

6. *Pterocarpus macrocarpus* Kurz.

Taxonomy and Commercial Grade

Cambodian name	: Thnong
Scientific name	: <i>Pterocarpus macrocarpus</i> Kurz
Family	: Fabaceae
Commercial Grade-Cambodia	: Luxury

Distribution and Habitat: This species is a common constituent of tropical deciduous forests in Cambodia, Laos and Vietnam (FIPI, 1996). In Cambodia the species usually occurs in dense deciduous or cleared forests up to 700 m a.s.l. (Dy Phon, 2000). The species is rarely found in primary forests. The tree is often mixed with many other species, but often occurs as a dominant plant. It is a light-demanding, drought tolerant tree that is suitable for well drained, light textured soils with shallow depths and little humus (Khorn, 2002). It is found in Kampong Thom, Stung Treng, Preah Vihear, Rattanakiri, Kratie, Siem Reap, Kampot, Pursat and Mondulakiri (Khorn, 2002; see map).

Gene-Ecological Zones: Northern Cardamoms (B), Redlands (c), Central Lowlands (d), Eastern Mekong Basin (F), Central Annamites (G), Southern Annamites (g).

Botanical Description: A medium to large tree, *thnong* reaches from 25-30 m high and produces boles from 70-90 cm in dbh (CTSP, 2001). The wood is durable, medium-textured, and has a density of 0.85 (FIPI, 1996). The distinguishing feature of *Pterocarpus macrocarpus* is the colour of the wood, this being a rich red-purple (So Thea, 2002, per. comm). The trunk is straight and cylindrical, and the bark is dark brown and longitudinally fissured. The crown is a dense and globose. New twigs are covered with dense hairs, and become glabrous after development. Leaves are compound, alternate, bi-pinnate, with densely hairy on the petiole. 5-11 alternate are oblong-ovate and taper into a hard point at their tips. The bases of leaflets are rounded and the edges are smooth. The leaflets are glossy-green above and dull below. About 20 densely reticulate pairs of nerves from 7-9 mm long are evident on both surfaces of the leaf. Leaves are shed during the dry season (FIPI, 1996).



Flowering and Fruiting Habit: Small, yellow, aromatic flowers are concentrated on axillary flowering stalks from 10-15 cm long. These are covered with dense brown hairs. The bell-shaped calyx exhibits 5 prominent tips and an outer covering of hairs. The standard petal (or 'flag') is oval and 12-14 mm long. The flower has 10 stamens, and the ovary is densely hairy. Immature fruits contain 2-4 ovules.

Flowering and fruiting times of this species varies according to regions and climates. In Cambodia, flowers generally appear in March-April, and fruit ripens from September-October (FA, 2000). In Myanmar, flowers appear March-May and fruits remain on the tree for several months. In Vietnam, the species flowers from February–April, and fruits are available in December (DFSC, 2000).

Fruit and Seed Description: The fruit is surrounded by thin wing which is flat and round, and around 8 cm in diameter. It has 1-2 chambers and bears 1-2 seeds in each (FIPI, 1996).

Seed Collection: Seeds are usually collected from the tree or from the ground after shaking the branches. In the 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 majority of fruit has turned brown and dry. Maturity can be confirmed by a cutting test (DFSC, 2000).

Seed Handling: To reduce bulk, the wings are removed in the field. The fruit is then dried in the sun. Seed extraction is very labour intensive and in most places not performed (DFSC, 2000).

Sowing and Germination: Seeds start to germinate after 5 days and final germination is usually 70% successful. After 11 days, only 64% of the seeds of wingless fruits germinate. Natural regeneration is best in dry, open forest and in disturbed areas. Vegetative propagation by cutting is possible (DFSC, 2000).

Uses: This species is used in making luxury furniture, cabinetwork, art handicrafts, musical instruments and flooring (FIPI, 1996).

Current Status: In Cambodia, *Pterocarpus macrocarpus* occurs mostly in the North. Most timber is harvested from natural forests and the species is suffering from over-exploitation and agricultural expansions (CTSP, 2001). Its natural habitats are being destroyed, and the species is facing the possibility of extinction if protection measures are not taken.

In 2002, the second CTSP meeting on the Forest Gene Conservation Strategy defined *Pterocarpus macrocarpus* as a priority species in need of immediate conservation intervention and appropriate protection. This species is protected by Cambodian Forestry Law No.35.

IUCN Classification: VU A1d

References:

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