

## Identification and utilisation of lesser-known commercial timbers in Peninsular Malaysia 2: Berembang Bukit, Biku-Biku, Chichah and Chinta Mula

by

S. C. Lim, K. S. Gan & K. T. Choo

### Introduction

This is the continuation of the first article on the same topic which dealt with the identification of four lesser-known commercial timbers (LKCT), i.e. ara, bangkal, bebusok and bekoi. This article introduces four more LKCT i.e. berembang bukit, biku-biku, chichah and chinta mula. As explained in the earlier article, a large number of LKCT have already been used but the difficulty and the lack of knowledge hinder the process of identifying the timber correctly. Hopefully, with the illustrations and the guides provided, more LKCT can be identified.

### The timbers

#### BEREMBANG BUKIT

(*Duabanga grandiflora*)

(Family: SONNERATIACEAE)

**Main species:** *Duabanga grandiflora* (Roxb. ex DC) Walp.(berembang bukit)

**Tree and distribution** Medium to big tree reaching 40 m tall and 2.5 m girth. The tree occurs in open places as pioneer species along rivers, lowlands and hilly country to 900 m altitude.

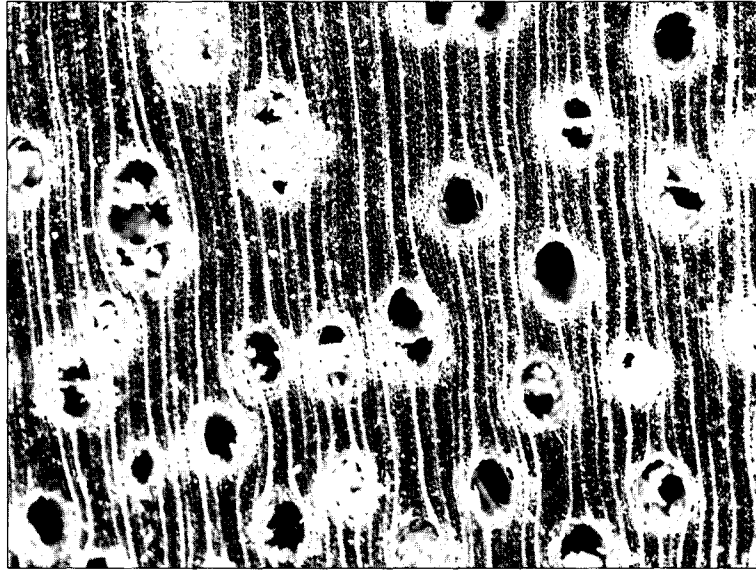
### Characteristics and physical properties

The sapwood is paler colour than the heartwood which is pale greyish-brown with olive tinge. Texture is coarse and even. Grain is straight or interlocked. Timber is light and soft with air-dry density of 389 to 466 kg/m<sup>3</sup>.

### Macroscopic structures

- **Growth rings** absent or indistinct.
- **Vessels** medium to large-sized, solitary and radial multiples of 2 to 4, rarely more, tyloses sparse to common, deposit absent.

- **Wood parenchyma** mainly as paratracheal parenchyma, vasicentric surrounding the vessels with tendency to aliform.
- **Rays** fine but visible to the naked eye.
- **Ripple marks** absent.
- **Intercellular canals** not observed.



**Figure 1** Berembang bukit (*D. grandiflora*) × 20

### Uses

The trees are reputed to grow very rapidly and thus, the wood may be a source of short-fibred pulp for the manufacture of pulp. As the wood is light and soft, it should not be used for structural purposes. General uses of the timber include general planking, general utility furniture, panelling, interior finishing, moulding, interior and trimming, veneer and plywood.

### BIKU-BIKU

(*Bhesa* spp.)

(Family: CELASTRACEAE)

**Main species:** *Bhesa indica* (Bedd.) Hou, *B. paniculata* Arn., *B. robusta* (Roxb.) Hou.

**Tree and distribution** Medium to fairly large trees up to 40 m tall and 90 cm diameter with small buttresses and often fluted at base. The trees are found scattered in primary lowland to montane forest, up to 1500 m altitude. It occurs in both dry and wet land forest including peat-swamp or fresh water swamp forests.

## Characteristics and physical properties

The sapwood is pale yellow and wide and distinct from the heartwood which is yellowish-brown to light brown. Texture is moderately fine and uneven. Grain is usually interlocked. Zig-zag marking on tangential surface due to parenchyma. The timber is moderately hard and heavy with air dry density of 725 to 835 kg/m<sup>3</sup>.

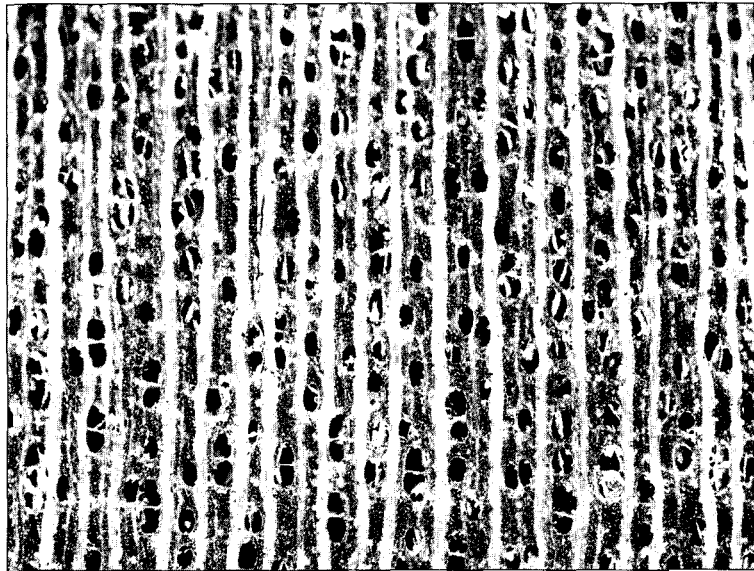


Figure 2 Biku-biku (*B. paniculata*)  $\times 20$

### Macroscopic structures

- **Growth rings** absent or indistinct.
- **Vessels** moderately fine to medium-sized, solitary and in radial multiples of 2-4, rarely more, sometimes clusters, tyloses present. White-coloured deposit sometimes present.
- **Wood parenchyma** abundant, apotracheal parenchyma diffuse in aggregates and as narrow bands connecting ray to ray and conspicuous only with a handlens.
- **Rays** medium-sized and conspicuous to the naked eye.
- **Ripple marks** absent.
- **Intercellular canals** not observed.

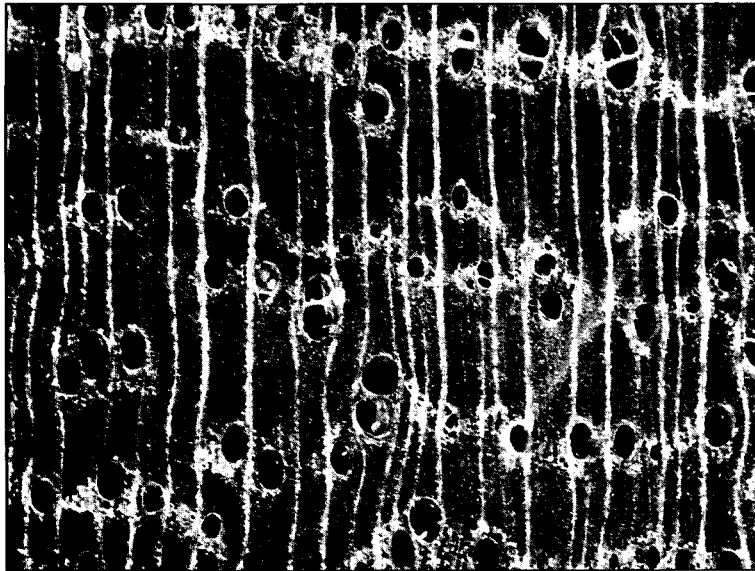
### Uses

The timber is moderately hard and moderately heavy and is suitable for medium construction under cover, furniture, cabinet works, flooring, panelling, turneries, veneer and plywood.

**CHICHAH**  
(*Stereospermum* spp.)  
(Family: BIGNONIACEAE)

**Main species:** *Stereospermum fimbriatum* (Wall) DC (chichah), *S. personatum* (Hassk.) Chatterjee

**Tree and distribution:** Medium-sized tree reaching 27 m tall and 150 cm girth. *S. fimbriatum* is more commonly found whereas *S. personatum* is rather rare. Trees of *Stereospermum* can be found in the lowland forests.



**Figure 3** Chichah (*S. fimbriatum*)  $\times 20$

### Characteristics and physical properties

The sapwood is slightly lighter in colour than the heartwood which is light yellow brown with a grey tinge; the wood is not lustrous and without any odour; coarse vessel lines and surrounding wood parenchyma producing a speckles appearance. Texture coarse and uneven due to the presence of the abundance of confluent parenchyma. Grain interlocked. Wood moderately hard to hard with air-dry density of 699 to 883 kg/m<sup>3</sup> (average 816 kg/m<sup>3</sup>).

### Macroscopic structures

- **Growth rings** present, marked by narrow layers of terminal parenchyma.
- **Vessels** medium to moderately large-sized, moderately numerous to numerous, mainly solitary but some in radial pairs or tangential in arrangement; tyloses absent, chalky-white deposit present.
- **Wood parenchyma** abundant, mainly as narrow terminal parenchyma, coalescing vasicentric and aliform parenchyma connecting two or more vessels giving rise to confluent parenchyma; parenchyma conspicuous to the naked eye.

- **Rays** very fine to moderately fine but visible to the naked eye, particularly on the cross section and radial surface.
- **Ripple marks** absent.
- **Intercellular** canals not observed.

### Uses

A medium-weight timber and may be used for medium construction under cover, planking, panelling, domestic flooring, cladding, furniture, veneer and plywood.

### CHINTA MULA

(*Erythroxylum* spp.)

(Family: ERYTHROXYLACEAE)

**Main species:** *Erythroxylum cuneatum* (Miq.) Kurz. (chinta mula)

**Tree and distribution** Shrub to medium-sized tree, sometimes reaching 30 m tall. The trees occur in a wide variety of lowland habitats, primary or secondary forest and also on limestone hills. Very often, the trees are found near beaches and rivers on sandy or rocky soils.

### Characteristics and physical properties

The sapwood is light grey-brown and sharply differentiated from the heartwood which is reddish-brown and without any figure; slightly lustrous; texture fine and even; grain straight to shallowly interlocked, occasionally spiral or wavy. Wood moderately hard to hard with air-dry density of 766 to 909 kg/m<sup>3</sup> (average 822 kg/m<sup>3</sup>)

### Macroscopic structures

- **Growth rings** indistinct or absent, however, the presence of occasional darker-coloured layers due to the absence of vessel may give rise to growth rings boundaries.
- **Vessels** moderately small to medium-sized; numerous and in radial multiples of 2 to 8, occasionally in cluster; tyloses occasionally present.
- **Wood parenchyma** sparse, mainly as apotracheal layers joining ray to ray, touching the vessels.
- **Rays** very fine, barely visible even with a lens on end and tangential surface; inconspicuous on radial surface.
- **Ripple marks** absent.
- **Intercellular canals** not observed.

## Uses

A moderately heavy to heavy timber but the poor form of the tree may preclude the use of the timber extensively. The better-formed tree may be used for medium to heavy construction under cover, door and window frames, flooring, furniture, cladding, veneer and plywood.

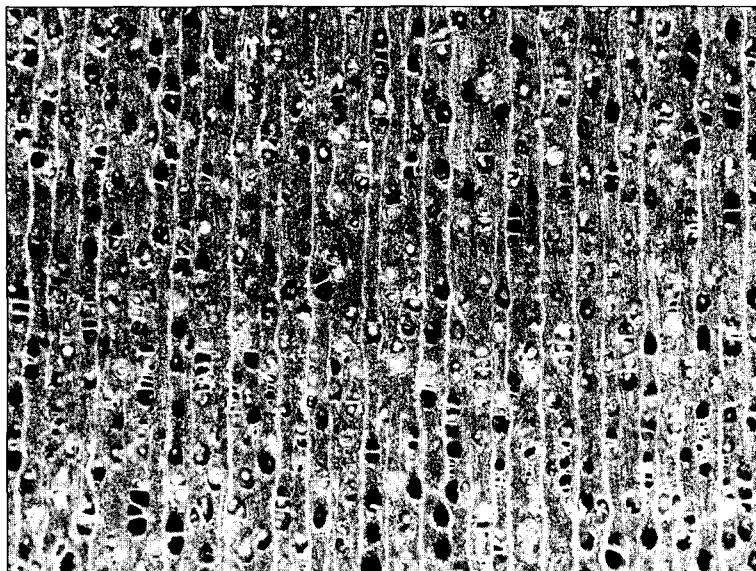


Figure 4 Chinta mula (*E. cuneatum*) × 20

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