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GIANT TREES... **Are They the *Tallest* or the *Biggest* Around?**

Jackie Turnquist

Ancient Forests. Giant Trees. What makes a tree a “giant” – its height or its girth? Are there any Ancient Forests left in America? The October meeting of the Carlisle Historical Society answered these questions, as well as showcased a huge variety of beautiful flowering autumn shrubs.

Fred Breglia, Director of Horticulture and Operations at the Landis Arboretum in Esperance, is also the co-founder and president of the Wildwood Ancient Forest Alliance as well as Team Leader of the Eastern New York Old Growth Survey and an ISA certified Arborist.

The purpose of the Alliance and Survey organizations are to protect, document and preserve the old growth forests in New York. The Landis Arboretum is a 548 acre botanical garden filled with hiking trails and gardens, as well as containing a spur of the Route 20 Bluebird Trail (they had 45 fledgling bluebirds this year). The arboretum hosts numerous family programs over the course of the years as well.

It is estimated that in 1620, a vast area of the United States was covered with old growth forests. By 1920, most of those forests were gone. An old growth forest is defined by a healthy forest population, with all age ranges represented: from seedlings to giant, dying trees, and the forest hasn't been cut or touched, with 6-8 large trees per acre. Of the 400,000 acres of old growth in New York now, approximately half are in the Adirondack Park.

There are many characteristics that differentiate an old growth forest tree from an old tree. First, the trees have antique or mature bark, which may look quite different from what is typically seen with that species. For example, white oaks normally have scaly bark. An old growth white oak has smooth bark. Also, the trees begin to “bald” (lose their bark) from the bottom up. A 325 year old red maple becomes scaly and looks like a shag bark hickory. Also, buttressing or flaring roots are another characteristic, as are bizarre growth forms (which are actually normal, but not usually seen outside of old growth forests). Bizarre growth forms include two different species intertwined, spiraled trees, stilted or perched root trees (the trees grow on a nurse log), and daredevil trees (trees perched over a cliff). Old growth forests have a lot of moss and lower plants like ferns and fungi because the soil is healthy with “rotten stuff”. The amount of biomass is equal: dead/alive, standing/lying. Often, old growth forests are found near waterfalls and gorges because the terrain is steep and difficult to reach.

Forests with stumps, or with trees of approximately the same age, are most likely not old growth forests.

There are a lot of old trees and a lot of big trees, and they are not usually found in old growth forests. The age of a

tree can be determined by visual characteristics, but increment bores which extract plugs, or examining cross sections of a dead tree are other methods. Old trees will have a very tight center, indicating that the tree grew as an undisturbed plant for many years until it broke the canopy, then there will be a widening of the rings to show an explosion of growth once the tree got more sunlight.

Mr. Breglia had many examples of old a giant trees from New York State and throughout the United States. The oldest pitch pine in New York is 300 years old, in Minawaska State Park. There is a red pine at Rackett Lake that is 424 years old, and they don't get much older than that. At Vrooman's nose, the oldest cedar is 250-260 years old, but on the cliffs across the valley (on the Long Path), there are cedars over 500 years old and greater than six inches in diameter. The tallest white pine in New York is 159 feet tall, with a six foot basal diameter – and it is 80 feet before you see the first branch. The tallest ever documented was 240 feet tall, with a basal diameter of eleven feet.

Being the oldest doesn't necessarily make the tree the tallest. The oldest white pine is 464 years old. The oldest black gum is in Saratoga, and is 550-600 years old. The biggest black cherry in New York is in Esperance off Creek Road, and the biggest black locust is in Schenectady County. These trees are not in old growth forests. The arboretum has a 400 to 500 or more year old oak.

Unfortunately, climate change is affecting our trees in a negative way. Trees help mitigate climate change by absorbing the carbon dioxide and releasing it slowly. As our trees begin to die due to climate change, they release carbon dioxide more quickly, adding to the climate problem. Mr. Breglia noted that trees are dying at an alarming rate, due in part to the climate as well as disease and pests.

Think you have a champion tree? You can get more information from the Big Tree Registry on the DEC website (www.dec.ny.gov), or contact Fred Breglia at the Landis Arboretum. Fred recommends the following website and book: www.ancientforests.us and *Forest Giants of the World: Past and Present* by Al Carder.

Ray Briggs brought a large collection of flowering shrub specimens, creating a beautiful and informative display at the meeting. He also handed out Autumn Olive bush seeds for attendees to plant.

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