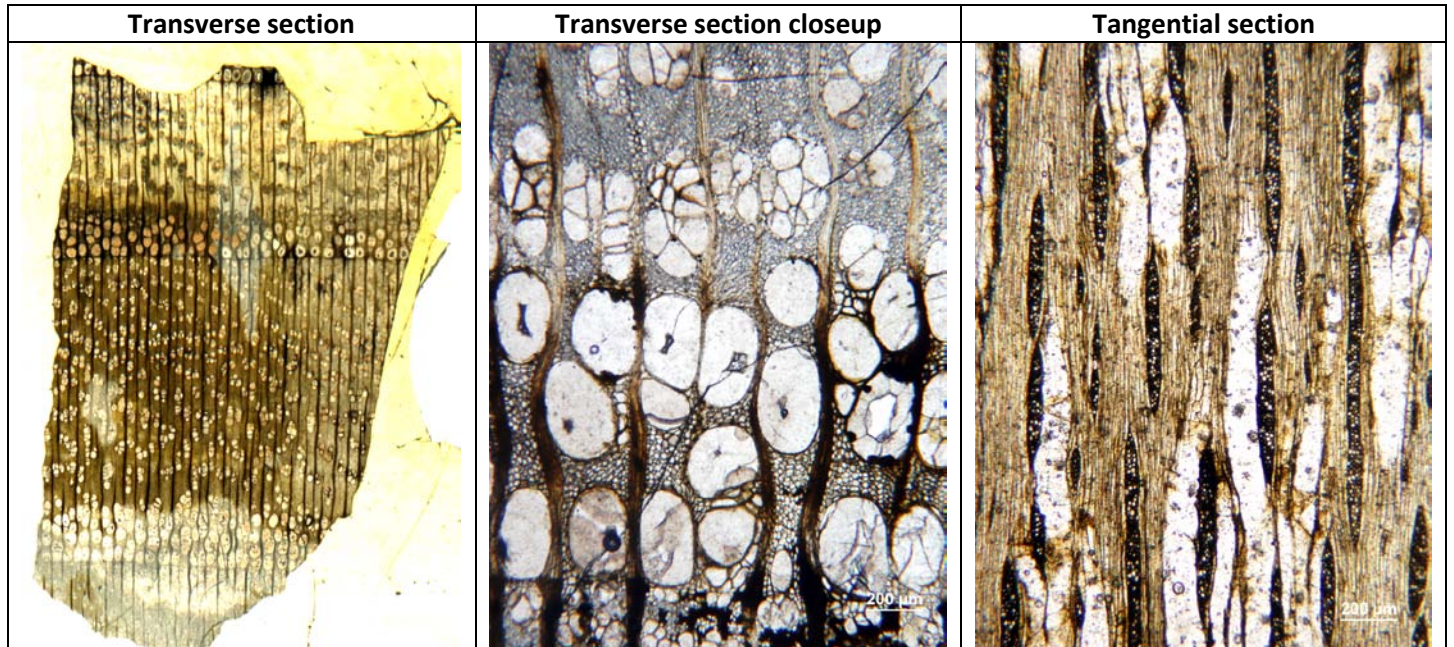


## ***Ulmus baileyana* (elm, 'slippery elm')**

Family: Ulmaceae

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. 101p.



Photos courtesy Dr. E.A. Wheeler

**Diagnostic features:** Growth rings distinct, ring porous vessel arrangement. Earlywood vessels large (avg. 190 $\mu$ m), in multiple rows. Latewood vessels in clusters, arranged in wavy tangential bands. Thin walled tyloses are present. Perforation plates simple, narrow vessel elements have spiral thickenings along their entire length. Rays 1-5 seriate, homocellular, uniseriate rays uncommon. Axial parenchyma paratracheal, mostly four cells per strand. Crystals present in chambered axial parenchyma.

**Discussion:** Prakash & Barghoorn described three species of elm from the Columbia River Basalts. *Ulmus baileyana* is easily separated from the other two types by virtue of its large earlywood vessels found in multiple rows. It is sometimes labeled as 'slippery elm' due to its resemblance to the modern slippery elm, *Ulmus rubra*, although there are a number of other elm species, mostly Asian, that also have large earlywood vessels in multiple rows.

Elm woods are a common constituent of many Columbia River Wood deposits. Beck (1945) reports them as abundant at Vantage, common at Squaw Creek and Saddle Mountains, and rare at Slide Ranch, Roza Creek, and Lookout Point. This author has also seen elm specimens from Yakima Ridge, Yakima Canyon, Sunnyside, Asotin Creek, and Roosevelt. In modern times, elms are extinct in the Pacific Northwest but native to many other areas of the northern hemisphere, including eastern North America and Eurasia.