

Baseline StudiesDendrochronology - Sassafras

June-July 1975

A very large Sassafras tree (*Sassafras albidum*, Nees) is a feature of the Benton Bar Cemetery near Kyserike. Nearby are six others of somewhat smaller stature, plus a stump. Some years ago Henry Dunbar recognized the large one as a tree of special interest. In 1972 Kenneth Davenport, treasurer of the Benton Bar Cemetery Association, reported it to the NYS Department of Environmental Conservation and received word that it was the largest Sassafras then known in New York State. A picture of the tree was published in the Kingston Freeman on 3 January 1973.

The age of the tree was not determined at that time. Later Ken Davenport and Tang Hansen approached The Trust about determining the age.

On 27 June 1975 I met the Davenports and Hansens at Benton Bar for measurements of the tree.

Diameter (at 4½ feet) (Circ. 9 ft. 4 in.)	35.6 in.
Height (with Abney Level)	48 ft.
Spread (south-north)	67 ft.
Bark thickness	1½ in.

An increment borer was used to core the tree from east-to-west and west-to-east. Both cores showed several areas of rot, the most recent some 72 years ago. With the 16-inch borer, subtracting bark thickness, finger room, and rot, the resulting disarticulated cores averaged 12 inches. These were mounted and polished.

Due to the rot streaks that were encountered, a return visit with Ken Davenport was made on 2 July. A smaller Sassafras tree immediately south of the gravestone of William Summers, a former Mohonk employee who died in 1912, was cored.

Diameter	20.5 inches
Height	53 ft.
Spread	41 ft.
Bark thickness	1½ inches

The tree was drilled at 4½ feet above the ground from south-to-north. This core had no rot interruptions and passed within two year-rings of the heart of the tree. After mounting and polishing, the actual ring count was determined as 109 years. Allowing 6 years for growth to core height would put the age of this Sassafras at approximately 115 years.

The uniform rate of growth of the large tree during the last 70 years is noteworthy, but makes it even more difficult to estimate its total age. An attempt was made to extrapolate its possible age by comparison with the smaller tree. This effort is based on the assumption that the proportional growth rate of the two trees was the same for their earlier lives as during the later period. This procedure gave an extrapolated age of the large Sassafras as about 135 years. Note: this is only a guess, not an estimate.

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It was observed that the smaller tree was one of three Sassafras in a straight line which coincided with a line of gravestones. Further, it was noted that root sprouts are very abundant throughout the old part of the cemetery. A group of one foot tall sprouts was seen some 95 feet south of the nearest Sassafras tree. Apparently in the grass area these are cut off by the six mowings per year, but continue to volunteer. However, those that happen to come up beside stones are not touched by the mower and presumably often get as high as the top of the stone before they are noticed and cut off or pulled out. This suggests to me that there may be major roots running down the lines of gravestones, with minor or branch roots in the spaces between. I have come to wonder whether the seven smaller Sassafras were at one time root sprouts of the larger and gained sufficient stature so as not to be cut, at several times when maintenance in this part of the cemetery may have been temporarily neglected.

As a result of this study, I now hypothesize that all eight trees, and the grass area sprouts, are one large clone, though at this time the trees are probably not interconnected. It is further postulated that there might be a net gain in food from the temporary root sprouts (the difference between that used to send up the sprout and food manufactured by the leaves before the next mowing). This gain might be greater during a dry summer when the grass was not mowed as often but the sprouts were able to receive water from the whole root system. Thus, the sprouts may be contributing to the large size and advanced age of their respective parent trees by supplying food to the various root systems. Probably this could not happen in an area where man had not inadvertently created an environment favorable to attaining age for a tree with the adaptations of Sassafras. One of the adaptations may be the alleopathic influences of Sassafras (see Ecology, Late Spring 1975, pages 604 to 615).

Thus this little project, which was undertaken as a personal favor to friends, may have by-product values for the George-Smiley transect research project and suggest another baseline study for a research associate.

#### Historical Notes

Benton Bar was the official name of this cemetery until 1865, when it was incorporated under State law as "Kyserike Rural Cemetery." I was told by Ken Davenport that the land once belonged to a man named Benton. The "Bar" was derived from the Dutch word "bargh", meaning "hill."

The south side of the cemetery is the Manletown-Rochester town line, which continues across lands belonging to Tang Hansen to the Rondout Creek. At the creek bank on the south side of a red oak tree is a brown stone monument with an "M" carved in the north side and an "R" in the south side. From this corner the town line follows a straight course to the point of Sky Top. It is the boundary of many Mohonk parcels, goes across Rock Pass and cuts across the westerly corner of Rock Building (the chimney of the 91 line of rooms). We surveyed the southerly half of this line in 1940 by sighting a signal in the top of the oak tree from Sky Top. The signal had been placed directly over the stone by use of a 50-foot plumb line.

It seems that many of the older graves in the original part of the cemetery lie east-west, which makes the lines of headstones north-south.

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This brings to mind what I was told many years ago with reference to a graveyard in the Clove: white folks were buried in graves on an east-west axis, Negroes and Indians were placed in north-south graves.

### Suggestions

If there is strong concern to prolong the life of the large Sassafras, two things could be done. 1) Dead limbs should be pruned by someone familiar with tree work -- this to prevent more trunk rot. 2) Japanese beetles should be controlled with milky spore disease. Their consumption of leaves reduces food-making capacity and hence adversely affects the overall health of the tree. This would involve treatment of all cemetery sod and the adjacent fields in Rochester.

As an archivist, I suggest that future historians would appreciate the availability of records of gravestone information for the older part of Benton Bar. There has been considerable erosion of lettering, to the point of imminent obliteration on some stones. Perhaps this record could be accomplished as an educational project of the history department of Ulster County Community College. Its people or Ken Hasbrouck would know what to do. I assume that it would start with a map of grave locations and a card file of data copied from stones.

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