

dwarf mistletoes (*Arceuthobium* sp.)



leafless
mistletoes

many different species on many different hosts

dwarf mistletoes

Arceuthobium sp.

Dwarf mistletoe, *Arceuthobium pusillum* (the only species of dwarf mistletoe found in the eastern United States), is a native parasitic plant found on black spruce and occasionally on red spruce, white spruce, and tamarack. The organism causes swelling of the branches and masses of twigs, sometimes leading to formation of witches' brooms, which may grow to be several feet in diameter. Several brooms can sap so much of the tree's vigor that it dies.

Mistletoes reproduce by means of seeds expelled from explosive fruits. The sticky seeds cling to needles, eventually sliding down the needles to germinate on twigs. During the first year, the parasite penetrates the wood with a root-like structure and develops food and water transport systems. An aerial fruiting structure arises in the early spring of the second year. The structure is green and about as long as the spruce needles. Male and female plants are located on separate branches or on separate trees. During the third year, pollen and flowers are produced. Male (pollen-producing) structures, which survive only a short time, are large and orange-yellow. Pollen is spread to the tiny flowers by wind, insects, and birds. Each flower then bears one barrel-shaped fruit.

The fruit, which matures in the fall, is a hard seed covered with a sticky substance. The seed is shot out of the coat for a distance of up to 30 feet, as pressure forces both seed and coat from the fruiting structure. The fruiting structure then withers and falls off, leaving only the cup-shaped base. Seeds may also be carried on the feathers of birds and the fur of squirrels.