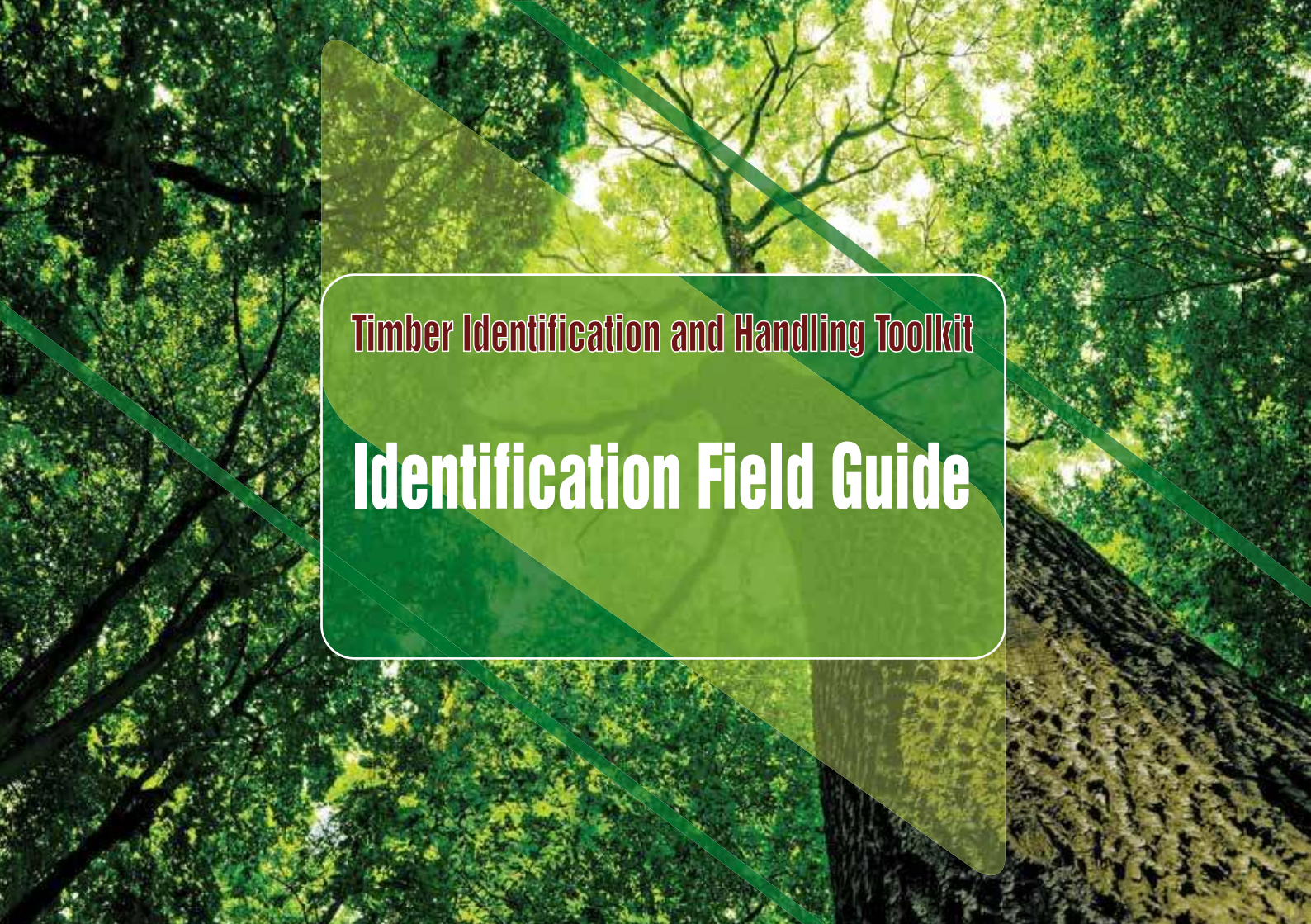


The background of the entire image is a photograph of a dense forest canopy, viewed from a low angle looking up at the trees. The leaves are a vibrant green, and the tree trunks are dark. A semi-transparent green rectangular overlay is positioned in the center of the image, containing the text. The overlay has a white border and rounded corners. The text is arranged in two lines: the first line is in a smaller, dark red font, and the second line is in a larger, white font.

**Timber Identification and Handling Toolkit**

# **Identification Field Guide**



## LIST OF 35 ENDANGERED, PRECIOUS AND RARE WOOD SPECIES SUBJECT TO TRADE REGULATIONS IN VIETNAM

| No. | Wood species<br>(Vietnamese) | Scientific Name                   | Plant Family    | Page No. |
|-----|------------------------------|-----------------------------------|-----------------|----------|
| 1   | Bach xanh                    | <i>Calocedrus macrolepis</i>      | Cupressaceae    | 4        |
| 2   | Bach xanh đá                 | <i>Calocedrus rupestris</i>       | Cupressaceae    | 5        |
| 3   | Sa moc dau                   | <i>Cunninghamia konishii</i>      | Taxodiaceae     | 6        |
| 4   | Hoang dan                    | <i>Cupressus torulosa</i>         | Cupressaceae    | 7        |
| 5   | Po mu                        | <i>Fokienia hodginsii</i>         | Cupressaceae    | 8        |
| 6   | Thong nuoc                   | <i>Glyptostrobus pensilis</i>     | Cupressaceae    | 9        |
| 7   | Du sam                       | <i>Keteleeria evelyniana</i>      | Pinaceae        | 10       |
| 8   | Thong da lat                 | <i>Pinus dalatensis</i>           | Pinaceae        | 11       |
| 9   | Thong pa co                  | <i>Pinus fenzeliana</i>           | Pinaceae        | 12       |
| 10  | Bach dai loan                | <i>Taiwania cryptomerioides</i>   | Cupressaceae    | 13       |
| 11  | Thong do bac                 | <i>Taxus chinensis</i>            | Taxaceae        | 14       |
| 12  | Thong do nam                 | <i>Taxus wallichiana</i>          | Taxaceae        | 15       |
| 13  | Bach vang                    | <i>Xanthocyparis vietnamensis</i> | Cupressaceae    | 16       |
| 14  | Go do                        | <i>Afzelia xylocarpa</i>          | Caesalpiniaceae | 17       |
| 15  | Tram                         | <i>Aquilaria crassna</i>          | Thymelaeaceae   | 18       |
| 16  | Thanh                        | <i>Bulnesia sarmientoi</i>        | Zygophyllaceae  | 19       |

|    |                  |                                           |                        |    |
|----|------------------|-------------------------------------------|------------------------|----|
| 17 | Lat Mexico       | <b><i>Cedrela odorata</i></b>             | <i>Meliaceae</i>       | 20 |
| 18 | Gu huong         | <b><i>Cinnamomum balansae</i></b>         | <i>Lauraceae</i>       | 21 |
| 19 | Re xanh phan     | <b><i>Cinnamomum glaucescens</i></b>      | <i>Lauraceae</i>       | 22 |
| 20 | Vu huong         | <b><i>Cinnamomum parthenoxylon</i></b>    | <i>Lauraceae</i>       | 23 |
| 21 | Trac             | <b><i>Dalbergia cochinchinensis</i></b>   | <i>Fabaceae</i>        | 24 |
| 22 | Trac den         | <b><i>Dalbergia nigra</i></b>             | <i>Fabaceae</i>        | 25 |
| 23 | Cam lai          | <b><i>Dalbergia oliveri</i></b>           | <i>Fabaceae</i>        | 26 |
| 24 | Trac day         | <b><i>Dalbergia rimosa</i></b>            | <i>Fabaceae</i>        | 27 |
| 25 | Sua              | <b><i>Dalbergia tonkinensis</i></b>       | <i>Fabaceae</i>        | 28 |
| 26 | Mun soc          | <b><i>Diospyros salletii</i></b>          | <i>Ebenaceae</i>       | 29 |
| 27 | Lim xanh         | <b><i>Erythrophloeum fordii</i></b>       | <i>Caesalpiniaceae</i> | 30 |
| 28 | Nghien           | <b><i>Excentrodendron tonkinensis</i></b> | <i>Tiliaceae</i>       | 31 |
| 29 | Trai ly          | <b><i>Garcinia fagraeoides</i></b>        | <i>Clusiaceae</i>      | 32 |
| 30 | Thiet dinh       | <b><i>Markhamia stipulata</i></b>         | <i>Bignoniaceae</i>    | 33 |
| 31 | Giang huong      | <b><i>Pterocarpus macrocarpus</i></b>     | <i>Fabaceae</i>        | 34 |
| 32 | Dang huong santa | <b><i>Pterocarpus santalinus</i></b>      | <i>Fabaceae</i>        | 35 |
| 33 | Gu mat           | <b><i>Sindora siamensis</i></b>           | <i>Caesalpiniaceae</i> | 36 |
| 34 | Gu lau           | <b><i>Sindora tonkinensis</i></b>         | <i>Caesalpiniaceae</i> | 37 |
| 35 | Cam tim          | <b><i>Peltogyne spp.</i></b>              | <i>Fabaceae</i>        | 38 |

## Note:

Vietnamese name  
of wood species

Scientific name  
of wood species

Wood group  
according to  
conservation status

Plant branch:  
SW = Softwood;  
HW = Hardwood

**Bach xanh**

*Calocedrus macrolepis* Kurz

IIA

SW

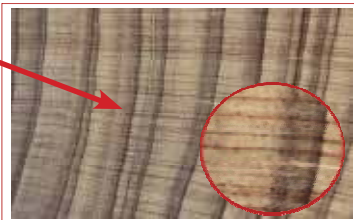
**Plant family:** Cupressaceae

**Common name:**

**Distribution:** Vietnam, Southern China, Myanmar, Thailand, Laos

**Product:** Round timber, Sawn timber, Woodchip, Wood powder

Picture of  
transverse surface



Picture of  
tangential surface



Wood structure  
codes

### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Heartwood gray, dark, black (5); Odour distinct (6); Transition gradual (9); Parenchyma diffuse (12); Parenchyma azonate (13);

### OTHER CHARACTERISTICS

Wood has a distinct odour. The concentrated smell is unpleasant.

### SIMILAR WOOD SPECIES

*Calocedrus rupestris*

**Code #:**

-1-2-5-6-9-12-13-

**Bach xanh**

*Calocedrus macrolepis* Kurz

**IIA**

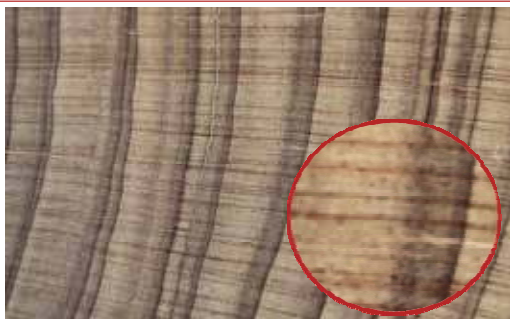
**SW**

**Plant family:** Cupressaceae

**Common name:**

**Distribution:** Vietnam, Southern China, Myanmar, Thailand, Laos

**Product:** Round timber, Sawn timber, Woodchip, Wood powder



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Heartwood gray, dark, black (5); Odour distinct (6); Transition gradual (9); Parenchyma diffuse (12); Parenchyma azonate (13);



### OTHER CHARACTERISTICS

Wood has a distinct odour. The concentrated smell is unpleasant.

### SIMILAR WOOD SPECIES

*Calocedrus rupestris*

**Code #:**

-1-2-5-6-9-12-13-

**Bach xanh da**

*Calocedrus rupestris* Aver., T.H.Ng.  
& P.K.L.

**IIA**

**SW**

**Plant family:** Cupressaceae

**Common name:**

**Distribution:** Vietnam, Quangxi China, Laos

**Product:** Round timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Heartwood gray, dark, black (5); Odour distinct (6); Transition gradual (9); Parenchyma diffuse (12);



### OTHER CHARACTERISTICS

Wood has a distinct odour like *Calocderus macrolepis*

### SIMILAR WOOD SPECIES

*Calocedrus macrolepis*

**Code #:**

-1-2-5-6-9-12-

**Sa moc dau**

*Cunninghamia konishii* Hayata

**IIA**

**SW**

**Plant family:** Taxodiaceae

**Common name:**

**Distribution:** Vietnam, China, Taiwan, Laos

**Product:** Round timber, Sawn timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Heartwood gray, dark, black (5); Odour distinct (6); Wood light and soft (7); Transition abrupt (8); Transition gradual (9); Grain contrast (11);



### OTHER CHARACTERISTICS

Clearly contrasted wood texture.

### SIMILAR WOOD SPECIES

**Code #:**

-1-2-5-6-7-8-9-11-

**Hoang dan**

*Cupressus torulosa* D.Don

IA

SW

**Plant family:** Cupressaceae

**Common name:** Himalayan Cypress; Bhutan cypress

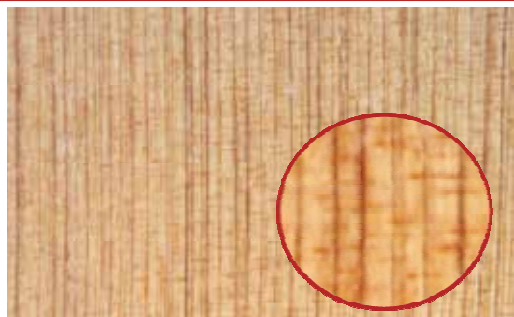
**Distribution:** E. Asia - western China, northern India, Nepal

**Product:** Round timber, Sawn timber, Tree root base, Root, Wood powder



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Odour distinct (6); Transition gradual (9); Parenchyma diffuse (12);



### OTHER CHARACTERISTICS

Wood is hard and fine grains and has a distinct odour.

### SIMILAR WOOD SPECIES

**Code #:**

-1-2-4-6-9-12-

Po mu

*Fokienia hodginsii* (Dunn) A. Henry  
& Thomas

IIA

SW

**Plant family:** Cupressaceae

**Common name:**

**Distribution:** Vietnam, China, Nord Laos

**Product:** Round timber, Sawn timber, Wood powder



### WOOD STRUCTURE

Growth ring distinct (2); Wood yellow, light yellow (3);  
Odour distinct (6); Transition gradual (9);  
Parenchyma diffuse (12); Parenchyma azonate (13);



### OTHER CHARACTERISTICS

Wood has a distinct odour.

### SIMILAR WOOD SPECIES

**Code #:**

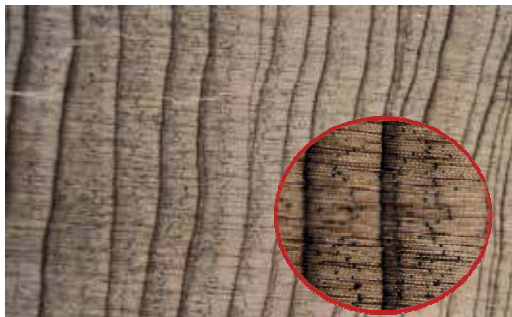
-2-3-6-9-12-13-

**Plant family:** Cupressaceae

**Common name:** Chinese Swamp Cypress, Chinese Water Fir

**Distribution:** Vietnam, ( E-Asia, China, Laos)

**Product:** Round timber, Sawn timber, Tree root base, Root, Fine Art



### WOOD STRUCTURE

Growth ring distinct (2); Wood yellow, light yellow (3); Wood pink brown, reddish brown (4); Heartwood gray, dark, black (5); Odour distinct (6); Wood light and soft (7); Transition abrupt (8); Transition gradual (9); Grain contrast (11); Parenchyma diffuse (12); Parenchyma azonate (13);



### OTHER CHARACTERISTICS

Wood has multiple colours with high contrast level

### SIMILAR WOOD SPECIES

**Code #:**

-2-3-4-5-6-7-8-9-11-12-13-

**Du sam**

*Keteleeria evelyniana* Mast.

**IIA**

**SW**

**Plant family:** Pinaceae

**Common name:**

**Distribution:** Vietnam, China, Taiwan, Laos

**Product:** Sawn timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Transition abrupt (8); Transition gradual (9); Resin canals present (10); Grain contrast (11);



### OTHER CHARACTERISTICS

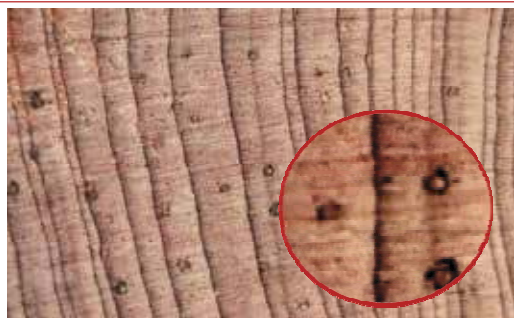
Wood has nice-looking and clear texture with high contrast level. Vertical resin canals have small white dots scattered on the transverse surface

### SIMILAR WOOD SPECIES

**Code #:**

-1-2-4-8-9-10-11-

**Plant family:** Pinaceae  
**Common name:**  
**Distribution:** Vietnam, Laos  
**Product:** Sawn timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Transition gradual (9); Resin canals present (10);



### OTHER CHARACTERISTICS

Resin canals as points with dark rings, tattered on the cross section. Horizontal resin canals as darkly horizontal line on the radial section.

### SIMILAR WOOD SPECIES

**Code #:**

-1-2-4-9-10-

**Thong pa co**

*Pinus fenzeliana* Hand.- Mazz.

IA

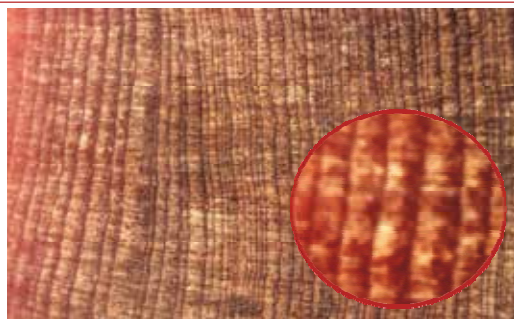
SW

**Plant family:** Pinaceae

**Common name:**

**Distribution:** Vietnam, China

**Product:** Sawn timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Odour distinct (6); Transition gradual (9); Resin canals present (10);



### OTHER CHARACTERISTICS

Wood grain is fine and rich in reddish oil. Resin canal cannot be easily observed.

### SIMILAR WOOD SPECIES

**Code #:**

-1-2-4-6-9-10-

**Bach dai loan**

*Taiwania cryptomerioides* Hayata

IA

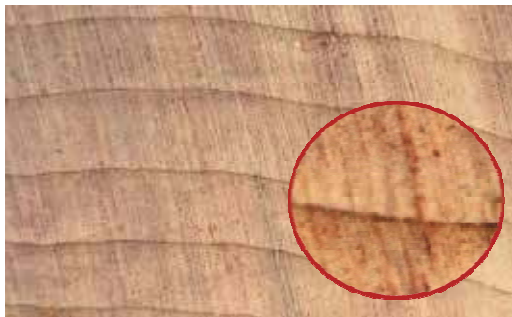
SW

**Plant family:** Cupressaceae

**Common name:** Coffin Tree, Taiwan Cedar, Taiwania

**Distribution:** Vietnam, China, Taiwan, Myanmar

**Product:** Sawn timber



### WOOD STRUCTURE

Growth ring distinct (2); Wood yellow, light yellow (3); Wood pink brown, reddish brown (4); Wood light and soft (7); Transition gradual (9);



### OTHER CHARACTERISTICS

Wood is soft and light. Lightly fragrant

### SIMILAR WOOD SPECIES

**Code #:**

-2-3-4-7-9-

# Thong do bac

*Taxus chinensis* (Pilg.) Rehd.

IIA

SW

**Plant family:** Taxaceae  
**Common name:**  
**Distribution:** Vietnam, China  
**Product:** Sawn timber



## WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Transition gradual (9);



## OTHER CHARACTERISTICS

Wood has fine grain and is hard

## SIMILAR WOOD SPECIES

Code #:

-1-2-4-9-

**Plant family:** Taxaceae

**Common name:**

**Distribution:** Vietnam, China, India, Nepal, Myanmar, Indonesia, Philippines

**Product:** Sawn timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Transition gradual (9);



### OTHER CHARACTERISTICS

### SIMILAR WOOD SPECIES

**Code #:**

-1-2-4-9-

**Bach vang**

*Xanthocyparis vietnamensis*

Farjon and  
T.H.Nguyễn

IA

SW

**Plant family:** Cupressaceae

**Common name:** Golden Vietnamese Cypress

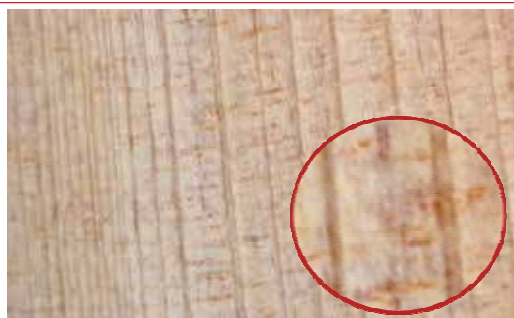
**Distribution:** Vietnam, China

**Product:** Sawn timber



### WOOD STRUCTURE

Growth ring distinct (2); Wood yellow, light yellow (3);  
Odour distinct (6); Transition gradual (9);  
Parenchyma diffuse (12); Parenchyma azonate (13);



### OTHER CHARACTERISTICS

### SIMILAR WOOD SPECIES

**Code #:**

-2-3-6-9-12-13-

Go do

*Afzelia xylocarpa* (Kurz) Craib

IIA

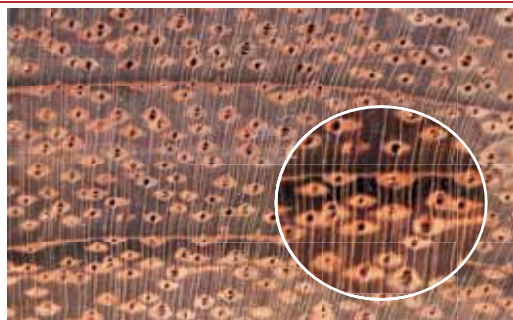
HW

**Plant family:** Fabaceae

**Common name:** Doussie, Makha Tree, Cambodia Beng Tree

**Distribution:** Vietnam, China, Myanmar, Thailand, Cambodia, Laos

**Form of product:** Round timber, Sawn timber, Furniture



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Grain interlocked (8); Wood heavy, hard (9); Diffuse-porous (12); Solitary pores (14); Short multiples porous (16); White deposits (23); Colored deposits (24); PAR lozenge-aliform (26); PAR aliform (27); PAR confluent (29); PAR in marginal (35); Stored rays (38);



### OTHER CHARACTERISTICS

### SIMILAR WOOD SPECIES

African *Afzelia* spp.

**Code #:** -1-2-4-8-9-12-14-16-23-24-26-27-29-35-38-

**Tram**

*Aquilaria crassna* Pierre ex Lecomte

**CII**

**HW**

**Plant family:** Thymelaeaceae

**Common name:** Agar wood

**Distribution:** Vietnam, Thailand, Cambodia, Laos

**Form of product:** Agar, Woodchip



### WOOD STRUCTURE

Wood yellow, light yellow (3); Diffuse-porous (12); Solitary pores (14); Short multiples porous (16); Phloem included (42);



### OTHER CHARACTERISTICS

Wood light, white, less durable. When the wood contains oil, there are alternately dark streaks between yellow streaks.

### SIMILAR WOOD SPECIES

**Code #:**

-3-12-14-16-42-

**Go thanh**

***Bulnesia sarmientoi* Lorentz ex Griseb.**

**CII**

**HW**

**Plant family:** Zygophyllaceae

**Common name:** Palo santo, Verawood, Argentine Lignum Vitae

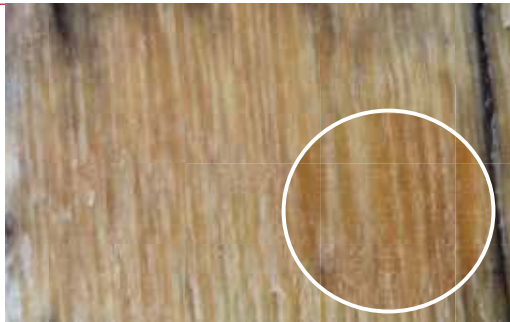
**Distribution:** Central and Nord America

**Form of product:** Round timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Streaks present (6); Distinct odour (7); Grain interlocked (8); Wood heavy, hard (9); Small porous (10); Diffuse-porous (12); Solitary pores (14); Short multiples porous (16); Pores in diagonal / rad. pattern (18); Pores in cluster (20); Colored deposits (24); PAR vasicentric (25); PAR confluent (29); Stored rays (38);



### OTHER CHARACTERISTICS

Sawn wood is first reddish and brown, then turning into green. Wood odour is distinct

### SIMILAR WOOD SPECIES

**Code #:** -1-2-4-6-7-8-9-10-12-14-16-18-20-24-25-29-38-

**Lat mehico**

***Cedrela odorata* L.**

**CIII**

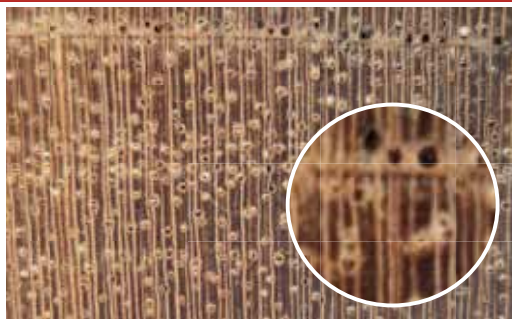
**HW**

**Plant family:** Meliaceae

**Common name:** Cigar-box Wood, Red Cedar, Spanish Cedar

**Distribution:** Central and Nord America and Caribe

**Form of product:** Round timber, Sawn timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Distinct odour (7); Semi-ring-porous (13); Solitary pores (14); Short multiples porous (16); White deposits (23); Colored deposits (24); PAR vasicentric (25); PAR in marginal (35);

### OTHER CHARACTERISTICS

Wood odour is distinct.

### SIMILAR WOOD SPECIES



**Code #:**

-1-2-4-7-13-14-16-23-24-25-35-

**Gu huong**

*Cinnamomum balansae* Lecomte

**IIA**

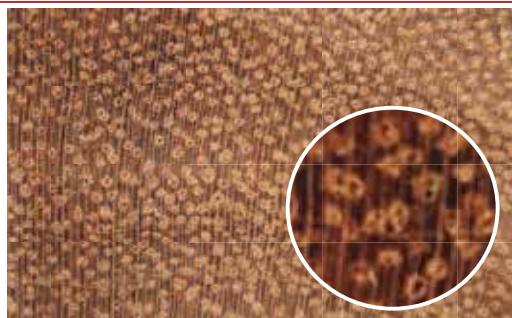
**HW**

**Plant family:** Lauraceae

**Common name:**

**Distribution:** Vietnam

**Form of product:** R. timber, S. timber, Root base, Root, Wood powder



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Wood pink brown, reddish brown (4); Heartwood gray, dark, black (5); Distinct odour (7); Grain interlocked (8); Ring-porous (11); Solitary pores (14); Short multiples porous (16); Tyloses present (22); PAR in marginal (35);

### OTHER CHARACTERISTICS

Wood odour is distinct.

### SIMILAR WOOD SPECIES

Some cinamums



**Code #:**

-1-4-5-7-8-11-14-16-22-35-

**Re xanh phan**

***Cinnamomum glaucescens* (Nees) Drury**

**IIA**

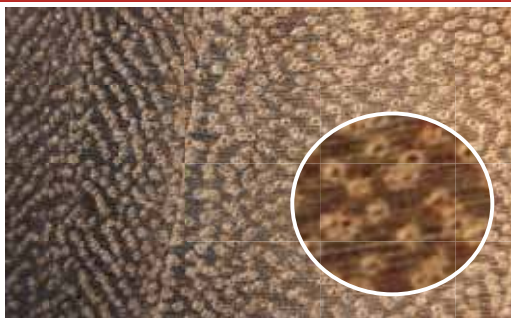
**HW**

**Plant family:** Lauraceae

**Common name:**

**Distribution:** Vietnam, E. Asia - northern India, Nepal, Bhutan.

**Form of product:** R. timber, S. timber, Root base, Root, Wood powder



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Wood pink brown, reddish brown (4); Heartwood gray, dark, black (5); Distinct odour (7); Grain interlocked (8); Ring-porous (11); Solitary pores (14); Short multiples porous (16); Tyloses present (22); PAR in marginal (35);

### OTHER CHARACTERISTICS

Wood odour is distinct.

### SIMILAR WOOD SPECIES

Some cinamums



**Code #:**

-1-4-5-7-8-11-14-16-22-35-

**Vu huong**

***Cinnamomum parthenoxylon* (Jack) Meisn.**

**IIA**

**HW**

**Plant family:** Lauraceae

**Common name:** Martaban Camphor Wood, Saffrol Laurel, Selasian Wood

**Distribution:** Vietnam, Indonesia; Malaysia (Sabah); Philippines

**Form of product:** R. timber, S. timber, Root base, Root, Wood powder



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Wood pink brown, reddish brown (4); Heartwood gray, dark, black (5); Distinct odour (7); Grain interlocked (8); Ring-porous (11); Solitary pores (14); Short multiples porous (16); Tyloses present (22); PAR in marginal (35);

### OTHER CHARACTERISTICS

Wood is rich in essential oils.

### SIMILAR WOOD SPECIES

Some cinamums



**Code #:**

-1-4-5-7-8-11-14-16-22-35-

Trac

*Dalbergia cochinchinensis* Pierre

IIA

HW

**Plant family:** Fabaceae

**Common name:** Rose Wood, Siamese Rosewood, Thailand Rosewood, Tracwood

**Distribution:** Vietnam, Cambodia; Laos; Thailand

**Form of product:** R. timber, S. timber, Root base, Root, Furniture



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Wood pink brown, reddish brown (4); Streaks present (6); Grain interlocked (8); Wood heavy, hard (9); Small porous (10); Diffuse-porous (12); Semi-ring-porous (13); Solitary pores (14); Short multiples porous (16); Colored deposits (24); PAR winged- aliform (28); PAR confluent (29); Tang. PAR band confluent (31); PAR reticulate (34); Stored rays (38);

### OTHER CHARACTERISTICS

Clear wood structure

### SIMILAR WOOD SPECIES

*Dalbergia* spp.; *Pterocarpus* spp.



**Code #:** -1-4-6-8-9-10-12-13-14-16-24-28-29-31-34-38-

**Trac den**

*Dalbergia nigra* Allem. ex Benth.

CII

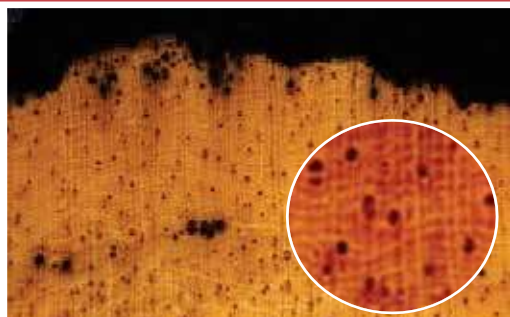
HW

**Plant family:** Fabaceae

**Common name:** Brazilian Rosewood, Bahia Rosewood, Jacaranda

**Distribution:** Tropical South America

**Form of product:** Round timber, Sawn timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Heartwood gray, dark, black (5); Grain interlocked (8); Wood heavy, hard (9); Small porous (10); Diffuse-porous (12); Semi-ring-porous (13); Solitary pores (14); Short multiples porous (16); Colored deposits (24); PAR aliform (27); PAR winged- aliform (28); PAR confluent (29); Tang. PAR band confluent (31); PAR reticulate (34); Stored rays (38);

### OTHER CHARACTERISTICS

### SIMILAR WOOD SPECIES



**Code #:** -1-5-8-9-10-12-13-14-16-24-27-28-29-31-34-38

**Cam lai**

***Dalbergia oliveri* Prain**

**IIA**

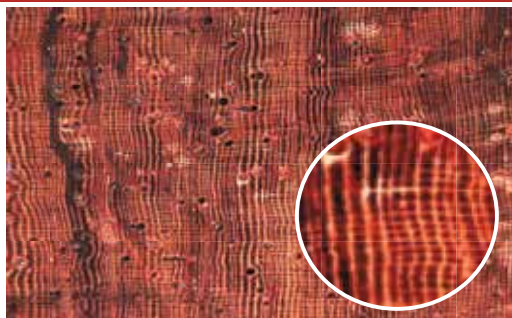
**HW**

**Plant family:** Fabaceae

**Common name:** Burmese Rosewood

**Distribution:** Vietnam, Myanmar, Thailand, Cambodia, Laos

**Form of product:** Round timber, Sawn timber, Furniture



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Wood pink brown, reddish brown (4); Streaks present (6); Grain interlocked (8); Wood heavy, hard (9); Diffuse-porous (12); Solitary pores (14); Short multiples porous (16); Colored deposits (24); PAR vasicentric (25); PAR winged- aliform (28); Tang. PAR band confluent (31); PAR reticulate (34); Stored rays (38);

### OTHER CHARACTERISTICS

Sapwood is present

### SIMILAR WOOD SPECIES



**Code #:** -1-4-6-8-9-12-14-16-24-28-25-31-34-38-

**Trac day**

*Dalbergia rimosa* Roxb.

IIA

HW

**Plant family:** Fabaceae

**Common name:**

**Distribution:** Vietnam, India, Bangladesh, Bhutan, Myanmar, Thailand, Laos, China

**Form of product:** Round timber, Tree root base, Root, Fine Art



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Heartwood gray, dark, black (5); Grain interlocked (8); Wood heavy, hard (9); Small porous (10); Semi-ring-porous (13); Solitary pores (14); Short multiples porous (16); Colored deposits (24); PAR lozenge-aliform (26); PAR aliform (27); PAR winged- aliform (28); PAR confluent (29); Tang. PAR band confluent (31); PAR reticulate (34); Stored rays (38);

### OTHER CHARACTERISTICS

Small size timber, sapwood is used.

### SIMILAR WOOD SPECIES



**Code #:** -1-5-8-9-10-13-14-16-24-26-27-28-29-31-34-38-

Sua

*Dalbergia tonkinensis* Prain

IA

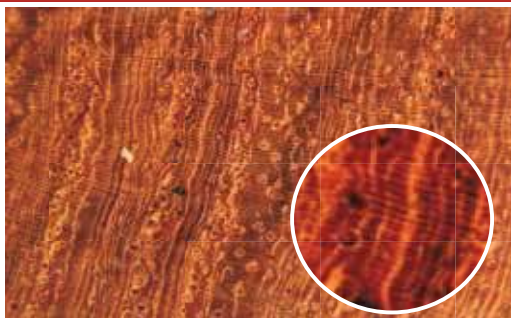
HW

**Plant family:** Fabaceae

**Common name:**

**Distribution:** Vietnam, Hainan (China), Laos

**Form of product:** R. timber, S. timber, Root base, Root, Woodchip, Furniture



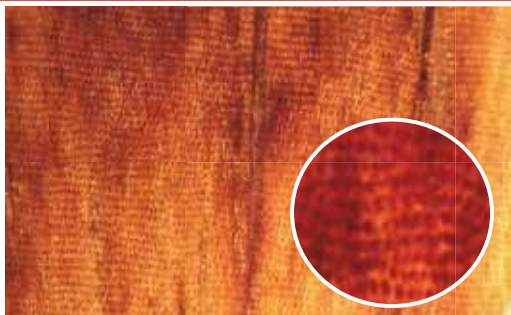
### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood yellow, light yellow (3); Streaks present (6); Distinct odour (7); Grain interlocked (8); Wood heavy, hard (9); Diffuse-porous (12); Semi-ring-porous (13); Solitary pores (14); Short multiples porous (16); Colored deposits (24); PAR vasicentric (25); PAR aliform (27); PAR winged- aliform (28); PAR confluent (29); Tang. PAR band confluent (31); PAR reticulate (34); Stored rays (38);

### OTHER CHARACTERISTICS

### SIMILAR WOOD SPECIES

*Dalbergia spp. Pterocarpus macrocarpus*



**Code #:** -1-2-3-6-7-8-9-12-13-14-16-24-25-27-28-29-31-34-38-

**Mun soc**

***Diospyros salletii* Lecomte**

**IA**

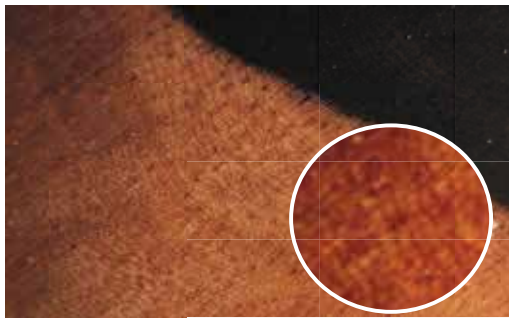
**HW**

**Plant family:** Ebenaceae

**Common name:**

**Distribution:** Vietnam, Laos

**Form of product:** Round timber, Sawn timber, Furniture



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Heartwood gray, dark, black (5); Streaks present (6); Grain interlocked (8); Wood heavy, hard (9); Small porous (10); Diffuse-porous (12); Solitary pores (14); Short multiples porous (16); Colored deposits (24); Tang. PAR band confluent (31); PAR reticulate (34);

### OTHER CHARACTERISTICS

Characteristic streaks

### SIMILAR WOOD SPECIES



**Code #:**

-1-5-6-8-9-10-12-14-16-24-31-34-

**Lim xanh**

***Erythrophloeum fordii* Oliver**

**IIA**

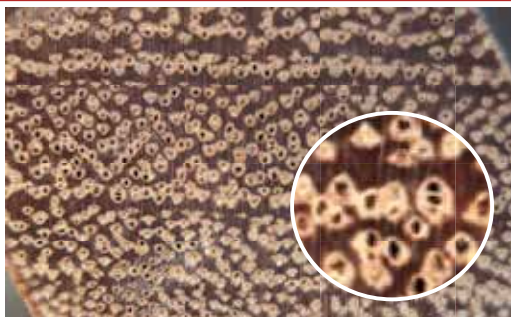
**HW**

**Plant family:** Caesalpiniaceae

**Common name:**

**Distribution:** Vietnam, China, Laos

**Form of product:** Round timber, Sawn timber, Furniture



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Grain interlocked (8); Wood heavy, hard (9); Diffuse-porous (12); Solitary pores (14); Short multiples porous (16); Pores in diagonal / rad. pattern (18); White deposits (23); Colored deposits (24); PAR aliform (27); PAR winged- aliform (28); Stored rays (38);

### OTHER CHARACTERISTICS

Sapwood is less durable.

### SIMILAR WOOD SPECIES



**Code #:** -1-2-4-8-9-12-14-16-18-23-24-27-28-38-

**Nghien**

***Excentrodendron  
tonkinensis*** (Gagnep.)  
Chang & Miao

**IIA**

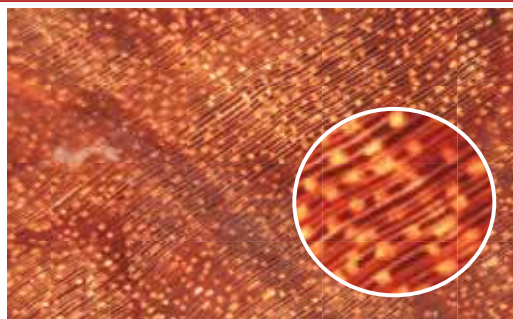
**HW**

**Plant family:** Tiliaceae

**Common name:**

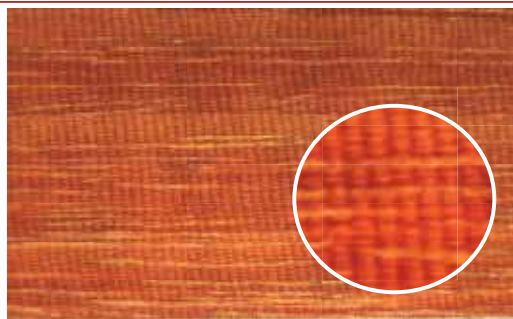
**Distribution:** Vietnam, China

**Form of product:** R. timber, S. timber, Chopping board, Furniture



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Wood pink brown, reddish brown (4); Grain interlocked (8); Wood heavy, hard (9); Small porous (10); Diffuse-porous (12); Excl. solitary pores (15); Colored deposits (24); PAR in marginal (35); Stored rays (38);



### OTHER CHARACTERISTICS

Wood is heavy with fine grain.

### SIMILAR WOOD SPECIES

**Code #:** -1-4-8-9-10-12-15-24-35-38-

**Trai ly**

***Garcinia fagraeoides* A.Chev.**

**IIA**

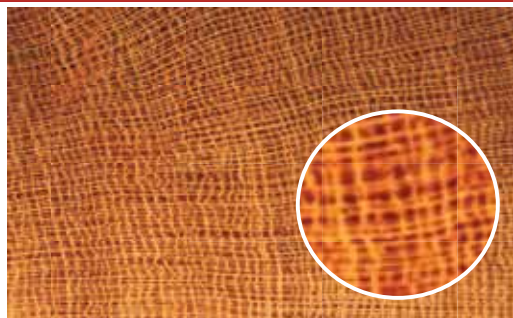
**HW**

**Plant family:** Clusiaceae

**Common name:**

**Distribution:** Vietnam, China

**Form of product:** Round timber, Sawn timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Wood pink brown, reddish brown (4); Grain interlocked (8); Wood heavy, hard (9); Small porous (10); Diffuse-porous (12); Excl. solitary pores (15); Tang. PAR band confluent (31); PAR reticulate (34); PAR reticulate (36);

### OTHER CHARACTERISTICS

Wood is heavy with fine grain.

### SIMILAR WOOD SPECIES



**Code #:**

-1-4-8-9-10-12-15-31-34-36-

**Thiet dinh**

***Markhamia stipulata***

(Wall.) Seem.  
ex Schum

**IIA**

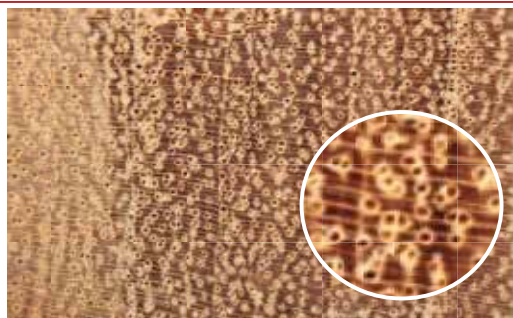
**HW**

**Plant family:** Bignoniaceae

**Common name:**

**Distribution:** Vietnam, China, Thailand, Laos

**Form of product:** Round timber, Sawn timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Wood pink brown, reddish brown (4); Grain interlocked (8); Wood heavy, hard (9); Diffuse-porous (12); Semi-ring-porous (13); Solitary pores (14); Short multiples porous (16); Colored deposits (24); PAR lozenge-aliform (26); PAR aliform (27); PAR confluent (29); PAR in marginal (35);

### OTHER CHARACTERISTICS

### SIMILAR WOOD SPECIES



**Code #:** -1-4-8-9-12-13-14-16-24-26-27-29-35-

Dang huong trai to

*Pterocarpus macrocarpus* Kurz

IIA

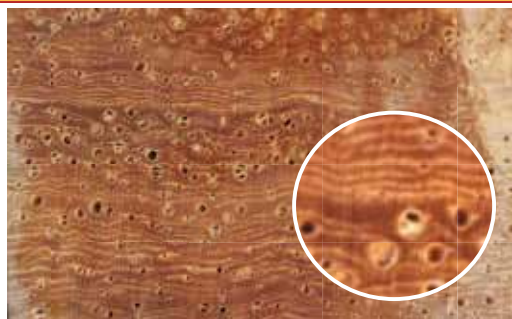
HW

**Plant family:** Fabaceae

**Common name:** Burma Padauk

**Distribution:** Vietnam, India, Myanmar, Thailand, Cambodia, Laos

**Form of product:** Round timber, Sawn timber, Furniture, Flooring



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Distinct odour (7); Grain interlocked (8); Wood heavy, hard (9); Semi-ring-porous (13); Solitary pores (14); Short multiples porous (16); Colored deposits (24); PAR aliform (27); PAR winged- aliform (28); PAR confluent (29); Tang. PAR band confluent (31); PAR in discontinuous band (32); PAR reticulate (36); Stored rays (38);

### OTHER CHARACTERISTICS

### SIMILAR WOOD SPECIES

*Pterocarpus* spp.



**Code #:** -1-2-4-7-8-9-13-14-16-24-27-28-29-31-32-36-38-

**Dang hương santa**

***Pterocarpus santalinus* L.**

**CII**

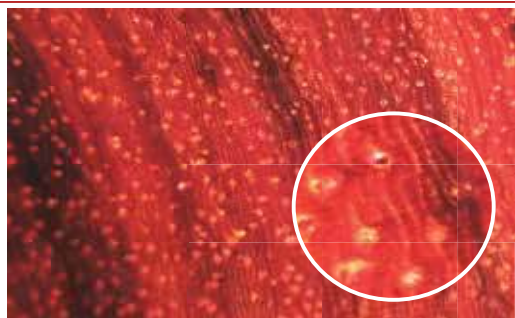
**HW**

**Plant family:** Fabaceae

**Common name:** Zitan, Red Sandalwood, Red Sanders; Almug, Saunderswood

**Distribution:** Southeastern India, Pakistan, Sri Lanka

**Form of product:** Round timber, Sawn timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Heartwood gray, dark, black (5); Streaks present (6); Diffuse-porous (12); Solitary pores (14); Short multiples porous (16); Colored deposits (24); PAR aliform (27); PAR winged- aliform (28); PAR confluent (29); Tang. PAR band confluent (31); PAR in discontinuous band (32); Stored rays (38);



### OTHER CHARACTERISTICS

Wood is red-brown or reddish in colour.

### SIMILAR WOOD SPECIES

**Code #:** -1-5-6-12-14-16-24-27-28-29-31-32-38-

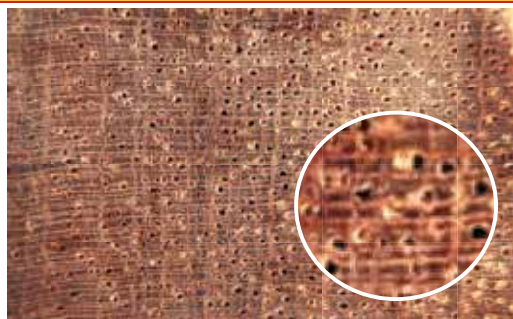
**Gu mat**

*Sindora siamensis* Miq.

**IIA**

**HW**

**Plant family:** Caesalpinaceae  
**Common name:** Sepetir  
**Distribution:** Vietnam, Thailand, Laos, Cambodia, Malaysia  
**Form of product:** Round timber, Sawn timber, Furniture



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Heartwood gray, dark, black (5); Grain interlocked (8); Wood heavy, hard (9); Diffuse-porous (12); Solitary pores (14); Short multiples porous (16); Colored deposits (24); PAR lozenge-aliform (26); PAR aliform (27); PAR confluent (29); Tang. PAR band confluent (31); PAR in marginal (35); PAR reticulate (36);

### OTHER CHARACTERISTICS

Usually dark oil rings appear on the ends of logs.

### SIMILAR WOOD SPECIES

*Sindora* spp.



**Code #:** -1-2-5-8-9-12-14-16-24-26-27-29-31-35-36-

**Gu lau**

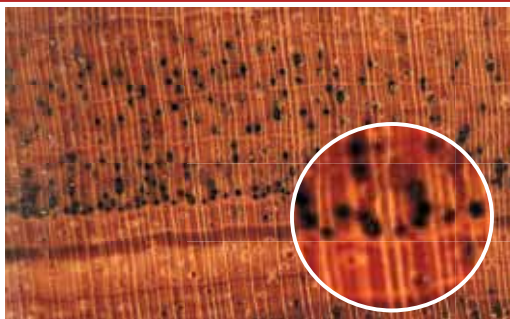
*Sindora tonkinensis*

K.Larsen &  
S.S.Larsen

**IIA**

**HW**

**Plant family:** Caesalpinaceae  
**Common name:** Sepetir  
**Distribution:** Vietnam, (Laos)  
**Form of product:** Round timber, Sawn timber, Furniture



### WOOD STRUCTURE

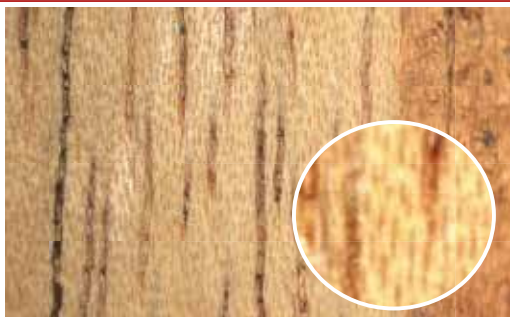
Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Grain interlocked (8); Wood heavy, hard (9); Diffuse-porous (12); Solitary pores (14); Short multiples porous (16); Colored deposits (24); PAR vasicentric (25); Tang. PAR band confluent (31); PAR in marginal (35); PAR reticulate (36);

### OTHER CHARACTERISTICS

Usually dark oil rings appear on the ends of logs.

### SIMILAR WOOD SPECIES

*Sindora* spp.



**Code #:** -1-2-4-8-9-12-14-16-24-25-31-35-36-

**Cam tim**

***Peltogyne* spp.**

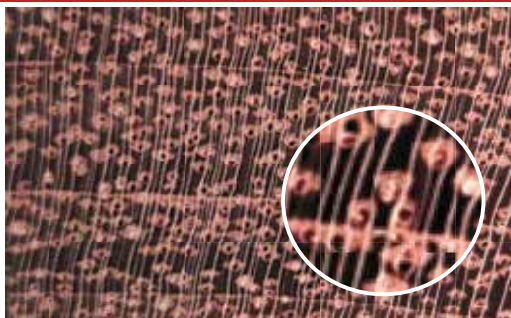
**HW**

**Plant family:** Fabaceae

**Common name:** Purpleheart, Amaranth

**Distribution:** Central and South America

**Form of product:** Round timber



### WOOD STRUCTURE

Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood heavy, hard (9); Diffuse-porous (12); Solitary pores (14); Short multiples porous (16); White deposits (23); PAR aliform (27); PAR confluent (29); PAR in marginal (35);

### OTHER CHARACTERISTICS

Heartwood is violet in colour.

### SIMILAR WOOD SPECIES



**Code #:**

-1-2-9-12-14-16-23-27-29-35-



**This Identification Field Guide is part of the Timber Identification  
and Handling Toolkit and was developed by TRAFFIC  
in cooperation with VN Forest and other project partners.**



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