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Anatomical Study for Wood Identification of *Shorea* Species in Sri Lanka

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Abstract

Wood anatomy is a rapid method for identifying different timber species. *Shorea* is a diverse genus of trees in the subfamily Dipterocarpaceae and encompasses a group of some 470 tree species that dominate much of the tropical forests of South and Southeast Asia. Many of these are valued commercially for their hardwoods. However, the anatomical identification of *Shorea* sp. in Sri Lanka has not been fully studied yet. Six *Shorea* species available in the lowland wet agroecological zone in Ratnapura District, in Sri Lanka, were selected for this study. The study was conducted in the wood Science laboratory of the State Timber Corporation, Sri Lanka. Six *Shorea* species, including Beraliya dun (*S. disticha*), Navada dun (*S. stupularis*), Dun (*S. zeylanica*), Yakahalu dun (*S. trapezifolia*), Yakal dun (*S. astylosa*) and Thiniya dun (*S. congestiflora*) were used to identify the variation of wood anatomical features to differentiate the species. As a reference, the Publication List of the International Association of Wood Anatomists on anatomical characteristics was used. To determine the microscopic features, six wood sections (Radial, Tangential, and Transverse sections of the wood) representing each species were employed. The anatomical characteristics of the timber were examined using Micrometrics SE Premium 4 software. According to the results, Yakahal Dun species showed the highest number of vessels and Navada represented the lowest number of vessels. The highest value for the vessel diameter showed the Thiniya species and the lowest for the Dun. Beraliya species showed the highest no of rays and the lowest number of rays showed in Yakahalu dun. A Dichotomous key was developed for the exact identification of *Shorea* species based on the anatomical characteristics.

Keywords: Dichotomous key, IAWA features, Identification, *Shore* sp., Wood anatomy