

13. *Shorea cochinchinensis* Pierre

Taxonomy and Commercial Grade

Cambodian name	: Porpel
Scientific name	: <i>Shorea cochinchinensis</i> Pierre
Synonym	: <i>Shorea roxburghii</i> G.Don.
Family	: Dipterocarpaceae
Commercial Grade-Cambodia	: 1 st Grade

Distribution and Habitat: *Shorea cochinchinensis* Pierre occurs in Myanmar, Thailand, Laos, Cambodia, Malaysia, Vietnam and the eastern coast of India (Dy Phon, 2000). It is found mainly in mixed deciduous forests or in evergreen forests from 50-1000 m a.s.l (FIPI, 1996). In Cambodia, it is found in Kratie, Pursat, Koh Kong, Ratanakiri, Kampong Thom, Stung Treng, Preah Vihear, Siem Reap and Mondulkiri (Khorn, 2002; see map).

Gene-Ecological Zones: Coastal Cardamoms (A), Northern Cardamoms (B), Redlands (c), Central Lowlands (d), Central Annamites (G), Southern Annamites (g).

Botanical Description: *Shorea cochinchinensis* is a deciduous, medium to large-sized tree that reaches from 10-25 m high (Dy Phon, 2000). In favourable conditions, it can reach to 30 m in height and produce boles in excess of 200 cm in dbh. Buttresses may be present or absent. The sapwood and heartwood of this species are slightly differentiated by colour; the sapwood is yellowish, while the heartwood is dark yellow or reddish-brown, usually with dark-coloured lines on the surface. The wood is rather hard and heavy, with a density of 0.8-0.93. It is easy to saw and to work. The bark is 2-2.5 cm thick, gray, and rather deeply fissured; the inner bark has brownish concentric bands. The twigs are slender, naked or hairy, and darkly pigmented. Leaves are simple, alternate, oblong to elliptic, with rounded or shortly pointed tips, and rounded bases. They are 18-21cm long and 11-12cm wide on young trees and 8-14cm long and 4-7 cm wide on mature trees, usually naked on both surfaces, but sometimes shortly hairy below. Lateral nerves occur in 14-18 pairs, and the petiole is slender, 1.4-4cm long. The ovate to lance-shaped stipules are 2-4 mm long, hairy, and caducous (FIPI, 1996).

Flowering and Fruiting Habit: Flowering stalks are 8-10 cm long. Flowers have are born on short pedicels and 5 lanceolate or triangular sepals that dry to a blackish hue. The flowers produce 5 white petals around 14.5 mm long and 5 mm wide at the base, and 10-15 stamens with oblong anthers that bear a linear appendage. Ovaries are glabrous and topped with a 3-lobed stigma (FIPI, 1996).

Fruit and Seed Description: This obovate fruits of this species are 12 mm long and 5.5 mm wide, and bear 3 wings from 4.0-8.5 cm long and 1cm wide. The long wing exhibit 11-14 parallel veins, and the two shorter wings reach to 4 cm long (FIPI, 1996).

Seed Collection: Seeds are usually collected from the tree or the ground after shaking the branches. In seed source areas, the ground is usually cleared and sometimes burnt to prepare for seed collection. To ease collection, a cover can be spread out on the ground. The optimal time of collection is reached when the fruits have changed in colour from green to brownish. Maturity can be confirmed by a cutting test.

Uses: Because of its poor resistance to water, this species is usually used for interior construction and furniture (FIPI, 1996). Still, it is occasionally used for the construction of

boats after soakings. Bark fragments are put into sugar palm juice to delay its fermentation, and sometimes replace the areca nut for betel quid. Extractions of the bark are used in traditional medicine as a cure for dysentery, and sometimes with an admixture of bark from *Sindora siamensis* (Dy Phon, 2000). The tree contains dammar that can be used as a varnish (FIPI, 1996).

Current Status: Because the wood of this species is very valuable and in high demand, the species is over-exploited and in danger of extinction if adequate protection measures are not implemented. Its distribution is scattered and its habits have been destroyed by forestland conversions and selective illegal logging. The number of mature trees has been reduced significantly and it is now difficult to find significant sources of germplasm.

In 2002, the second CTSP meeting on the Forest Gene Conservation Strategy defined *Shorea cochinchinensis* Pierre as a priority species in need of immediate conservation intervention and appropriate protection.

IUCN Classification: NE A1cd

References:

- FA, 2002 (draft), List of Trade Names of Commercial Wood in Cambodia, Trade Names of Commercial Wood
- Dy Phon, 2000, Dictionary of Plants used in Cambodia
- FIPI, Forest Inventory and Planning Institute, 1996, Vietnam Forest Trees
- Khorn, S, 2002, Distribution of Selected Tree Species for Gene Conservation in Cambodia
- Ministry of Agriculture, Forestry and Fisheries, 1986, Decision No. 050 SSR.KSK: Wood Classification and Minimum Diameter for Allowable Cutting, 12th September
- UNEP World Conservation Monitoring Centre, 2002, Red List for Cambodia, Second
- CTSP Seminar, 29 Jan. 2002 on Forest Gene Conservation Strategy

