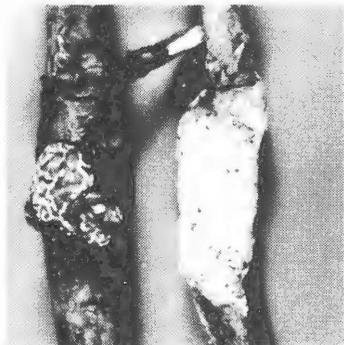


Forest Tree Diseases of Virginia

November 1972

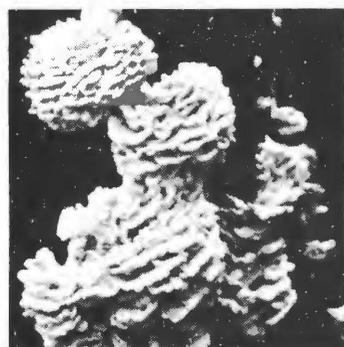
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RUST



DECLINE



DECAY



CANKER

American Mistletoe by

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American mistletoe (*Phoradendron* spp) is a plant that is parasitic on the aerial portions of several important deciduous trees. It very seldom causes economic losses in forests. Its legendary consideration gives it a value during the Christmas season. American mistletoe should not be confused with the dwarf mistletoe which causes the most damage of any single disease of conifers in the Western United States.



Figure 1. American mistletoe parasitic on oak. These clusters remain dark green all year and are easy to spot during the winter season.

Figure 2. A young plant of American Mistletoe developing on a limb of oak. Note the "sinker" development which allows the parasite to draw nutrients and water from its host.



Range: American mistletoe is not found north of a line from New Jersey to Oregon. It occurs quite commonly in Virginia, especially in the southern Piedmont and mountainous areas.

Suscepts: In Virginia, the red oak species are the most important hosts of American mistletoe. Yellow poplar and black locust are hosts of minor importance.

Signs and Symptoms: The green leafed, clustered plants of American mistletoe are easily observed on hardwoods during the winter months following natural leaf drop in the fall (Figure 1). Mistletoe is characterized by dark green ovate, and rather stiff leaves about $\frac{1}{2}$ -1 inch long. Numerous stems occur in large clusters. The stems are woody and the older ones have a deep brown to black rough bark. Mistletoe is spread by seeds which are carried by birds from tree to tree. The seed germinates and produces a "root" that penetrates the bark of young twigs and becomes established in the inner bark tissues (Figure 2). Nutrients and water are taken from the host and during the following years the "roots" or "sinker" grow in the phloem tissue. The aerial portion of the parasitic plant increases in size.

The mistletoe plant on a limb causes excessive moisture loss from the host through the leaves of the parasite and, during dry periods, the terminal portions of infected limbs may die (Figure 3). In some instances when mistletoe infections are abundant, large oak trees have suffered severe dieback and subsequent death of the entire tree.

Control: Since American mistletoe is of commercial value for its use during the Christmas season and since the damage to trees in forests is small, very little effort is made to control this parasite. Pruning off infected branches will remove the pathogen from the trees but due to the bird vector relationship, new infections may occur from deposited seeds. Severely infected trees should be pruned, fertilized and watered to insure vigorous growth following the dieback associated with this parasite. Weakened trees are very susceptible to root rot and/or drought conditions.