



Mimosa Pudica Linn: A Medicinal Herb

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ABSTRACT:

It has been discovered that Mimosa pudica Linn. Is a powerful herb that can be used by various traditional practitioners for a variety of ailments. Several traditional forms of expression. In the Charakasamhita. The plant's decoction has been suggested as a vaginal wash for infections of the vagina. People in South Asia have used mimosa pudica for a number of ailments for many years. An annual or perennial plant known as Mimosa pudica Linn has been found to have a number of active ingredients, including those that are antihelminthic, antihyperglycemic, antipyretic, antispasmodic, antitussive, antiviral, calmative, contraceptive, depilatory, diuretic, emetic, expectorant, poison, sedative, and tranquillizing. People from many communities have used the plant's therapeutic properties to cure toothaches, urinary tract infections, and vaginovaginal infections.

KEYWORDS: Antihelminthic, antiviral, mimosapudicalinn, diuretic, antidepressant.

1.INTRODUCTION:

Since "pudica" means modest and "mimic" means to allude, the plant is known as Mimosa pudica [1]. A creeping annual or perennial herb, Mimosa pudica L. Lajjalu is the name given to it in Ayurveda, and research has shown it possesses antiasthmatic, aphrodisiac, analgesic, and depressive qualities. Alopecia, diarrhoea, dysentery, sleeplessness, tumours, and other urogenital infections have all been traditionally treated with mimosa pudica, which is believed to have sedative, emetic, and tonic qualities. Alkaloids, a nonprotein amino acid (mimosine), flavonoids Cglycosides, sterols, terpenoids, tannins, and fatty acids have all been identified by phytochemical studies on M. pudica [2].

It has been referred to in Ayurveda as "sparshaat sankochataam yaati punashcha prasruta bhavet," a plant that folds when touched and spreads its leaves once more later. Lajjalu has a tikta and kashaya rasa, or a bitter and astringent flavour, according to Ayurveda. It balances kapha and pitta and has a cold (sheetha) quality. According to reports, it can be used to cure bleeding piles, diarrhoea (athisaara), amoebic dysentery (raktaatisaara), and to stop bleeding [3]. According to a review of the literature, several Mimosa pudica extracts have been shown to have antinociceptive, hyperglycemic, antivenom, immunomodulatory, anticonvulsant, antihepatotoxic, antifertility, diuretic, and wound healing activities [4]. it has Bipinnate leaves, glandular hairs, spinout stipules, companulate calyxes, and lilac pinkish axillary flower heads are features of the shrubby Mimosa pudica (Mimosaceae) plant. They have upright, heavily branching stems. Mimosa pudica can grow in various places! " These plants can thrive without any special treatment either in the fertile soil and a rid though, therefore, farmer soften refer to it as a parasite "his plant is called Mimosa pudica. because if the leaves are held then leave sit willshut, so the term 'shameif held' "he leaves are wilted temporary because after a few minutes the situation will be restored to normal! [5].



figure no.1 mimosa pudica plant

1.2 BIOLOGICAL SOURCE-

‘Carl Linnaeus’ first formally described the plant *Mimosa pudica* in 1753. The plant was once only found in the Caribbean and South and Central America, but it is now a pantropical weed that may also be found in Australia, South Africa, West Africa, Micronesia, South Asia, and the Southern United States. It is mostly found on soils with poor nitrogen concentrations and is not shade-tolerant.

Mimosa pudica is renowned for moving quickly as a plant. It experiences "sleep" or nyctinastic movement—changes in leaf orientation—like a number of other plant species. Darkness causes the foliage to close, then light causes it to reopen. French scientist Jean-Jacques d'Ortous de Mairan conducted the initial research on this. The mimosa was the perfect plant for numerous studies on plant memory and habituation because of its distinctive reaction to touch [6].

Parts used: Whole plant, leaves, roots.

1.3 TAXONOMICAL CLASSIFICATION -

Kingdom: Plantae

Division: Magnoliophyta

Class: Magnoliopsida

Order: Fabales

Family: Mimosaceae

Subfamily Mimosoideae

Genus: *Mimosa*

Species: *M. pudica*

1.4. SYNONYMS-

Sanskrit: Samanga, Varakrant

Bengali: Lajaka, Lajjavanti

English: Touch-me-not

Gujrati: Risamani, Lajavanti, Lajamani

Hindi: Chhuimui, Lajauni

Kannada: Muttidasenui, Machikegida, Lajjavati

Malayalam: Thotta Vati

Marathi: Lajalu

Punjabi: Lajan

Ayurveda: Namaskari [6].

2.CHEMICAL CONSTITUENTS:

table no. 1-chemical constituents

Chemical name	Structure
7,8,3",4"-tetrahydroxyl-6-C-beta-D Glucopyrano-sylflavone	
5,7,3',4'-tetrahydroxyl-6-C-beta-D Glucopyranosyl flavones	
Mimosine	
Tyrosine	
Mmimosinamine	

Mimosinicacid

3.MORPHOLOGICAL CHARACTERS:

Stem: It is reddish-brown in hue, extremely rigid, extremely slender, and grows to be 1.5 inches long (m). It is covered in thorns. Young plants have an upright stem, but as they get older, it starts to creep or trail [7].

Leaves: The hairy leaves have one or two pinnae pairs, alternating, bipinnately complex, and 10-26 leaflets per pinna [7].

Flowers: Close inspection reveals that the forest petals are red in their upper part and the lower petals range in colour from pink to lavender. The flowers have globose heads and are typically found in pairs along the branches. Insects and the wind pollinate flowers.

Fruits: The fruit is straw-colored and consists of clusters of 28 pods, each measuring 12 cm in length. The 25 segments of the pods are broken up into pale brown, 2.5 mm long seeds. The seeds' tough seed coverings prevent them from germinating [7,8].

Seeds: There are also variations within the legumes, with sizes ranging from a pinhead to a baseball. Legume seeds can occasionally be quite colourful; for instance, the *Ormosia* and *Abrus precatorius* species produce eye-catching black and scarlet seeds, respectively. Native Americans have utilised these seeds as payment and to make beads and purses, particularly in tropical areas. However, if eaten, they could be extremely dangerous [8].

4.PHARMACOLOGICAL ACTIVITIES:

1)Wound healing activity-

Significant (P 0.001) wound healing was seen after applying an ointment containing 2% (w/w) methanolic and 2% (w/w) total aqueous extract to the wound activity. Total phenols equal to gallic acid were measured in the methanolic and total aqueous extracts. The Amount of total phenols in the methanolic and total aqueous extracts was 11% (w/w) and 17% (w/w), respectively. The presence of phenolic components in the methanolic extract may have contributed to its effective wound healing [9,10].

2)Anti ulcer activity:

For the activity, extracts of 90% ethanol, methanol, chloroform, and diethyl ether were utilised. Rats that are albinos were used to study the activity. Models induced by aspirin were employed. Ulcer prevention was one of the factors assessed in the alcohol-induced model and pylorus ligation-induced ulcer scenarios. protection against stomach ulcers. and a decrease in the amount of stomach fluid overall. Free and total stomach acidity, as well as gastric ulcer were measured using extracts at doses of 100 and 200 mg/kg and 20 mg/kg, respectively [11].

3)Antimicrobial activity-

Petroleum ether, ethanol, and aqueous extract were the types of extract employed in this experiment. Albino rats were the animals employed to test the anti-inflammatory activity. Rats' cotton pellet granuloma and paw edoema caused by carrageenan were used as models. The decrease of paw edoema caused by carrageenan was assessed using carrageenan-induced paw edoema. Indomethacin, a typical medication, was utilised at doses of 10, 100, and 200mg/kg, and it was administered orally in a variety of doses [12].

4)Antimalarial activity:

The methanolic extract of *Mimosa pudica* was tested for its anti-microbial properties using the bacterium *plasmodium barghei*. Terpenoids, flavonoids, and alkaloids are examples of active components that cause activity [13].

5)Antifungal activity:

M. pudica leaves were evaluated against *Aspergillus fumigatus* by well diffusion at various concentrations, including 100, 200, and 500 mg of methanolic extract and aqueous extract [14].

6)Analgesic activity -

M. pudica's ethanolic extract is active at concentrations of 200 and 400 mg/kg. Flavonoids are the chemical responsible for this activity. The hot plate method, tail flick method, and acetic acid-induced writhing model are the models utilised in this activity. A 500 mg/kg dose of ethanolic extract given orally results in a considerable reduction of the writhing reaction brought on by acetic acid [15].

7)Anti – convulsant –

When administered intraperitoneally at a concentration of 1000–4000 mg/kg, the decoction of *M. pudica* leaves exhibited anticonvulsant activity.

At dosages ranging from 200 to 400 mg/kg, an ethanol extract of *M. pudica* leaves exhibited anti-convulsant action [16].

8)Anti hepatotoxic activity –

M. pudica's ethanolic extract was administered at a dose of 200 mg/kg body weight. Wistar albino rats were the model creatures. The extract has a dose-dependent hepatoprotective effect in liver damage caused by CCL4. For parameters such as glutamate oxaloacetate transaminase, the activity was evaluated. Phosphate, bilirubin, alkaline phosphate, and glutamate pyruvate transaminase [17].

9)Anti helminthics-

Different seed extracts from *M. pudica*, including those from petroleum ether, ethanol, and aqueous, were used. Pheritimaposthuma was the test worm employed. Tests were conducted using concentrations of 100, 200, and 500 mg/kg. Albendazole is typically used as a medication. Petroleum ether had negligible antihelminthic effects. In comparison to conventional albendazole, an alcoholic and aqueous extract produced paralysis and mortality in a dose-dependent manner [18].

10) Anti depressant activity –

The behavioural effects were tested using an aqueous extract of dried *M. pudica* leaves at doses of 2, 4, 6, and 8 mg/kg. The creature acted as a rat. And diazepam is the usual medication. At an amount of 1.3 mg/kg [19].

5.CONCLUSION -

In the current Review article, the morphology, components, and uses of the subject matter are explained in terms of traditional usage, Siddha uses, and folklore studies. It also explains various taxonomic features, morphological characteristics, and the available species of *M. pudica*. It is frequently planted along roadside, on lawns, pastures, and wastelands. A highly prized plant is the mimosa. Owing to its leaves. Because of its capacity to fix nitrogen. Pharmacologically, rats treated with *M. pudica* had a higher rate of nerve regeneration than the Hydrocortisone group. *M. pudica* has been extensively studied for its antimicrobial activities.

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