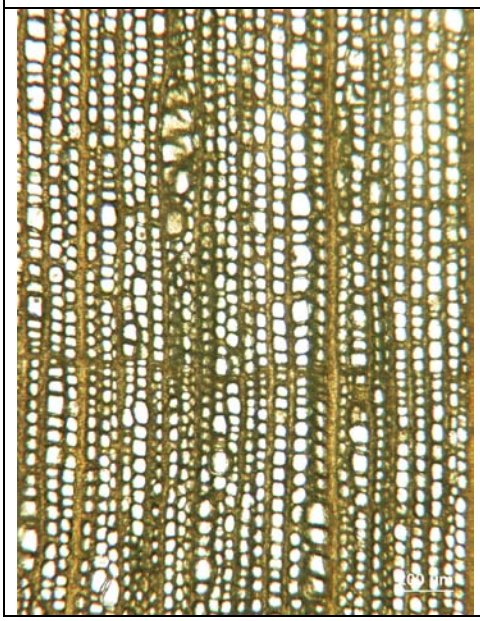
***Nyssa eydei* (tupelo gum, sour gum)**

Family: Nyssaceae

Naming reference: Prakash, U. & E.S. Barghoorn. 1961. Miocene fossil woods from the Columbia basalts of central Washington, II. Journal of the Arnold Arboretum XLII, 347-361.

Other references: Wheeler, E.A. & T.A. Dillhoff. 2009. The Middle Miocene wood flora of Vantage, Washington, USA. IAWA Journal, Supplement 7. 101 p.

Transverse section	Radial section	Tangential section
		

Photos courtesy Dr. E.A. Wheeler

Diagnostic features: As with most of the diffuse porous woods, *Nyssa* is difficult to identify based solely on hand lens observations. The vessels occur singly and in radial multiples, rays are typically 1-3 cells wide, and growth ring boundaries are somewhat indistinct. Vessels are typically small in diameter and occur both singly and in radial multiples. In thin section, perforation plates can be seen to be exclusively scalariform with more than 20 bars. Intervessel pits are small and opposite. Multiseriate rays are heterocellular with visible rows of marginal upright cells. Axial parenchyma are diffuse to diffuse-in-aggregate, with 10-12 cells per strand. Axial parenchyma can also have strands of chambered cells containing crystals.

Discussion: Modern species of *Nyssa* are native to eastern North America and eastern Asia. This is a classic case of a 'disjunct' taxon, where a tree (or other organism) which once had widespread distribution is now found in widely separated geographic regions. Besides the fossilized wood, silicified fruits of Nyssa can be found at some locations in the Columbia River Basalts, typically in silicified 'bog' materials. Fossilized *Nyssa* wood seems to be most common in the Yakima Canyon deposits and is rarer in other Columbia River Basalt localities. It is typically considered to be an indicator of wetter or swampy deposits, based on habitat preferences of the modern species.

This wood type is the one that we've seen most often confused with *Ginkgo*. Under a hand lens the two wood types can appear superficially similar, but *Ginkgo* rays are only one cell wide and upon close inspection, *Nyssa* wood can be seen to have vessels that occur alone or in radial multiples.

Fossil *Nyssa* seed from Yakima Canyon. Photo courtesy Dr. K.A. Pigg