

CARPINUS

Vessels small (50-100 μ mean tangential diameter) typically with numerous multiples of 4 or more cells, particularly in the late wood, the multiples of small vessels in the late wood sometimes merging into radial groups of tracheids; sometimes with a loose oblique pattern in the late wood. Usually 15-50 per sq. mm. with tendency to be ring-porous in some spp. e.g. *C. turczaninowii*; with spiral thickening (Inst. slide has much shorter multiples than has that of *Corylus*). Perforation plates simple in most species. Intervascular pitting alternate and moderately large; pits to ray and wood parenchyma similar to the intervacular pitting, but with some simple and larger pits. Mean member length 0.5-0.8 mm.

Parenchyma apotracheal, rather sparse, as cells scattered among the fibres and along the ring-boundaries; terminal parenchyma sometimes in continuous bands. Strands usually of 8 cells.

Rays up to 2 or 3 cells wide, but of more cells where aggregated. (Inst. slide seems to have mainly aggregate 2, or at most 3 cells wide). Uniseriate numerous, composed wholly of procumbent cells or with marginal rows of square cells. Commonly aggregated. 10-17 rays per mm. Homogeneous (Kribs's Type II) (but Inst. slide shows some rather doubtful squarish marginal cells in places).

Fibres with rather few pits, which tend to be more abundant on radial than on tangential walls; the pits with very small borders. Mean length 0.9-1.6 mm.

Tracheids are occasionally associated with the late wood groups of vessels.