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| **Author(s):** | Oris Rodriguez-Reyes; Peter Gasson; Carolyn Thornton; Howard J. Falcon-Lang and Nathan A. Jud |
| **Title:** | ***Panascleroticoxylon crystallosa gen. et sp. nov.*: a new Miocene malpighialean tree from Panama** |
| **Source:** | IAWA Journal, Volume 38, Issue 4 |
| **Publication Year:** | 2017 |
| **Pages:** | 437 – 455 |
| **Keywords:** | Malpighiales; Neotropics; Panama; Miocene; fossil wood |
| **Abstract:** | We report fossil wood specimens from two Miocene sites in Panama, Central America: Hodges Hill (Cucaracha Formation; Burdigalian, c.19 Ma) and Lago Alajuela (Alajuela Formation; Tortonian, c.10 Ma), where material is preserved as calcic and silicic permineralizations, respectively. The fossils show an unusual combination of features: diffuse porous vessel arrangement, simple perforation plates, alternate intervessel pitting, vessel–ray parenchyma pits either with much reduced borders or similar to the intervessel pits, abundant sclerotic tyloses, rays markedly heterocellular with long uniseriate tails, and rare to absent axial parenchyma. This combination of features allows assignment of the fossils to Malpighiales, and we note similarities with four predominantly tropical families: Salicaceae, Achariaceae, and especially, Phyllanthaceae, and Euphorbiaceae. These findings improve our knowledge of Miocene neotropical diversity and highlight the importance of Malpighiales in the forests of Panama prior to the collision of the Americas. |
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| **Author(s):** | Elisabeth A. Wheeler; Rashmi Srivastava; Steven R. Manchester and Pieter Baas |
| **Title:** | **Surprisingly modern Latest Cretaceous–earliest Paleocene woods of India** |
| **Source:** | IAWA Journal, Volume 38, Issue 4 |
| **Publication Year:** | 2017 |
| **Pages:** | 456 – 542 |
| **Keywords:** | Deccan Intertrappean Beds; Danian; Maastrichtian; functional traits; fossil woods |
| **Abstract:** | Background and approach – The Deccan Intertrappean Beds of Central India contain a diverse assemblage of fossil plants, including petrified woods from 15 localities. These beds are dated at c. 67–64 Ma, i.e. latest Cretaceous–earliest Paleocene and span the K-Pg boundary, a significant time in angiosperm history. At this time, the Indian tectonic plate was halfway on its journey from Gondwana to its collision with Asia, and relatively close to the equator. We provide descriptions in IAWA Hardwood List codes for 47 species of Deccan fossil woods, based on our examination of thin sections of these woods, mostly holotypes that are housed at the Birbal Sahni Institute of Palaeobotany, Lucknow, India. An appendix lists all validly published Deccan wood species of which we are aware, including 52 that we were not able to examine. Main results – The Deccan fossil woods described herein include the oldest known occurrences of some orders, families or genera viz. Lamiales (Lamiaceae), Achariaceae (Hydnocarpus-like wood), Anacardiaceae, Simaroubaceae (Ailanthus-like and Simarouba-like woods), subfamily Leeoideae (Vitaceae), subfamily Myrtoideae (Myrtaceae), subfamily Planchoideae (Lecythidaceae), tribe Castilleae (Moraceae), tribes Grewioideae and Sterculioideae (Malvaceae). These first fossil records are discussed with reference to other macrofossil and pollen records of the same or related clades. They complement recent work on the oldest known Olea and Connaraceae also documented by Deccan woods.For the Deccan woods we examined, we could confirm the earlier taxonomic assignment at least down to order or family level for 29 taxa. Ordinal level affinities are ambiguous for eight of the taxa. In two cases, we revised the taxonomic assignment to other families; for another eight, the original assignment was found to be incorrect, but we are unable to suggest alternative affinities. Evolutionary implications – Only 3% of all Deccan woods have scalariform perforations and the incidences of so-called specialized features in the Baileyan sense are high, so these woods have a remarkably “modern” aspect. This is anomalous in comparison with contemporaneous fossil woods from higher paleolatitudes, and seemingly they are more “derived” than the recent flora. In these respects, the Deccan woods constitute a unique assemblage. The low incidence of scalariform perforations suggests xeric conditions, while – in contrast – the low incidence of distinct growth ring boundaries suggests an aseasonal everwet climate. It is speculated that convergent xylem specialization, especially the selection for simple perforations, was enhanced by the climatic conditions found at low paleolatitudes with high temperatures as would characterize the Deccan Intertrappean Beds at the K-Pg boundary. |
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| **Author(s):** | Diana K. Pérez-Lara; Carlos Castañeda-Posadas and Emilio Estrada-Ruiz |
| **Title:** | **A new genus of Anacardiaceae fossil wood from El Bosque Formation (Eocene), Chiapas, Mexico** |
| **Source:** | IAWA Journal, Volume 38, Issue 4 |
| **Publication Year:** | 2017 |
| **Pages:** | 543 – 552 |
| **Keywords:** | Mexico; Chiapas; Eocene; Bosquesoxylon; Anacardiaceae wood |
| **Abstract:** | We describe a new fossil wood from the El Bosque Formation (Eocene) in Chiapas, southern Mexico. It has a combination of features found in the Anacardiaceae, including distinct growth rings, diffuse porosity, vessels solitary and in radial multiples of 2–3, simple perforation plates, medium to large alternate intervessel pits, vessel-ray parenchyma pits rounded and elongate with reduced borders, septate and non-septate fibers, axial parenchyma scanty paratracheal, vasicentric, apotracheal diffuse, Kribs heterogeneous rays type IIA, and multiseriate rays with radial canals. The mosaic of features of this wood supports the erection of a new genus, Bosquesoxylon Pérez-Lara, Castañeda-Posadas et Estrada-Ruiz. This new genus of anacardiaceous fossil wood extends our knowledge of this family’s history and offers hints on the possible relationships with floras from other localities worldwide, especially North America and Asia. |
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| **Author(s):** | Anumeha Shukla and R.C. Mehrotra |
| **Title:** | **The oldest fossil of Duabanga from Kutch, western India** |
| **Source:** | IAWA Journal, Volume 38, Issue 4 |
| **Publication Year:** | 2017 |
| **Pages:** | 553 – 560 |
| **Keywords:** | Lythraceae; late Maastrichtian to early Danian; Fossil wood; Deccan traps; Kutch |
| **Abstract:** | The systematics of a fossil wood assigned to Duabangoxylon (family Lythraceae) is described from the Deccan Intertrappean beds of Kutch, Gujarat, western India considered to be late Maastrichtian to early Danian in age. This fossil is the oldest record of Duabanga as its previous records are not older than Eocene. As the intertrappean flora of Kutch is poorly known, the present fossil not only enriches this flora but also helps in the reconstruction of palaeoclimate. |
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| **Author(s):** | Ünal Akkemik; Nevriye Neslihan Acarca and Murat Hatipoğlu |
| **Title:** | **The first Glyptostroboxylon from the Miocene of Turkey** |
| **Source:** | IAWA Journal, Volume 38, Issue 4 |
| **Publication Year:** | 2017 |
| **Pages:** | 561 – 570 |
| **Keywords:** | Galatian Volcanic Province; Güdül fossil forest field; Glyptostrobus; petrified wood; paleobotany |
| **Abstract:** | Silicified wood preserved in the Güdül fossil forest site in the Galatian Volcanic Province (GVP) near Ankara in Central Anatolia is described. The material comprises six petrified wood samples that date from early to middle Miocene. The woods have very low rays (2–5 cells high), bordered tracheidal pitting (9–10 μm), pinoid cross-field pits and very thin, unpitted, smooth walls of axial parenchyma and rays. This combination of characters indicates affinity to the fossil-genus Glyptostroboxylon. The presence of this wood genus suggests that the local environment was either riparian or wetland forest. |
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| **Author(s):** | Simcha Lev-Yadun |
| **Title:** | **Short communication: Periderm tubes: an addition to the List of microscopic bark features** |
| **Source:** | IAWA Journal, Volume 38, Issue 4 |
| **Publication Year:** | 2017 |
| **Pages:** | 571 – 572 |
| **Keywords:** | Biology |
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| **Author(s):** | Pieter Baas |
| **Title:** | **Mabberley’s Plant-book – a portable dictionary of plants, their classification and uses.** 4th edition. D.J. Mabberley. 1102 pp., 2017. Cambridge University Press. ISBN 978-1-107-11502-6. Price: EUR 69.00 or GBP 59.99 (hardback). |
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