

Wood Identification

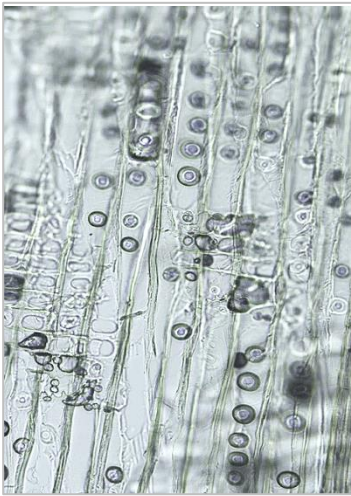
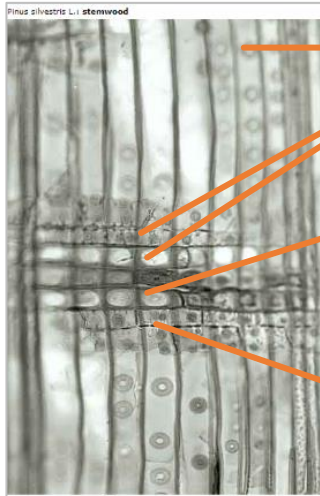
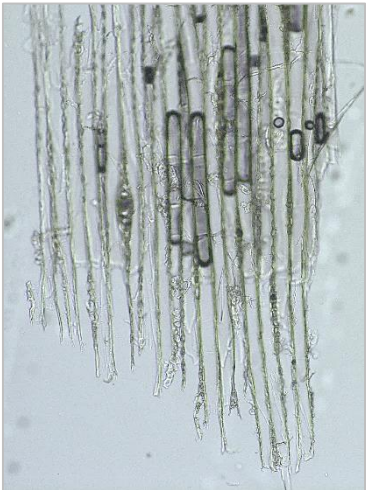
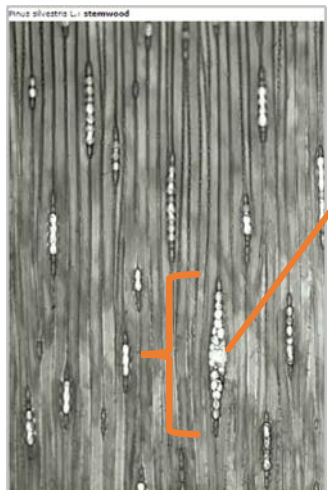
Wood identification had to rely on microscopic features as all surfaces of the windows are coated with paint and were hence not accessible for assessment of macroscopic features.

Using small samples taken on site (Sample identifier W 16 LG), the identification followed standard methods by preparing microscopic slides to examine cross, tangential, and radial sections. Sections were examined under reflected light (Cross-section 10 x magnification) and transmitted light (Radial and tangential sections 50 x to 100 x magnification) and compared with reference samples (Schoch et al).

The species identified for this sample is Scots Pine (*Pinus sylvestris*).

Microscopic features	Observations	Result
Cross section (X)		
Vessels/pores	Absent	Softwood
Growth ring boundaries and transition from early to late wood	Boundaries distinct, transition abrupt	
Resin canals	Sparse but present in mostly in late wood, large	
Radial section (R)		
Tracheid pits	Uniseriate	
Rays	Present, heterocellular	
Ray tracheids	Distinctly dentated walls	
Cross-fields from parenchyma cells to tracheids	Single fenestriform pit	
Tangential section (T)		
Rays	up to 15 cells high	
Resin canals in rays	Thin-walled epithelial cells	

A tree species sharing similarities in some features is Douglas fir (*Pseudotsuga menziesii*). Due to the absence of distinct spiral thickenings (expected to be visible in R and T sections) and absence of taxoid and piceoid cross-filed this species could be ruled out.

Sample W 16 LG	Reference images	Features
	 <i>Cross section 10 x magnification</i>	• Pores/vessels absent • Growth ring boundaries distinct • Transition early to late wood abrupt • Resin canals sparse but present in mostly in late wood, large
 <i>Radial section 100 x magnification</i>	 <i>Pinus silvestris L.: stemwood</i> 0.2 mm Radial section © W31 / www.woodanatomy.ch / 12.05.04 / close window	• Tracheid pits uniseriate • Rays heterocellular • Cross-fields from parenchyma cells to tracheids with single fenestriform pits • Ray tracheids distinctly dentated walls
 <i>Tangential section 50 x magnification</i>	 <i>Pinus silvestris L.: stemwood</i> 0.5 mm Tangential section © W31 / www.woodanatomy.ch / 12.05.04 / close window	• Rays up to 15 cells high • Resin canals in rays with thin-walled epithelial cells