

PINUS STROBUS IN MIDDLE TENNESSEE: FIFTY-FOUR YEARS AFTER DISCOVERY

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ABSTRACT

A little-known population of *Pinus strobus* L., discovered in 1925 in Cheatham County, Tennessee, was revisited and the status of the population is reported. A second Middle Tennessee site in adjacent Dickson County is reported for the first time. These two records, which represent a considerable disjunction within the State, are used to supplement the most recently published information concerning the range of this species in Tennessee.

INTRODUCTION

Pinus strobus L., white pine, was first reported from Middle Tennessee 54 years ago by Svenson (1925), who discovered "about a dozen full-grown specimens on the summit of the high bluffs just south of the village of Craggie Hope in Cheatham County." Svenson further noted that the specimens were growing on the rich, well-drained slope at the summit of the bluff above the Turnbull River (Creek to most authors and local residents) and that several trees were fertile. He collected specimens and placed them in the Gray Herbarium.

Apparently State botanists have rarely visited the area since the original discovery and the disjunction has been omitted in pertinent discussions. Shanks (1952) included this occurrence in his Tennessee woody flora checklist and cited Svenson as the source in the text but excluded the Svenson literature citation. Only the frequently-referred to Svenson paper (1941), which does not include reference to the Middle Tennessee white pine population, was cited. Most silvical publications include Cheatham County in their distribution maps (e.g., Fowells, 1965; Critchfield and Little, 1966; Little, 1971), but the recently published atlas of Tennessee vascular plants (Wofford and Evans, 1979) omits this disjunction.

AREA DESCRIPTION AND RESULTS

On 24 February, 1979, the authors visited the rather remote and rugged gorge and bluffs of the lower Turnbull Creek to ascertain whether white pine still existed in the area and the status of the population. With the help of local residents, the abandoned roads were located which Svenson must have traveled to reach an area where "from the gravels of Turnbull River, (white pine) could be seen silhouetted against the sky at the summit of the almost inaccessible bluffs."

Most of the bluffs are southerly facing and tend to be quite xeric. Many reach heights above the river of over 200 feet (650-700 feet above sea level), are often rather sheer, and are heavily vegetated on the summits and sparingly on the faces by, among other species,

Kalmia latifolia and *Pinus virginiana*. This community type is in itself rather unusual for Middle Tennessee. The shoreline opposite the bluffs is mostly alluvial floodplain or rolling upland.

Directly south of the community of Craggie Hope, southwest of the town of Kingston Springs, and two linear miles from the junction of the Harpeth River, Turnbull Creek first meanders southward and then makes a 180 degree turn to the north. The adjacent northerly-facing bluff rises approximately 180 feet above the water. The geological features here are of the Fort Payne Formation and consist of siltstone and shale of Lower Mississippian age (Wilson, 1972). The bluff face, which is permeated with seeps, and the crest support a rather mesic but low-growth and scattered forest of *Fagus grandifolia*, *Juniperus virginiana*, *Kalmia latifolia*, *Liriodendron tulipifera*, *Pinus strobus*, and *Quercus* spp. Apparently most of the mature specimens examined by Svenson are now dead and have deteriorated but several standing dead trunks (up to 26.0 inches dbh) were present. Fewer than 10 fertile specimens were found along the approximately 300 feet of bluff where white pine grows. Four fertile specimens accessible for measurement had diameters of 9.8, 10.0, 13.8, and 14.7 inches. Heights were estimated to be between 20 and 40 feet.

Of particular interest was the amount of reproduction occurring. Dozens of seedlings from 3 inches to 3 feet in height, as well as several saplings ranging from 10 to 15 feet high, were observed. All specimens, with one exception, were on the bluff face, summit, or within 10 feet of the summit. One tree, dbh ca. 5 inches, was observed about 50 yards from the crest in the rolling, upland oak-hickory forest characteristic of the region.

A similar bluff farther up Turnbull Creek, 2.7 linear miles southwest of the Svenson site but in Dickson County, was visited on 13 March, 1979. There, essentially the same conditions described earlier prevail; a sharp turn to the northeast from a southeast meander has eroded a north-facing, precipitous bluff. The height of this bluff is about 140 feet above the creek and the crest slopes almost immediately into a lesser but parallel ravine. In an area of about 20 acres, including the bluff face, crest, and slope of the adjacent ravine, *Pinus strobus* occurs as a conspicuous member of the community. The largest specimen measured had a dbh of 22.7 inches but other inaccessible specimens may have been larger. At least 20 trees with a minimum dbh of 16 inches and all stages of reproduction were observed. Other species present included *Cornus florida*, *Fagus grandifolia*, *Kalmia latifolia*, *Nyssa sylvatica*, *Ostrya virginiana*, and *Quercus* spp. Several trunks of

Castanea dentata were on the ground and *Juniperus virginiana* was frequent as the bluff terminated and sloped westwardly to Gin Creek.

Figure 1 shows the localities for *Pinus strobus* discussed in this paper in relation to the Tennessee distribution as mapped by Wofford and Evans (1979). Clearly the Middle Tennessee populations represent a significant disjunction that should be included in any discussion of the range of this species. Voucher specimens from both sites discussed have been deposited in the Herbarium of Austin Peay State University.

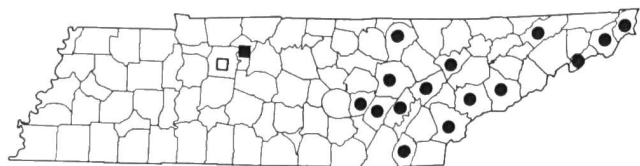


FIG. 1. The known distribution of *Pinus strobus* in Tennessee. Solid circles from Wofford and Evans (1979); solid square, Cheatham County; open square, Dickson County.

DISCUSSION

It appears that many of the mature white pine specimens observed by Svenson 54 years ago in Cheatham County are now dead. The number of fertile specimens has apparently decreased but reproduction is still occurring. A second population is reported here for the first time from adjoining Dickson County. At present,

it is more extensive than the Cheatham County population and has a greater number of fertile trees. While neither of the populations or sites presently appears endangered, these and perhaps other areas in the Turnbull Creek gorge are worthy of preservation and deserve further and closer botanical exploration. The statement by Svenson that "the entire locality has the appearance of a fragment of the northern Alleghenian forest, isolated in Middle Tennessee" certainly appears warranted.

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SOME FIRSTS? IN THE COLLEGES OF TENNESSEE

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ABSTRACT

A laboratory-based botany course was first offered at a Tennessee institution in 1846. The school was East Tennessee University and Richard O. Currey was the instructor. Laboratory-based instruction in chemistry began in 1826. The institution was the University of Nashville and the instructor was George T. Bowen. Laboratory courses in geology and zoology also first appeared at the University of Nashville. Both were introduced in 1828 by Gerard Troost. Most statements made above should be preceded by a term of equivocation like apparently.

The growth of other scientific disciplines in Tennessee is less easily deciphered. Still, it is possible to record a few critical dates in mathematics, astronomy, engineering, and agriculture. While curricular innovations are the focus of this study, the same research docu-

mented a few other academic highlights: the first textbook written by a Tennessee geology professor, the first botanical paper authored by a Tennessee professor, etc.

INTRODUCTION

In developing a general knowledge of the history of science in Tennessee, it seems important to document the introduction of the various scientific disciplines into the curricula of Tennessee colleges. Precise and meaningful dates are hard to establish because of the nature of instruction in colleges. In early days, just as today, there were various approaches to classroom teaching. Recitation, in which students took turns reading from the text, may have been the normal mode of instruction in pioneer institutions. It made few demands on the teacher and was probably poor pedagogy in the sci-