

DISAPPEARING giants

you can't spend much time in the Appalachian forest without becoming aware of the American chestnut. Small, shrubby sprouts appear in the Trailside understory and the spiny burs and shiny brown nuts occasionally litter the Trail. Most hikers know the lore of the American chestnut. Early farmers ran their hogs in the woods to feed on chestnuts. They gathered the nuts for their own use, collected the tannin-rich bark for tanning leather, and split the trunks for durable fence rails. The mighty giant that once made up a quarter of the forest species was laid low by an introduced disease; the chestnut blight was discovered in the early 1900s and by mid-century, most of the chestnuts were dead.

There are several other species of chestnut worldwide, in



BY MARK GATEWOOD
ILLUSTRATION BY BETTY GATEWOOD



Bygatewood

This page: Mark holds a female flower (surrounded by male, or staminate flowers); Right: Measuring a young tree; One of Betty Gatewoods' illustrations: American chestnut leaves and burr.



This page: Betty with the clipboard; Early spring chestnut leaves; Opposite page: A female flower will develop into the spiny bur surrounding the chestnuts; Mark stops to record data along the Trail.



*There is nothing else with the **SHAPE** of a chestnut leaf, nothing else with the shiny **TEXTURE**, nothing else that catches the **LIGHT** the way a chestnut leaf does.*

Europe, China, Japan, and Korea. Of these, only our American chestnut succumbs to the blight. The American Chestnut Foundation has worked for many years to cross the blight-resistant Chinese chestnut with American chestnuts, to achieve a tree with the forest tree growth form of the American, and the blight resistance of the Chinese tree. They hope someday to be able to introduce these resistant trees into the Appalachian forest.

It all makes for a very interesting story. Whole books have been written about the American chestnut, its past and its future prospects. But it also seems like a footnote on a little tree that is nothing but background in the greater Trail-side flora. We hike, we maintain a Trail section, but there's nothing we can do for the chestnut. And then we got an e-mail. Our Trail club, the Potomac Appalachian Trail Club (PATC), had another volunteer opportunity for us. The Appalachian Trail Conservancy and the American Chestnut Foundation were recruiting Appalachian Trail maintainers to take part in an A.T. MEGA-Transect project to create a census of American chestnuts along the Trail. My wife, Betty, and I signed up immediately.

We joined a group of volunteers at a training session at Shenandoah National Park head-

quarters. PATC Naturalist Bob Pickett and personnel from the American Chestnut Foundation introduced us to the count protocol and recording requirements. Then we hiked up the A.T. towards Mary's Rock to practice. Bob was very meticulous in teaching everyone to identify the American chestnut, sorting it out from the birches, the chestnut oak and other near-misses. The protocol is pretty simple: count every chestnut that is more than three-feet tall, within fifteen feet of either side of the center of the Trail; then record the results on a form. A second form is for "large trees," being anything more than 13 inches in circumference. The "large tree" form also notes the presence or absence of flowers and burs and the location of the tree. The count is organized by Trail sections. We submit our completed data sheets to the American Chestnut Foundation, along with an assessment of the density of vegetation along the Trail.

Betty and I chose to count sections in Shenandoah National Park from where the A.T. crosses Skyline Drive at Pinefield Gap to the Loft Mountain Campground amphitheater, a distance of about six miles — most of which I help to maintain, with my fellow Southern Shenandoah Valley Chapter members. The tools

are simple too: a clipboard, a count form for each section, an optimistic stack of large tree forms, and a measuring tape. Beyond that, it's a walk in the park. Betty carries the clipboard and records data, and one of us counts to the right side of the Trail, the other to the left. If we see a possible large tree, I plunge off the Trail, tape measure in hand, to get the data. Finding chestnuts is not hard. Once we get the search image, there is nothing else with the shape of a chestnut leaf, nothing else with the shiny texture, nothing else that catches the light the way a chestnut leaf does.

We did our first count in 2008, around the end of June, when any large trees in decent condition are likely to be in flower. In our six-mile section, we found 268 chestnuts, including six large trees. Without exception, our trees were growing on thin, rocky acid soil — which is pretty much where the A.T. goes. They were associated with mountain laurel, witch-hazel, and sassafras; when we saw these species, we knew to keep a sharp lookout for chestnuts. I know this is supposed to be objective and scientific, but I can't help getting attached to the big trees and I visit them whenever I'm out on other Trail business. Unfortunately, there's never a happy ending. A tree we reported in full bloom in 2008 was dead the next year. I found an up-and-coming little tree three inches in diameter with tight shiny bark and a good growth form, near the Ivy Creek Overlook. On our 2010 count, it was dead, that beautiful bark streaked with the red-tinged fissures that characterize the blight.

But they don't really die. American chestnuts maintain dormant root-collar buds, below ground level, which produce new sprouts when the growth above ground dies. Prior to the advent of the blight, this may have allowed the chestnut to wait for an opening in the forest canopy. Now, it just gives them a way to bide their time, sprouting and dying, sprouting and dying. And we will keep hiking and counting, hoping that the A.T. MEGA-Transect chestnut count will give the American Chestnut Foundation an up-to-date picture of the American chestnut in the Appalachians. Projects like this, involving partners from outside the hiking community, bring a wider relevance to the Appalachian Trail. For my part, like any good hunter-gatherer, I'm always hoping to find the "big one" that will survive and maybe provide

viable seed for use in the breeding program.

On a more personal note, my chestnut roots go deeper. In 1988, Betty and I moved to Virginia so I could work at the Frontier Culture Museum in Staunton. Part of my job in landscaping an 1850s valley farm was to locate chestnut rails for fencing, and I found them. In the mountains of western Virginia and West Virginia were miles of original chestnut split-rail fencing, abandoned and replaced by wire. I bought them by the thousands, and they are still in use on the museum grounds. They'll break if you climb on them, but they don't rot.

With my chestnut-counting credentials, I approached the American Chestnut Foundation, whose experimental farm is in southwest Virginia, and asked for one of their ¹/₁₆ American chestnut seedlings to plant in the museum landscape, so we could someday show visitors what this important tree looked like. They agreed, and on a sunny day in October, a science class from Riverheads High School, whose teacher, Jo-el Nelson, is a Trail to Every Classroom "graduate," planted our demonstration tree. Jo-el also brings her honor society students out twice a year to work with me on Trail projects. The chestnut roots spread widely. ▲

For more information visit: www.acf.org and appalachiantrail.org/megatransect

