

Rhysocaryoxylon tertiarum ('hickory')

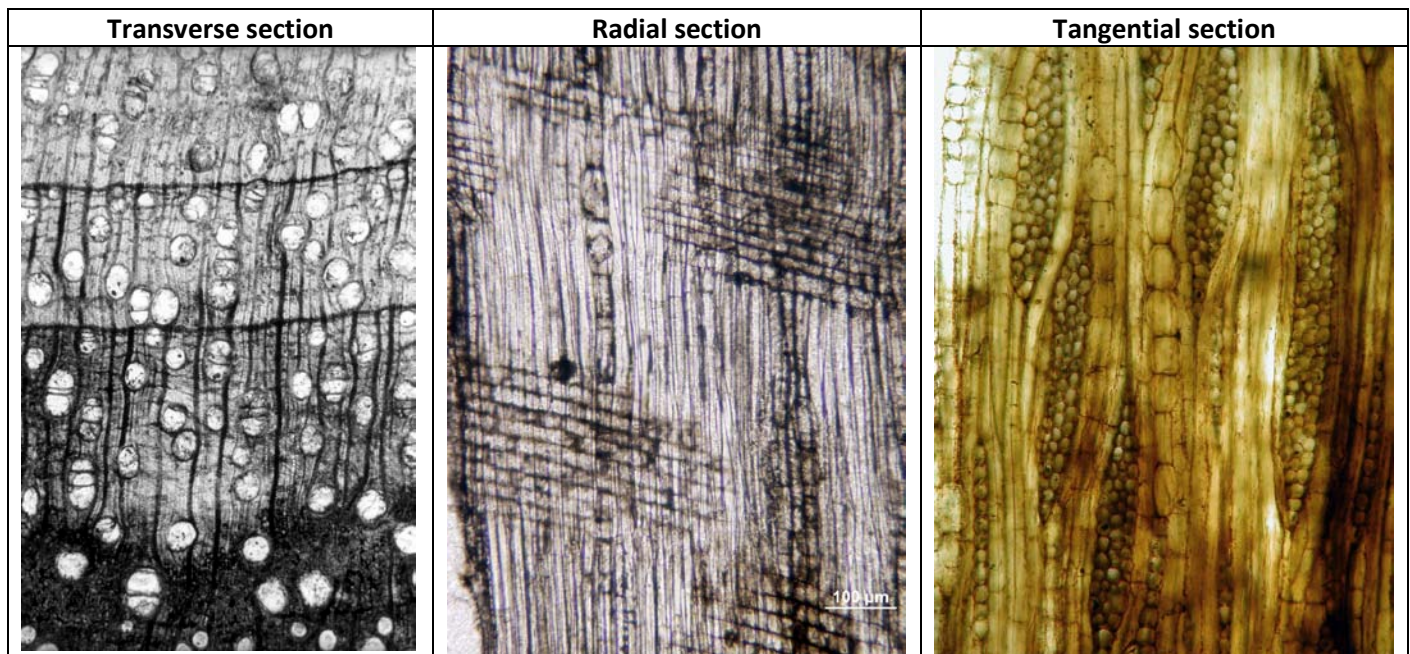
Family: Juglandaceae

Synonyms: *Carya tertiara* Prakash & Barghoorn 1961; *Caryojuglandoxylon tertiarum* (Prakash & Barghoorn)Müller-Stoll & Mädel-Angeliowa 1983

Naming reference: Dupéron, J., 1988. Les bois fossiles de Juglandaceae: inventaire et revision. Review of Palaeobotany and Palynology 53, 251-282.

Other references: Prakash, U. & E.S. Barghoorn. 1961. Miocene fossil woods from the Columbia basalts of central Washington, I. Journal of the Arnold Arboretum XLII, 165-199

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



Photos courtesy Dr. E.A. Wheeler

Diagnostic features: Growth rings distinct with semi-ring porous vessel arrangement. Vessels are either solitary or in short radial multiples. Perforation plates simple. Rays 1-4 seriate, homocellular. Axial parenchyma scanty paratracheal to vasicentric, or in bands visible throughout the growth ring. Inflated cells in some axial parenchyma strands probably contained crystals.

Discussion: When originally studied by Prakash and Barghoorn, this wood was described as a hickory and placed in the modern hickory genus, *Carya*. Subsequent studies noted the difficulty in distinguishing certain genera of the walnut family based on wood anatomy, and the form genus *Rhysocaryoxylon* was erected for woods that contained features common to modern walnuts and hickories. The walnut group and the hickory group can be separated if the central pith is present, because the walnuts have chambered pith and the hickories have solid pith. Unfortunately, fossil specimens with preserved pith are rare in the Columbia River Basalts. Modern pecan-type hickories are similar to walnuts in that they have wavy bands of axial parenchyma throughout the growth ring, while true hickories only have parenchyma bands in the latewood portion of the growth ring.

Hickory type woods such as the one figured here are common in many of the fossil wood deposits in the Columbia River Basalts. Despite the difficulty in positively assigning the fossil wood to the modern hickory genus *Carya*, it is certain that the genus was represented in the region during the middle Miocene. This is based on distinctive *Carya* pollen grains found in most middle Miocene sites of the northwest and by the accumulation of silicified hickory nuts that was discovered in a fossil sycamore log near Ellensburg, Washington. The nuts were formally described as a new species, *Carya washingtonensis* (Manchester, 1987), and are thought to represent a rodent cache.