

VITIS

Vessels large (more than 200 μ mean tangential diameter) and largest vessels up to 350 μ ; of 2 types in some spp. the larger solitary and often over 300 μ in diameter, the smaller seldom exceeding 100 μ in diameter and commonly in radial multiples; very variable in number even in the same genus; ring-porous in some spp. Perforations simple. Intervascular pitting usually scalariform; pits to parenchyma round and bordered in woods with alternate intervacular pitting, large oblong and often simple in others, usually with the long axes horizontal. A few tyloses present, sometimes locally abundant. Mean member length 0,7 mm.

Parenchyma paratracheal, varying from a few cells round the vessels to a well-defined vasicentric sheath, but never abundant. Strands usually of 4 cells, sometimes up to 8 cells.

Rays broad (more than 100 μ), and usually very high; commonly of indeterminate height, but exhibiting various stages of dissection into smaller units in some spp; up to 15-20 cells wide in some spp; of 2 distinct sizes (uniseriate or broad) in *V. arizonica* and *V. californica*; normally without uniseriate rays in most spp. Adkinson notes that, as a result of injury, uniseriate rays may occur in woods from which they, are normally absent. Between 2 and 6 rays per mm in woods with large rays only, up to 12 per mm. in woods with uniseriate rays; cells of the multiseriate rays almost all procumbent in some spp. of *Vitis*, and in other spp. a mixture of square to procumbent cells without any distinct marginal rows; cells very variable in tangential width in different spp, relatively small where true procumbent cells are rare. Sheath cells present in some spp. Cells typically fitted with dark contents and containing occasional single crystals in some spp. Raphides occur.

Fibres septate and frequently containing dark deposits; pits simple and usually more numerous on the radial than on the tangential walls. With moderately thin walls in most spp. Mean length 1.4 mm.

Vasicentric tracheides reported, with scalariform thickening and sometimes with delicate spiral thickening.