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Red Sanders *Pterocarpus santalinus*, or Red Sandalwood, is an endemic tree species with distribution restricted to the Eastern Ghats of India (Arunkumar and Joshi, 2014). It is known as *'Lal Chandan'*, *'Rakta Chandan'* in Hindi (Bhagyaraj, 2017), due to the characteristic red colour of the wood (*Lal* and *Rakta* (blood)).

Taxonomically, Red Sanders is placed in the Magnoliopsida class, order Fabales, and family Fabaceae.

DO YOU KNOW?

- Red Sanders is a very slow-growing tree species that attains maturity in natural forests after 25 – 40 years (Bhagyaraj, 2017).
- The heartwood of Red Sanders is known to have the capacity to accumulate heavy and rare earth elements such as strontium cadmium, zinc, and copper (Arunkumar and Joshi, 2014).
- 'Santalin' is a natural dye obtained from its heartwood and is used in pharmaceutical preparations, food articles, leather, and textile industries (da Silva, et al., 2019).

ECOLOGICAL ROLE

This endemic tree species is one of the dominant species in its habitat. This tree contributes to the forest tree cover in the dry areas of their natural habitat.

The species is also fire-hardy and resistant to droughts.



SIZE, HABITAT, DISTRIBUTION AND POPULATION STATUS:

AVERAGE SIZE	HABITAT	DISTRIBUTION	POPULATION TREND
10 to 15 m in height (Arunkumar and Joshi, 2014)	Southern tropical dry deciduous forests (Hegde, et al., 2012)	Andhra Pradesh (native). Reportedly cultivated in Kerala, Maharashtra, Gujarat, Karnataka, Telangana, Tamil Nadu, Odisha and West Bengal	(Ahmedullah, 2021)

CONSERVATION STATUS

INTERNATIONAL UNION FOR CONSERVATION OF NATURE (IUCN)	Endangered
WILDLIFE (PROTECTION) ACT, 1972, INDIA	Schedule IV*
CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA (CITES)	Appendix II

^{*}as per the amendment to the Act in December 2022

Red Sanders is a native species to Andhra Pradesh, and its utilisation or trade is regulated by the State. Under the foreign trade policy of India, the import of Red Sanders is prohibited, while export is restricted.

THREATS

The critical threats to Red Sanders is illegal timber extraction (CITES 1995),

habitat loss and degradation (Arunkumar and Joshi, 2014).

HABITAT LOSS AND DEGRADATION

Anthropogenic pressure from cash crop farming and grazing by livestock, along with forest fires in their natural habitat,

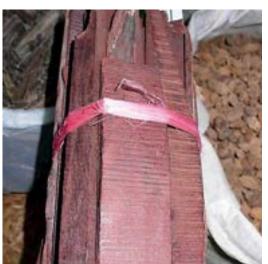
threatens the species' habitat (Ahmedullah, 2021).

OVER HARVESTING FOR ILLEGAL WILDLIFE TRADE

- Red Sanders is one of India's most exploited tree species and is under tremendous pressure from illegal logging. The heartwood of Red Sanders is in demand in the domestic and international market (Hegde, et al., 2012) for making furniture, handicrafts and musical instruments in China and Japan (Arunkumar and Joshi, 2014; Ramabrahmam and Sujatha, 2016). The red dye obtained from the wood is used as a colouring agent in the textiles, medicine and food industries.
- According to the Andhra Pradesh
 Forest Department, rampant illegal
 logging and smuggling of trees have
 been reported in Chittoor, Kadapa,
 Nellore & Kurnool districts in Andhra
 Pradesh.
- The CITES Trade Database recorded 28 incidents of Red Sanders confiscation, seizure, and specimens from the wild being exported from India. These consignments were exported to China (53.5%), Hong Kong (25.0%), Singapore (17.8%) and the United States of America (3.5%) from 2016 to 2020. India reported an export of more than 19,049 tonnes of logs. In comparison, the importing countries reported about 4610 tonnes of logs, 127 tonnes of sawn wood, 20 tonnes of transformed wood and 980 kg of wood products, clearly indicating a discrepancy in reporting of Red Sander trade. China remains the largest importer with more than 13618 tonnes of the products, followed by Hong Kong (5,215 tonnes) and Singapore (216 tonnes).



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Red Sanders is India's most exploited tree species driven by both domestic and international demand.

CONSERVATION EFFORTS

- To combat the illegal logging and smuggling of Red Sanders in Andhra Pradesh, the State Forest Department has scaled up its efforts by setting up check posts at critical locations and at identified bottlenecks to monitor their transport via road.
- E-surveillance of social media and ecommerce websites has been intensified, and efforts have been made to enhance the protection of the species.
- The Andhra Pradesh Forest
 Department has implemented the
 Preventive Detention (PD) Act against
 the smugglers and established two
 special courts for prompt trial of the
 cases to prevent the smuggling of the
 species (Forest Department,
 Government of Andhra Pradesh).
- In 2016 the Andhra Pradesh Forest Act, 2016 was amended via A.P. Act No.15 of 2016 to give the special status of protection to Red Sanders. Red Sanders offences were made cognisable and non-bailable, and the punishments related to it was enhanced. The illegally acquired properties from Red Sanders are made liable for forfeiture.
- In 2014, Red Sanders Anti-Smuggling
 Task Force was formed by the Andhra
 Pradesh Forest Department to combat
 Red Sanders smuggling. Dedicated
 posts in the Police Department, District
 Special Parties, Andhra Pradesh
 Special Police Platoons and Forest
 Department were sanctioned along
 with other administrative & ministerial
 posts to control the smuggling of Red
 Sanders. Since its inception, the Red
 Sanders Anti-Smuggling Task Force
 has made numerous seizures of Red
 Sanders in the State.

SECURING THE FUTURE

- In 2012, the Supreme Court of India (T.N. Godavarman Thirumulpad vs Union Of India & Ors on 13 February 2012) recommended the Central Government to list Red Sanders as a protected species in Schedule VI of the Wildlife (Protection) Act, 1972. However, the species was only recently enlisted under Schedule IV through amendment to the Act in December 2022.
- The Red Sanders harbouring forests within the species' geographical range should be declared 'High Conservation Areas' to provide an adequate legal framework for protecting the species and its habitat.
- Enforcement agencies such as the Forest Departments, Customs,

- Railways, Police, DRI (Directorate of Revenue Intelligence), and Coast Guards must coordinate efforts to curb the Red Sanders trafficking by sharing information on hotspots and transit routes and real-time intelligence related to the Red Sanders smuggling.
- Engaging with the transport companies to create awareness about the illicit trade of Red Sanders and building the capacity of their staff to identify, respond and report illegal trade is also essential.
- To curb demand, creating awareness among consumers about the threats to the species in the wild from illegal trade is also necessary.

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FACTSHEET

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