

HISTORICAL SIGNIFICANCE OF AMERICAN CHESTNUT TO APPALACHIAN CULTURE AND ECOLOGY

Donald E. Davis

Social Sciences Division, Dalton State College, Dalton, GA 30720 USA (ddavis@em.daltonstate.edu)

Abstract: This paper explores the significance of the American chestnut on the ecology and culture of Appalachia. Until the third decade of the 20th century, the tree was the crowning glory of the Appalachian hardwood forest, in some isolated areas comprising half of the hardwood tree population. The wildlife of the region, particularly black bears, heavily depended on the tree for both sustenance and shelter. Native Americans in the mountains frequently made use of the nut, mixing chestnut meal with corn to make bread. White mountaineers gathered the nuts to sell or trade, and sometimes used parched chestnuts as a coffee substitute. The American chestnut played a major role in the economy of the Appalachian region, providing timber for dwellings and tannic acid for the leather industry. Finally, it is argued that the decline of Appalachian subsistence culture is directly linked to the loss of the American chestnut.

INTRODUCTION

Few single events in North American environmental history compare with the loss of the American chestnut. "The devastation of the American chestnut by the chestnut blight," wrote William MacDonald more than two decades ago, "represents one of the greatest recorded changes in natural plant population caused by an introduced organism." MacDonald, a professor of plant pathology at West Virginia University and the current acting treasurer of the American Chestnut Foundation, estimates that chestnut-dominated forests once covered 200 million acres of land from Maine to Mississippi (MacDonald 1978; Brown and Davis 1995). American chestnut trees once comprised roughly twenty percent of the Appalachian forest, although in specific areas they accounted for as much as one-third of all trees (Kulman 1978). In fact, William Ashe reported seeing several locales in western North Carolina where the trees "occur pure or nearly pure over areas as large as 100 acres" (Ashe 1912). In 1901, he and Horace Ayers estimated that the southern Appalachians contained more than 884,000 acres of chestnut timber (Ayres and Ashe 1905).

The American chestnut was confined largely to the Blue Ridge Mountains and Cumberland Plateau where the trees commonly grew at altitudes between 1,000 and 4,000 feet. According to Charlotte Pyle, the American chestnut covered no less than 31 percent, or 159,165 acres, of what is today the Great Smoky Mountains National Park (Pyle 1985; Davis 2000). The Ridge and Valley physiographic province had a few important stands of chestnuts as well, but these were found only on the slopes of the highest ridges where richer soils and heavier rainfall predominated. A notable exception was a nearly one-square mile area of Walker County, Georgia, still known today as Chestnut Flats. According to historian James Sartain, the area "was so-called because of the abundance of chestnuts that grew in that beautiful valley and on the adjacent ridge when the early settlers arrived" (Sartain 1972). A reconstruction of nineteenth century forests in other parts of northwest Georgia, however, found chestnut trees comprising no more than six percent of the area, with oaks and hickories, the most dominant tree species, making up 45 percent of the total forest (Plummer 1975).

As is now well-documented, the death of the American Chestnut was due to an exotic blight introduced in the United States from Japanese Chestnut nursery stock just after the turn of the century. A forester at the

New York Zoological Park first reported the disease in 1904, after observing an immense number of dead and dying chestnut trees on park lands under his supervision. Five years later, the first scientific bulletin appeared about the disease, a fungus later named *Endothia parasitica* (Murrill 1908; Gravatt 1930; Hepting 1974; Kulman 1978). Only a year after the bulletin's publication, an editorial in the *Southern Lumberman* referred to a "mysterious blight" that had recently been observed in Pennsylvania and New York. "Large timbered sections of [Pennsylvania] are already and in an alarming manner affected by the disease," stated the report (Southern Lumberman 1910). By 1912 all the chestnut trees in New York City were dead and the chestnut blight had reached no fewer than 10 states. Scientists in Pennsylvania launched a vigorous control program, which included burning dead trees, monitoring its advance, and spraying infected trees (Anagnostakis and Hillman 1992). This effort, a scientist later commented, was a little like using toy swords to battle an enemy equipped with atomic bombs. At the same time, foresters told the public that "the control and ultimate extermination of [the chestnut blight] will sooner or later become a real accomplishment" (Brown and Davis 1995).

The disease spread relentlessly southward, at an astounding rate of some fifty miles per year. Aided by woodsmen and loggers who carried it on their shoes and axes, the blight first entered North Carolina near Stokes and Surry counties about 1913 (Buttrick 1925). Shady Valley, in upper east Tennessee, was hit by 1915 (Cole 1990). By 1920 the American chestnut in the Great Smoky Mountains was ultimately doomed, though there were few visible signs of the blight there before 1925 (Brown 2001). In nearby Yancey County, North Carolina, nearly one in every ten chestnut trees was showing signs of the disease by 1925; in Buncombe County, one in five trees was dying from the blight at that time (Silver 2003). North Carolina lumbermen even used the imminently encroaching disease as a last-ditch effort to defeat the proposed Great Smoky Mountains National Park. "Certainly nothing could be more unsightly than the gaunt and naked trunks of these dead trees, standing like skeletons in every vista which the eye turns," they wrote in 1931 (Baxter 1931). By the mid-1930s, the blight had reached north Georgia, and by 1940 there was scarcely a tree in the entire Appalachian region that was not dead or showed signs of being severely infected with the disease (Exum 1992; Davis 2000).

CHESTNUT MEMORIES

Although few people alive today remember what the Appalachian forests looked like before the blight devastated the region, those who did witness the trees in their native splendor provide indisputable testimony to their significance to the mountain environment. "This is an unbelievable thing: how many chestnuts there were," remembered Paul Woody, who grew up near Cataloochee, North Carolina (Woody 1973). Gifford Pinchot himself recalled seeing chestnut stands with individual trees thirteen feet across and with crowns spreading more than 120 feet above the forest floor (Wheeler 1988; Davis 2000). Writing in the October 1915 issue of *American Forestry*, Samuel Detwiler noted that the "finest chestnut trees in the world are found in the southern Appalachian Mountains," adding that a tree with a diameter of seventeen feet had been found in Francis Cove, North Carolina (Detwiler 1915). Charles Grossman, one of the first rangers at the new Great Smoky Mountains National Park, recorded a chestnut tree 9 feet, 8 inches in diameter at a point six feet off the ground. "The hollow portion is so large that [an adult] could stand up in it," wrote Grossman soon after discovering it. "This hollow runs more than 50 feet up the trunk and at its narrowest point is not less than three feet. This must be the tree of which I heard. A man lost some stock during a snowstorm and later found them safe in a hollow chestnut tree" (Wheeler 1988; Davis 2000; Brown 2001).

Due to their abundance and enormous size, the American chestnut ranked as the most important wildlife plant in the eastern United States. The largest trees could produce ten bushels or more of nuts. Reports of chestnuts four inches deep on the forest floor were not uncommon in many parts of the Appalachian

mountains. Many of the wildlife species that mountain people thought of as game--squirrels, wild turkey, white-tailed deer, black bear, raccoon, and grouse--depended on these chestnuts as a major food source. "The worst thing that ever happened in this country was when the chestnut trees died," recalled Walter Cole of east Tennessee. "Turkeys disappeared, and the squirrels were not one-tenth as many as there were before...bears got fat on chestnuts, coons got fat on chestnuts, and the woods was filled with wild turkey...most all game ate chestnut..." (Cole 1965). Will Effler, who grew up on the West Fork of the Little River in what is today the Great Smoky Mountains, recalled shooting a wild turkey that contained no fewer than ninety-two chestnuts, "still in the hulls and undigested" in its swollen craw (Weals 1991). The former Cades Cove resident Maynard Ledbetter once remarked that "back when there were chestnuts, bear got so fat they couldn't run fast; now the poor bear run like a fox" (Ledbetter 1989).

Non-game animals were equally dependent on the chestnut, including several unique insect species that relied upon chestnut trees as their principal food course. Paul Opler, formerly of the U.S. Fish and Wildlife Service, has estimated that at least seven native moths became extinct in the southern Appalachians as a result of the chestnut blight (Opler 1978). The chestnut also slowed the recovery of wildlife populations already suffering from loss of habitat by logging operations. Biologist James M. Hill ascribes the slow recovery of deer, wild turkey, goshawks, Cooper's hawks, cougar, and bobcat in the mountains to habitat destruction directly caused by the chestnut blight (Hill 1993).

Of course, humans seasonally ate chestnuts too, making them an important dietary supplement when the trees dropped their nuts after the first major frost. Each October, children living in the mountains scooped up chestnuts by the sackful, often hanging their cloth bags on nails outside the kitchen door until December when the nuts would begin to get wormy. Smoky Mountain resident Alie Newman Maples remembered: "As a little girl, me and my brother Ray would take a sack or a pail and go out to the woods. Strong winds blew in the night, and we would pick up gallons of chestnuts under each tree" (Maples 1973; Brown 2001). Environmental historian Margaret Brown notes in her book *Wild East: A Biography of the Great Smoky Mountains*, that many mountain families routinely baked chestnuts in the kitchen fireplace, roasting them in dutch ovens. Among her most notable entries are the chestnut memories of Delce Mae Carver, who remembered sackfuls of chestnuts hanging on nails near the kitchen, ready to be baked over a warming fire. Johnny Manning, another Smoky Mountain resident who grew up in Greenbrier Cove, recalls as a child "trading pocketfuls of chestnuts for school tablets and pencils" (Brown 2001). For some Smoky mountain residents, the earnings from fall chestnut gathering was known as "shoe money," as the funds were used to purchase children's shoes before the coming winter (Brown and Davis 1992; Condon 1994).

Cherokees in Appalachia made even more use of the nut, which they frequently added to cornmeal dough that "was boiled or baked." Cherokees also used leaves from the tree to alleviate heart troubles, and the sprouts were sometimes made into an astringent tea to treat healing sores and wounds (Wigginton 1972; Stewart in press). All mountain families gathered many bushels of chestnuts, often taking them by wagon to urban markets. John McCaulley, whose family foraged for chestnuts in the Great Smoky Mountains around 1910, remembered seeing in one mountain cabin, a "hundred bushels of chestnuts, piled up there, and about four men packing off, every day." McCaulley himself recalls gathering as many as seven bushels of chestnuts in a single day's outing. These, he said, were taken to Knoxville on mules where they were sold for "four dollars a bushel" (Brown and Davis 1992). Chestnuts were also routinely shipped by rail to major cities on the eastern seaboard. In 1911, West Virginia reported that one railroad station alone shipped 155,000 lbs. of chestnuts to destinations along the train's northerly route (Giddings 1912; Kulman 1978).

Another historical use of chestnuts in the mountain region was food for hogs. Frederick Law Olmstead, in his travels through the Appalachians in 1854, reported that raising hogs was "remarkable fine" in the

mountains due to the large chestnut mast crop. He also noted that the swine of the region were of “superior taste” than those raised elsewhere in the South, a fact that made mountain pork a much sought after commodity (Olmsted 1860; Weals 1981). The huge annual mast production made woodland grazing possible, so for a month or two each fall, hogs ran loose in the woods to feast on the chestnuts littering the forest floor. Martha Wachacha, recalling the scene around her home in Cherokee, North Carolina, said “there were about a hundred pigs when I first moved here. Pigs and hogs were so fat. There was plenty of chestnuts back then” (Wachacha 1989). In late November, or as soon as the weather got cold enough, mountain residents rounded up the fattened hogs for slaughter. Martin Tipton recalled that “mountain people needed those chestnuts. They ate them themselves, of course, but they depended upon them to feed their hogs” (Brown and Davis 1994). Chestnut-flavored pork hung in the smokehouse all winter, where it continued to be the primary source of protein for most families. A Virginia farmer commenting on the role of chestnuts in mountain agriculture noted that it “didn't cost a cent to raise chestnuts or hogs in those days. It was a very inexpensive way to farm. The people had money and had meat on the table too” (Nash 1988).

As a building material, chestnut timber was unsurpassed. Chestnut wood was also highly rot-resistant, making it ideal for roofing shingles, telephone poles, ship masts, railroad ties and almost any other use requiring durable, long-lasting timbers. In 1909, the timber industry placed the total value of chestnut timber in the United States at more than 20 million dollars (Stewart 2005). Builders found chestnut wood to be remarkably insect-proof and weather resistant, so chestnut logs made the best fence rails, fence posts, and caskets. “Chestnut wood,” as George Kulman wryly noted, “carried man from cradle to grave, in crib and coffin” (Kulman 1978). Seymour Calhoun, a full-blood Cherokee, added that “it was soft wood and worked good: you could split it” (Calhoun 1973). Chestnut trees grew so large that in one documented case, an entire cabin in the Great Smoky Mountains National Park was constructed from a single tree (Brown 2001). A valuable source of tannic acid used in the leather industry, chestnut bark and rough chestnut cordwood was another important source of income for mountain residents. In Tennessee alone, 50,000 cords of wood were cut yearly to supply those tanneries in operation before 1912. This “tanbark” or “acid wood,” as it was called locally, was taken largely from trees already cut for other purposes or small defective trees that were not of nut-bearing age. Commercial operations were also heavily engaged in the harvesting of chestnut trees for tanbark and cordwood. One observer remarked in 1931 that even though chestnut timber was once cut by lumbermen for the bark alone, “very little waste of this kind is now noted” (Frothingham 1925).

As might be expected during the era of industrial logging, the blight did not slow the harvest of chestnut trees; in fact, the cutting actually increased after the initial introduction of the disease. In fact, most lumber barons were harvesting the largest chestnut trees even before the blight was officially observed in the mountain region. Early on, lumbermen even doubted the potential devastation of the disease, believing that the fast-going trees would eventually regenerate across the mountain landscape. Moreover, they knew that a chestnut tree was worth money dead or alive, since foresters soon determined that it was possible to manufacture lumber from standing dead chestnuts for up to ten years after the death of the tree. In fact, “wormy chestnut” lumber became much sought after by builders and furniture makers alike for many decades to come. For acid wood, the salvage period was even longer: Reuben Robertson, then president of the Champion Fibre, estimated that the company cut chestnut trees for pulp and tannin twenty years after the blight first arrived in North Carolina (Nelson and Gravitt 1929; Robertson 1959).

A WHOLE WORLD DYING

The abundance of dying chestnut trees was also responsible for the expansion and growth of the region’s leather tanning industry. By 1930, there were no fewer than twenty-one chestnut-fueled plants in the southern Appalachians, producing over one-half of the U.S. supply of vegetable based tannins. Within a

decade, however, almost all evidence of chestnut trees had vanished from the mountains as the growing tanning industry, the "largest consumer of chestnut," had found ways to use every part of the tree. After 1940, with the development of synthetic replacements in the production of tannin, the demand for chestnut greatly diminished, leaving only a few ghost-white skeletons to stand lone sentry over the once great Appalachian forest. The dead and dying chestnut snags were painful reminders to mountaineers that the mountain landscape, including an entire way of life, was all but gone. "Man, I had the awfulest feeling about that as a child, to look back yonder and see those trees dying," recalled Joe Tribble, a native of eastern Kentucky. "I thought the whole world was going to die" (Hawkings 1993). A similar sentiment was echoed by Martin Tipton, who remembered that he and his dad used to come upon the skeletons of the trees on their many mountain walks. "Dad said it looked like a third of the mountain was dying" recalled Tipton (Brown and Davis 1994).

Mountain residents were right to mourn the lost of the American chestnut. The chestnut tree was possibly the single most importance natural resource of the Appalachians, providing inhabitants with food, shelter, and in the early twentieth century, a much needed cash income. Knott County, Kentucky native Verna Mae Sloan recalled that life without the chestnut tree was almost unthinkable. "At first we thought they would come back, we didn't know they were blighted out forever," she remembered. "But the chestnut tree was the most important tree we had. We needed those chestnuts" (Sloan, Pers. Comm., 1998). In fall and winter chestnuts could be boiled or roasted over an open fire or traded at the local stores for much needed supplies. Having "the greatest durability of available native woods," chestnut timber was made into long-lasting boards, posts, shingles, and split-rail fences. The tender and abundant sprouts could even be pulled from the ground and fed to cattle as fodder. As a wildlife food, the chestnut was unsurpassed, and helped to keep local game populations at their highest levels in recorded memory. In a memoir written shortly before his death, Shady Valley, Tennessee native William Cole summed up the extraordinary value of the tree to mountain residents. "A favorite outing for me and my friends was to go to the ball ground on Sunday to collect chestnuts," wrote Cole. "The chestnut tree was a great tree, chestnut wood was a great wood, and chestnuts a good food" (Cole 1990).

Sadly, the chestnut blight made it very unlikely that the Appalachian mountaineers would return to their more self-sufficient way of life. By the late 1930s, the mountaineer was more off the farmstead than on it, as the food and folkways of the region's inhabitants were beginning to conspicuously change. By the early 1940's mountain families were utilizing less buttermilk and more whole milk, less rye and wheat breads and more light breads, and consuming more processed sugar and less maple syrup and honey. While there were some dietary constants throughout the region, such as the consumption of cornbread and biscuits, the use of canned and other "store-bought" foods increased significantly during the first three decades of the twentieth century (Wheeler 1935). For those who remained exclusively farmers, the practice of crop monoculture became a much more common way to farm. Family size dropped by more than two individuals, from 10 family members per household in 1910 to 7.62 per household in 1934. Home building techniques changed as well. "Boxed" houses--that is, frameless structures made exclusively with sawn planks and boards--gradually replaced log cabins as residents working seasonally for lumber companies had less time, or the extra help, to build traditional log homes. The number of working outbuildings on the homestead also diminished, including the smokehouse, springhouse, and separate kitchen facility. Furniture was no longer home-made and looms and spinning wheels largely became a thing of the past (Black 1928). Needless to say, everything from architecture to social relations was altered by the separation of the mountain environment from the mountaineer.

In many ways, the death of the American chestnut symbolized the end of a waning, albeit arguably vital, subsistence culture in the Appalachians. The loss of the tree no doubt gave additional advantage to the forces of industrialization that were gaining a stronger and stronger foothold on the regional and local economy. No longer able to range hogs and cattle in the woodland commons, trap fish in free-flowing

streams, or gather chestnuts on the hillsides, the rural mountaineer increasingly looked to the milltown and urban center for economic salvation. The environmental abuse of the mountains, along with their permanent removal from the traditional land base, made it extremely difficult for mountaineers to continue a semi-agrarian, and intimately forest-dependent, way of life. With the death of the chestnut, an entire world did die, eliminating subsistence practices that had been viable in the Appalachian Mountains for more than four centuries.

LITERATURE CITED

- Anagnostakis, S.L., and B. Hillman. 1992. Evolution of the chestnut tree and its blight. *Arnoldia* 52:3-10.
- Ashe, W.W. 1912. Chestnut in Tennessee. *Tenn. Geological Survey Bull.* 10-B. 35 p.
- Ayers, H.B., and W.W. Ashe. 1905. The southern Appalachian forests. U.S. Geological Survey Prof. Pap. 37. 232 p.
- Baxter, D.V. 1931. Deterioration of chestnut in the southern Appalachians. *USDA Technical Bull.* 257. 22 p.
- Black, E.E. 1928. A study of the diffusion of culture in a relatively isolated mountain community. Ph.D. dissertation, University of Chicago, Chicago, Illinois. 134 p.
- Brown, M., and D. Davis. 1992. Trail history notebook. Great Smoky Mountains Natural History Assoc., Gatlinburg, Tennessee. 182 p.
- Brown, M., and D. Davis. 1994. Old Settlers Trail. P. 439-446 in *Hiking trails of the Smokies*, DeFoe, D., et al. (eds.). Great Smoky Mountains Natural History Assoc., Gatlinburg, Tennessee.
- Brown, M., and D. Davis. 1995. I thought the whole world was going to die. *Now and Then* 12:30-31.
- Brown, M.L. 2001. *Wild east: A biography of the Great Smoky Mountains*. University of Florida Press, Gainesville, Florida. 457 p.
- Buttrick, P.L. 1925. Chestnut in North Carolina. *North Carolina Geological and Economic Survey Economic Pap.* 56. 10 p.
- Calhoun, S. 1973. Interview by William F. Alston. Transcript in Oral History collection, Great Smoky Mountains National Park. Archives, Sugarlands Visitor Center, Gatlinburg, Tennessee.
- Cole, W. 1965. Interview by Charles Grossman. Transcript in Oral History collection, Great Smoky Mountains National Park Archives, Sugarlands Visitor Center, Gatlinburg, Tennessee.
- Cole, W.E. 1990. *Tales from a country ledger*. Tapestry Press, Acton, MA.
- Condon, T. 1994. Chestnut top trail. P. 166-168 in *Hiking trails of the Smokies*, DeFoe, D., et al. (eds.). Great Smoky Mountains Natural History Assoc., Gatlinburg, Tennessee.
- Davis, D.E. 2000. *Where there are mountains: An environmental history of the southern Appalachians*. University of Georgia Press, Athens, GA. 320 p.

- Detwiler, S.B. 1915. The American chestnut tree. *Am. Forestry* 21(262):957-960.
- Exum, E.M. 1992. Tree in a coma. *Am. Forests* 28(11/12):20-26.
- Frothingham, E.H. 1925. The present stand of chestnut in North Carolina and in the southern Appalachians. *Geological and Economy Survey Economic Pap.* 56. 7 p.
- Giddens, N.J. 1912. Untitled report on chestnut blight. P. 173-174 *in Proc. of conf. on Chestnut blight.* Harrisburg, Pennsylvania, February 20-21.
- Gravatt, G.F. 1930. Chestnut blight. *USDA Dept. of Ag. Farmers' Bull.* 1641. 3 p.
- Hepting, H.G. 1974. Death of the American chestnut. *J. For. Hist.* 18:60-67.
- Hawkings, N. 1993. Building community through grassroots democracy. *Local Voices* 10(2/3):5-8.
- Hill, J.M. 1993. Wildlife value of *Castanea dentata* past and present, the historical decline of the chestnut, and its future use in restoration of natural areas. Unpublished manuscript, Randolph Macon College, Lynchburg, Virginia.
- Kuhlman, E.G. 1978. The devastation of American chestnut by blight. P. 1-3 *in Proc. of the American chestnut symposium*, MacDonald, W.L., et al. (eds). West Virginia University Press, Morgantown, WV.
- Ledbetter, M. 1989. Interview by Bill Landry. Transcript in Landry Collection, Great Smoky Mountains National Park Archives, Sugarlands Visitor Center, Gatlinburg, Tennessee.
- Maples, A.N. 1973. Interview by Jane Whitney. Transcript in Oral History Collection, Great Smoky Mountains National Park, Sugarlands Visitor Center, Gatlinburg, Tennessee.
- MacDonald, W.L. 1978. Foreword. P. v *in Proc. of the American chestnut symposium*, MacDonald, W.L., et al. (eds). West Virginia University Press, Morgantown, WV.
- Metcalfe, H. 1910. The chestnut tree blight: An incurable disease that has destroyed dollars worth of trees. *Sci. Am.* 106:241-42.
- Murrill, W.A. 1908. The spread of the chestnut disease. *J. N.Y. Bot. Gard.* 9:23-30.
- Nash, S. The blighted chestnut. *National Parks* 62:14-19.
- Nelson, R.M., and G.F. Gravatt. 1929. The tannin content of dead chestnut trees. *J. Am. Leather Chem. Assoc.* 24:479-99.
- Olmsted, F.L. 1860. A journey in the backcountry, 1853-1854. Ben Franklin, New York, NY.
- Opler, A.P. 1978. Insects of American chestnut; possible importance and conservation concern. P. 83-85 *in Proc. of the American chestnut symposium*, MacDonald, W.L., et al. (eds). West Virginia University Press, Morgantown, WV.
- Plummer, G.L. 1975. 18th century forests in Georgia. *Bull. Geor. Acad. Sci.* 33:1-19.

- Pyle, C. 1985. Vegetation disturbance history of the Great Smoky Mountains National Park. Unpublished manuscript, Uplands Laboratory, Gatlinburg, Tennessee.
- Robertson, R. 1959. Interview by Jerry Mander. Vertical Files, Great Smoky Mountains National Park Archives, Sugarlands Visitor Center, Gatlinburg, Tennessee.
- Sartain, J.A. 1972. History of Walker County, Georgia. Thomasson Printing & Office Eqpt. Co, Carrollton, Georgia. 559 p.
- Silver, T. 2003. Mount Mitchell and the Black Mountains: An environmental history of the highest peaks in eastern America. University of North Carolina Press, Chapel Hill, NC. 322 p.
- Southern Lumberman. 1910. Editorial. Southern Lumberman. 110:38C.
- Stewart, C.J. (in press) The American chestnut blight. The Encyclopedia of Appalachia, Abramson, R., et al. (eds.). University of Tennessee Press, Knoxville, TN.
- Weals, V. 1991. Last train to Elkmont. Olden Press, Knoxville, TN. 150 p.
- Wheeler, D. 1988. Where there be mountains, there be chestnuts. *Katuah J.* 21(3):3-5.
- Wheeler, L.R. 1935. Changes in the dietary habits of remote mountain people since 1900. *J. Tenn. Acad. Sci.* 10:167-74.
- Wiggington, E (ed.). 1972. The foxfire book. Doubleday & Company, Garden City, NY. 384 p.
- Woody, P. 1973. Interview by Katherine Manscill. Transcript in Oral History Collection. Great Smoky Mountains National Park Archives, Sugarlands Visitor Center, Gatlinburg, Tennessee.