|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Esteban et al. (2004) | Features / Fossil species | *Cedroxylon shakhtnaense* comb. nov. | 4. *Abies* sect. *Grandis*  Engelm. emend. Eckenwalder  \_ Type: *Abies grandis* (Dougl. ex D.  Don) Lindley (according Esteban et al. 2004) | *A. concolor* (Gordon & Glend.) Lindley ex  Hildebr. (microscopic observation) | *A.*  *guatemalensis* Rehder (microscopic observation) | *A. religiosa*  (Kunth) Schlecht. & Cham. |
| AT1 | Well‐defined growth  rings | + | + | + | + | + |
| AT4 | Axial tracheids of  polygonal section | + | + | + | + | + |
| AT6 | Intercellular spaces  present | + | ‐ | ‐ | ‐ | ‐ |
| AT7 | Spiral thickenings present in  all the axial tracheids | ‐ | ‐ | ‐ | ‐ | + |
| AT8 | Spiral thickenings present, but not in all the axial tracheids | ‐ | ‐ | ‐ | ‐ | ‐ |
| AT9 | Bordered pits present on the tangential walls  of the axial tracheids | + | + | + | + | + |
| AT10 | Uniseriate bordered pits on  the radial walls  of the axial tracheids | + | + | + | + | + |
| AT11 | Biseriate bordered pits on  the radial walls  of the axial tracheids | (occasionally) | + [Wiesehuegel (1932),  Esteban et al. (2009): 233] | ‐ | + | + |
| AT19 | Bars of Sanio | (occasionally) | (occasionally) | ‐ | + | + |
| AT20 | Trabecula | ‐ | ‐ | ‐ | ‐ | ‐ |
| AT21 | Crystals present in axial  tracheids | ‐ | ‐ | ‐ | ‐ | ‐ |
| P1 | Axial parenchyma  absent or scarce | + | + | + | + | + |
| P2 | Axial parenchyma with  smooth transverse walls | + | + | ‐ | ‐ | + |
| P3 | Axial parenchyma with nodular transverse walls | + | + | ‐ | ‐ | ‐ |
| P4 | Axial parenchyma with  crystals | ‐ | ‐ | ‐ | ‐ | ‐ |
| P5 | Axial parenchyma with  resin | ‐ | ‐ | ‐ | ‐ | ‐ |
| P6 | Diffuse axial  parenchyma present | + | + | ‐ | ‐ | ‐ |
| P8 | Terminal axial  parenchyma present | + / ‐ | ‐ | ‐ | ‐ | ‐ |
| R1 | Uniseriate rays | + | + | + | + | + |
| R2 | Partially biseriate rays | (in less than 10% of the total number of the  rays) | + | ‐ | ‐ | + |
| R4 | Ray height from 1 to 15  cells | + | + | + | + | ‐ |
| R5 | Ray height from 16 to 30  cells | + | ‐ | ‐ | + | ‐ |
| R7 | Number of rays per  mm2 <70 | + | + | + | + | + |
| R9 | Number of rays per  mm2 >70 | ‐ | ‐ | ‐ | ‐ | ‐ |
| R17 | Ray parenchyma with  nodular axial walls | + | + | + | + | + |
| R19 | Ray parenchyma with pitted  horizontal walls | + | + | + | + | + |
| R20 | Ray parenchyma with  crystals | ‐ | ‐ | + | + | + |
| R23 | Piceoid cross field pits | + | + | + | + | + |
| R24 | Cupressoid cross field  pits | ‐ | ‐ | ‐ | ‐ | ‐ |
| R25 | Taxodioid cross field  pits | + | + (Eom & Kwon 2009) | ‐ | ‐ | ‐ |
| R26 | 1 to 2 pits per cross field | + | + | + | + | + |
| R27 | 3 to 4 pits per cross field | + | ‐ | ‐ | ‐ | + |
| RC1 | Resin canals absent | + | + | + | + | + |
| RC3 | Thick‐walled epithelial  cell resin canals | + | ‐ | ‐ | ‐ | ‐ |
| RC4 | Number of epithelial cells in the axial resin canals  <9 | + | ‐ | ‐ | ‐ | ‐ |
| RC5 | Number of epithelial cells in the axial resin canals  > 9 | + | ‐ | ‐ | ‐ | ‐ |