**IAWA Bulletin New Series - Volume 9(1)**

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| **Author(s):** | Sherwin Carlquist |
| **Title:** | **Wood Anatomy and Relationships of Duckeodendraceae and Goetzeaceae** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 3-12 |
| **Keywords:** | Solanaceae; Ecological wood anatomy; systematic wood anatomy; Duckeodendraceae; Goetzeaceae |
| **Abstract:** | Duckeodendron has been referred to Solanaceae, Boraginaceae, and Apocynaceae; segregation into its own family is based on its drupoid fruits. Drupoid fruits also characterise Goetzeaceae, which have been placed within Sapotaceae and within Solanaceae by particular authors. Both Duckeodendraceae and Goetzeaceae have intraxylary phloem (a characteristic of Solanaceae but absent from most dicotyledon families) and wood features entirely congruent with the concept that they are elosely related to Solanaceae. Wood of Duckeodendron is very sirnilar to that of Nothocestrum (Solanaceae). Wood of Goetzeaceae is most like wood of the solanaceous genera Grabowskya and Lycium. Duckeodendraceae and Goetzeaceae may be regarded as satellite farnilies of Solanaceae, in accord with the treatment of Hunziker (1979), or could conceivably be treated as subfarnilies of Solanaceae. Qualitative and quantitative features are given for wood of Duckeodendron cestroides (Duckeodendraceae) and two speeies of Goetzeaceae: Espadaea amoena and Henoonia myrtifolia. Wood of Duckeodendron is elearly mesomorphic. Wood of Espadaea is intermediate, and wood of Henoonia is relatively xeromorphic as based on vessel element dimensions, vessel density, and vasicentric tracheid presence. |
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| **Author(s):** | John Wilkes |
| **Title:** | **Variations Inwoodanatomy Within Species of Eucalyptus** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 13-23 |
| **Keywords:** | wood anatomy; Eucalyptus; growth rate; juvenile wood |
| **Abstract:** | Eucalyptus species are characterised by substantial genetically predetermined withinand between-tree variations in wood anatomical features including fibre and vessel dimensions. This effect of genotype outweighs that of growing conditions; indeed the influence on wood anatomy of rate of growth per se is minor. It must therefore be assumed that the reputed difference in wood quality between regrowth/plantation stands and old growth forests is founded on non-anatomical features, or reflects simply the greater proportion of juvenile wood in small, rapidly grown stems. |
| **DOI:** | [10.1163/22941932-90000461](http://dx.doi.org/10.1163/22941932-90000461) |

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| **Author(s):** | Zhang Xinying; Deng Liang; Pieter Baas |
| **Title:** | **The Ecological Wood Anatomy of the Lilacs (Syringa Oblata Var. GlraldII) on Mount Taibei in Northwestern China** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 24-30 |
| **Keywords:** | rainfall; altitude; Ecological wood anatomy; habit |
| **Abstract:** | The wood structure of Syringa oblata var. giraldii growing on the northem slope of Mount Taibei varies with increasing altitude, rainfall and to some extent with plant size and stern diameter. On Mount Taibei rainfall increases with altitude from 1000-1800 m. Average growth ring width, vessel member length, vessel diameter, fibre-tracheid length and diameter, and ray height increase with altitude and rainfall; vessel frequency, ray frequency, and percentage of solitary vessels decrease along the same ecological gradient. These results are discussed against the background of general ecological trends: the unusual reversal of the altitudinal trends can be accounted for by the rainfall pattern associated with plant size variation on the northern slope of Mount Taibei. |
| **DOI:** | [10.1163/22941932-90000462](http://dx.doi.org/10.1163/22941932-90000462) |

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| **Author(s):** | K. Ranjani; K. V. Krishnamurthy |
| **Title:** | **Nature of Vestures in the Vestured Pits of Some Caesalpiniaceae** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 31-33 |
| **Keywords:** | lignin; Vestures; vestured pits; carboxylated polysaccharides |
| **Abstract:** | Histochemical studies in combination with selective extraction on the vestured pits of some Caesalpiniaceae members revealed that the vestures were free of lignin and cellulose, and were mainly composed of carboxylated polysaccharides. |
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| **Author(s):** | Pieter Baas |
| **Title:** | **Obituary** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 34-34 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000464](http://dx.doi.org/10.1163/22941932-90000464) |

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| **Author(s):** | María Agueda Castro |
| **Title:** | **Vestures and Thickenings of the Vessel Wall in Some Species of Prosopis (Leguminosae)** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 35-40 |
| **Keywords:** | warty layer; vestured thickenings; fibres; Vestures; pits; vessels |
| **Abstract:** | In the present paper vestured pits, vestures on the thickenings of the vessel walls, and the warty layer in the wood of some speeies of Prosopis (Leguminosae - Mimosoideae) are reported.The occurrenee of fibres with a G-layer (gelatinous fibres) is also documented. |
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| **Author(s):** | Roland R. Dute; Ann E. Rushing |
| **Title:** | **Notes on Torus Development in the Wood of Osmanthus Americanus (L.) Benth. ' Hook. Ex Gray (Oleaceae)** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 41-51 |
| **Keywords:** | torus; dicotyledon; Osmanthus; wood |
| **Abstract:** | The development of the torus in the wood of Osmanthus americanus was investigated using transmission and scanning electron microscopy. Torus formation on either side of the pit membrane did not begin until after the development of the associated pit border was well underway. No plasmodesmata were encountered in the torus at any time during its ontogeny. Synthesis of torus material was correlated with a mass of randomly oriented microtubules and dictyosome vesicles. The two halves of the torus did not develop synchronously; deposits of torus material were evident first in the older of two adjacent cells. Selective hydrolysis of the matrix material of the margo also began fIrst on that side of the pit membrane associated with a mature tracheary element. Evidence is presented for a fibrillar as weIl as a matrix component in the torus. |
| **DOI:** | [10.1163/22941932-90000466](http://dx.doi.org/10.1163/22941932-90000466) |

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| **Author(s):** | Pieter Baas |
| **Title:** | **Duplicate slides and our guilty conscience** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 52-52 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000467](http://dx.doi.org/10.1163/22941932-90000467) |

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| **Author(s):** | Helena Pereira |
| **Title:** | **Structure and Chemical Composition of Cork from Calotropis Procera (AIT.) R. BR.** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 53-58 |
| **Keywords:** | chemical composition; suberin; Quercus suber; Cork anatomy; Calotropis procera |
| **Abstract:** | The structure and chernical composition of the cork of Calotropis procera (Ait.) R.Br. were studied and comparison was made with composition and properties of cork from Quercus suber. The cells are approximately prismatic, thin-walled, and show appreciable cell wall wrinkling. Average dimensions are 100 µm in radiallength and 20 x 10-6 cm2 in tangential surface area, but considerable dimensional variability was found. Calotropis cork contains a large amount of inorganic material: 21.5 % of ash. Extractives' content is 11.1 %, of suberin 5.3 %, of lignin 40% and of polysaccharides 25.7%. Arabinans are the main hemicelluloses. The chemical composition of Calotropis cork significantly differs from Quercus suber cork, and this fact may partl y explain the different properties of these two materials. |
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| **Author(s):** | Jörg J. Sauter; Silvia Wellenkamp |
| **Title:** | **Protein Storing Vacuoles in Ray Ceils of Willow Wood (Salix Caprea L.)** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 59-65 |
| **Keywords:** | ray cells; protein bodies; cytochemistry; vacuoles; protein storage; Salix caprea L.; ultrastructure |
| **Abstract:** | Light- and electron-microscopical investigations revealed protein bodies of c. 0.5 to 2.5 µm in diameter in the ray cells of willow wood. They consist of electron-dense aggregatesofvarious structural organisation which are enclosed in small-sized vacuole-like compartrnents. In semi-thin sections these aggregates showed positive protein staining with Ponçeau Red and Coomassie Blue, and enzymatic digestibility with pepsin. Because these protein bodies are found during the dormant season but not during summer, they are believed to be specific sites of protein storage in the ray cells of the wood. This is in accordance with the biochemical protein determination which yielded 6.4 to 8.4 µg mg-1 dry weight in late fall but only 1.2 to 2.0 µg mg-1 dry weight during summer. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Reviews** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 66-66 |
| **Keywords:** |  |
| **Abstract:** |  |
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| **Author(s):** | Voichita Bucur |
| **Title:** | **Wood Structural Anisotropy Estimated by Acoustic Invariants** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 67-74 |
| **Keywords:** | Wood anisotropy; acoustic invariants; ultrasonic velocities |
| **Abstract:** | Wood anisotropy is induced by the specific deposition of anatomical elements during the life of the tree. The anisotropy becomes evident when acoustical properties are measured in the different main symmetry directions.The first approach for the estimation of wood anisotropy was to calculate the ratios of longitudinal and shear velocities in natural symmetry directions. The modeling of wood structure is required in order to relate the anatomical structure to the acoustical behaviour of wood.The second approach for wood anisotropy interpretation was to compute acoustic invariants and to average them. Considering that those quantities are insensitive to the direction of propagation, they can act as references for anisotropy investigation. Combining the values of invariants in the three main symmetry planes yields a single global value that characterises each species.Values of invariants for 15 species (conifers and broadleaves) are given. |
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| **Author(s):** | Stephanie T. Dyer |
| **Title:** | **Wood Fluorescence of Indigenous South African Trees** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 75-87 |
| **Keywords:** | extract colours; Heartwood fluorescence; froth test; Aluminium; saponins; longwave ultraviolet light; South African hardwoods; wood identification |
| **Abstract:** | The fluorescence characteristics of South African hardwoods and their extracts were studied to determine their value in wood identification. Heartwood specimens and water and ethanol extracts of a1together 179 species representing 108 genera and 46 farnilies were exarnined in longwave ultraviolet light. Additional tests were conducted for the presence of Aluminium natural saponins. The findings of this research correspond with the current knowledge on wood fluorescence. The families Leguminosae, Rutaceae and Anacardiaceae showed positive fluorescence for the majority of their species. Platylophus trifoliatus is the only indigenous species with a positive reaction to the test for Aluminium. The froth test for natural saponins in wood has variable results, restricting its significance in wood identification. These results show that fluorescence is a useful characteristic in wood identification and may be applied as a rapid and easy test to verify certain identifications. |
| **DOI:** | [10.1163/22941932-90000472](http://dx.doi.org/10.1163/22941932-90000472) |

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| **Author(s):** | Pieter Baas |
| **Title:** | **Review** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 88-89 |
| **Keywords:** |  |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Wood Anatomy News** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 89-94 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000474](http://dx.doi.org/10.1163/22941932-90000474) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Personal News** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 94-94 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000475](http://dx.doi.org/10.1163/22941932-90000475) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Association Affairs** |
| **Source:** | IAWA Bulletin NS, Volume 9, Issue 1 |
| **Publication Year:** | 1988 |
| **Pages:** | 95-98 |
| **Keywords:** |  |
| **Abstract:** |  |
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