

**STRUKTUR ANATOMI, SIFAT FISIS DAN MEKANIS  
KAYU KUMEA BATU  
(Anatomical Structure, Physical and Mechanical Properties  
of Kumea Batu Wood)**

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ABSTRACT

This research was carried out to examine the anatomical structure/characteristics, and physical and mechanical properties of lesser-known kumea batu (*Manilkara merrilliana* H.J.L.) wood. Wood samples of this species was taken from natural production forest growing in Lampia Sub Regency, East Luwu District, West Sulawesi Province. The results revealed that kumea batu wood had a reddish light brown colour of sapwood and reddish brown colour of heartwood. Wood growth rings were diffuse and sometimes appeared clearly with figures of decorative surface in form of parallel lines on radial section with straight grain, fine texture, and glossy surface. In averages, fiber length was 677.55  $\mu\text{m}$ , fiber diameter 22.15  $\mu\text{m}$ , lumen diameter 1.94  $\mu\text{m}$ , and fiber-wall thickness 10.10  $\mu\text{m}$ . Assessment on the derived values of fiber dimensions for pulp/paper manufacture revealed that kumea batu wood belonged to class IV. This wood species was remarkably heavy (specific gravity 0,92), considerably high in dimensional shrinkage. It had ultimate bending strength at 612.72 kg/cm, compression strength parallel to grain 402.28 kg/cm and was classified in wood strength as class II.

Key word : Wood, anatomical structure, physical and mechanical properties .

ABSTRAK

Penelitian ini dilakukan untuk mengamati struktur/karakteristik anatomi, dan sifat fisis mekanis kayu kurang dikenal jenis kumea batu (*Manilkara merrilliana* H.J.L.). Sampel kayu dari jenis ini diambil dari hutan alam produksi di Kecamatan Lampia Kabupaten Luwu Timur, Propinsi Sulawesi Selatan. Hasil penelitian menunjukkan bahwa kumea batu memiliki kayu gubal berwarna coklat muda kemerahan dan teras berwarna coklat kemerahan. Lingkaran tumbuh samar-samar dan terkadang jelas serta menampilkan corak yang indah berupa garis-garis sejajar pada potongan radial, serat lurus, tekstur halus dan permukaan kayu mengkilap. Panjang serat 677,55  $\mu\text{m}$ , diameter serat 22,15  $\mu\text{m}$ , diameter lumen 1,94  $\mu\text{m}$ , tebal dinding 10,10  $\mu\text{m}$  dan semua nilai turunan serat tergolong dalam kelas IV untuk bahan baku pulp/kertas. Kayu kumea batu sangat berat (berat jenis 1.07) dengan penyusutan sangat tinggi, keteguhan lentur pada batas patah 1,557.68 kg/cm, keteguhan tekan sejajar serat 491.35 kg/cm dan tergolong kayu kelas kuat II.

Kata Kunci : Kayu, kumea batu, struktur anatomi, sifat fisis dan mekanis.