**IAWA Journal - Volume 19(4)**

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Preliminary material** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | i-iii |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000657](http://dx.doi.org/10.1163/22941932-90000657) |

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| **Author(s):** | Steven Jansen; Erik Smets; Pieter Baas |
| **Title:** | **Vestures in Woody Plants: A Review** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | 347-382 |
| **Keywords:** | hardwoods; development; Vestures; softwoods; systematics; wood anatomy; warts; chemistry |
| **Abstract:** | Vestures are defined as mostly branched or irregularly shaped protuberances on the inner surface of the secondary wall of wood incIuding the surface of the wall lining the pit cavity. Based on a survey of literature, vestures in softwoods and hardwoods are discussed. Data on the chemical composition, ontogeny and possible functions are limited and partly contradictory. A preliminary list of dicotyledonous families is given in which vestures have been reported to occur. No general morphological cIassification of the different types of vestures (and 'warts') has been accepted at present. The taxonomie and diagnostic value of this polyphyletic character can be considerable but should be evaluated for each individual taxonomie group. It is not cIear whether all types of vestures and warts are homologous; both structures remain poorly understood. |
| **DOI:** | [10.1163/22941932-90000658](http://dx.doi.org/10.1163/22941932-90000658) |

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| **Author(s):** | Sherwin Carlquist |
| **Title:** | **Wood and Stem Anatomy of Petiveria and Rivina (Caryophyllales); Systematic Implications** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | 383-391 |
| **Keywords:** | Centrospermae; ecological wood anatomy; Caryophyllales; successive cambia; Phytolaccaceae; systematic wood anatomy |
| **Abstract:** | Petiveria and Rivina have been placed by various authors close to each other within Phytolaccaceae; widely separated from each other but both within Phytolaccaceae; and within a segregate family (Rivinaceae) but still within the order Caryophyllales. Wood of these monotypic genera proves to be alike in salient qualitative and even quantitative features, including presence of a second cambium, vessel morphology and pit size, nonbordered perforation plates, vasicentric axial parenchyma type, fiber-tracheids with vestigially bordered pits and starch contents, narrow multiseriate rays plus a few uniseriate rays, ray cells predominantly upright and with thin lignified walls and starch content, and presence of both large styloids and packets of coarse raphides in secondary phloem. Although further data are desirable, wood and stern data do not strongly support separation of Petiveria and Rivina from Phytolaccaceae. Quantitative wood features correspond to the short-lived perennial habit ofboth genera, and are indicative ofaxeromorphic wood pattern. |
| **DOI:** | [10.1163/22941932-90000659](http://dx.doi.org/10.1163/22941932-90000659) |

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| **Author(s):** | Peter Gasson; Philip Jarvis; Wayne Page |
| **Title:** | **Wood Anatomy of Twelve Species with Potential for Reintroduction on Round Island, Mauritius** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | 393-413 |
| **Keywords:** | Round Island; Diospyros egrettarum; conservation; Pemphis acidula; Gastonia mauritiana; Fernelia buxifolia; Eugenia lucida; Diospyros revaughanii; woody plants; Dracaena concinna; Mauritius; Nuxia verticillata; Eugenia tinifolia; Gagnebina pterocarpa; Ochna mauritiana; reintroduction; Elaeodendron orientale |
| **Abstract:** | Round Island is a nature reserve of great biological importance which once supported a dry evergreen hardwood forest and palm community. Following eradication of goats in 1979 and rabbits in 1986, restoration of the flora and fauna of the island is underway. Since the past composition of the hardwood community is unknown, wood sampies from dead trees on the island have been examined and identified. This paper describes eleven dicotyledons and one monocotyledon from Mauritius known or suspected to have occurred naturally on Round Island, and demonstrates the practical application of wood anatomy in the conservation of an endangered flora. |
| **DOI:** | [10.1163/22941932-90000660](http://dx.doi.org/10.1163/22941932-90000660) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Review** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | 414-414 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000661](http://dx.doi.org/10.1163/22941932-90000661) |

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| **Author(s):** | M.N.B. Nair; S.V. Subrahmanyam |
| **Title:** | **Ultrastructure of the Epithelial Cells and Oleogumresin Secretion in Boswellia Serrata (Burseraceae)** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | 415-427 |
| **Keywords:** | Boswellia serrata; ultrastrueture; oleo-gumresin; granulocrine and eccrine secretion; Indian olibanum; salai guggal; medicinal plant |
| **Abstract:** | The ultrastructure of epithelial cells of oleo-gumresin ducts in Boswellia serrata, the source of Indian olibanum, is described. Oleo-gumresin ducts are present in primary and secondary phloem. The duct lumen forms an enlarged apoplastic space surrounded by epithelial cells. The epithelial cells are rich in dictyosomes, lipid bodies, mitochondria with dilated cristae, multivesicular bodies, osmiophilic materials, plastids and vesicIes. Plastids have poorly developed internal membranes. Dictyosomes and plastids are possible sites of resin synthesis. The gum component of the exudate is formed in dictyosomes and from the outer layers of the inner tangential wall (wall facing the duct lumen). This wall is replenished from inside by the activity of dictyosomes. The secretory materials are transported to the apoplast by granulocrine and eccrine secretion. They migrate through the loose microfibrils of the inner tangential wall into the duct lumen. Rarely, epithelial cells of young ducts have rudimentary plasmodesmata on the inner tangential wall which may be channels for passage of secretory materials into the duct lumen. |
| **DOI:** | [10.1163/22941932-90000662](http://dx.doi.org/10.1163/22941932-90000662) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Reviews** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | 428-428 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000663](http://dx.doi.org/10.1163/22941932-90000663) |

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| **Author(s):** | Angela C. Morrow; Roland R. Dute |
| **Title:** | **Development and Structure of Pit Membranes in the Rhizome of the Woody Fern Botrychium Dissectum** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | 429-441 |
| **Keywords:** | rhizome; Botrychium dissectum; pit membrane; wood ultrastructure; torus |
| **Abstract:** | Botrychium dissectum Sprengel rhizomes were examined at monthly intervals from February 1993 through December 1994. Sampies taken ranged from those with an inactive cambium and only mature tracheids to those having an active cambium and immature tracheids. The vascular cambium became activated in the early fall prior to maturation of the leaf and fertile spike complex. Intertracheid pit membranes with tori were present in all sampies, although the morphology of the torus varied. The presence of tori was first observed in a tracheid that had just initiated its secondary wall formation. As the pit membrane matured, matrix material was hydrolyzed first from the margo area, then from the torus, and eventually the pit membrane was represented only by a very thin network of microfibrils. In addition, studies confirmed that tracheids bordering parenchyma cells developed a torus thickening, aIthough no thickening of the parenchyma cell wall occurred. Torus ontogeny in B. dissectum combined features previously described for angiosperms and gymnosperms. |
| **DOI:** | [10.1163/22941932-90000664](http://dx.doi.org/10.1163/22941932-90000664) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **The Fourth Pacific Regional Wood Anatomy Conference** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | 442-489 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000665](http://dx.doi.org/10.1163/22941932-90000665) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Editorial** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | 490-490 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000666](http://dx.doi.org/10.1163/22941932-90000666) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Acknowledgement of Reviewers** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | 490-490 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000667](http://dx.doi.org/10.1163/22941932-90000667) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Wood Anatomy News** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | 491-496 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000668](http://dx.doi.org/10.1163/22941932-90000668) |

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| **Author(s):** | Editors IAWA Journal |
| **Title:** | **Association Affairs** |
| **Source:** | IAWA Journal, Volume 19, Issue 4 |
| **Publication Year:** | 1998 |
| **Pages:** | 497-498 |
| **Keywords:** |  |
| **Abstract:** |  |
| **DOI:** | [10.1163/22941932-90000669](http://dx.doi.org/10.1163/22941932-90000669) |