Mimusops elengi

TAXONOMICAL CLASSIFICATION:[1]

- *Kingdom: Plantae*
- *Order : Ericales*
- *Family : Sapotaceae*
- *Genus : Mimusops*
- *Species : M. elengi L*

INTRODUCTION: [1]

Mimusops elengi tree is the native of western peninsula. The tree is found in south India in dry evergreen forests from the Krishna southwards and in ravines in the hills up to 20 meter along western coast and lower Ghats in moist evergreen forests. It is distributed in Andaman, Martaban, Tenasserim, Burma and the western in Ghats; in the Eastern Ghats it is found in dry areas, often on laterite and in comparatively small in size. It is mostly found in Northwestern Himalayas, Eastern Ghats, Western Ghats, Central Deccan Plateau, East Coast, West Coast, Indo-gangetic Plain, and Outlying Islands . A small to large evergreen tree, grows up to 15 m high. Generally characterized by a short, dark and very rough trunk and wide spreading, the ends of which tend to rise and forms a thick globular head to the tree. The bark is dark grey, occurs in pieces of 15-25 cm long and 10 -15 cm broad. Externally rough due to the presence of vertical lenticels, cracks and longitudinal fissures. The dried bark is thin and occurs in quills. Berry is ovoid, 2.5 cm long with. It turns yellow and it tastes astringent and sweet. Fruition occurs in rainy season, when ripe containing 1, rarely 2 seeds. Seeds are grayish brown, solitary, ovoid, compressed, shining. The leaves are glossy and are dark green when old with 6.3-10 cm in long and 3.2-5 cm in wide. The new leaves mostly appear in February when the trees often appear bright vivid green. Leaves are variable, elliptic, oblong or oblanceolae, short or long acuminate, margin undulate, closely but faintly veined. Petioles 1.2 - 2.5 cm long. Taraxerone, taraxerol, betulinic acid and spinasterol, sodium salt of betulinic

acid and ursolic acid, Fatty acid esters of alpha-spinasterol was isolated from the bark. A new farnanetype pentacyclic triterpene, farnan-2-one-3 betaol (mimusopfarnanol), was isolated along with the known triterpenoids, farnan-3-one, and olean18-en-2-one-3-ol and lup-20 (29)-en-3 beta-ol. A new triterpene 3β-hydroxy-lup-20(29)-ene-23, 28-dioic acid, beta amyrin, lupeol also obtained from bark. Steam distillation of bark sample yielded 0.18% of volatile organic matter. The major constituents were alpha cadinol, tau muurolol, hexadecanoic acid, diisobutyl phthalate, octadecadienoic acid. New gallic acid esters, characterized as phenyl propyl gallate.

PROPERTIES AND USES:[2]

- Its bark is used as a gargle for odontopathy, ulitis and ulemorrhagia and tender stems are used as tooth brushes.
- It is also useful in urethrorrhoea, cystorrhoea, diarrhoea and dysentery.
- an astringent
- orally to cure diseases of gums and teeth
- in biliousness as an anthelmintic
- stomachic
- cardiotonic
- moderate inhibitory activity against HIV type 1 protease
- as snuff for high fever accompanied by pains in various parts of the body.
- a tonic, febrifuge, as a gargle for odontopathy, inflammation and bleeding of gums
- aphrodisiac, cardio tonic and to treat mouth ulcer
- Internally bark skin is benevolent in leucorrhoea, menorrhagia and is also known to have antiulcer activity.
- Antioxidant activity
- In-vitro anti-inflammatory activities
- Diuretic activity/Anti Urolithiatic activity
- Larvicidal activity
- Cytotoxic activity
- Antiinflammatory, Analgesic and Antipyretic activities
- Neuroprotective activity
- Anti-amnesic activity/Anxiolytic activity

Free radical scavenging and skin fibroblast proliferation activities

- Acute toxicity activity
- Antitumor activity
- Antibacterial activity
- Antifungal effect
- Wound Healing Activity
- in vivo antihyperglycemic activity
- Hypotensive activity
- Anti ulcer activity
- Anthelmintic activity
- Antihyperlipidemic activity
- Anticonvulsant activity
- Anti-atherosclerotic activity

SIDE EFFECTS OF EXCESS CONSUMPTION:[4]

No adverse effects seen after normal use. After prolong use of plant may cause intoxicity.

DOSAGE: [3]

Decoction of bark – 5-10 gm

RESEARCH:

1. The aim of study was to evaluate anthelmintic potential of crude alcoholic extract of bark of Mimusops elengi and its different fractions namely ethyl acetate, n-butanol and methanol using Pheretima posthuma and Ascardia galli as test worms. Various concentrations (10 – 100 mg/ml) of alcoholic extract and its various fractions were tested in the bioassay, which involved determination of time of paralysis (P) and time of death (D) of the worms. Piperazine citrate (10 mg/ml) was included as standard reference and distilled water as control. The results of present study indicated that the crude alcoholic extract and its ethyl acetate and n-butanol fractions significantly demonstrated paralysis, and also caused death of worms especially at higher concentration of 100 mg/ml, as compared to standard reference Piperazine citrate. In conclusion,

the traditional use of bark of the plant M. elengi as an anthelmintic have been confirmed and further studies are suggested to isolate the active principle/s responsible for the activity. [5]

2. The present study was designed to investigate the effect of *Mimusops elengi* (Sapotaceae) against experimental gastric ulcers. The 50% alcoholic extract of *Mimusops elengi* (Ext E) and its different fractions namely ethyl acetate (Ext E_1), *n*-butanol (Ext E_2), methanol (Ext E_3) and aqueous (Ext E_4) were studied (p.o.) against ethanol-induced gastric damage. Ext E_1 was also studied in ethanol-induced, pylorus-ligated and water-immersion plus stress-induced gastric ulcer models. Ranitidine HCl (80 mg kg^{-1}) was used as a reference standard. In ethanol-induced gastric ulcer model, pantoprazole (20 mg kg^{-1}) was also used as a reference standard. Ext E_1 tested in mice up to the dose of 5000 mg kg^{-1} (p.o.) did not produce any sign of toxicity. Ext E at the doses of 50, 100, 300 and 500 mg kg^{-1} and its different fractions (100 mg kg^{-1}) showed reduction in gastric ulceration (P<0.05). Ext E_1 at the doses of 10, 50 and 100 mg kg^{-1} showed dose-dependent inhibition of gastric lesions against ethanol-induced gastric damage. In 19 h pylorus-ligated animals, Ext E_1 at 50 and 100 mg kg^{-1} doses showed significant reduction in ulcer index (P<0.05). Significant reduction was also observed in total acidity, volume of gastric acid secretion, total acid output and pepsin activity (P<0.05) when compared with the control group. Besides, Ext E_1 showed increase in the mucosal glycoproteins that was evident from significant rise in total carbohydrates to protein ratio (TC:PR ratio) (P<0.05), which is an indication of mucin activity. Ext E_1 also showed protection against water-immersion plus stress-induced gastric lesions that was evident from dose-dependent decrease in ulcer index (P<0.05), score for intensity (P<0.05) and total lesion area (P<0.05) when compared with the control group. It can be concluded from our study that Ext E_1 possesses anti-ulcer activity against experimental gastric ulcers. The mechanism of anti-ulcer activity can be attributed to decrease in gastric acid secretory activity along with strengthening of mucosal defensive mechanisms. [6]
3. The present study was aimed to evaluate the wound healing activity of extract of bark part of *Mimusops elengi*. It is well-known plant in Indian traditional medicines. On the basis of traditional use and literature references, this plant was selected for wound healing potential. A methanolic extract of bark parts of *Mimusops elengi* was examined for wound healing activity in the form of ointment in three types of wound models on mice: the excision, the incision and dead space wound model. The extract ointments showed considerable response in all the above said wound models as comparable to those of a standard drug Betadine ointment in terms of wound contracting ability, wound closure time, tensile strength and dry granuloma weight. Histological

analysis was also consistent with the proposal that *Mimusops elengi* bark extract exhibits significant wound healing. [7]

PRECAUTIONS & WARNINGS: [4]

It should be use only after expert opinion.

References:

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