

## OSTRYA

Vessels small (50-100  $\mu$  mean tangential diameter); typically with numerous multiples of 4 or more cells, particularly in the late wood, sometimes with a loose oblique pattern in the late wood; usually 15-50 per sq. mm. with spiral thickening. Perforation plates simple with a few scalariform plates. Intervascular pitting alternate and moderately large; pits to ray and wood parenchyma similar to the intervascular pitting, but with some simple and larger pits; sometimes tending to be limited to the marginal rows of the rays, as in Salicaceae. Tyloses present. Mean member length 0.5-0.8 mm. average about 0.55 or 0.65 mm.

Parenchyma apotracheal, rather sparse, as cells scattered among the fibres and along the ring boundaries. Tang notes "distinct tangential lines" in *O. liana* Hu. Strands usually of 8 cells.

Rays up to 2 or 3 cells wide, but of more cells where aggregated, uniseriate numerous, composed wholly of procumbent cells or with single marginal rows of square cells; 10-17 rays per mm. Homogeneous (Kribs's Type II). Crystals often present in idoblasts.

Fibres with rather few pits, which tend to be more abundant on the radial than on the 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 (see above) and Tippe notes that "some of the fibre-tracheids are quite close to tracheids in *Ostrya*."