**IAWA Journal - Volume 18(3)**

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| **Author(s):** | Ben J. H. ter Welle |
| **Title:** | **Message from the departing Executive Secretary** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
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| **Pages:** | 211-212 |
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| **Author(s):** | Regis B. Miller |
| **Title:** | **Message from the new Executive Secretary** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
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| **Author(s):** | Guillermo Angeles; Calixto León-Gómez |
| **Title:** | **Bark Anatomy of Four Tropical Vitaceae from Veracruz, Mexico** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
| **Pages:** | 215-228 |
| **Keywords:** | C. sicyoides; Vitis tiliifolia; C. microcarpa; Bark anatomy; secondary phloem; Cissus gossypiifolia |
| **Abstract:** | Bark anatomy of four species of Vitaceae growing at the tropical rain forest of Veracruz, Mexico, is described. Young and mature individuals were collected at the tropical biology field station 'Los Tuxtlas' . External, gross characteristics of the bark and microscopic features of young and adult individuals are given. Sectorization of the vascular tissues into minor and major areas was found in the three Cissus species, but not in Vitis tiliifolia, where it was apparent only at early stages of development. All the species studied have storied secondary phloem and very tall rays. The potential role of mucilage in water-holding capacity and the relationship of stem anatomy and aerial root formation are discussed. |
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| **Author(s):** | Vanessa E.T.M. Ashworth; Gracielza Dos Santos |
| **Title:** | **Wood Anatomy of Four Californian Mistletoe Species (Phoradendron, Viscaceae)** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
| **Pages:** | 229-245 |
| **Keywords:** | mesomorphy ratio; parasitic plants; vessel wall sculpture; wood anatomy; Phoradendron; vulnerability ratio; spiral thickenings; Viscaceae |
| **Abstract:** | Secondary xylem characteristics were compared in four species of Phoradendron Nutt. (Viscaceae) native to California. All have extremely short, thick-walled vessel elements with simple perforation plates. They also share high vessel density, radial vessel arrangement, thick-walled fibres, and multiseriate, heterocellular rays. The fibres show considerable intrusive growth. Features of the vessel elements (i.e. vessel dimensions, arrangement, type of wall sculpturing) and calcium oxalate crystals in the ray parenchyma cells are useful diagnostic traits to separate species. Grooved vessel walls are shared by the morphologically similar P. villosum and P. macrophyllum. Differences between these two species may reflect contrasting drought response strategies pursued by respective hosts. Vulnerability and mesomorphy ratios of the wood of P. californicum are higher than those of P. pauciflorum and P. macrophyllum. Phoradendron pauciflorum has the most xeromorphic wood of the four species studied. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
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| **Author(s):** | Cátia H. Callado; Cecília G. Costa |
| **Title:** | **Wood Anatomy of Some Anaueria and Beilschmiedia Species (Lauraceae)** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
| **Pages:** | 247-259 |
| **Keywords:** | Beilschmiedia; taxonomy; Wood anatomy; Anaueria; Lauraceae; ecology |
| **Abstract:** | The wood anatomy of the species Anaueria brasiliensis Kosterm., Beilschmiedia emarginata (Meissn.) Kosterm., B. rigida (Mez) Kosterm. and B. taubertiana (Schw. et Mez) Kosterm. (Lauraceae) is described. The taxonomy and ecology of these species, important components of the Amazonian forest or Atlantic forest of southeastern Brazil, are discussed as related to wood anatomy. The main anatomical differences are: presence, type, arrangement and location of inorganic inclusions and secretory cells, and the arrangement of the axial parenchyma. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
| **Pages:** | 260-260 |
| **Keywords:** |  |
| **Abstract:** |  |
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| **Author(s):** | Frank W. Ewers; Matthew R. Carlton; Jack B. Fisher; Kimberly J. Kolb; Melvin T. Tyree |
| **Title:** | **Vessel Diameters in Roots Versus Stems of Tropical Lianas and Other Growth Forms** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
| **Pages:** | 261-279 |
| **Keywords:** | vessel diameter; Xylem vessels; vines; lianas; root anatomy |
| **Abstract:** | For trees and shrubs it is well known that vessels tend to be wider in roots than in stems. It is also well known that vines have narrow stems with wide vessels, but roots of vines have been little studied. It was hypothesized that the evolution of the vine habit involved greater changes in stems than in terrestrial roots, and thus vessels in stems of vines would tend to be as wide, or wider, than in roots. Radial vessel diameters were compared in roots versus stems of 62 taxa from 20 families of plants based upon collections made at Barro Colorado Island (BCI) in Panama and Fairchild Tropical Garden (FTG) in Miami, FL, USA. As expected, for Fabaceae trees + shrubs, mean and maximum vessel diameters were significantly greater in roots than in stems. Tbe reverse was true for Fabaceae lianas (woody vines), where vessel diameters were significantly greater in stems. When comparing stems of all c1imbing species (n = 51) to non-c1imbing species (n = 11), the c1imbing species had significantly greater mean and maximum vessel diameters. In contrast, for root vessels differences between growth forms were not statistically significant. |
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| **Author(s):** | P. van Rijckevorsel |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
| **Pages:** | 280-280 |
| **Keywords:** |  |
| **Abstract:** |  |
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| **Author(s):** | Shinya Koga; Kazuyuki Oda; Juichi Tsutsumi; Takaaki Fujimoto |
| **Title:** | **Effect of Thinning on the Wood Structure in Annual Growth Rings of Japanese Larch (Larix Leptolepis)** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
| **Pages:** | 281-290 |
| **Keywords:** | Japanese larch (Larix leptolepis); growth rate; thinning; tracheid dimension; wood property |
| **Abstract:** | The objective of this study was to determine the effect of thinning on the annual ring structure and the cross-sectional dimensions of tracheids in plantation-grown Japanese larch (Larix leptolepis). Annual ring width, earlywood width and latewood width increased significantly after thinning. The width of the band of nonflat latewood tracheids in the annual ring increased more than that of flat latewood tracheids. Thinning did not significantly affect latewood percentage. The average radial diameter of both earlywood and latewood tracheids increased after thinning. After thinning, average wall thickness of earlywood tracheids increased, while that of latewood tracheids decreased. Cell wall percentage in earlywood was not influenced significantly by thinning, but latewood cell wall percentage decreased. The changes of the average radial tracheid diameter, the average wall thickness of tracheids and cell wall percentage from earlywood to latewood within a growth ring became more gradual after thinning. However, thinning did not affect significantly the cell wall percentage of the whole growth ring. This study suggests that thinning has little effect on wood density of the whole growth ring in Japanese larch. |
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| **Author(s):** | Keiko Kuroda; Yoshiuki Kiyono |
| **Title:** | **Seasonal Rhythms of Xylem Growth Measured by the Wounding Method and With a Band-Dendrometer: An Instance of Chamaecyparis Obtusa** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
| **Pages:** | 291-299 |
| **Keywords:** | wounding method; banddendrometer; drought shrinkage; Chamaecyparis obtusa; Xylem growth; pinning method |
| **Abstract:** | The pinning method for the measurement of xylem growth was modified for easier application. Trunks of Chamaecyparis obtusa were monthly incised with a knife instead of a thin needle. Two years later, xylem blocks including wounded areas were harvested. For comparison, circumferential increases of the same trees were measured with a banddendrometer. Measurements from the wounding method indicated a tendency for cambial cell production to accelerate twice a year, around April and August. Circumferential increase measured with the banddendrometer differed from radial growth measured from wounding. Circumferential increase was very small around August and continued after the cessation of cell production. The c1imatic data near the plantation suggested that the circumferential size of the trunk probably is affected by the physical shrinkage of trunks because of water shortage during drought season and trunk swelling following precipitation. Circumferential increments did not reflect the seasonal rhythms of xylem growth. Therefore, for detailed information on radial growth within a season, the wounding method is recommended. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
| **Pages:** | 300-300 |
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| **Abstract:** |  |
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| **Author(s):** | Dong Ok Lim; Woong Young Soh |
| **Title:** | **Cambial Development and Tracheid Length of Dwarf Pines (Pinus Densiflora and P. Thunbergii)** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
| **Pages:** | 301-310 |
| **Keywords:** | growth in hard environment; tracheid length; anticlinal and periclinal division; intrusive growth; Cambial initial |
| **Abstract:** | From a comparison of cambial cells and their derivatives between naturally occurring dwarf trees and normal ones, it was concluded that tracheids in the annual rings of dwarf trees are shorter, narrower and fewer than those of normal trees. The frequency of anticlinal division and loss of cambial initials is low during differentiation of xylem cells from cambial initials in dwarf pines. The length and intrusive growth of fusiform initials are slightly less than those of normal trees. Thus, it is concluded that the shortening of tracheids in dwarf trees is due to the fact that cambial initials are themselves shortened and that intrusive growth during differentiation of xylem mother cells has occurred. |
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| **Author(s):** | P. B. Priya; K. M. Bhat |
| **Title:** | **Wood Anatomical Changes in Juvenile Teak due to Insect Defoliation** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
| **Pages:** | 311-317 |
| **Keywords:** | growth rate; false rings; ring width; specific gravity; tissue percentage; Tectona grandis |
| **Abstract:** | Selected anatomical characteristics and wood specific gravity of 8-year old teak trees protected from insect defoliation were compared with those from an unprotected population. Trees during the protection period of four years showed considerable increase in ring width (growth rate). Although latewood width was more closely correlated with ring width than earlywood width, no significant differences were found in specific gravity, cell wall percentage and diameter and percentage of vessels, probably due to juvenility. Furthermore, no intrinsic relationship could be established between the insect defoliation and the formation of false rings. |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Wood Anatomy News** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Association Affairs** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
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| **Keywords:** |  |
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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Additions to e-Mail Directory** |
| **Source:** | IAWA Journal, Volume 18, Issue 3 |
| **Publication Year:** | 1997 |
| **Pages:** | 326-326 |
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| **Abstract:** |  |
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