Anisoptera spp.
Family: Dipterocarpaceae
Mersawa
Palosapis

Other Common Names: Pengiran (Sabah), Palosapis (Philippines), Kaunghmu (Burma), Phdiek (Cambodia), Mersawa (Malaysia), Krabak (Thailand), Ven-ven (Indochina).

Distribution: From Burma, throughout the Malayan region, Philippines, and New Guinea.

The Tree: Commonly 100 to 150 ft in height sometimes reaching 200 ft; 3 to 5 ft in diameter; boles are well formed and with or without buttresses depending on species.

The Wood:
General Characteristics: Heartwood pale yellow or light yellow brown, sometimes with a pinkish tinge, darkening on exposure; sapwood lighter but not sharply demarcated. Texture moderately coarse; grain interlocked; not lustrous; without distinctive odor or taste when dry; silica ranging from 0.24 to 1.37% is reported.

Weight: Basic specific gravity (ovendry weight/green volume) varies with species from 0.46 to 0.62; air-dry density 34 to 47 pcf.

Mechanical Properties: (First two sets of data based on the 2-in. standard, the third on the 2-cm standard.)

<table>
<thead>
<tr>
<th>Moisture content</th>
<th>Bending strength (Psi)</th>
<th>Modulus of elasticity (1,000 psi)</th>
<th>Maximum crushing strength (Psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green (34)</td>
<td>7,850</td>
<td>1,735</td>
<td>3,880</td>
</tr>
<tr>
<td>12%</td>
<td>13,500</td>
<td>2,220</td>
<td>7,220</td>
</tr>
<tr>
<td>Green (64)</td>
<td>8,130</td>
<td>1,580</td>
<td>4,150</td>
</tr>
<tr>
<td>12% (52)</td>
<td>18,100</td>
<td>1,720</td>
<td>8,400</td>
</tr>
</tbody>
</table>

Janka side hardness 725 lb for green material and 875 lb at 12% moisture content. Forest Products Laboratory toughness 236 in.-lb for green material and 308 in.-lb for dry (5/8-in. specimen).

Drying and Shrinkage: Lumber dries very slowly, particularly the core of thick stock with little degrade. Kiln schedule T6-D2 is suggested for 4/4 stock and T3-D1 for 8/4. Shrinkage green to ovendry: radial 4.0%; tangential 9.0%; volumetric 14.6%. Movement in service is rated as medium.

Working Properties: The timber can be worked to a good finish but there is considerable dulling of cutters due to the silica content. Carbide-tipped tools are suggested.
**Durability:** Generally classified as moderately resistant to attack by decay fungi and nonresistant to termites. Sapwood is particularly vulnerable to powder-post beetle and stain.

**Preservation:** Heartwood is reported to be difficult to impregnate; both open tank and pressure-vacuum systems gave less than 3 pcf of preservative absorption.

**Uses:** Veneer and plywood, joinery, furniture components, flooring, light construction.

**Additional Reading:** (9), (34), (52), (64)

64. Timber Research Laboratory, Sentul. 1940. Tests on small clear specimens in green condition made at the Timber Research Laboratory, Sentul (Test Sheet No. 29) Mersawa (*Anisoptera marginata* and *Anisoptera laevis*). Malayan Forester 9(3): 133-138.