

Working on Plants with anti-HIV properties

The tree *Calophyllum inophyllum* known as sultan champa or laurel tree does not attract termites and hence, it was being used by the local fishermen for making boats and furniture. Availability of these trees is less due to low rate of germination and seeds are being washed off the shore. The local people were not aware of the importance of this tree and therefore they were not interested in cultivating them.

The tree is found along the western coast of India in states such as Maharashtra, Kerala and Tamil Nadu. Since these trees were being discarded for personal use such as making boats and furniture, researchers from CSIR-NCL decided to study it and found it to be medically important.

Different parts of the tree have been used in traditional medicine to treat ailments like rheumatism, haemorrhage and skin diseases.

Recent research has shown that compounds isolated from the tree can help fight HIV and cancer.

The tree *Calophyllum inophyllum* Linn. [*Guttiferae (Clusiaceae)*], commonly known as ‘Indian laurel’ or ‘Alexandrian laurel’ is a broad leaved evergreen tree found along the beach crests and sometimes found to be occurring on inlands. *Calophyllum* species are gaining importance as a source of anti-HIV medicines.

To propagate the tree, the scientists collected mature fruits and extracted the seeds from the hard cover. They germinated these seeds in vitro. The germinated seeds were then successfully planted in the CSIR-NCL campus. The technique holds a high regeneration potential for the tree. Dr. Mrs. Thengane, Scientist, said they look forward to collaborating with pharmaceutical companies and interested organisations for large-scale propagation of this medico-economic tree.

The tree is known to have cancer chemopreventive agents, coumarins and xanthenes with antimicrobial activity. The oil found in the tree is found to have medicinal properties and can be used to treat ailments like rheumatism, skin diseases, joint pains and haemorrhage. The aqueous extracts of the root bark and leaves are used for healing scars whereas the fruits contain analgesic properties and are therefore used in treatment of wounds and herpes. The oil is also used as luminant, lubricant, for soapmaking, etc. The timber is used for beams, furniture, railway carriages and shipbuilding.

References:

1. S. R. Thengane, et. al., Current Science, 90:10, 25 May 2006, 'Micropropagation of Indian laurel (*Calophyllum inophyllum*), a source of anti-HIV compounds'.
2. Pawar KD, et. al., Journal of Biotechnology 130 (2007) 346–353, Pattern of anti-HIV dipyrano-coumarin expression in callus cultures of *Calophyllum inophyllum* Linn.
3. Personal Discussions with Dr. S. R. Thengane at CSIR-NCL.

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