

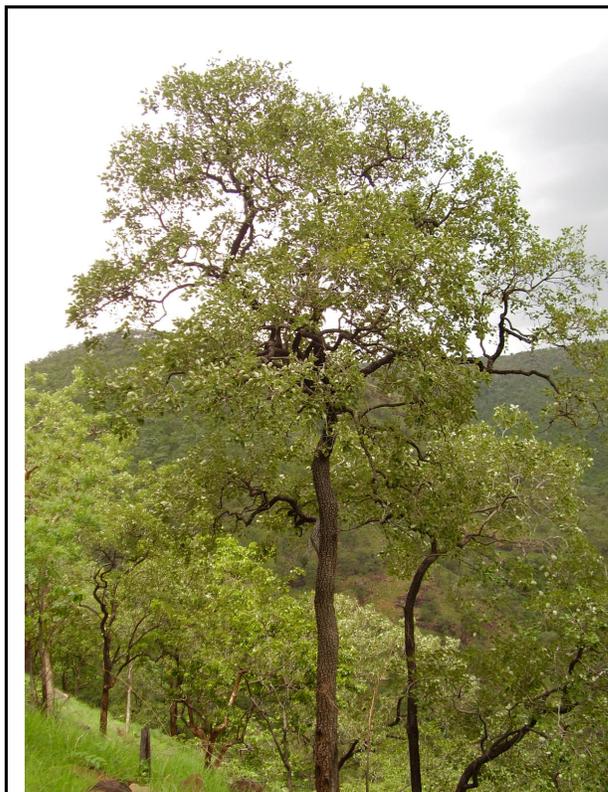
LEGUMINOSAE - PAPILIONOIDEAE

Pterocarpus santalinus L. f.

Common English names : Red Sandal wood, Red Sanders.

Vernacular names : *Beng.*: Rakta Chandan; *Guj.*: Ratanjali; *Hindi*: Lal Chandan, Ragat Chandan, Rukhto Chandan, Undum; *Kan.*: Agslue, Honne; *Mal.*: Patrangam, Tilaparni; *Mar.*: Tambada Chandana; *Or.*: Raktachandan; *Tam.*: Atti, Chensandanam, Semmaram, Sivaffu Chandanam; *Tel.*: Agaru gandhamu, Errachandanam, Raktachandanam, Rakta ghandhamu.

Trade Name : Raktachandana / Lal chandan.



Pterocarpus santalinus L. f.

Photo Courtesy: B. Ravi Prasad Rao

Distribution : India: This species is endemic to the hills of Andhra Pradesh (Cuddapah, Chittoor, some parts of Nellore), some pockets of Karnataka and Tamil Nadu (North Arcot hills); cultivated in Maharashtra, Odisha and West Bengal. Introduced in Sri Lanka.

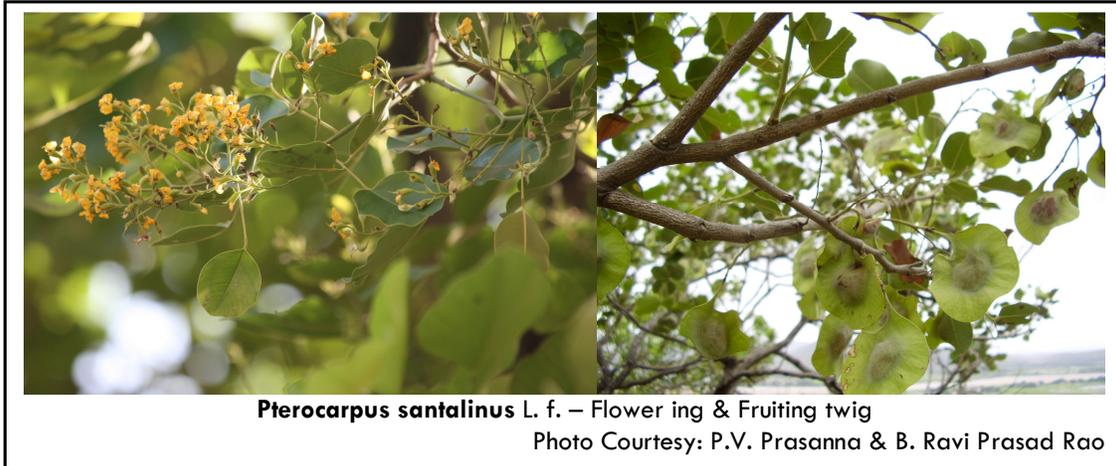
Habitat : Grows on dry, hilly, often rocky ground at altitudes ranging from 200 - 1500 m, occasionally found on precipitous hill sides. Prefers lateritic soil and gravelly soil. In natural habitat, the tree experiences hot, dry climate with normal rainfall of 88-105 cm received from north-east and south-west mountains. It has been planted successfully on rich alluvial ground.

Population status/Cause for RET : Critically Endangered.

Description : Trees, 10-20 m tall; bark blackish-brown. Leaves imparipinnate; leaflets 3, rarely 5, 4.5-10 x 3.2-6 cm, elliptic or orbicular-elliptic, thick-coriaceous, apex obtuse and slightly emarginate, margins entire, base rounded. Flowers yellow in short, axillary racemes. Pods winged, 3-5 cm in diam., obliquely orbicular, ripens brown. Seeds 1 or 2, 1-1.5 cm long, clolabriform, coriaceous, reddish-brown.

Fl.: April - June; *Fr.*: February - March (following year).

Medicinal properties and other uses : The heartwood of *P. santalinus* is employed in drug formulations used in the treatment of dysentery, diseases of blood, diabetes, stomach ulcers, anthelmintic and diaphoretic. The wood paste is externally applied to cure skin inflammation, headache, fever, scorpion sting, skin diseases and to strengthen eyesight. It has remarkable property of healing pimples, scars, boils, wounds, burnt marks, black spots, eczema, bilious affections and other blemishes of skin. It can make the skin smooth and attractive. A red chemical substance, *Santalin* present in the heartwood of this plant is used as a dyeing/staining agent. In European medicine, it is used as a colouring agent. It is well known ingredient of French polish. The wood, roots and stumps are used for dyeing wool, cotton and leather. It is also used in staining other woods. The dye is also used for colouring pharmaceutical preparations and food stuffs. The wood is heavily impregnated with reddish-brown gum and contains a red dye 'santalin'. The timber is immune to white ants and other insects and does not require antiseptic treatment. The timber is used for house posts, agricultural implements, poles, shafts and bent rims of carts, boxes and picture frames. The wood is also carved into dolls and images. It is exported to Japan where it is used in the manufacture of a musical instrument called Shamisan, also exported to Malaysia, Sri Lanka and Germany. The wood yields charcoal. Decoction of the fruit is used as an astringent tonic in chronic dysentery. Leaves are used as cattle fodder.



Commercial/Ex-Im data : The bulk raw material (heartwood) available in the market is supplied by Andhra Pradesh Forest Department. Supply of smaller amount of this raw material is now obtained from cultivated sources. Estimated consumption by the domestic herbal manufacturing units, for the year 2005-2006, has been assessed at 442 MT (dry wt.). Export of Red Sanders started in the 17th century and continued until 1900, UK being the major importer for textile dyeing. Several hundred tonnes of Red Sandal wood is exported to Japan every year. Wood chips powder are exported to Japan, Taiwan and western Europe for the extraction of dye, medicine and cosmetics. Red Sanders used to be exported to Europe for extraction of dye but with the introduction of artificial dyes, its demand declined. Small quantities are exported to Japan, Hongkong, Germany and Sri Lanka. During 2004-2005, India exported 14.1 MT of Red sandalwood powder for a value of Rs. 165.8 lakhs.

Offence cases detected during 2000 violating CITES & EXIM Policy:

- 170 kg of Red Sanders powder detected at IGI Air Cargo, New Delhi on 13.03.2000, on way to Dubai, UAE, consignor being M/s Ayurved Kendra, New Delhi.
- 90 pieces (56 kg) of musical instrument parts made of *P. santalinus* detained at Chennai Airport on 07.07.2000, on way to Japan, consignor being M/s, Y.J. enterprises, Chennai.
- 5 kg of Red Sandal wood seized at Sea dock, Mumbai on 07.08.2000 on way to Durban, consignor being National Export & Import House, Mumbai.
- 400 pieces of Red Sanders mala (garland) detained at Courier, Delhi on 25.09.2000 on way to Germany, consignor being M/s, Mani Overseas, New Delhi.
- 20 pieces of Red Sanders japamala (meditation garland) seized at IGI Air Cargo, New Delhi, on 20.11.2000, on way to USA, consignor being M/s, Aravali Export, Jaipur.

Offence case registered in 2001 violating CITES & EXIM Policy:

- 1 kg of Red Sanders was seized at Chennai Sea Port on 27.04.2001, on way to Srisivan Temple, Singapore, consignor being Naya Impex, Chennai.

Offence cases registered in 2002 violating CITES & EXIM Policy:

- 40 kg of Red Sanders wood and powder along with *Inula racemosa* Hook.f. was seized at Kolkata airport on 27.03.2002, on way to USA, consignor being M/s Baidyanath Ayurved Bhavan, Kolkata.
- 80 kg of Red Sanders seized at IGI Air Cargo, New Delhi on 08.08.2002, on way to Scotland, consignor being Lalit Exports, New Delhi.

On 27 July 2010, DRI officials seized 6.3 t of Red Sandalwood in Pallavaram from a Chennai-bound lorry travelling from Andhra Pradesh; the timber had been destined for illegal export to China. The driver was arrested but the lorry owner absconded. After interrogating the driver, DRI officials raided a locked godown at Thirumudivakkam and seized 538 Red Sandalwood logs. The owner of the godown said it was rented to a person involved in exporting furniture to China, who, together with the lorry owner, was subsequently apprehended by DRI officials on 5 August 2010 [TRAFFIC Bulletin 23(1): 36. 2010].

The Directorate of Revenue Intelligence (DRI) seized around 611.76 t of Red Sandalwood (Red Sanders) across the country during 2011–12 fiscal year. During 2010–11, 373.3 t of Red Sandalwood was seized and 337.2 t was seized in 2009–10. The following are a selection of recent cases involving the illegal trade in Red Sandalwood [TRAFFIC Bulletin 24 (2): 82. 2012].

On 4 April 2012, police seized 600 Red Sandalwood logs and 150 teak logs (total weight 15 t) at Eguya Tambaalapalli village, YSR district.

On 1 September 2012, Customs officials arrested 11 people in locations in Ramanathapuram and Madurai in connection with an alleged bid to smuggle Red Sandalwood to Sri Lanka from Olaikuda.

On 8 September 2012, police seized seven tones of Red Sandalwood logs near Vaniyambadi toll plaza; one person was arrested and a vehicle seized. The wood, which was being transported from Chennai to Hosur, was handed over to the Forest Department Depot at Tirupattur.

On 15 September 2012, Tirupati forest staff and Chandragiri police recovered 10 t of Red Sandalwood logs during three separate incidents. The wood was being transported at Chandamamapalle near Srinivasa Mangapuram.

Legal: Listed in Appendix II of CITES. Included in Negative List of Exports.

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