Celastrus paniculatus

TAXONOMICAL CLASSIFICATION:[1]

- Kingdom: Plantae,
- Subkingdom: Angiosperms,
- Class: Magnoliopsida,
- Subclass: Rosidae,
- Division: Tracheophyta,
- Order: Celastrales,
- Family: Celastraceace,
- Genus: ***Celastrus***,
- Species: ***paniculatus***

INTRODUCTION:[2,3]

Celastrus paniculatus belongs to the family Celastraceae, a large woody climbing shrub all over India up to an altitude of 1800 meters. commonly known as malkangani in Hindi, staff English, kariganne in Kannada and valuluvai in Tamil. In Ayurveda system of medicine, it is used as a memory enhancer. The oil obtained from the expression seeds is prescribed internally for neurological disorders and used as brain tonic. The different formulations are jyotismathi thaila (Ayurveda) and roughage (homeopathy). The Jyotismathi oil extracted from the seeds of C. paniculatus is known to treat acute and chronic immobilization stress. The oil obtained possesses sedative and anti-convulsant properties. Oil has found to be beneficial to psychiatric patients, and increased the intelligence quotient of mentally retarded children. The transverse section of midrib shows the presence of upper and lower epidermal cells 2 cells on the ventral side and 2 collateral vascular bundles, sclerenchyma calcium oxalate crystals. The presence of epidermal cells, prismatic crystal of calcium oxalate, stone cells, oil globules, aluerone grains, animocytic multicellular covering trichomes powder microscopic analysis of plant. Celastrus paniculatus oil is extracted from seeds contains alkaloids, sterols, and bright coloring substance, celapanine, celapanigine, celapagine, celastrine, and paniculatine are some of the important alkaloids is rich in oleic acid (54.42%),

which is the main fatty acid in the oil, together with linoleic acid (15.51%), palmitic acid (20.0%) and stearic acid (4.18%). Celastrus paniculatus also contains sesquiterpene like dipalmitoyl glycerol and alkaloids.

Celastrus paniculatus Wild. ssp. angladeanusSJ. Britto, B. Mani and S. Thomas.**A**: The plant habit with young fruits. **B**: Flowering branchlets. **C:** Close-up of flowers. **D**: An Inflorescence with bracts. **E**: An Infructescence. **F**: Close-up of a capsule. **G**: Capsule with seeds

PROPERTIES AND USES: [4,5]

- Neuromodulating effect
- Anti-oxidant
- neuroprotective effect
- Sedative
- Tranquilizing effect
- Anti-convulsant
- Anti-amnesic effect
- Anti-aging
- Antianxiety effect
- Anti-depressant

- Antimalarial
- Learning and memory improvement
- Nootropic effect
- Anti-nociceptive
- anti-inflammatory
- Analgesic
- Hypolipidaemic
- Anti-arthritic activity
- Anti-fertility
- Wound healing activity
- Anti-malarial activity
- Anti-bacterial activity
- Anti-fungal activity

SIDE EFFECTS OF EXCESS CONSUMPTION:[6]

- Inappropriate dosage or wrong use in Pitta dominant people of Celastrus Paniculatus seeds or oil can lead to following side effects
- Restlessness
- Giddiness
- Heat sensation
- Burning sensation
- Excessive sweating
- Inducing perspiration or diaphoretic is its natural property, but if it accompanies with other side effects, it should be avoided.

DOSAGE: [6]

The general dosage of **Celastrus Paniculatus (Malkangani or Jyotishmati) seeds** is as follows.

Children - 10 mg per Kg weight , but dosage of Malkangani seeds should not exceed from 500 mg

Adults - 500 mg to 2 grams

Maximum Possible Dosage - 4 grams Per Day (in divided doses)

RESEARCH:

1. Preparations from the plant Celastrus paniculatus Willd. have been used for treatment of malaria and other febrile illness in the traditional medicine practices of Thailand. Crude solvent extracts from the root bark and stem of C. paniculatus were screened for antimalarial activity against P. falciparum using an in vitro culture system. A fraction of the chloroform extract of the root bark showed the highest antimalarial activity. An active principle was isolated and characterized from the chloroform fraction and identified as a quinonoid triterpene, pristimerin. When tested in vitro against various multidrug resistant isolates of P. falciparum, pristimerin was less active than the conventional antimalarial drugs tested. [8]
2. The seed oil (50, 100, and 200 mg/kg, PO) and fluoxetine per se were administered for 14 successive days to Swiss young albino mice. On the 14th day, 60 min after drug administration, animals were subjected to Tail Suspension Test (TST) and Forced Swim Test (FST). The mechanism of action was also studied. The oil significantly decreased immobility period of mice in both tail suspension test and forced swim test, indicating its significant antidepressant-like activity. The efficacy was found to be comparable to fluoxetine ($P<0.0001$). ED50 value of celastrus seed oil using FST and TST were 17.38 and 31.62 mg/kg, respectively. The oil did not show any significant effect on locomotor activity. It significantly inhibited brain MAO–A activity and decreased plasma corticosterone levels. Sulpiride (selective D2-receptor antagonist), p-CPA (tryptophan hydroxylase inhibitor), and baclofen (GABAB agonist) significantly attenuated the oil-induced antidepressant-like effect, when assessed during TST. Celastrus paniculatus seed oil produced significant antidepressant-like effect in mice possibly through interaction with dopamine D2, serotonergic, and GABAB receptors; as well as inhibition of MAO–A activity and decrease in plasma corticosterone levels. [9]
3. Celastrus paniculatus is a large climbing unarmed shrub with long slender elongating branches which are reddish brown and covered with white venticels. Seed oil has bitter taste and useful in abdominal disorder, beri-beri and sores. But so far no report is available regarding anti-inflammatory activity of the seeds. Celastrine and paniculatine are the two alkaloids present in the seeds. The seeds were shade dried, powdered and subjected to extraction with alcohol and methanol using Soxhlet apparatus. Therefore the following study was performed to evaluate scientifically the anti-inflammatory activity by carrageenan induced hind paw odema method on

the albino rats and compared with diclofenac sodium as reference and it shows signifigant anti-inflammatory activity. [10]

PRECAUTIONS & WARNINGS: [7]

- Celastrus Paniculatus (Jyotishmati/Malkangani) can also act as abortifacient and may lead to miscarriage in pregnant women. Therefore, it is contraindicated if you are trying to conceive, during pregnancy, and postpartum period.
- Celastrus Paniculatus (Jyotishmati or Malkangani) is contraindicated in following health conditions:
- Hyperacidity
- Bleeding disorders
- Pregnancy
- When you trying to conceive
- Postpartum period (1st month)
- 30 days before and after surgery
- Uterine heavy bleeding
- Heavy menstruation

INTERACTIONS: [7]

- Not enough scientific evidence is available on the use of Malkangani if you are on any anti-diabetic drugs. So it is advisable to avoid Malkangani or use only under medical supervision in such a case.
- Not enough scientific evidence is available on the use of Malkangani if you are on any anti-hypertensive drugs. So it is advisable to avoid Malkangani or use only under medical supervision in such a case.

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