

Mysterious mistletoe shines in mid-winter

by Michael Pollock

Late in the afternoon on October 11th, as the remnants of Hurricane Michael were passing through, there was a great gust and a neighbor's old post oak fell across our driveway, where a car had been earlier that day. At about the same time a branch falling from the top of one of our Spanish oaks (or southern red oaks) carried with it our sole mistletoe. The thud wasn't very loud, so I went back inside after examining our casualty, missing the huge mass of burly foliage. It was the last mistletoe on our street, though mistletoe is relatively common nearby. Mistletoe first sprouted low on a silver maple down the street, but its branch was cut maybe two years ago, and the mistletoe was probably too shaded. Later a vibrant green bush sprouted near the top of a large post oak, probably approaching 100 years old, across the street, but it was cut down almost exactly three years ago, the 3 or 4' mistletoe barely registering in the stream of chips. My mistletoe was youngest and on a smaller limb, so not as grand, though still more than 2' wide.

Mistletoe really shines in winter, its glossy, dark green foliage standing out in the treetops. It may go unnoticed but can be common in isolated trees and sometimes around beaver ponds and waterways. Mistletoe is common in West Durham and might be even more abundant in Chapel Hill. There are hundreds of mistletoes, especially in the tropics, but only one grows here, Eastern mistletoe (*Phoradendron leucarpum*), apparently also known as American, oak, and, strangely, hairy mistletoe, growing on deciduous trees. *Phoradendron* combines Greek for "thief" and "tree" while *leucarpum* seems to refer to its white fruit. In my neighborhood, it is most common on red and silver maples, while in nearby urban areas it is common on willow oaks. There are several in a hickory on Chapel Hill's Homestead Road. Mistletoe is frequent on willow and water oaks in parking areas at Jordan Lake. It grows in Bradford pears along 751, and several beautiful green mistletoes grew in a craggy red maple hanging over Hollands Chapel Road, but it gradually fell over during the summer. Occasionally, mistletoe grows on ash, elm, and honeylocust. It grows in much of the US (mistletoe is an Oklahoma symbol) and south into Mexico.

Mistletoe is a flowering plant, but most species are parasitic. Eastern mistletoe is hemiparasitic, reaching into the xylem vessels, taking out the water and nutrients it needs to photosynthesize food. A mistletoe can resprout from a swollen haustorium hidden in the living wood, and some species stay hidden. Mistletoe is exposed to strong sunlight, wind, and cold, so their evergreen leaves are thick, leathery, and small. Their green branches are thick and rubbery, possibly to resist wind. As I write this, the fallen mistletoe still has green leaves (and immature berries). A mistletoe's round leaves are shed in late summer, revealing the plant's presence. Each mistletoe produces spikes of tiny flowers of only one sex in fall or winter. They are pollinated by bees and other insects, but have only sepals. The winter berries are tasty to mice and birds such as cedar waxwings and bluebirds (and European mistletoe attracts mistle thrushes). The seeds stick to their bills or pass through, and some are fortunate enough to land on suitable perches or even attach vertically. Each seed can contain more than one embryonic plant. "Mistletoe" might come from a combination of birdlime (mist), a sticky concoction that could be made with mistletoe berries to capture birds, and twig (tan). Possibly mistle derives from different. Branches downstream from a mistletoe are may die, and some species are pests, but Eastern mistletoe is a pretty and illustrious plant beneficial to wildlife.

Mistletoe feeds our most magnificent hairstreak butterfly, the great purple hairstreak. I have seen this colorful butterfly only once, at a plant nursery in Durham near RTP in late summer or fall, when they are most common. Hairstreaks are usually small butterflies

that perch with their earth-colored wings closed, vibrating filamentous tails on their hindwings, to distract predators.

Great purple hairstreaks are very large for hairstreaks, and have satiny black wings with orange-red spots and flecks of blue, gold, and silver, opening to reveal refracted iridescent blue. Presumably they aren't palatable. According to Butterflies of NC online they are most common in the Coastal Plain (especially

around Alligator River NWR) and less common going west. They are said to be most common bordering bottomland forests. Adults are supposed to especially favor sweet pepperbush and climbing hemp. They overwinter as chrysalises, and can be found under bark near the ground and fallen leaves. Reportedly hickory horned devils can also eat mistletoe.

These mysterious plants, serene in the treetops and far from the earth, have a lot of herbal uses. Eastern mistletoe tea has been used for epilepsy, headache, hypertension, lung problems, paralysis, contraception, etc. Mistletoe may also cause dermatitis and the fruit is mildly poisonous. *Viscum album*, another oak mistletoe, found from Britain and North Africa to Japan and introduced in California has more uses. It can grow on both conifers and deciduous trees, but is rare on oaks. It has also been used for nerve problems, though overdoses are supposed to cause convulsions, as well as hepatitis and death. It is associated with fertility because of the white berries and branching pattern. It is also used in shampoo. In Europe livestock were given mistletoe as medicine or feed.

The reputed power of classical mistletoe (especially from oaks) grades into magic and mythology. In Sweden, people treated epilepsy just by carrying a knife with a mistletoe hilt. Mistletoe is said to ward off lightning, fire, water, nightmares, bad luck, and witchcraft, as well as being able to open locks, douse treasure, cause prophetic dreams, bring success in hunting, allow the interrogation of ghosts, and increase the power of mandrake. Falling mistletoe has been an ill omen. In Europe's language of flowers mistletoe symbolizes overcoming hardship. The Ainu people of Japan most valued mistletoe on willows.

A sacred plant couldn't be harvested haphazardly. Among Druids, a priest in white cut the boughs with a gold sickle on a certain day, and they were caught in white cloth. There were prayers, feasting, and two young white bulls were sacrificed. In Switzerland, mistletoe had to be shot down with an arrow and caught with one's left hand under certain constellations; downed with stones in Wales; or cut with a new knife in Scotland, and here shotguns are often used.

In Norse mythology mistletoe, growing beyond Valhalla, was the god Baldr's only weakness, because mistletoe was considered too young to pledge no harm. Loki tricked blind god Hother into killing Baldr with a mistletoe arrow or spear. Afterward mistletoe was dedicated to peace, its fruit representing the goddess Frigg's tears. It is a major character in Frazer's famous work on mythology, *The Golden Bough*, and Trojan Aeneas' shining Bough could be mistletoe. Wood from a mistletoe-laden oak might have been included in the Argo. Bretons said mistletoe became a parasitic bush after providing wood for the Crucifixion.

Mistletoe's association with Christmas probably comes from Druidism and kissing under mistletoe is a tradition of English-speaking countries. Britain also celebrates Mistletoe Day in December. Australia's Christmas tree, named for its orange blooms around now, is a tree-sized mistletoe that even attacks buried powerlines. In France mistletoe represents luck and peace for the New Year, a welcome sentiment.

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