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A southern Appalachian giant is being reintroduced to its native home.

by JEFF SCHMERKER

Roger Rathbone picked up a black bucket holding a spindly sapling and walked off into the afternoon sun. Trailed by Deener Matthews, who held a shovel, he walked down the Cataloochee Ridge from The Swag to a freshly cut clearing surrounded by fraser fir and set the sapling down. Matthews handed him the shovel. "Is that the spot," she asked.

"This is where I thought it could go," Rathbone, a maintenance worker at the lodge, replied. "It's like Moses said: This is the spot."

Rathbone set the shovel into the ground and dug up black loamy mounds of earth.

Dr. Paul Sisco turned the bucket upside down and pulled the tree out. He shucked off the soil it was packed in and placed it in the hole, adding some fertilizer pellets. A native had come back home.

A giant lost

When settlers ventured into the southern Appalachians, they cleared forests for pasture and farms and used a gentle giant for many of their most important tasks. The American chestnut at the time was one of the largest trees in the forest, and its rot-resistant wood was strong and beautiful.

Some of these trees had diameters of up to 17 feet — as large as a living room. Old photos show entire families standing inside a chestnut's hollowed-out trunk.

The tree, which ranged from Main to Florida and west to the Ohio Valley, was an important cash crop for many residents who gathered their nuts, and was an important food source for bears, squirrels, deer and more.

Then the chestnut blight struck.

First discovered in New York City in 1904, the blight — an Asian fungus for which the native chestnuts had little or no resistance — within just a few decades had left entire forests of massive chestnuts reduced to stumps. But while the giants were gone, the trees were not exactly dead.

Ghosts of the past

Dan Matthews, who along with Deener owns The Swag, a swanky mountaintop lodge that borders Great Smoky Mountains National Park and looks down on Jonathan Valley, knows all too well what happens to the chestnut.

"You see them all over," he said. "They grow up to 12, 13, 15-feet tall, then they get this on their trunk" — an orange glaze — "then they fall over."

Enter the American Chestnut Foundation, and Dr. Sisco, a plant geneticist.

The foundation, founded in 1983, is a non-profit dedicated to reintroducing American chestnuts which are able to resist the blight.

That task, said Sisco, has been a combination of science and determination.

The blight, said Sisco, was imported to America on Asian chestnut trees. It's a fungus that is dispersed by spores in the air which attack wounds in a tree's bark. Once inside the bark, it kills tree tissue by choking off nutrients.

The solution, scientists found, was to create a "new" tree that had the genetic makeup of the American chestnut with the blight resistance of the Chinese chestnut.

Working at a lab in Virginia, Chestnut Foundation scientist began by crossing the two species to get a 50-50 American-Chinese tree, then backcrossing that to the American version to get a 75 percent American tree. That process has been repeated, Sisco said, to get a tree that is about 94 percent American.

Smokies progeny

Though the giants may be dead, the species isn't. A researcher who hiked the Appalachian Trail a few years back spotted tens of thousands of young chestnuts right along the trail.

A few years back, Sisco said, an intern spent the summer hunting out the drier northern reaches of the Smokies, looking for seedlings. One of those, which was spotted on the Roundtop Trail, grew into the tree that Rathbone planted at The Swag.

The tree Rathbone set into the hillside will eventually be a parent for chestnuts that Sisco and others with the Chestnut Foundation hope will be reintroduced into the national park.

National park guidelines support the reintroduction of native species, Sisco said. But a Virginian native chestnut, he said, is not exactly the same as a Tennessee or North Carolina chestnut. That's why the tree plucked from Roundtop Trail is so special. "The trees have adapted to each individual area," Sisco said. "That's why this is so important."

The trees which are hopefully eventually transported back to the park will have no Chinese characteristics other than chestnut blight resistance, Sisco said. The fact that has been accomplished in less than three decades, he said, is remarkable.

"When we are done we will basically have a fifteen-sixteenths American chestnut," Sisco said.

A suitable host

"It is a real joy to try to be a part of returning the chestnut," Dan Keener said. "It feels like I'm a part of a battle."

That war includes the slow death of Fraser firs due to air pollution and the demise of balsams to the adelgid. Keener Matthews is similarly pleased. "We support any experiment that will help in the long term care of the park," she said.

For more information, check out www.acf.org.