

## Identification and utilization of lesser-known commercial timbers in Peninsular Malaysia 7: Hantu Duri, Jarum-Jarum, Jelutong Pipit and Kasah

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### Introduction

This article is a continuation of the series on lesser-known commercial timbers (LKCT) where four more LKCT are introduced i.e. hantu duri (*Zanthoxylum* spp.), jarum-jarum (*Dysoxylum* spp.), jelutong pipit (*Kibatalia* spp.) and kasah (*Pterygota* spp.). Jelutong pipit and kasah are white coloured timbers and they may be a good source of timber for face veneer production. Jelutong pipit is rather featureless and very much like jelutong timber. Kasah, on the other hand, contain growth rings figure on the flat-sawn surface due to the presence of parenchyma bands. Harvesting of hantu duri may be a problem due to the presence of fairly long torn on the bark. The timber is light and can possibly be used for items like picture frames, moulding for skirting etc. Jarum-jarum which comes from the same family as mahogany, i.e. Meliaceae, is quite an attractive timber if it is sawn tangentially as the presence of terminal parenchyma bands may simulate growth ring features. Preferred usages of the timber include furniture, flooring and wall panelling.

Of the four timbers selected, kasah is perhaps the most well known as the timber has been reported to be used locally for wall paneling for offices. It has also been exported to country like Japan as a substitute for other white-coloured timbers.

### Hantu duri (*Zanthoxylum* spp.) (Figure 1) (Family: Rutaceae)

#### *Main species*

*Zanthoxylum myriacanthum* Wall. ex Hk.f., *Z. rhetsa* (Roxb.) DC.

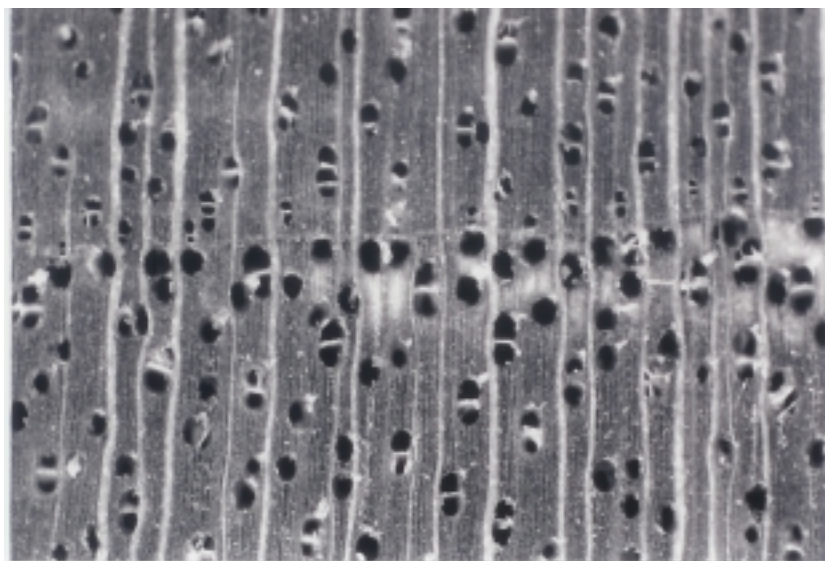
#### *Tree and distribution*

Medium to big trees up to 34 m tall, 60 cm in diameter and occasionally larger, bole rather long and with numerous prickles up to 2.5 cm long. Occurs in lowland primary and secondary forest up to 2100 m altitude.

#### *Characteristics and physical properties*

The sapwood is pale brown and not well defined from the heartwood, which is bright yellow to pale-brown. Texture is fine to moderately coarse and uneven. Grain is generally straight. 'Water-

silk' marking on flat-sawn surface due to parenchyma bands. The wood is soft to moderately hard, light to moderately heavy with an air-dry density of 334 to 672 kg m<sup>-3</sup> (average: 478 kg m<sup>-3</sup>).



**Figure 1** Hantu duri (*Zanthoxylum myriacanthum* × 20)

#### *Macroscopic structures*

**Growth rings** distinct due to the presence of marginal parenchyma containing slightly larger and more crowded vessels and also layers of denser wood fibres. **Vessels** small to mostly medium-sized, solitary and in radial multiples of 2 to 4. Tyloses absent. Deposit occasionally present and filled with chalky-white deposit. **Wood parenchyma** moderately abundant; apotracheal parenchyma mainly as marginal parenchyma bands whereas the paratracheal parenchyma is scanty to vasicentric. **Rays** moderately fine to medium-sized, the medium-sized rays are visible to the naked eye. **Ripple marks** absent. **Intercellular canals** not observed.

#### *Uses*

The timber which is light to medium in weight is reported to have been used in India for planking and some general uses such as chair making. In the Philippines, it has been used for furniture and walking stick. As it is a light timber, it is possible to use it for general moulding works and picture framing.

### **Jarum-jarum** **(*Dysoxylum* spp.) (Figures 2 & 3)** **(Family: Meliaceae)**

#### *Main species*

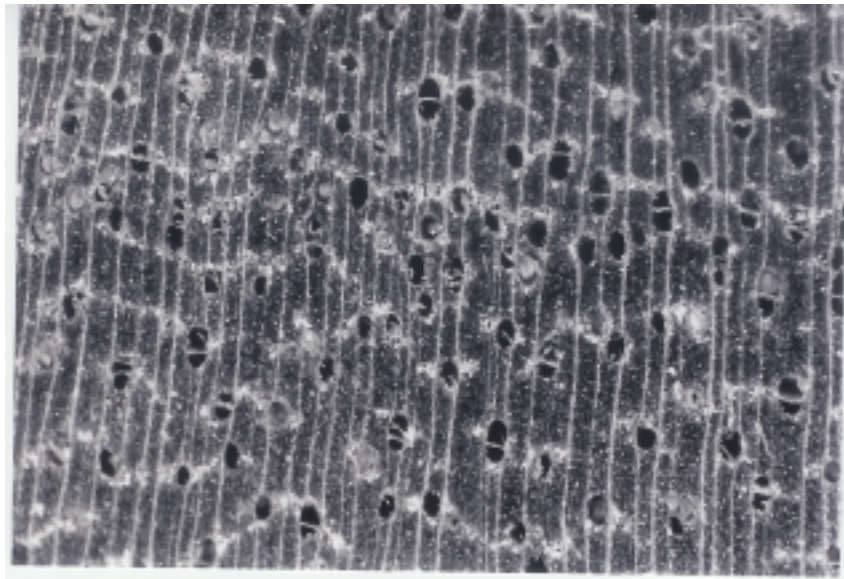
*Dysoxylum acutangulum* Miq., *D. alliaceum* (Blume) Blume, *D. arborescens* (Blume) Miq., *D. cauliflorum* Hiern, *D. cyrtobotryum* Miq., *D. densiflorum* (Blume) Miq., *D. excelsum* Blume, *D. flavescens* Hiern, *D. grande* Hiern, *D. macrocarpum* Blume, *D. mollissimum* Blume, *D. rigidum* (Ridley) Mabb., *D. rugulosum* King, *D. sp.* 1.

### *Tree and distribution*

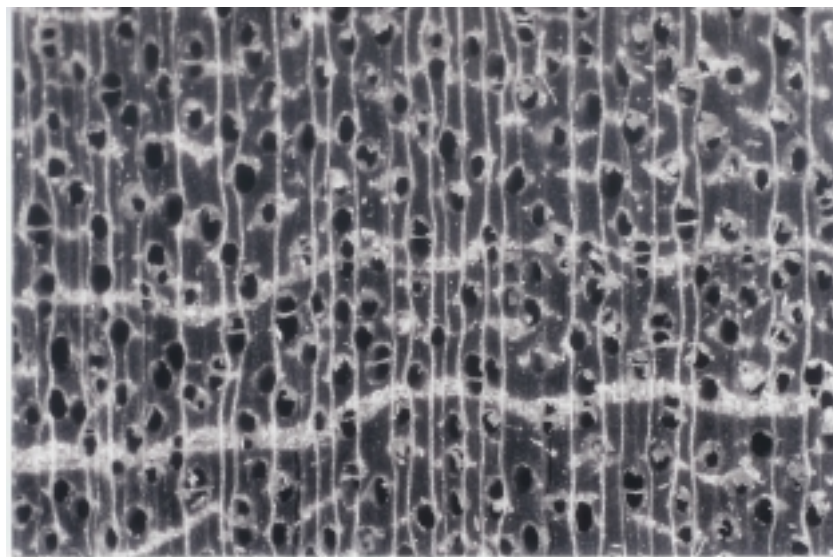
Small to big trees up to 45 m tall and 2 m girth, some with clear fluted bole up to 18 m and with plank-type of buttresses of up to 2 m tall. Occurs in primary lowland, secondary, limestone, peat swamps and hill forests of up to 1800 m.

### *Characteristics and physical properties*

The sapwood is yellow and well defined from the heartwood which is orange-red to brick red when fresh and darkening on exposure. Texture is moderately coarse but uneven due to the abundant of parenchyma. Grain is straight, interlocked, wavy or irregular. 'Water-silk marking on flat-sawn surface due to parenchyma bands. The timber is moderately hard to hard with air-dry density of 699 to 798 kg m<sup>-3</sup> (average: 748 kg m<sup>-3</sup>).



**Figure 2** Jarum-jarum (*Dysoxylum grande* × 20)



**Figure 3** Jarum-jarum (*Dysoxylum flavescens* × 20)

### *Macroscopic structures*

**Growth rings** distinct, usually marked by parenchyma layers and also layers of denser fibres. **Vessels** medium to moderately large-sized, solitary and in radial multiples of 2 to 4, sometimes up to 6. Tyloses sparse and with reddish-brown coloured deposit. **Wood parenchyma** abundant, mainly as apotracheal parenchyma bands, wavy, sometimes straight continuous or broken and discontinuous lines giving rise to growth ring boundaries and visible to the naked eye. Paratracheal parenchyma sparse and confines only to the immediate vicinity of the vessels. **Rays** medium-sized and visible to the naked eye. **Ripple marks** absent. **Intercellular canals** not observed.

### *Uses*

Preferred usages of the timber include flooring, furniture, wall panelling, solid door construction, veneer and plywood.

## **Jelutong pipit (*Kibatalia* spp.) (Figure 4) (Family: Apocynaceae)**

### *Main species*

*Kibatalia arborea* (Bl.) G. Don., *K. maingayi* (Hk. f) Woodson

### *Tree and distribution*

Two species occurred in Peninsular Malaysia. Trees are sometimes large reaching 36 m tall and 270 cm girth. *K. maingayi* is a medium-sized tree to 27 m tall, 150 cm girth. Found in low undulating country to 600 m altitude, rarely on ridge to 720 m altitude.

### *Characteristics and physical properties*

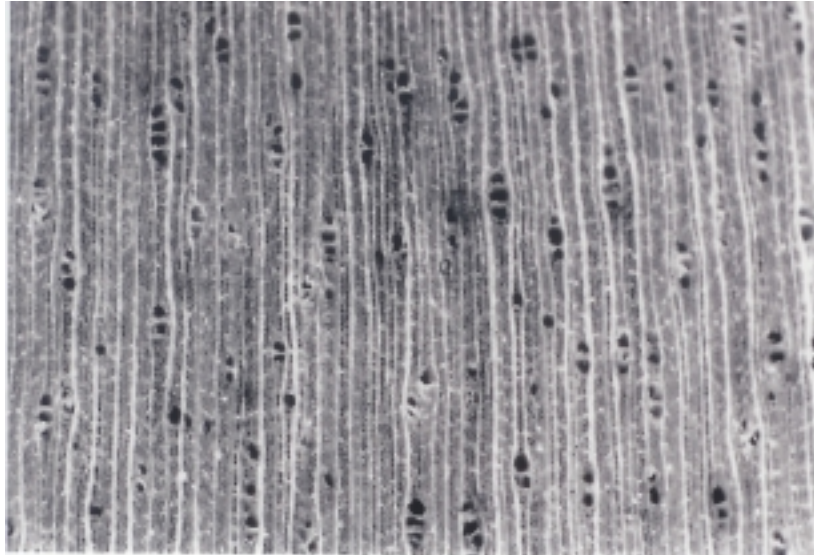
The wood is very similar to the well-known jelutong timber (*Dyera costulata*). The sapwood is not differentiated from the heartwood, which is white turning to yellow on exposure. Texture is fine and even. Grain is straight. The wood, with smell of latex when fresh, is soft and light with air-dry density of 410-530 kg m<sup>-3</sup> (average: 455 kg m<sup>-3</sup>).

### *Macroscopic structures*

**Growth rings** indistinct or absent. **Vessels** small to moderately small; moderately few to moderately numerous; mostly in radial groups of 3 or 4; tyloses absent; deposit absent. **Wood parenchyma** abundant, mainly as apotracheal parenchyma in fine terminal layers and diffuse parenchyma connecting from ray to ray; the diffuse parenchyma gives the end surface a speckle appearance when examined with hand lens. **Rays** fine to moderately fine; visible on end and tangential surfaces with hand lens. **Ripple marks** absent. **Intercellular canals** not observed.

### *Uses*

The timber is soft and light and it is suitable for the manufacture of pencil, picture frames, simple mouldings, tooth pick, pattern making, carving and matches.



**Figure 4** Jelutong pipit (*Kibatalia* spp.)

**Kasah**  
**(*Pterygota* spp.) (Figure 5)**  
**(Family: Sterculiaceae)**

*Main species*

*Pterygota alata* (Roxb.) R. Br., *P. horsfieldii* (R.Br.) Kosterm.

*Tree and distribution*

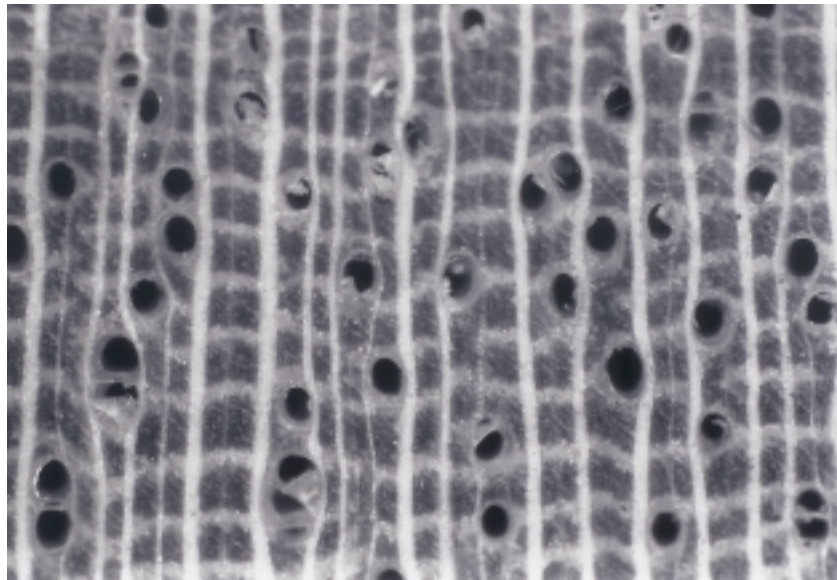
Very big trees to 50 m tall and 360 cm girth with cylindrical but tapering bole. The trees are found scattered or rarely gregarious in primary, lowland rain forest, up to 1000 m altitude and in areas with a short but pronounced dry period.

*Characteristics and physical properties*

The sapwood is white and not distinct from the heartwood, which is white to yellow, darkening on exposure to darker yellow. Texture is moderately coarse and uneven due to parenchyma bands. Grain is straight or shallowly interlocked. Faint zig-zag pattern due to parenchyma bands present. The wood is soft to moderately hard with an air-dry density of 456 to 975 kg m<sup>-3</sup> (average: 670 kg m<sup>-3</sup>).

*Macroscopic structures*

**Growth rings** indistinct, marked by layers with fewer parenchyma bands or wavier parenchyma bands. **Vessels** moderately large, solitary and in radial multiples of 2 to 4, sometimes more, occasionally in clusters. Tyloses sparse, deposit of the gummy type present. **Wood parenchyma** abundant, apotracheal parenchyma in broad, continuous or interrupted parenchyma bands; paratracheal parenchyma is scanty with thin layer surrounding the vessels. **Rays** moderately broad and visible with naked eye. **Ripple marks** fine storey due to parenchyma cells arranged in storey. **Intercellular canals** not observed.



**Figure 5** Kasah (*Pterygota alata* × 20)

#### *Uses*

The timber is suitable for the manufacture of face veneer and plywood, panelling and partitioning, ladies' shoe heel, furniture, flooring for light traffic purposes, picture frames and moulding.

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