

## As American as Apple Pie

There may be no tree as thoroughly American as the American Chestnut, *Castanea dentata*, or any whose loss was more keenly felt.

Now The American Chestnut Foundation (TACF) has celebrated its 25th anniversary with the publication of "Mighty Giants: An American Chestnut Anthology." This beautiful book (borrowed from the Gloucester Library) is not just the history of the disastrous blight that wiped out our major timber tree, but also a rich retelling of the American love for that tree and the story of the scientific skill and determination currently focused on the breeding of a blight resistant hybrid.

What we call horse chestnut is *Aesculus hippocastanum*, called merely chestnut in England. North American 'buckeyes' are also in the *Aesculus* genus. The line you memorized in fifth grade of Henry Wadsworth Longfellow's poem "Under a spreading chestnut tree, the village smithy stands..." referred to *Aesculus*, not the *Castanea*. Despite the protests of school children, that tree was taken down when the road was widened. A most elegant chair for Mr. Longfellow's study was made from the wood. The Sage of Concord could sit in a chair of ebonized chestnut with green leather cushions and a carving of horse chestnut leaves and flowers on the back. School children came in droves to visit the elderly poet and his chair.

Another member of the *Castanea* genus is the Allegheny chinquapin, *C. pumila*, which has a single nut in its prickly burr, rather than the three closely packed nuts of the American chestnut. Chestnuts from other continents had been imported for generations: Thomas Jefferson grafted cuttings from European chestnuts onto his American chestnut at Monticello. When blight wiped out *C. dentata*, attempts were made to use imports to create resistant hybrids. Many Asian trees had survived 100 years of bugs, worms, weather and blights and their germ plasma is being used to resurrect the American chestnut.

Along with people and plants, micro-organisms move from continent to continent. Unwelcome tourists such as white pine blister rust, Dutch elm disease, and larch canker were dreadful but the 1905 arrival in New York of the American chestnut fungus resulted in the most devastating natural disaster in forest biological history, the death of five billion trees from 1905 until mid-century.

Curiously the roots do send up sprouts, but these too die in short order. First named *Diaporthe parasitica* murrill for Dr. Murrill, assistant curator of the NY Botanical Garden who published the first description of the fungus, it was renamed *Endothia parasitica* in 1912 and *Cryphonectria parasitica* in 1978. In the furor following the prediction that all the chestnuts were doomed, the usual reasons erupted, "general wickedness of the people..." Efforts to cure, contain, or stop the spread were heroic, expensive, fruitless: research found that the fungus was transmitted by wind.

The economic loss was incalculable as the tree was not only a source of roasting nuts, but tannin, railroad ties, and telephone poles. It was preferred for poles as it did not require treating as did pine. Small mountain farms could turn their pigs into the woods to fatten on the rich chestnuts, adding to both their income and diet. Chestnuts were the dominant hardwood throughout Appalachia. In North Carolina for instance, 27% of that state's forest stands were chestnut.

Before its demise, the chestnut was a critically important source of food for wildlife. The only tree that replaced it nutritionally was the acorn producing oak, but the red oak species require two years to mature a single crop.

Robert Frost may have the last, best word in his poem, "Evil Tendencies Cancel."  
"Will the blight end the chestnut/  
The farmers rather guess not/  
It keeps smoldering at  
the roots/  
And sending up new shoots/  
Till another parasite/  
Shall come to end the  
blight."