

Short Communication

PERFORATED RAY CELLS IN *SALIX RIZEENSIS* (SALICACEAE)

Bedri Serdar, Ziya Gerçek & Nesime Merev

Karadeniz Technical University, Faculty of Forestry, 61080, Trabzon, Turkey
[E-mail: bserdar@ktu.edu.tr]

Perforated ray cells were observed in *Salix rizeensis* A. Güner & J. Zielinski, an alpine shrub from North-East Turkey that has recently been described as a new endemic species (Güner & Zielinski 1993). The perforated ray cells were found either isolated or together in pairs in the uniseriate ray body. They are generally larger than other ray cells, with simple perforations, as in vessel elements (Fig. 3). This is to our knowledge the first record of perforated ray cells in the genus *Salix*. A concise wood anatomical description of *S. rizeensis*, based on stems of 1 cm diameter, is given below to complement our knowledge of the wood anatomical range in this genus (see also Fig. 1–4 on page 120).

Wood diffuse-porous; growth rings distinct. Vessels numerous (170–340 per sq. mm), mostly in short to long radial multiples of 2–4(–10) and small clusters, occasionally solitary, vessel diameter 30 (20–45) µm in tangential diameter. Vessel elements 320 (180–420) µm long, with simple perforations and alternate intervessel pits, 7–10 µm in diameter; vessel–ray pits with much reduced borders and rounded to angular outline, 6–9 µm in diameter. Libriform fibres thin-walled, 540 (410–650) µm long, with simple pits mainly restricted to the radial walls, occasionally with gelatinous wall layers. Axial parenchyma in narrow and discontinuous terminal bands and very scanty paratracheal. Rays uniseriate (more rarely with biseriate portions), weakly heterocellular with square central cells and upright marginal cells, 4–40 cells or 500–1920 µm tall. Perforated ray cells restricted to upright ray cells, with perforations of about 53 × 59 µm in horizontal × vertical diameter.

This description is in full agreement with information on other *Salix* species including shrubby ones as documented by Fahn et al. (1986), Schweingruber (1990), and many others. It remains very questionable whether the perforated ray cells in *S. rizeensis* are diagnostic for the species (cf. Chalk & Chattaway 1933, for a discussion of the limited taxonomic value of perforated ray cells).

References

- Chalk, L. & M.M. Chattaway. 1933. Perforated ray cells. Proc. Roy. Soc. London B 113: 82–92.
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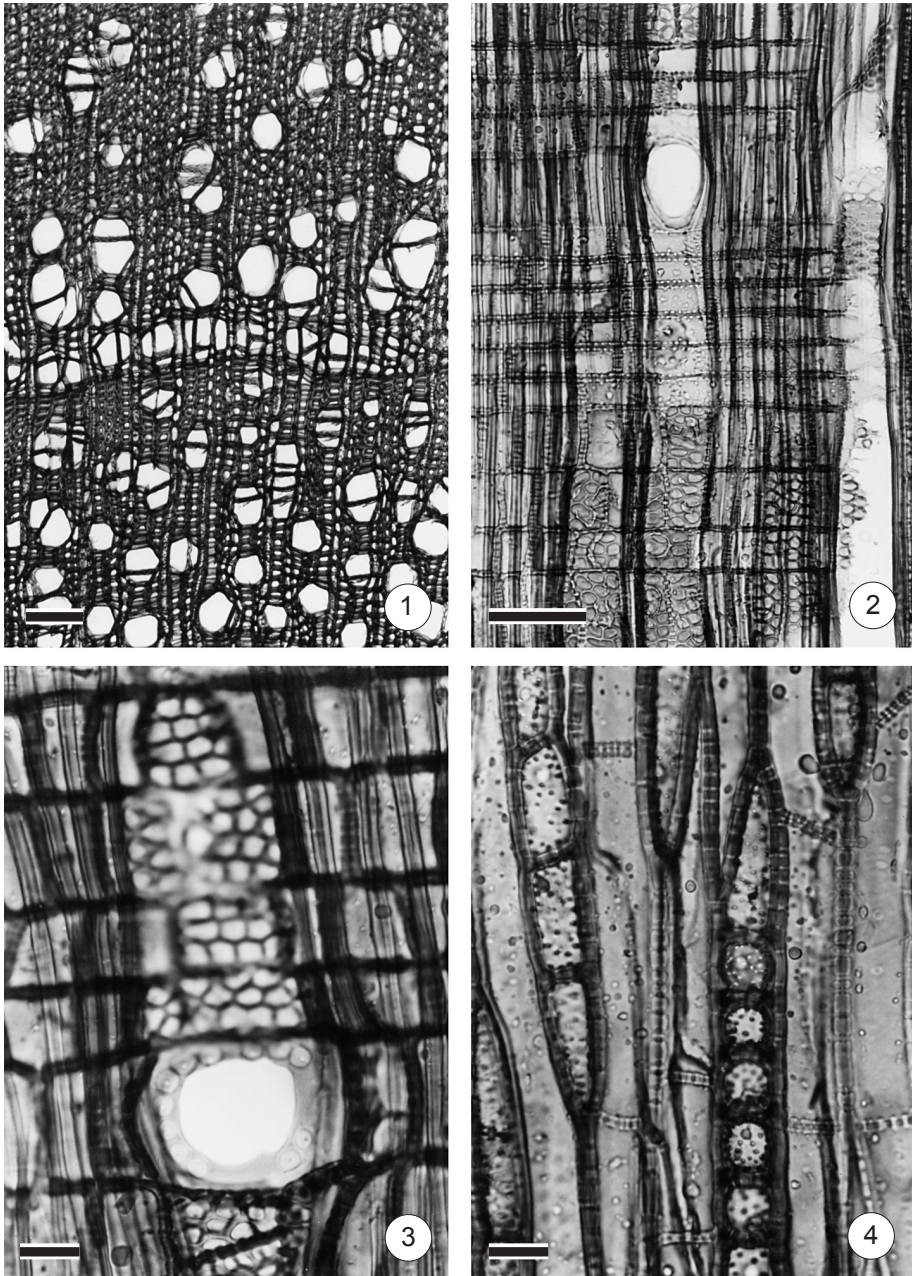


Fig. 1–4. *Salix rizeensis*. – 1: TS, note diffuse-porous wood with distinct ring boundaries, marked by thick-walled latewood fibres. – 2: RLS, heterocellular rays with procumbent and upright cells, vessel with simple perforation plate. – 3: RLS, perforated ray cell in upright ray cell. – 4: TLS, showing rays and axial parenchyma strands. Scale bars of Fig. 1, 2 = 50 μm .; of 3, 4 = 10 μm .