



**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 (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>Azelia xylocarpa</i>	Caesalpinaceae	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

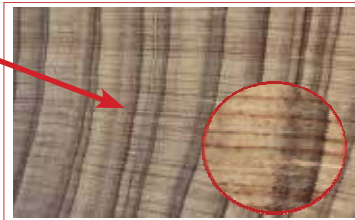
**Plant family:** Cupressaceae

**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-

**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 #:**

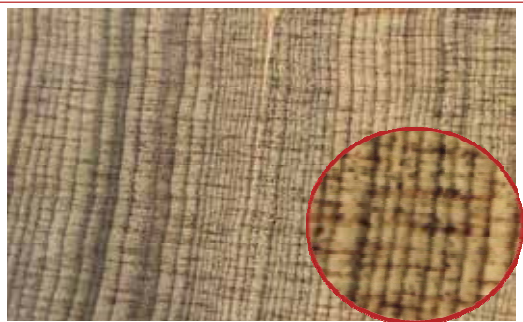
-1-2-5-6-9-12-13-

**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

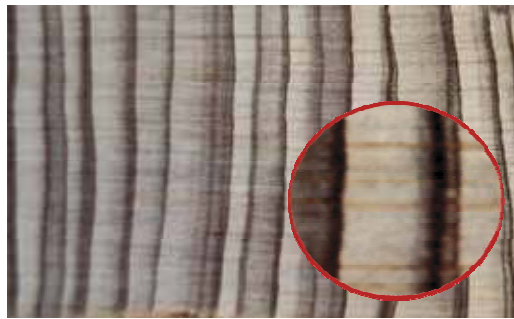
SW

**Plant family:** Taxodiaceae

**Common name:**

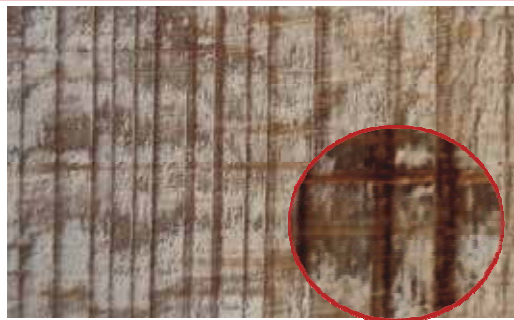
**Distribution:** Vietnam, China, Taiwan, Laos

**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-



**Plant family:** Cupressaceae

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

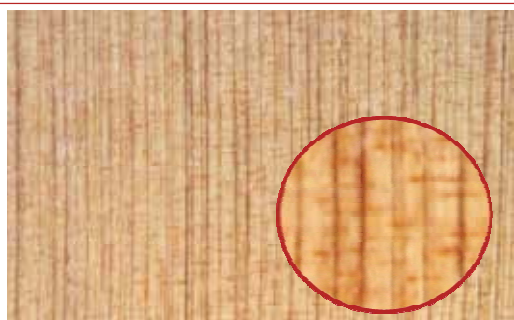
**Distribution:** E. Asia - western China, northern India, Nepal

**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-

**Thong nuoc**

*Glyptostrobus pensilis*

(Staunton ex  
D.Don) K.Koch

IA

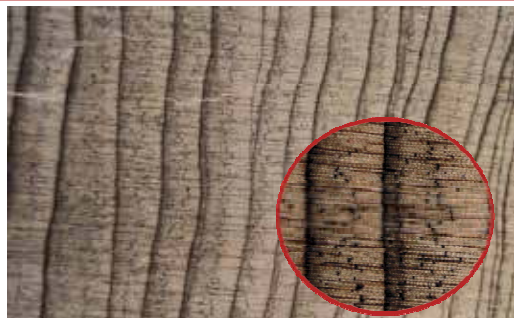
SW

**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

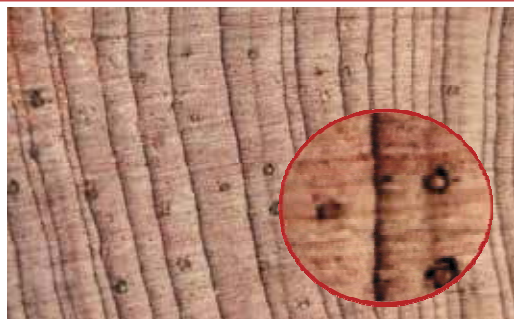
Wood has nice-looking and clear texture with high contrast level. Vertical resin canals have small white dots scattered on the transverse surface

### SIMILAR WOOD SPECIES

**Code #:**

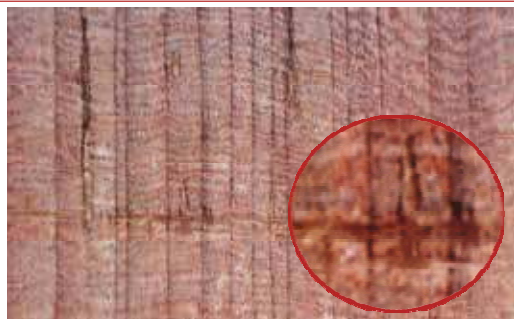
-1-2-4-8-9-10-11-

**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

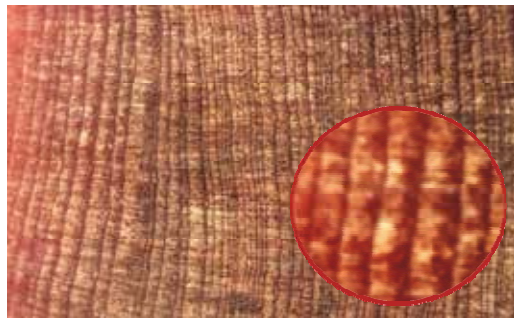
SW

**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-

**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-

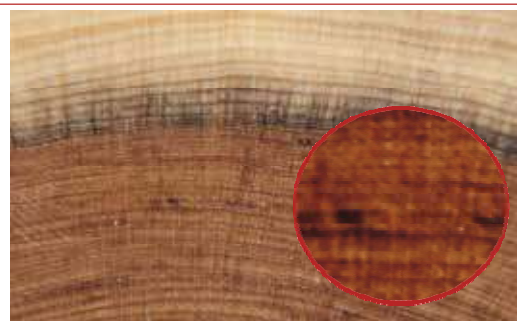
**Thong do bac**

*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**

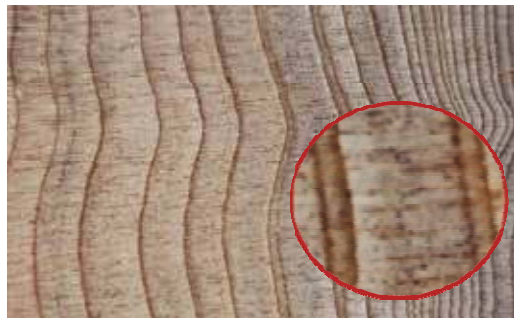
*Xanthocyparis vietnamensis*

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

*Azelia xylocarpa* (Kurz) Craib

IIA

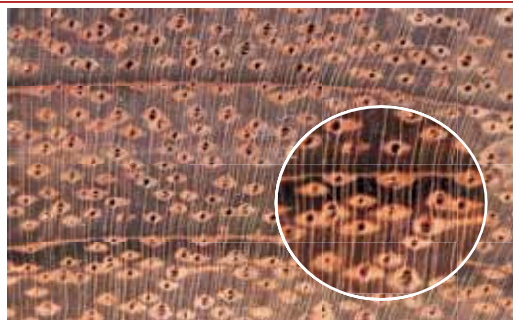
HW

**Plant family:** Fabaceae

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

**Distribution:** Vietnam, China, Myamar, 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 *Azelia* 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

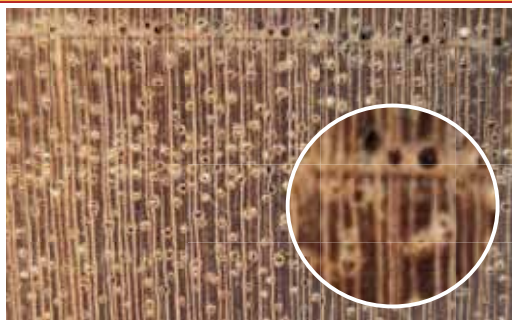
HW

**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**

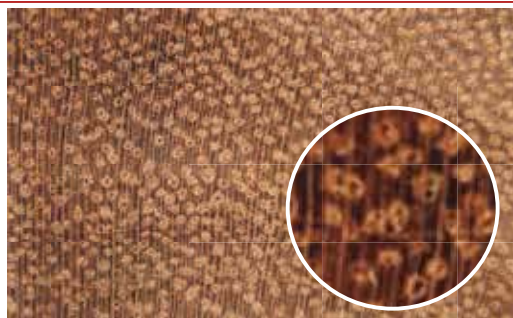
**HW**

**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

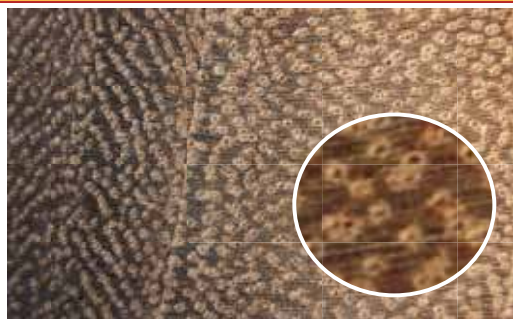
HW

**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

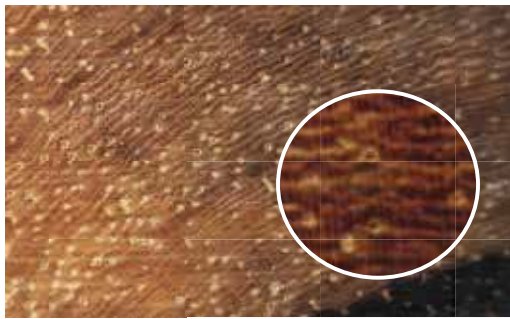
HW

**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-

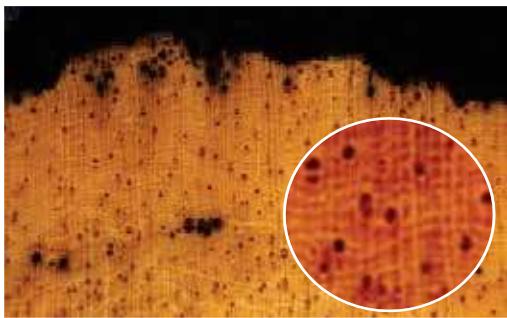
**Trac den**

*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**

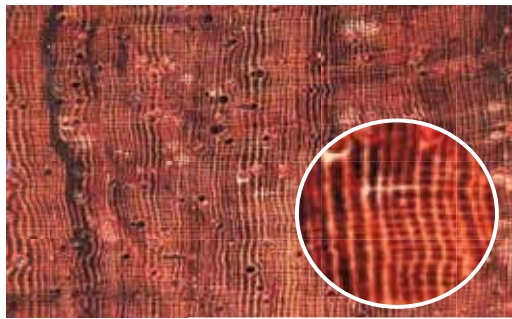
**HW**

**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

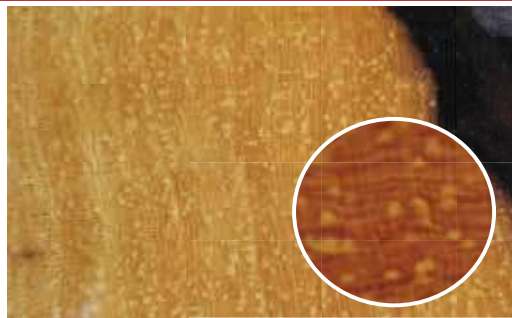
HW

**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

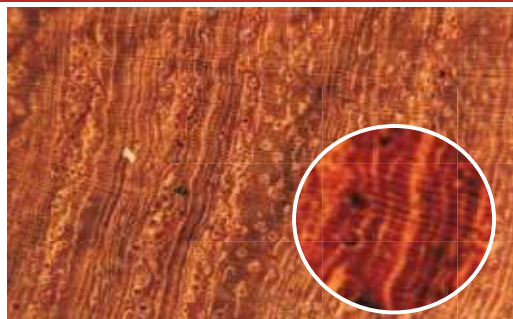
HW

**Plant family:** Fabaceae

**Common name:**

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

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



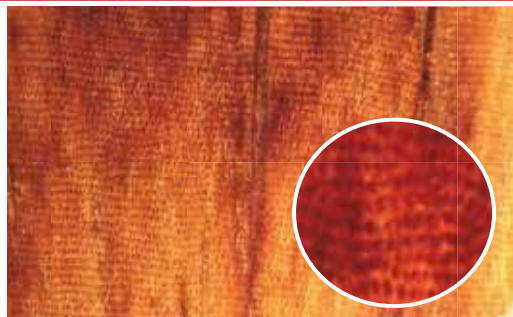
### WOOD STRUCTURE

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

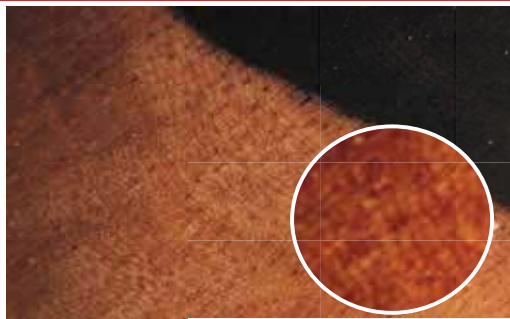
HW

**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

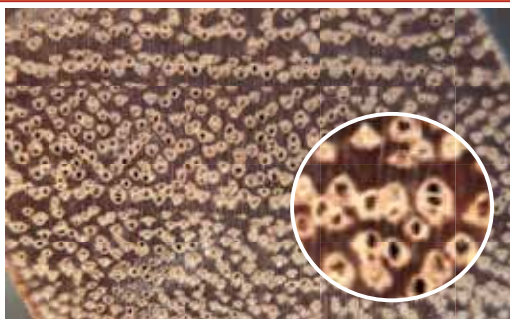
HW

**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**

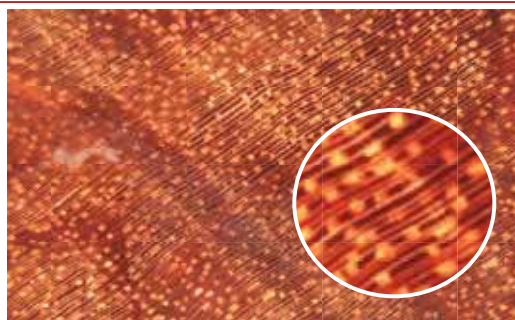
**HW**

**Plant family:** Tiliaceae

**Common name:**

**Distribution:** Vietnam, China

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



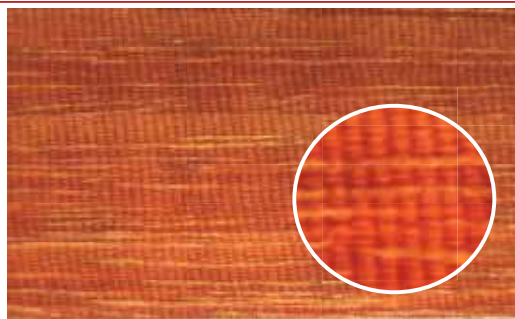
### WOOD STRUCTURE

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-

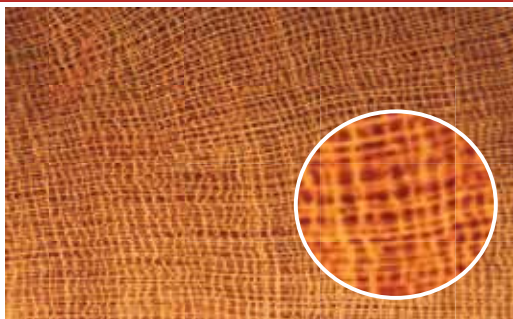
# Trai ly

*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

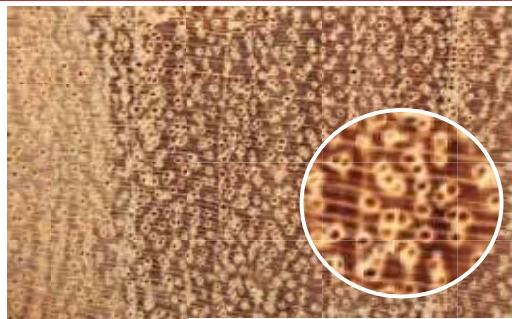
HW

**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-

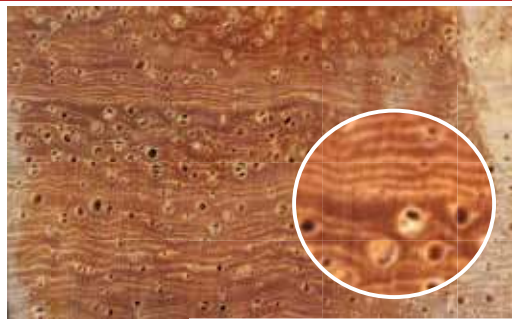
Dang huong trai to

*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



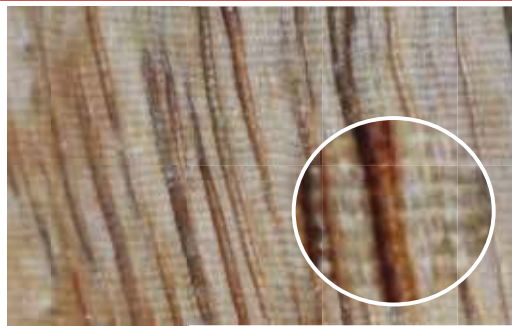
### WOOD STRUCTURE

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

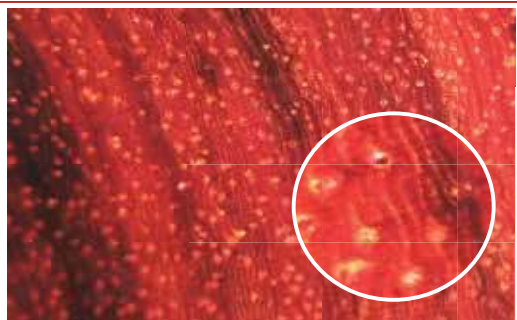
HW

**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-

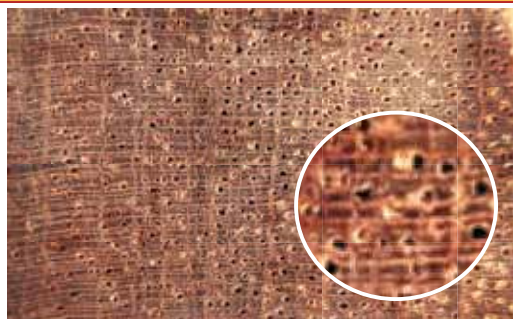
**Gu mat**

*Sindora siamensis* Miq.

**IIA**

**HW**

**Plant family:** Caesalpiniaceae  
**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**

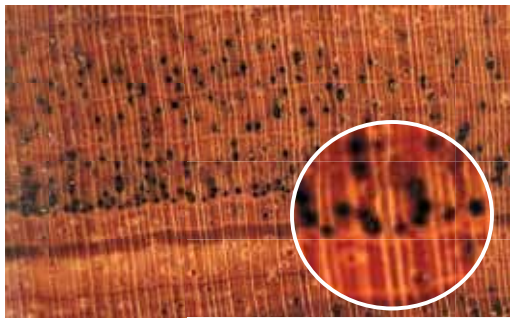
*Sindora tonkinensis*

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

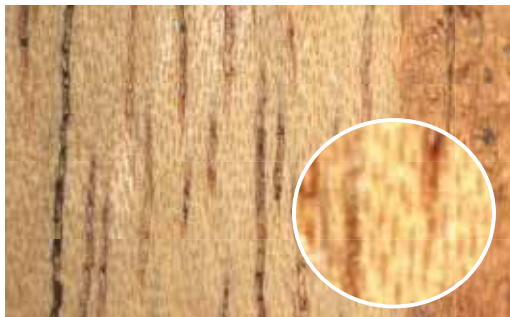
Sapwood and heartwood distinct (1); Growth ring distinct (2); Wood pink brown, reddish brown (4); Grain interlocked (8); Wood heavy, hard (9); Diffuse-porous (12); Solitary pores (14); Short multiples porous (16); Colored deposits (24); PAR vasicentric (25); Tang. PAR band confluent (31); PAR in marginal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

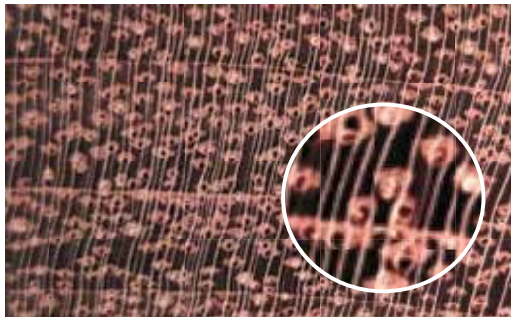
**HW**

**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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