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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **The Third Pacific Regional Wood Anatomy Conference 1994** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
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| **Author(s):** | Sergio R. S. Cevallos-Ferriz; Josefina Barajas-Morales |
| **Title:** | **Fossil Woods from the El Cien Formation in Baja California Sur: Leguminosae** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
| **Publication Year:** | 1994 |
| **Pages:** | 229-245 |
| **Keywords:** | Oligocene; Leguminosae; Bajacalijornioxylon; Mimosoxylon; Wood anatomy; fossil wood; Copaijeroxylon; Miocene; Baja California Sur |
| **Abstract:** | Three types of fossil woods with similarities to the Leguminosae are described, Mimosoxylon tenax (Felix) Müller-Stoll ' Mädel, Bajacalijomioxylon cienense Cevallos-Ferriz ' Barajas-Morales, gen. et sp. nov., and Copaijeroxylon matanzensis Cevallos-Ferriz ' Barajas-Morales, sp. nov. These woods are from the EI Cien Formation in Baja California Sur, Mexico, which is dated as Zemorrian-Saucesian, i.e., late Oligocene–early Miocene. Although two of the names of the fossil woods suggest affinity with a particular extant taxon, differences in some quantitative and qualitative features preclude their identification with a single extant taxon. The similarity among wood of some groups of extant Leguminosae and limited knowledge of character variability in woods of this family explains this taxonomie uncertainty. These fossil woods from Baja California underscore the need for an extensive systematic study of the wood anatomy of Leguminosae, add to the poorly known plant history of the Peninsula, suggest a tropical South American influence in the fossil flora of Baja Califomia, and indicate that the climate during the Zemorrian- Saucesian was different from the xeric conditions that prevail today in the area. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Association Affairs** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
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| **Author(s):** | S. Carlquist; E.L. Schneider; R.B. Miller |
| **Title:** | **Wood and Bark Anatomy of Argemone (Papaveraceae)** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
| **Publication Year:** | 1994 |
| **Pages:** | 247-255 |
| **Keywords:** | storied structure; Papaverales; Argemone; ecological wood anatomy; vessel restriction patterns; Berberidales |
| **Abstract:** | Wood anatomy of Argemone fruticosa, sole shrubby species of the genus, is distinctive in having growth rings, thick-walled libriform fibres, thick-walled ray cells with large intercellular spaces, vessels with grooves interconnecting pit apertures, and restriction of vessels to central portions of fascicular areas. Most of these features are related to the xeric ecology of this species. Argemone turnerae is an herbaceous perennial with large roots and sterns, the wood of which exhibits features distinctively related to this habit, including succulence (axial parenchyma substitutes for libriform fibres). Both species of Argemone share such features as storied wood structure and absence of uniseriate rays, which are infrequent in dicotyledons at large but common in other Papaveraceae. Wood data are not decisive in indicating whether the ancestors of Argemone or Papaveraceae were woody or herbaceous, but several features indicative of paedomorphosis can be found in the wood. Bark of Argemone is briefly described. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
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| **Author(s):** | Marisa S. Otegui |
| **Title:** | **Occurrence of Perforated Ray Cells and Ray Splitting in Rapanea Laetevirens and R. Lorentziana (Myrsinaceae)** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
| **Publication Year:** | 1994 |
| **Pages:** | 257-263 |
| **Keywords:** | Rapanea laetevirens; Myrsinaceae; Rapanea lorentziana; Perforated ray cells |
| **Abstract:** | Perforated ray cells are reported for the first time in stern and root wood of two neotropical species, Rapanea laetevirens Mez and Rapanea lorentziana Mez (Myrsinaceae). Two types of ray splitting were observed. One of them is correlated with the presence of perforated ray cells. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Wood Anatomy News** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
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| **Author(s):** | R.D. Heady; R.B. Cunningham; C.F. Donnelly; P.D. Evans |
| **Title:** | **Morphology of Warts in the Tracheids of Cypress Pine (Callitris Vent.)** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
| **Publication Year:** | 1994 |
| **Pages:** | 265-281 |
| **Keywords:** | Callitris Vent.; wart morphology; Warty layer; vestures; SEM; nodules; taxonomy; tracheids |
| **Abstract:** | A high-resolution SEM examination of the warty layer in tracheids of the Australasian softwood genus Callitris Vent. has revea1ed that warts in 12 of the 16 species have variable, complex morphology and nodule-like projections, giving them a 'nodulated' or 'branched' appearance similar to those described for certain hardwoods. Pairs of warts were occasionally anastomosed. Warts could be categorised into two types; large and no dulated, or small and hemispherical. In the four Callitris species native to high rainfall environments, warts were invariably of the latter type and were morphologically distinct from the mixed populations of small hemispherical and large nodulated warts found in species from dry habitats. This suggests that large nodulated warts are of adaptive value in waterstress conditions. Wart morphology was useful as an indicator of Callitris species although intra-specific variation limited the accuracy of diagnosis. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Wood Anatomy News** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
| **Publication Year:** | 1994 |
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| **Author(s):** | Yuzou Sano; Kazumi Fukuzawa |
| **Title:** | **Structural Variations and Secondary Changes in Pit Membranes in Fraxinus Mandshurica Var. Japonica** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
| **Publication Year:** | 1994 |
| **Pages:** | 283-291 |
| **Keywords:** | sapwood; pit membranes; secondary change; heartwood; Fraxinus mandshurica var. japonica; structural variation |
| **Abstract:** | Structural variations and secondary changes in intervascular, interfibre, interparenchyma, vessel-parenchyma, and fibre-parenchyma pit membranes, from the outermost sapwood to the inner heartwood of Fraxinus mandshurica var.japonica, were studied by uitraviolet light microscopy, and by scanning and transmission electron microscopy. In the sapwood, none of the pit membranes appeared lignified and pit membranes were seldorn incrusted. In the heartwood, material that strongly absorbed ultraviolet light was heavily deposited on intervascular, interparenchyma, vessel-parenchyma, and fibre-parenchyma pit membranes. Secondary changes in the interfibre pit pairs were not so pronounced. Interfibre pit membranes were often absent in both the sapwood and the heartwood. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Wood Anatomy News** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
| **Publication Year:** | 1994 |
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| **Abstract:** |  |
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| **Author(s):** | Satoshi Nagai; Jun Ohtani; Kazumi Fukazawa; Jing Wu |
| **Title:** | **Sem Observations on Perforated Ray Cells** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
| **Publication Year:** | 1994 |
| **Pages:** | 293-300 |
| **Keywords:** | SEM; micromorphology; dimorphic perforations; Perforated ray cell |
| **Abstract:** | The occurrence and morphology of perforated ray cells in eight Yunnan hardwoods were investigated using SEM, and the micromorphology of their perforation plates compared with those in the vessel member end walls. In most cases the perforation plates were dimorphic with the total area of the openings in the perforated ray cells sm aller than the perforation plates in the vessel member ends. |
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| **Author(s):** | D. Stokke Douglas; G. Manwiller Floyd |
| **Title:** | **Proportions of Wood Elements in Stem, Branch, and Root Wood of Black Oak (Quercus Velutina)** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
| **Publication Year:** | 1994 |
| **Pages:** | 301-310 |
| **Keywords:** | stern wood; branch wood; Quercus velutina; root wood; proportions of wood elements |
| **Abstract:** | The volumetrie proportions of vessel elements, fibres, rays, and axial parenchyma plus vasicentric tracheids were determined for the stern, branch and root wood of threc black oak (Quercus velutina Lam.) trees. There were statistical differences in the proportions of wood elements between locations within the trees sampled, i.e., branches, sterns, roots, oblique roots, and lateral roots. Branches had the highest proportion of vesseI elements, whereas sterns had the greatest proportion ofaxial parenchyma plus vasicentric tracheids. The highest proportions of rays were found in root wood. Fibre proportion was greatest in the stern and branch wood. |
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| **Author(s):** | Ilona Peszlen |
| **Title:** | **Influence of Age on Selected Anatomical Properties of Populus Clones** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
| **Publication Year:** | 1994 |
| **Pages:** | 311-321 |
| **Keywords:** | wood anatomy; Populus × euramericana clones; maturation; juvenile wood |
| **Abstract:** | Anatomieal properties of three Euramerican hybrid poplar [Populus × euramericana (Dode) Guinier] clones, the Italian 'I-214' and the Hungarian 'Kopecky' and 'Koltay', were investigated. Six trees from each clone were sampled from plantations (aged 15 and 10 years) at two sites in Hungary. Disks were removed at breast height from each tree to study the effect of age on variation of anatomical properties. Along the eastern radius, vesscl and fibre parameters were measured for each growth ring using an image analyser. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Association Affairs** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
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| **Author(s):** | K.C. Yang; Y.S. Chen; C.A. Benson |
| **Title:** | **Vertical and Radial Variation of Nuclear Elongation Index of Living Sapwood Ray Parenchyma Cells in a Plantation Tree of Cryptomeria Japonica** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
| **Publication Year:** | 1994 |
| **Pages:** | 323-327 |
| **Keywords:** | nuclear elongation index; Sapwood; ray parenchyma cells; Cryptomeria japonica |
| **Abstract:** | Vertical and radial variations of nuclear elongation index (NEI) of living sapwood ray parenchyrna cells were studied in a 45-year-old plantation tree of Cryptomeria japonica D. Don collected in Taiwan on February 27, 1992. Nine wood strips oriented in an E-W direction of the tree were collected starting at 0.3 m above ground level, and progressing upwards by 2.5 m intervals to the tree crown. Radial sections, 20 µm thick, were cut from the cambium toward the inner sapwood of these nine wood strips. The nuclear elongation index (NEI) was used to express the metabolic activity of the ray cells. It was found that metabolic activity of sapwood ray parenchyma was thc highest at the outer sapwood and declined gradually towards the inner sapwood. The lowest average NEI was found at the lowest stern level. The average NEI of various stern height levels increased with increasing stern height level. The average NEI of three growth rings at the outer sapwood near the cambium reached a maximum at the bottom of the live crown. |
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| **Title:** | **Wood Anatomy News** |
| **Source:** | IAWA Journal, Volume 15, Issue 3 |
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| **Abstract:** |  |
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