**IAWA Bulletin New Series - Volume 5(4)**

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| **Author(s):** | Nili Liphschitz; S. Lev-Yadun; E. Rosen; Y. Waisel |
| **Title:** | **The Annual Rhythm of Activity of the Lateral Meristems (Cambium and Phellogen) in Pinus Halepensis Mill. and Pinus Pinea L.** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 263-274 |
| **Keywords:** | Periodicity; vascular cambium; phellogen; Pinus; phloem; xylem production |
| **Abstract:** | The annual rhythms of cambial and phellogen activity in Pinus halepensis and P pinea were investigated. Under natural conditions the cambium of P halepensis begins its activity in autumn, enters a quiescent period during midwinter, resurnes activity towards spring and enters a second rest period in summer. The ring border is formed during summer. Irrigated plants growing outdoors were active almost all the year round.The cambium of P pinea is active between April and November and enters a true winter dormancy.The duration of xylem production exceeded that of the phloem. More xylem than phloem cells were formed. The phellogen was active during a short period only.Pinus halepensis seems to follow the Mediterranean climate patterns whereas P pinea follows the pattern of a colder climate. |
| **DOI:** | [10.1163/22941932-90000413](http://dx.doi.org/10.1163/22941932-90000413) |

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| **Author(s):** | H.J. Braun |
| **Title:** | **The Significance of the Accessory Tissues of the Hydrosystem for Osmotic Water Shifting as the Second Principle of Water Ascent, With Some Thoughts Concerning the Evolution of Trees** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 275-294 |
| **Keywords:** | xylem parenchyma; evolution; ecology; osmotic water shifting; starch; Acid phosphatases; water conduction |
| **Abstract:** | The accessory tissues of the hydrosystem consist of the parenchymatic contact tissue of the xylem rays, as weIl as the paratracheidal parenchyma in gymnosperms, and the paratracheal contact-parenchyma in angiosperms. |
| **DOI:** | [10.1163/22941932-90000414](http://dx.doi.org/10.1163/22941932-90000414) |

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| **Author(s):** | Keiko Kuroda; Ken Shimaji |
| **Title:** | **Wound Effects on Xylem Cell Differentiation in a Conifer** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 295-305 |
| **Keywords:** | differentiation; cell division; ray tracheid; ray parenchyma; injury; Pinus taeda; tyloses; Axial tracheid |
| **Abstract:** | Modified xylem cells formed around a minute injury due to pin insertion in the cambium of loblolly pine stern were observed periodically in order to study the mechanism of xylem cell differentiation in conifers. Ray parenchyma cells in the mature xylem as well as in the cambial zone were strongly activated. They not only proliferated randomly in the wound gap, but also invaded into some mature tracheids through the pinoid pits to form tylosis-like structures. Then they reticulately thickened and lignified their wall much earlier and more excessively than the normal ray parenchyma cells. Immature ray tracheids, which also divided several times abnormally in the cambial zone, differentiated into ray tracheids without differentiating into any other elements, although some of them had modified pits. Immature axial tracheids near the injury differentiated normally even though some sporadic transverse or radial division occurred before maturation. Only exceptionally, some peculiar groups of small bordered pit pairs were formed between them. It was clear that a shift from differentiating direction on the way of cell maturation, for instance from immature tracheid to parenchyma cell, was never induced by injury. Cambial initials, both ray and fusiform, were very stable. |
| **DOI:** | [10.1163/22941932-90000415](http://dx.doi.org/10.1163/22941932-90000415) |

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| **Author(s):** | Pieter Baas |
| **Title:** | **Reviews** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 306-306 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000416](http://dx.doi.org/10.1163/22941932-90000416) |

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| **Author(s):** | M. El Mahjoub; D. Le Picard; M. Moreau |
| **Title:** | **Origin of Tyloses in Melon (Cucumis Melo L.) in Response to a Vascular Fusarium** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 307-311 |
| **Keywords:** | Cucumis melo L; tylosis; contact cells; xylem; protective layer; Fusarium oxysporum f. sp. melonis; transfer cells; Cell wall ultrastructure |
| **Abstract:** | The cells abutting the vessels in the primary xylem of healthy melon exhibit the characteristics of contact cells. These cells also produce a protective layer and transfer-cell-like thickenings. The primary wall is partially if not totally hydrolysed at the level of the pits. After infection by Fusarium oxysporum f. sp. melonis Sn. ' H., the contact cells of resistant plants show a strong cytoplasmic activity leading to the growth of tyloses into the lumen of abutting vessels. Such tylosis formation occurs rapidly and is helped by the material stored in the ingrowths of the protective layer which is reorganised into the single wall of the tylosis. The primary wall bursts and disappears during tylosis formation. |
| **DOI:** | [10.1163/22941932-90000417](http://dx.doi.org/10.1163/22941932-90000417) |

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| **Author(s):** | Pieter Baas |
| **Title:** | **Review and Announcement** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 312-312 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000418](http://dx.doi.org/10.1163/22941932-90000418) |

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| **Author(s):** | R. Vijendra Rao; Babulal Sharma; R. Dayal |
| **Title:** | **Occurrence of Perforated Ray Cells in Santalaceae** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 313-315 |
| **Keywords:** | Santalaceae; perforated ray cells; Broad rays |
| **Abstract:** | The presence of perforated ray cells is described for the first time in Pyrularia edulis, Scleropyrum maingayi and S. ridleyi, belonging to the family Santalaceae. |
| **DOI:** | [10.1163/22941932-90000419](http://dx.doi.org/10.1163/22941932-90000419) |

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| **Author(s):** | Pieter Baas |
| **Title:** | **Acid Rain, Wood Structure and Wood Quality - A Call for Cooperation** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 316-316 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000420](http://dx.doi.org/10.1163/22941932-90000420) |

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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) II. Tribe Dorstenieae** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 317-329 |
| **Keywords:** | Trilepisium; Bosqueiopsis; Trymatococcus; Helianthostylis; Dorstenia; Systematic wood anatomy; Brosimum |
| **Abstract:** | The wood anatomy of the tribe Dorstenieae sensu Berg is described. Similarities and differences are discussed in relation to his concepts of the taxonomy of the tribe. Wood anatomically the tribe Dorstenieae is fairly homogeneous, Dorstenia deviating most in the juvenilistic composition of its rays, and the small diameter and high frequency of its vessels. Bosqueiopsis differs from the other genera in the presence of fibre pits in the radial and tangential walls. Helianthostylis and Trymatococcus are highly similar. Brosimum shows a variation range exceeding that of the entire tribe. Nevertheless, individual species of Brosimum can often not be distinguished. |
| **DOI:** | [10.1163/22941932-90000421](http://dx.doi.org/10.1163/22941932-90000421) |

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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) III. Tribe Ficeae** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 330-334 |
| **Keywords:** | Systematic wood anatomy; Moraceae; Ficeae |
| **Abstract:** | The wood anatomy of the tribe Ficeae, comprising one genus, Ficus, is described. Considering the large number of species, the genus is remarkably homogeneous. It is characterised by abundant axial parenchyma in regular apotracheal concentric bands and narrow vasicentric rings, and by relatively wide vessels. On the basis of these characters, Ficus can easily be recognised within the family. . |
| **DOI:** | [10.1163/22941932-90000422](http://dx.doi.org/10.1163/22941932-90000422) |

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| **Author(s):** | B. Guillermina Gómez-Vazquez; E. Mark Engleman |
| **Title:** | **Bark Anatomy Of Bursera Longipes (Rose) Standley And Bursera Copallifera (Sessé ' Moc.) Bullock** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 335-340 |
| **Keywords:** | periderm; tropics; México; resin; Exfoliation |
| **Abstract:** | The bark structure of Bursera longipes and B. copallifera was compared. There are fibres in the phloem of B. longipes, while in B. copallifera these are absent. Cells with U-shaped thickenings are found in the cork of B. copallifera but not in B. longipes. There are axial, radial and tangential resin ducts in the phloem of both species. A green layer of parenchymatous cells underlies the periderm of the two species. |
| **DOI:** | [10.1163/22941932-90000423](http://dx.doi.org/10.1163/22941932-90000423) |

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| **Author(s):** | William C. Dickison |
| **Title:** | **On the Occurrence of Silica Grains in Woods of Uibbertia (Dilleniaceae)** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 341-343 |
| **Keywords:** | rays; Silica grains; Hibbertia; Dilleniaceae |
| **Abstract:** | Silica grains are common in the woods of New Caledonian species of Hibbertia. The grains are generally restricted to the ray parenchyma cells with a single grain per ray cello Grain size, shape, and surface texture are quite variable. The systematic significance of silica grains in Hibbertia cannot be assessed until additional species are examined. This is the first documented report of silica grains occurring in woods of the Dilleniaceae. |
| **DOI:** | [10.1163/22941932-90000424](http://dx.doi.org/10.1163/22941932-90000424) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Wood Anatomy News** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 344-344 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000425](http://dx.doi.org/10.1163/22941932-90000425) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Pan-American Regional Wood Anatomy Conference** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 345-347 |
| **Keywords:** |  |
| **Abstract:** | At the time this IAWA Bulletin went to the press, many more papers had been announced than abstracts received. It is certain that at the meeting there will be presentations on various aspects of comparative functional, ecological and systematic wood anatomy by i.a., H.J. Braun (Freiburg, FRG), S. Fink (Freiburg, FRG), R. Schmid (Munieh, FRG), B.J.H. ter Welle (Utrecht, the Netherlands), and many participants from South America. Extensive addenda to this set of abstracts will be published in the next issue(s) of the IAWA Bulletin. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Association Affairs** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 348-349 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000427](http://dx.doi.org/10.1163/22941932-90000427) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Association Affairs** |
| **Source:** | IAWA Bulletin NS, Volume 5, Issue 4 |
| **Publication Year:** | 1984 |
| **Pages:** | 350-350 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000428](http://dx.doi.org/10.1163/22941932-90000428) |