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### **The Rapeutic Properties of Red Sandal Wood- A Review**

**\* Kumar B. Sunil , \*\* Kumar T. Ganesh**

\* Faculty & Head, Department of Botany, CSSR&SRRM Degree & PG College,  
Kamalapuram, YSR Kadapa Dist. A.P., Mobile: 8374790219, Email: [bsunilkumar04@gmail.com](mailto:bsunilkumar04@gmail.com)

\*\* Faculty & Head, Department of Chemistry, CSSR&SRRM Degree & PG College,  
Kamalapuram, YSR Kadapa Dist. A.P., Mobile: 9000724247, Email: [ganeshcssr@gmail.com](mailto:ganeshcssr@gmail.com)

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#### **ABSTRACT**

*Pterocarpus santalinus*, also known as 'red sanders' or 'red sandalwood' is a highly valuable forest legume tree. It is locally known as 'Rakta Chandan'. This species occurs utterly in a well-defined forest area of Andhra Pradesh in Southern India. Now included in red list of endangered plants under IUCN guidelines. It contains many other compounds that have medicinal properties. Since the beginning of civilization in sub-continent, this plant is widely used in 'Ayurved' in India. In recent years different studies showed the antimicrobial activity of the leaf extracts, stem bark extracts' from this plant. This review paper discusses the therapeutic properties of Red sandal wood.

**KEYWORDS:** Red sandal wood, antimicrobial activity, anti-ageing agent.

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#### **\*Corresponding author**

#### **B. Sunil Kumar**

Faculty & Head,

Department of Botany,

CSSR&SRRM Degree & PG College,

Kamalapuram, YSR Kadapa Dist. A.P.,

Mobile: 8374790219, Email: [bsunilkumar04@gmail.com](mailto:bsunilkumar04@gmail.com)

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## **INTRODUCTION**

Red Sandalwood is a species of *Pterocarpus* native to India. It is only found in south India in Kadapa, Chittoor, generally in the hilly region of Nepal, in Pakistan and in Sri Lanka. In India sandalwood is one main and lucrative market for smugglers as a high price is paid for this wood in China. Since, the exporting of sandalwood in India, the underground market is growing and there are a number of arrests every year of those trying to smuggle this wood to China. It contains many other compounds that have medicinal properties. Since the beginning of civilization in sub-continent, this plant is widely used in 'Ayurved' in India. It is considered as an astringent, tonic and diaphoretic, and is useful to cure bilious infections and skin diseases. In recent years different studies showed the antimicrobial activity of the leaf extracts, stem bark extracts' from this plant. The methanolic wood extract contains flavonoids, essential oils, tannins, phenolic acids and polyphenolic compounds that have multiple biological activities. Phytochemical screening of suggested that presence of these compounds might be responsible for anti-inflammatory and anti oxidant effect. Stem bark extract of *Pterocarpus santalinus* also show hepatoprotective activity. Red sandalwood is a tree. Listed as Endangered by the IUCN. In manufacturing, red sandalwood is used as a flavoring in alcoholic beverages.



**Figure:1 Red Sandal Wood**

It is a light-demanding small tree growing to 8 m tall with a trunk 50–150 cm diameter. It is fast-growing when young, reaching 5 m tall in three years even on degraded soils. It is not frost tolerant, being killed by temperatures of  $-1\text{ }^{\circ}\text{C}$ . The leaves are alternate, 3–9 cm long, trifoliate with three leaflets. The flowers are produced in short racemes. The fruit is a pod 6–9 cm long containing one or two seeds. The wood has historically been valued in China, particularly during the Ming and Qing periods, referred to in Chinese as zitan and spelt tzu-t'an by earlier western authors such Gustav

Ecke, who introduced classical Chinese furniture to the west. It has been one of the most prized woods for millennia. King Solomon was given tribute logs of Almuq in Sanskrit *valgu*, *valgum* by the Queen of Sheba. Due to its slow growth and rarity, furniture made from *zitan* is difficult to find and can be expensive. Between the 17th and 19th centuries in China the rarity of this wood led to the reservation of *zitan* furniture for the Qing dynasty imperial household. *Chandan*, the Indian word for Red Sandalwood which is *Tzu-t'an*, are linked by etymology. The word *tan* in Chinese is a perfect homonym of "tan", meaning cinnabar, vermilion and the cognition is suggested by the interchange of *chan* for *oriflamme*, the vermilion ensign of the ancients. Chinese traders would have been familiar with *Chandan*. *Tzu-t'an* then is the ancient Chinese interpretation for the Indian word *chandan* for red sandalwood. In Hinduism, this wood has been traditionally used as a sacred wood. The priests and higher class castes such as *brahmin* extensively use this wood on many of their rituals. The other form of *zitan* is from the species *Dalbergia luovelii*, *Dalbergia maritima*, and *Dalbergia normandi*, all similar species named in trade as *bois de rose* or *violet rosewood* which when cut are bright crimson purple changing to dark purple again. It has a fragrant scent when worked. It is observed that the red sanders grown on the shale type of subsoil, at an altitude of 750 meters above mean sea level and in semi-arid climatic conditions gives a distinctive wavy grain margin and the wood pieces with the wavy grain margin are graded as "A" grade. Red sanders with wavy grain margin fetch a higher price than the non-wavy wood.

### **THE RAPEUTIC USES OF RED SANDALWOOD POWDER:**

Red sandalwood extract is widely used in the cosmetic industry to reduce or lighten pigmentation marks or scars on the skin. Mainly it is an anti-aging agent.

- ❖ Red sandalwood can be used to get glowing, even skin tone and flawless complexion. When used with rose water as a face pack it can be beneficial to get a flawless skin.
- ❖ Red sandalwood is also very beneficial for oily skin tone, it can help reduce oiliness from skin. When used with lemon juice as a face pack it helps to control oiliness and tighten skin pores.
- ❖ Red sandalwood can be used to get wrinkle free skin. Red *chandan* possesses properties like detoxifying and anti-aging. When used with glycerin and rose water as a face pack it can get you wrinkle free skin.

- ❖ Red sandalwood can also be used to treat acne/pimples. Because of its antimicrobial properties it is an effective treatment for acne/pimples. When used with turmeric powder and rose water as a face pack it can help diminish acne/pimples.
- ❖ Red sandalwood is very effective in removing suntan from skin. Because of its soothing and calming effect it is helpful in treating skin tan sun burn. When used with curd or cucumber water as a pack it is an effective treatment for sun tan and sun burn.
- ❖ Red sandalwood can also be used to nourish and soothe irritated skin. It can be used with anybody oil to nourish and soothe skin naturally.
- ❖ It has disinfectant as well as anti-microbial qualities that effectively heals and restores the health of the skin.
- ❖ It works as an anti-inflammatory agent which boosts the circulation of blood in skin.
- ❖ Sandalwood can effectively heal ulcers.
- ❖ Sandalwood oil has astringent qualities that are useful for strengthening of the gums and it prevents natural teeth loss.
- ❖ Oil extracted from sandalwood may be used in aromatherapy to deal with hypertension and also to decrease stress.
- ❖ Red sandalwood has many uses for your hair, feet, skin and a variety of ailments. It helps promote a clean and clear skin tone, and maintain a good complexion.
- ❖ Red sandalwood might increase the loss of body water through the urine (diuretic effect). It might also have drying effects that may help reduce diarrhea and break up mucus to make it easier to cough up.

## **CONCLUSION**

The wood at the center of the trunk of red sandal (heartwood) is used as medicine. Red sandalwood is used for treating digestive tract problems, fluid retention, and coughs; and for “blood purification.” The leaf and stem bark extracts of red sanders showed a wide spectrum of activities against common human pathogenic bacteria, fungus and protozoa. Red sanders has a characteristic anti-inflammatory, analgesic and anti oxidant features. It is also extensively used in perfumery, cosmetics, aromatherapy, and pharmaceutical industry. This study reveals that red sandal wood has wide therapeutic uses mainly in cosmetic and pharmaceutical industry.

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