

BERBERIS

Vessels very small (25-50/^μmean tangential diameter) the late wood vessels sometimes little wider than the fibres and angular in cross-section; commonly in irregular clusters, which tend to be grouped in ulmiform bands (e.g. in *B. aquifolium*); seldom touching the rays; 25-50 per sq. mm. Ring-porous in some spp. e.g. *B. aristata* and *B. vulgaris*, and semi-ring-porous in some other spp. with spiral thickening. Perforations typically simple, slightly oblique. Scalariform plates with very few bars reported occasionally present. One author (Tupper) refers to exclusively scalariform plates. Imperfect vessel members frequent (? in *Berberis*). Intervascular pitting alternate, moderate sized. Pits to ray cells very rare, similar to intervascular pitting. Mean member length 0.15-0.27 mm.

Parenchyma absent

Rays typically high and wide: usually up to 6-12 cells wide, but up to 25 cells wide in *B. kavakana*. Commonly more than 2mm and sometimes more than 5mm high, the tall rays often showing evidence of subdivision into smaller units. uniseriates very few or lacking. About 3 rays per mm. Homogeneous (Kribs's Type II), or with only a slight difference between marginal and central cells, though with moderately distinct sheath cells in *B. darwinii*.

Fibres with moderately numerous, small, simple pits on the radial and tangential walls. Occasionally septate. Walls thin to moderately thick. Sometimes storied. Mean length 0.3-0.75 mm.