**IAWA Journal Volume 15 (1)**

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| **Author(s):** | Leo Junikka |
| **Title:** | **Survey of English Macroscopic Bark Terminology** |
| **Source:** | IAWA Journal, Volume 15, Issue 1 |
| **Publication Year:** | 1994 |
| **Pages:** | 3-45 |
| **Keywords:** | tenninology; Bark morphology |
| **Abstract:** | Tenns of outer and inner bark characteristics are critically surveyed. Different macroscopical tenns with their synonyms are listed for a comparison of bark features. Suggestions are given for a standardised usage of the tenns to stimulate a practice of pertinent field notes and facilitate understanding of descriptions. Preferred tenns are printed in bold face and preferred definitions in italics. |
| **DOI:** | [10.1163/22941932-90001338](http://dx.doi.org/10.1163/22941932-90001338) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Water transport in pJants under climatic stress. M. Borghetti, J. Grace and A. Raschi (eds.), xv + 300 pp., illus., 1993. Cambridge University Press. ISBN 0-521-44219-2. Price: US$ 59.95; £ 35.00 (hardback).** |
| **Source:** | IAWA Journal, Volume 15, Issue 1 |
| **Publication Year:** | 1994 |
| **Pages:** | 46-46 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90001339](http://dx.doi.org/10.1163/22941932-90001339) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Restoration of Tropical Forest Ecosystems. H. Lieth and M. Lohmann (eds.), xiv + 269 pp., 1993. Tasks for vegetation science 30. K1uwer Academic Publishers, Dordrecht, Boston, London. ISBN 0-7923-1945-1. Price: Dfl. 260; US$ 154, UK£ 102 (hard cover).** |
| **Source:** | IAWA Journal, Volume 15, Issue 1 |
| **Publication Year:** | 1994 |
| **Pages:** | 46-46 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90001340](http://dx.doi.org/10.1163/22941932-90001340) |

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| **Author(s):** | Pedro L. B. Lisboa |
| **Title:** | **Notes on South American Cedar (Cedrela Fissilis) in The Sacred Art of Brazil** |
| **Source:** | IAWA Journal, Volume 15, Issue 1 |
| **Publication Year:** | 1994 |
| **Pages:** | 47-50 |
| **Keywords:** | Cedrela odorata; Cedrela fissilis; wood carving; século doouro; wood anatomy |
| **Abstract:** | The use of cedar (most probably Cedrela fissilis Vell.) in Brazilian sacred art is discussed. A wood anatomical description and an account of wood properties that make this now almost depeleted tropical heartwood so suitable for wood carving, are given. |
| **DOI:** | [10.1163/22941932-90001341](http://dx.doi.org/10.1163/22941932-90001341) |

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| **Author(s):** | Sheila M. Hayden; W. John Hayden |
| **Title:** | **Stem Development, Medullary Bundles, and Wood Anatomy of Croton Glandulosus Var. Septentrionalis (Euphorbiaceae)** |
| **Source:** | IAWA Journal, Volume 15, Issue 1 |
| **Publication Year:** | 1994 |
| **Pages:** | 51-63 |
| **Keywords:** | stem development; Croton; wood anatomy; internal phloem; Euphorbiaceae; medullary bundles |
| **Abstract:** | Anatomy and development of vascular tissues in the annual stems of Croton glandulosus var. septentrionalis are described. In primary stages of growth the stem possesses a eustele of bicollateral bundles; internal phloem is notably more extensive than the external. In addition to a vascular cambium and secondary xylem that form in the usual fashion, additional cambia add cells to the internal phloem portion of the bicollateral bundles, forming well-marked medullary bundles at the perimeter of the pith. At first, the perimedullary cambial strands produce only internal secondary phloem; later, internal secondary xylem is also formed in some stems. When internal secondary xylem is present, the medullary bundles have an inverted orientation, i.e., phloem innermost (towards centre of pith) and xylem outermost (near protoxylem). Cells of the medullary bundles include sieve tube elements, vessel ekments, and fibres. Normal (external) secondary phloem is weakly developed. Normal secondary xylem contains short vessel elements with simple perforation plates and alternate intervascular pits, libriform fibres, narrow heterocellular rays, and lacks axial parenchyma. |
| **DOI:** | [10.1163/22941932-90001342](http://dx.doi.org/10.1163/22941932-90001342) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 15, Issue 1 |
| **Publication Year:** | 1994 |
| **Pages:** | 64-64 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90001343](http://dx.doi.org/10.1163/22941932-90001343) |

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| **Author(s):** | Danny Rioux |
| **Title:** | **Anatomy and Ultrastructure of Pith Fleck-Like Tissues in Some Rosaceae Tree Species** |
| **Source:** | IAWA Journal, Volume 15, Issue 1 |
| **Publication Year:** | 1994 |
| **Pages:** | 65-73 |
| **Keywords:** | Sorbus; Amelanchier; histochemical tests; collapsed cells; Prunus; lignin; hypertrophied cells; Pith flecks |
| **Abstract:** | Unusual xylem tissues were found in Amelanchier laevis, Prunus pensylvanica, P. virginiana, Sorbus americana and S. aucuparia. These zones of abnormal xylem were composed of hypertrophied cells and bands that apparently comprised collapsed cells. The hypertrophied cells appeared to occupy gaps that began to form in the cambial zone. Histochemical tests indicated that the bands were highly lignified and impermeable to an aqueous solution of KMnO4, as revealed by fluorescence. Transmission electron microscope examination disclosed clearly that the bands were composed of collapsed cells and showed that the hypertrophied cells had thicker walls which contained, at times, additional layers. Although the cause of this tissue formation is unknown, its anatomy is quite similar to pith fleck tissues reported by others as being caused by cambium mining insects. |
| **DOI:** | [10.1163/22941932-90001344](http://dx.doi.org/10.1163/22941932-90001344) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 15, Issue 1 |
| **Publication Year:** | 1994 |
| **Pages:** | 74-74 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90001345](http://dx.doi.org/10.1163/22941932-90001345) |

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| **Author(s):** | Roland R. Dute |
| **Title:** | **Pit Membrane Structure and Development in Ginkgo Biloba** |
| **Source:** | IAWA Journal, Volume 15, Issue 1 |
| **Publication Year:** | 1994 |
| **Pages:** | 75-90 |
| **Keywords:** | wood ultrastructure; Ginkgo; margo; torus; pit membrane |
| **Abstract:** | Pit membrane ontogeny in radial walls of Ginkgo biloba tracheids was followed using transmission electron microscopy. Torus initiation occurs prior to initiation of the pit border and without benefit of a microtubule plexus. The developing pit membrane is associated with masses of wall material located within plasmalemma invaginations. Wall material is added in such a manner as to form a torus with highly irregular surfaces. Margo and torus are traversed by plasmodesmata, whose channels are connected by extcnsive median cavities. Matrix material is removed from both margo and torus shortly after hydrolysis of the adjacent cytoplasms. Matrix removal begins at the pit membrane surface and is not preferentially associated with the plasmodesmata. Tori in aspirated pit membranes have compacted fibrils, and their fibrillar compaction might reduce permeability to air embolisms. |
| **DOI:** | [10.1163/22941932-90001346](http://dx.doi.org/10.1163/22941932-90001346) |

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| **Author(s):** | A.M. Catesson; R. Funada; D. Robert-Baby; M. Quinet-Szély; J. Chu-Bâ; R. Goldberg |
| **Title:** | **Biochemical and Cytochemical Cell Wall Changes Across the Cambial Zone** |
| **Source:** | IAWA Journal, Volume 15, Issue 1 |
| **Publication Year:** | 1994 |
| **Pages:** | 91-101 |
| **Keywords:** | calcium; cell wall; xylans; Cambium; hardwoods; pectins |
| **Abstract:** | Parallel biochemical and cytochemical investigations on several hardwoods disclosed progressive changes in radial cell wall composition and structure across the cambial zone. Phloem derivatives were characterised by the early deposition of a microfibrillar skeleton and a low amount of xylans. In the radial walls of xylem derivatives, cellulose micro fibrils were few and, at least in some species, xylans were rather abundant. The content in acidic pectins and calcium ions increased from the phloem to the xylem side. The presence of cellulose microfibrils, the activity of enzymes such as xylan synthases or pectin methylesterases might be useful clues to recognise early stages of xylem or phloem determination in the first cambial derivatives. |
| **DOI:** | [10.1163/22941932-90001347](http://dx.doi.org/10.1163/22941932-90001347) |

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| **Author(s):** | Ilona Peszlen |
| **Title:** | **Wood Anatomy News** |
| **Source:** | IAWA Journal, Volume 15, Issue 1 |
| **Publication Year:** | 1994 |
| **Pages:** | 102-104 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90001348](http://dx.doi.org/10.1163/22941932-90001348) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Association Affairs** |
| **Source:** | IAWA Journal, Volume 15, Issue 1 |
| **Publication Year:** | 1994 |
| **Pages:** | 104-106 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90001349](http://dx.doi.org/10.1163/22941932-90001349) |