**IAWA Journal - Volume 19(2)**

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| **Author(s):** | Irene Hudson; Lawrie Wilson; Kim Van Beveren |
| **Title:** | **Vessel and Fibre Property Variation in Eucalyptus Globulus and Eucalyptus Nitens: Some Preliminary Results** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
| **Publication Year:** | 1998 |
| **Pages:** | 111-130 |
| **Keywords:** | vessel distribution and coverage; Eucalyptus globulus; Eucalyptus nitens; fibre dimensions; longitudinal variation; segmentation of vessel and fibre distributions within-ring; synchronicity of vessel and fibre distributions; hardwoods; radial variation |
| **Abstract:** | Vessel areas and distributions in Eucalyptus globulus and E. nitens vary in a consistent, significant and predictable way from pith to bark and within annual rings. Trends in vessel areas and distributions can be quantified despite the presence of indistinct annual rings and false rings. There is evidence of a vessel free area in first earlywood in E. nitens in which fibre properties are predictably different. At 5% height the vessel free area in the 1991 and 1992 annual rings is 13% and 1O% respectively. |
| **DOI:** | [10.1163/22941932-90001514](http://dx.doi.org/10.1163/22941932-90001514) |

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| **Author(s):** | Simcha Lev-Yadun |
| **Title:** | **The Relationship Between Growth-Ring Width and Ray Density and Ray Height in Cell Number in the Earlywood of Pinus Halepensis and Pinus Pinea** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
| **Publication Year:** | 1998 |
| **Pages:** | 131-139 |
| **Keywords:** | Pinus pinea; growth rings; differentiation; Pinus halepensis; Cambial activity; vascular rays |
| **Abstract:** | The relationship between growth-ring width and ray size and number was studied in five 24-year-old trees of Pinus halepensis Mill. and five 16-year-old trees of Pinus pinea L. All trees of both Pinus species showed a gradual tendency for an increase in ray height, from an average of less than 4 cells near the pith to 7 or 8 cells in the outer rings. Ray number decreased from more than 70 rays per mm2 near the pith to about 40 rays per mm2 in the outer rings. No significant correlation was found between growth-ring width and the number of rays per mm2 or height of rays for three out of five trees of P. halepensis or for any of the five P. pinea trees. I conclude that there is no general direct relationship between growth-ring width and ray number and size. |
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| **Author(s):** | Elisabeth Wheeler |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
| **Publication Year:** | 1998 |
| **Pages:** | 140-140 |
| **Keywords:** |  |
| **Abstract:** |  |
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| **Author(s):** | Susan E. Anagnost |
| **Title:** | **Light Microscopic Diagnosis of Wood Decay** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
| **Publication Year:** | 1998 |
| **Pages:** | 141-167 |
| **Keywords:** | basidiomycetes; ascomycetes; wood decay; soft rot; Biodegradation; brown rot; deuteromycetes; white rot |
| **Abstract:** | Light micrographs of the anatomical features of brown rot, white rot and soft rot are presented here to facilitate easy identification of each type of decay in birch and pine. This paper presents the light-microscopic observations made during the course of several broad studies of wood deterioration by fungi. A key aids the identification of brown rot, white rot and soft rot in wood and wood products. Features used for identification include bore hole size and frequency, shape of erosion channels and cavities, cell separations and changes in birefringence as observed on unstained sections with polarized light or differential interference contrast microscopy. Included are descriptions of white-rot and soft-rot erosion patterns at several decay stages. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
| **Publication Year:** | 1998 |
| **Pages:** | 168-168 |
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| **Abstract:** |  |
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| **Author(s):** | Laura Leviu; María Agueda Castro |
| **Title:** | **Anatomical Study of the Decay Caused by the White-Rot Fungus Trametes Trogii (Aphyllophorales) in Wood of Salix and Populus** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
| **Publication Year:** | 1998 |
| **Pages:** | 169-180 |
| **Keywords:** | white rot; Salicaceae; LM; SEM; Wood decay; Trametes trogii |
| **Abstract:** | Different stages of decay caused in vitro by Trametes trogii in Salix sp. and Populus sp. wood are described. Anatomical features are reported in three stages of this process. Decay progressed in a different pattern in both species studied. In Populus sp. T. trogii caused a combination of selective delignification and simultaneous decay within the same substrate. In advanced stages wood blocks exhibited large empty holes and a spongy structure. In Salix sp. a simultaneous white-rot decay took place. Only vessels remained and the residual white-rotted wood developed a stringy appearance. |
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| **Author(s):** | Keiko Kuroda |
| **Title:** | **Seasonal Variation in Traumatic Resin Canal Formation in Chamaecyparis Obtusa Phloem** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
| **Publication Year:** | 1998 |
| **Pages:** | 181-189 |
| **Keywords:** | resinous stem canker; Traumatic resin canal; injury; Chamaecyparis obtusa; secondary phloem |
| **Abstract:** | Trunks of Chamaecyparis obtusa were injured to examine seasonal differences in traumatic resin canal formation in secondary phloem. Even after wounding during winter, differentiation of axial parenchyma into epithelium was initiated, and vertical resin canals formed. After winter wounding, resin canal development was slower and the tangential extent of resin canals was narrower than after spring wounding, and it took one to two months until resin secretion began. After spring wounding, the sites of resin canal formation were the 1- and 2-year-old annual rings of phloem. In August, the location of resin canal formation shifted into the current and 1-year-old annual ring. Resin canals never formed in secondary phloem areas that were 3 or more years old. In C. obtusa trunks that are affected by the resinous stem canker, numerous tangentiallines of resin canals are found throughout the phloem, not just recent and 1- to 2-year-old phloem. The present research indicates that these many lines of resin canals were not formed at one time, and that the stimuli that induce traumatic resin canals must occur repeatedly over many years. The data on artificial wounding effects are useful for understanding resinous stem canker. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
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| **Author(s):** | Sherwin Carlquist |
| **Title:** | **Wood and Bark Anatomy of Caricaceae; Correlations with Systematics and Habit** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
| **Publication Year:** | 1998 |
| **Pages:** | 191-206 |
| **Keywords:** | Anomalous secondary thickening; cambial variants; systematic wood anatomy; glucosinolate families; Capparales; parenchyma proliferation; Caricaceae; succulents |
| **Abstract:** | Wood and bark anatomy are described for four species of three genera of Caricaceae; both root and stem material were available for Jacaratia hassleriana. Wood of all species lacks libriform fibers in secondary xylem, and has axial parenchyma instead. Cylicomorpha parviflora has paratracheal parenchyma cells with thin lignified walls; otherwise, all cell walls of secondary xylem in Caricaceae except those of vessels have only primary walls. Vessels have alternate laterally elongate (pseudoscalariform) pits on vessel-vessel interfaces, but wide, minimally bordered scalariform pits on vessel-parenchyma contacts. Laticifers occur commonly in tangential plates in fascicular secondary xylem, and rarely in xylem rays. Proliferation of axial parenchyma by zones of tangential divisions is newly reported for the family. Bark is diverse in the species, although some features (e.g., druses) are common to all. Wood of Caricaceae is compared to that of two species of Moringaceae, recently designated the sister family of Caricaceae. Although the wood and bark of Moringa oleifera, a treelike species, differ from those of Caricaceae, wood and bark of the stem succulent M. hildebrandtii, the habit of which resembles those in Caricaceae, simulate wood and bark of Caricaceae closely. Counterparts to laticifers in Moringaceae are uncertain, however. Phloem fibers of Caricaceae form an expansible peripheral cylinder of mechanical tissue that correlates with the stem succulence of most species of Caricaceae. |
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| **Author(s):** | Kade Sidiyasa; Pieter Baas |
| **Title:** | **Ecological and Systematic Wood Anatomy of Alstonia (Apocynaceae)** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
| **Publication Year:** | 1998 |
| **Pages:** | 207-229 |
| **Keywords:** | ray height; swamp species; laticifers; light and heavy Alstonia groups; Pulai; Vessel dimensions |
| **Abstract:** | The wood anatomy is described of three sections of the genus Alstonia: sections Alstonia, Monuraspermum, and Dissuraspermum. The wood anatomical characters support the infrageneric classification on the basis of macropmorphological and pollen morphological features (Sidiyasa 1998). Vessel frequency, mean tangential vessel diameter, LID ratio, ray frequency, presence or absence of laticifers, parenchyma distribution, fibre wall thickness, and fibre wall pitting are all, in various degrees, diagnostic to separate the light Alstonia timber group (= section Alstonia) from the heavy Alstonia group (including the other two sections studied). Sections Monuraspermum and Dissuraspermum can be separated on vessel frequency and mean tangential vessel diameter. Among the light Alstonia group, the swamp inhabiting species have lower multi seriate rays than the non-swamp species which presumably root in well-aerated soils. Vessel elements and fibres also tend to be shorter in material from swamps, but this difference is not statistically significant. This tendency is perhaps associated with the physiological drought induced by water-logged soils. |
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| **Author(s):** | E. A. Wheeler |
| **Title:** | **A fatest háromdimenziós szerkezete. (Three-dimensional structure of wood.) B.G. Butterfield, B.A. Meylan ' I.M. Peszlen, 147 pp., 1997. [In Hungarian and English.] Hillebrand Nyomda Kft., Csengery u. 51, Sopron, Hungary. ISBN 963-04- 88124. Price: US$ 40 (incl. shipping and handling by airmail).** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
| **Publication Year:** | 1998 |
| **Pages:** | 230-230 |
| **Keywords:** |  |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Wood Anatomy News** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
| **Publication Year:** | 1998 |
| **Pages:** | 231-234 |
| **Keywords:** |  |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Erratum** |
| **Source:** | IAWA Journal, Volume 19, Issue 2 |
| **Publication Year:** | 1998 |
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