**IAWA Bulletin New Series - Volume 5(3)**

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| **Author(s):** | J. Koek-Noonnan; S.M.C. Topper; B.J.H. ter Welle |
| **Title:** | **The Systematic Wood Anatomy of the Moraceae (Urticales) I. Tribe Castilleae** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 183-195 |
| **Keywords:** | Castilleae; plant systematics; Moraceae; Wood anatomy |
| **Abstract:** | The wood anatomy of the tribe Castilleae sensu Berg is described. Similarities and differences are discussed in relation to his concepts of the taxonomy of the tribe. The wood anatomical variation does not enable to distinguish between Maquira, Perebea and Pseudolmedia. Antiaris, Castilla, Helicostylis, Mesogyne and Naucleopsis can be recognised on the basis of slight differences. However, no reasons are found to question the delimitation of the Castilleae sensu Berg on the basis of their wood anatomy. |
| **DOI:** | [10.1163/22941932-90000887](http://dx.doi.org/10.1163/22941932-90000887) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Addenda to the Abstracts for the Pacific Regional Wood Anatomy Conference** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 196-196 |
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| **DOI:** | [10.1163/22941932-90000888](http://dx.doi.org/10.1163/22941932-90000888) |

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| **Author(s):** | Rudolf Schmid; Pieter Baas |
| **Title:** | **The Occurrence of Scalariform Perforation Plates and Helical Vessel Wall Thickenings in Wood of Myrtaceae** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 197-215 |
| **Keywords:** | Scalariform perforation plates; Myrtaceae; ecological and functional wood anatomy; systematic wood anatomy; helical wall thickenings; foraminate perforation plates |
| **Abstract:** | The occurrence of multiple perforation plates and helical wall thickenings in vessel elements of 144 species (plus 12 varieties and 2 hybrids) in 53 genera of Myrtaceae was extensively explored. Scalariform perforation plates occur in 40 species (plus 1 hybrid), in Luma, Myrceugenia, Myrteola, Ugni, and in the monotypic Myrtastrum rujo-punctatum, Neomyrtus pedunculata, and Tepualia stipularis. Ugni candollei also has foraminate (i.e., sieve-like) perforation plates. Helical wall thickenings occur in 33 species (plus 1 hybrid), in Acmena, Austromyrtus, Myrceugenia, Myrcia, Myrcianthes Psidium, Xanthomyrtus, and in Myrtus communis. Most of these records are new. The speeies with exclusively scalariform perforation plates (in Luma, Myrteola, Neomyrtus, and Ugni) are from cool mesic habitats; those with mixed simple and multiple perforation plates are also largely cool mesic but show a somewhat greater diversity of habitats. Myrtaceae with exclusively simple perforation plates predominate in all habitat types. Helical wall thickenings occur sporadically throughout the distributional range ofthe family. However, tropical species tend to have weaker helical thickenings than the subtropical and temperate species exhibiting them. The possible functional significance of these ecological tendeneies is discussed. It is hypothesised that multiple perforation plates were retained in some cool mesic Myrtaceae because of a lack of strong selective pressure to eliminate them from this type of environment, rather than that they were retained because of adaptive significance in trapping embolisms. The systematic and diagnostic value of multiple perforation plates and helical wall thickenings is also discussed. Scalariform plates are largely confined to related genera in Myrtoideae; Tepualia is the only representative from Leptospermoideae. Helical wall thickenings are only of limited diagnostic and systematic value above the species level. |
| **DOI:** | [10.1163/22941932-90000889](http://dx.doi.org/10.1163/22941932-90000889) |

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| **Author(s):** | Ben J. H. ter Welle |
| **Title:** | **Atlas d'identification des bois de l'amazonie et des régions voisines. P. Détienne and P. Jacquet, 640 pp., in cl. 278 pp. with illust. 1983. Centre Technique Forestier Tropical, 45bis, avenue de la Belle-Gabrielle, 94130 Nogent-sur-Marne, France. Hardcover. Price not yet fixed.** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 214-214 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000893](http://dx.doi.org/10.1163/22941932-90000893) |

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| **Author(s):** | Pieter Baas |
| **Title:** | **Transport processes in wood. J. F. Siau, 245 pp., 123 figs. 1984. Springer Series in Wood Science (ed. T.E. Timell). Springer, Berlin, Heidelberg, New York, Tokyo. Price: DM 89.00, approx. US$ 34.60 (cloth).** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 216-216 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000890](http://dx.doi.org/10.1163/22941932-90000890) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Frankia Symbioses. A.D.L. Akkermans, D. Bakker, K. Huss-Danell, J.D. Tjepkema (eds.), 258 pp., illust. 1984. Development in Plant and Soil Sciences Volume 12. Nijhoff/lunk, The Hague, Boston, Lancaster. Price: Dfl. 130, US$ 50.00, UK£ 33.00 (cloth).** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 216-216 |
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| **DOI:** | [10.1163/22941932-90000891](http://dx.doi.org/10.1163/22941932-90000891) |

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| **Author(s):** | A. F. Muhammad |
| **Title:** | **Perforation Plate Strucrure in Comptonia Peregrina (Myricaceae)** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 217-223 |
| **Keywords:** | Xylem; multiperforate plates; scalariform; transitional; simple; vessel elements; scalaroid perforation plates |
| **Abstract:** | The sequential development of vessel elements in the primary and secondary xylem of Comptonia peregrina (L.) Coult. was studied. Scalariform, transitional, simple and scalaroid perforation plates were common in this species. The structural variation of these plates was interpreted on the basis of some developmental factors such as: I) width of the ceJl face and the distance between helical gyres; 2) type and distribution of secondary wall material in the form of strand, sheet or both; 3) localised and differential deposition of wall material and bar breakdown. These factors may work alone or in combination to determine the perforation plate structure. |
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| **Author(s):** | Pieter Baas |
| **Title:** | **Clé d'identification à la loupe des bois des régions temperées et tropicales disponibles en Belgique / Sleutel voor houtdeterminatie met de loep van in België beschikbare houtsoorten uit de gematigde en tropische streken. Roger Dechamps, 24 pp. (incl. 63 photomicrographs). 1983. Doeumentation économique Vol. 5. Musée Royal de I'Afrique Centrale, Tervuren, Belgium. Price: BF 300 or US$ 6 (paper).** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 224-224 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000894](http://dx.doi.org/10.1163/22941932-90000894) |

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| **Author(s):** | R. Dayal; R. Vijendra Rao; Babulal Sharma |
| **Title:** | **Perforated Ray Cells in Woods of Indian Myrsinaceae and Loganiaceae** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 225-228 |
| **Keywords:** | Indian woods; Loganiaceae; Perforated ray cells; Myrsinaceae |
| **Abstract:** | Perforated ray cells have been recorded for the first time in Indian species of Embelia, Myrsine of the Myrsinaceae and in Strychnos of the Loganiaceae. |
| **DOI:** | [10.1163/22941932-90000895](http://dx.doi.org/10.1163/22941932-90000895) |

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| **Author(s):** | N. Parameswaran; H.-G. Richter |
| **Title:** | **The Ultrastructure of Crystalliferous Cells in Some Lecythidaceae With a Discussion of Their Terminology** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 229-236 |
| **Keywords:** | chambered crystals; ultrastructure; Lecythidaceae; crystalliferous cells |
| **Abstract:** | On the basis of a light microscopic c1assification of the genera of the Lecythidaceae according to the presence of crystalliferous cells in the axial wood parenchyma an attempt was made to characterise these cells at the fine structurallevel. Electron microscopic studies of the genera Allantoma, Grias and Gustavia revealed normal cross walls, as well as septumIike walls separating the individual crystal-containing units in the axial parenchyma strand. Based on these findings the terminology of the crystalliferous cells per se is discussed at some length. |
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| **Author(s):** | A. F. Muhammad; Michael M. Micko |
| **Title:** | **Accumulation of Calcium Crystals in the Decayed Wood of Aspen Attacked by Fomes Igniarius** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 237-241 |
| **Keywords:** | cation; tylosis; wood rotting fungi; mineral accumulation; wood decay; Calcium crystals; sapwood |
| **Abstract:** | The concentrations of minerals were studied in decayed, discoloured and clear wood of Aspen using both light and electron microscopes. Kevex X-ray energy spectrometer system and atomic absorption spectrophotometer analyses revealed that the concentration of K, Na, Ca, Mn, Mg were highest in the decayed wood and lowest in clear wood. Discoloured wood showed an intermediate concentration. Only crystalline calcium was present in the decayed wood and phloem. Association of wood rotting fungi seems to be closely related to the accumulation of calcium crystals. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Association Affairs** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 242-242 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000898](http://dx.doi.org/10.1163/22941932-90000898) |

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| **Author(s):** | A. R. Biggs |
| **Title:** | **Intracellular Suberin: Occurrence and Detection in Tree Bark** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 243-248 |
| **Keywords:** | fluorescence; bark; Suberin; rhytidome; histochemistry; wound tissue |
| **Abstract:** | A protocol is outlined for histochemical detection of intracellular suberin linings on the inner surface of the cell walls in impervious tissues of wounded and infected bark, and in bark forming rhytidome. Thin intracellular suberin linings (circa 0.5 µm) were detected in all 15 woody angiosperms examined. Intracellular suberisation was strongly associated with individual cells or cell layers (boundary zone) that displayed imperviousness with fluid diffusion tests. Tests inc1ude use of phloroglucinol + HCl and Sudan black B to selectively quench autofluorescence of lignin and suberin, respectively. Blue-violet excitation is used to enhance the Sudan IV test for suberin, cutin, and waxes. |
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| **Author(s):** | K. V. Bhat; K.M. Bhat |
| **Title:** | **Wavy Grain in Grewia Tiliifolia Vahl** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 249-252 |
| **Keywords:** | Grewia tiliifolia; rays; wound recovery; insect injury; Wavy grain |
| **Abstract:** | Wavy grain in Grewia tiliifolia is found to be associated with patches of abnormal parenchymatous (callus) tissue. Insect injury is evidenced to induce the formation of such wound healing tissue which is overgrown subsequently. This tissue causes deviation of grain around it. Its surface irregularities lead to the formation of grooves and ridges on the tangential surface. During recovery of normal wood structure in successive layers some abnormalities in the morphology of rays are observed. These are found to be the transitional stages which ultimately give rise to normal rays. |
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| **Author(s):** | Richard S. Dodd |
| **Title:** | **Radial and Tangential Diameter Variation of Wood Cells Within Trees of Acer Pseudoplatanus** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 253-257 |
| **Keywords:** | cambial initial; Vessel; crown; sycamore; fibre |
| **Abstract:** | Variations in wood cell shape within trees of Acer pseudoplatanus are described. Across growth rings the ratio of radial to tangential vessel diameter was greatest at about mid-ring, possibly associated with potential for expansion offered by the width of the cambial zone. Down sterns the ratio of radial to tangential diameter of fibres and vessels was greatest towards the tip and base of the tree. Along branches the ratio of radial to tangential vessel diameter decreased from tip to base. This variation in cell shape down sterns and branches appeared to be due to more rapid changes in tangential than radial cell diameter. It is suggested that variation in tangential fibre diameter resulted from variation in tangential diameter of cambial initials, and tangential expansion of vessels may have arisen from curvature of radial walls. The possible adaptive advantage to trees of reduced vessel diameter at the base of sterns and branches is discussed. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Wood Anatomy News** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 3 |
| **Publication Year:** | 1984 |
| **Pages:** | 258-258 |
| **Keywords:** |  |
| **Abstract:** |  |
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