as high as 97 percent have been reported 3 years after planting out heavily diseased nursery seedlings (3). Twig blight in the nursery can be reduced by 1) spacing plants to provide good air movement and rapid drying; 2) avoiding planting in heavy shade; 3) avoiding handling wet plants; 4) pruning infected plants during dry weather; 5) planting resistant varieties (2); and 6) applying approved fungicides beginning with new shoot development and during periods of wet weather (2). Manzate 200, Zyban and benomyl are all EPA-registered for Phomopsis control on junipers. Disease-conducive conditions can occur year round in Florida.

SURVEY AND DETECTION. Look for the tips of young twigs and branches turning light green to brown, then ashy gray. Pycnidia of the fungus may be seen on the dry tissue.

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WOE-VINE, A PARASITIC WEED

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Woe-vine, Cassytha filiformis L., is a parasitic vine on both herbaceous and woody plants. This vine can be found in coastal sand dunes, hammocks, scrub, and pinelands from peninsular Florida to the Florida Keys (4). The woe-vine's slender, leafless stems of yellow-green to orange-brown are unpleasantly conspicuous, often cover shrubs like a shroud, and hang in tangled orange-brown masses from the branches (1) (Fig. 1). Once Cassytha establishes itself in the canopy of a tree, it severs connection with the ground and obtains food and water through haustoria (suckers) penetrating the bark and twigs. Prolonged infestations will eventually stunt the host plant (2).

Cassytha or woe-vine is often mistaken for dodder, Cuscuta sp., both being parasitic on their hosts and resembling each other in general appearance. Woe-vine belongs to the laurel family (Lauraceae) whereas dodder belongs to the morning-glory family (Convolvulaceae). Woe-vine can be differentiated from dodder on the basis of the following characteristics: (1) woe-vine is a perennial while dodder is an annual, and (2) the strand-like stems of woe-vine are smooth (2, 3).

CONTROL. There is no satisfactory control for this parasitic vine. In trees with light infestations, pruning of affected branches may provide a satisfactory control while hat-racking could be more practical for those that are heavily infested. With smaller plants, roguing and destruction of host and woe-vine are suggested.

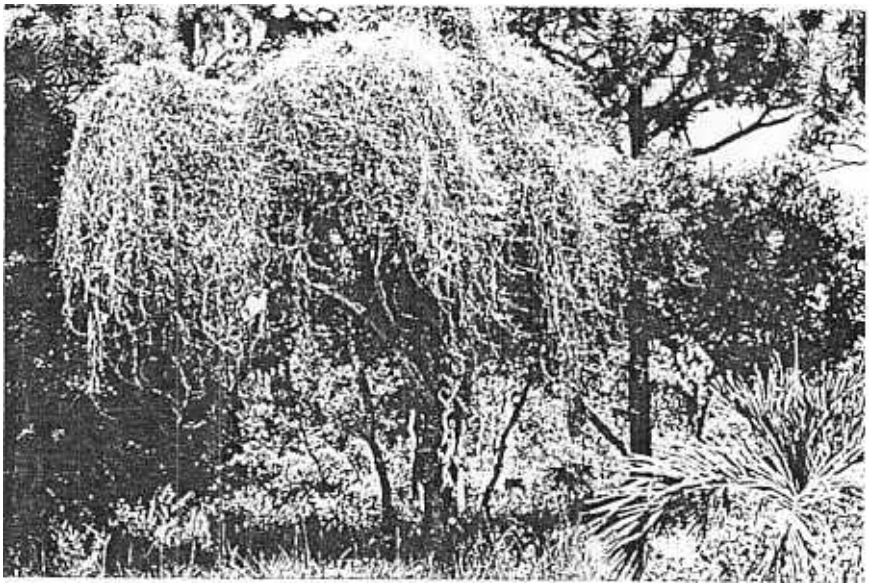

Fig. 1. Woe-vine, Cassytha filiformis L., parasitizing an unidentified tree

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