



Lajjalu and Kirattikta: A Comprehensive Study of their Ayurvedic and Medicinal Properties

¹Dr. Apoorva R, ²Dr. Jayashree KS

¹PG Scholar, Dravya Guna Department, Ramakrishna Ayurvedic Medical College Hospital And Research Center, Yelahanka Bangalore

²Associate Professor, Dravya Guna Department, Ramakrishna Ayurvedic Medical College Hospital And Research Center, Yelahanka Bangalore

ABSTRACT:-

There are several common names for *Mimosa pudica*, including touch-me-not, action plant, drowsy plant, sensitive plant, and shame. It belongs to the pea/legume family Fabaceae and is a creeping annual or perennial blooming plant. The plant has delicate, fragile, grey-green leaves that fold and droop at night or when touched and chilled. It is also strongly armed with recurrent thorns. Among its many pharmacological properties include antibacterial, antivenom, antifertility, anticonvulsant, depressive, and aphrodisiac properties. The plant has long been used in traditional medicine to heal wounds, piles, sinuses, urogenital diseases, and dysentery.

Swertia chirayita (Gentianaceae), a well-known medicinal plant native to the temperate Himalayas is utilized in traditional medicine to address various conditions including liver disorders, malaria, and diabetes and is reported to possess a broad range of pharmacological properties. Its therapeutic use is extensively recorded in the Indian pharmaceutical codex, the British, and the American pharmacopeias and in various traditional medical systems such as Ayurveda, Unani, Siddha, and other established medical practices. This ethnomedicinal plant is primarily recognized for its bitter flavor attributed to the presence of various bioactive compounds that are directly linked to human health benefits. The rising usage of *Swertia chirayita*, mainly the underground parts, coupled with illegal overharvesting and habitat loss has resulted in a significant decline in its populations and has pushed this species towards extinction. The growing national and international demand for *Swertia chirayita* has resulted in unethical collection from the wild and contamination of supplies. The purpose of this review is to compile the existing scientific knowledge regarding the medicinal applications, phytochemistry, pharmacological activities, safety assessment as well as the potential contributions of plant biotechnology in the conservation of *Swertia chirayita* and to emphasize its future possibilities. Pharmacological evidence available in the literature indicates that *Swertia chirayita* exhibits a positive effect in the treatment of various health issues. However, there is an insufficient amount of data concerning the safety assessment of the plant. This page attempts to summarize the different synonyms, morphological characteristics, pharmacological activity, applications, dosage, and formulations of the chosen medications from numerous ancient texts up to the present day.

KEY WORDS:- Lajjalu and Kirattikta, touch-me-not, *Swertia chirayita* etc.

INTRODUCTION

In the vast pharmacopoeia of Ayurveda, plants hold a central role in maintaining health and treating diseases. Among the myriad of medicinal plants, Lajjalu (*Mimosa pudica*) and Kirattikta (*Swertia chirata*) stand out for their unique properties and therapeutic potential. While Lajjalu is revered for its hemostatic and wound-healing properties, Kirattikta is celebrated for its role in detoxification and managing chronic conditions like diabetes and liver disorders.

This article explores the botany, Ayurvedic attributes, pharmacological actions, traditional uses, and modern applications of these two remarkable plants.

Botanical Description

Lajjalu (*Mimosa pudica*)

- **Botanical Name:** *Mimosa pudica*
- **Family:** Fabaceae
- **Common Names:** Sensitive plant, Touch-me-not

- **Distribution:** Found in tropical and subtropical regions of Asia, Africa, and the Americas.

Lajjalu is a small, perennial herb or shrub known for its unique response to touch, where the leaves fold inward. This movement is not only fascinating but also symbolic of its protective and soothing nature in therapeutic applications.

Kirattikta (*Swertia chirata*)

- **Botanical Name:** *Swertia chirata*
- **Family:** Gentianaceae
- **Common Names:** Chirayata, Indian Gentian
- **Distribution:** Found in the Himalayan region, from Kashmir to Bhutan, at altitudes of 1,200–3,000 meters.

Kirattikta is an annual herbaceous plant with a bitter taste and slender stem. It has been used extensively in Ayurveda and other traditional systems of medicine for its purifying and detoxifying properties.

Ayurvedic Classification

Lajjalu

- **Rasa (Taste):** Kashaya (astringent)
- **Guna (Qualities):** Laghu (light), Ruksha (dry)
- **Virya (Potency):** Sheeta (cooling)
- **Vipaka (Post-digestive effect):** Katu (pungent)
- **Dosha Effects:** Pacifies Pitta and Kapha doshas.

Kirattikta

- **Rasa (Taste):** Tikta (bitter)
- **Guna (Qualities):** Laghu (light), Ruksha (dry)
- **Virya (Potency):** Sheeta (cooling)
- **Vipaka (Post-digestive effect):** Katu (pungent)
- **Dosha Effects:** Balances Kapha and Pitta doshas.

Pharmacological Actions

Lajjalu

1. **Rakta Stambhaka (Hemostatic):** Stops bleeding and helps in wound healing.
2. **Vrana Ropana (Wound Healing):** Promotes the repair of damaged tissues.
3. **Shotha Hara (Anti-inflammatory):** Reduces swelling and inflammation.
4. **Tridosha Shamaka:** Balances all three doshas when used appropriately.

Kirattikta

1. **Pachana (Digestive):** Enhances digestion and metabolism.
2. **Krimighna (Antimicrobial):** Effective against parasitic and microbial infections.
3. **Raktashodhaka (Blood Purifier):** Detoxifies the blood and clears skin conditions.
4. **Jvara Hara (Antipyretic):** Reduces fever and manages chronic infections.

Traditional Uses

Lajjalu

Wound Healing Activity:

The methanolic extract of *Mimosa pudica* demonstrated effective wound healing activity likely due to its phenolic compounds.

Anticonvulsant Activity:

The research indicated that the ethanolic extract of *Mimosa pudica* root (EMPR) displayed notable antiepileptic effects in both MES and PTZ-induced seizure models.

Antimicrobial Activity:

In this study, the active phytochemicals of *Mimosa pudica* were examined, and additionally, the antimicrobial activity of the plant extract was assessed against three potentially pathogenic microorganisms: *Aspergillus fumigatus*, *Citrobacter diversens*, and *Klebsiella pneumoniae* at various concentrations of the extract to determine the most effective action.

Antidepressant Activity:

Phytochemical studies conducted in this research revealed the presence of alkaloids, flavonoids, and tannins in the extract. It is probable that the antidepressant effects associated with *Mimosa pudica* could be attributed to the existing phyto-constituents.

Antifertility Activity:

The current study highlights the active role of the aqueous, alcoholic, and petroleum ether extracts of the leaves of *Mimosa pudica* Linn in preventing implantation in rats.

Diuretic Activity:

Diuretics are medications that enhance urine production. This characteristic is beneficial in various conditions involving fluid overload. Existing diuretics often come with numerous side effects. This study assessed the diuretic activity of the ethanolic root extract of *Mimosa pudica* as a potential alternative/new drug that may promote diuresis.

Antivenom Activity:

The antivenom capability of *M. pudica* plant extract was evaluated against cobra and krait venom through both in vivo and in vitro methods.

Hepatoprotective Activity:

This study was conducted to showcase the hepatoprotective properties of *Mimosa pudica* on albino rats with experimentally induced jaundice. Administering the crude powder of *Mimosa pudica* orally for 10 days led to the regulation of hepatic parameters, thus safeguarding the liver. The hepatoprotective effects of *Mimosa pudica* could be due to the actions of its constituents, such as alkaloids, tannins, glycosides, terpenoids, flavonoids, and saponins.

Hyperglycemic Activity:

The ethanolic extract of *Mimosa pudica* leaves, administered orally to mice at a dosage of 250 mg/kg, exhibited a significant hyperglycemic effect.

Antifungal Activity:

In the current study, the antimicrobial properties of the *Mimosa pudica* plant extract were evaluated against five potentially harmful microorganisms: *Trichophyton verrocosum*, *Trichophyton mentagrophyte*, *Microsporum nanum*, *Aspergillus niger*, and *Aspergillus flavus* at various concentrations (10, 20, and 40 mg/ml) of the extract to identify the most effective activity.

Therapeutic Uses

1. **Wound Healing:** The astringent and antibacterial properties of Lajjalu make it effective in healing wounds and stopping bleeding.
2. **Menorrhagia and Bleeding Disorders:** It is used to manage excessive bleeding during menstruation and other bleeding disorders.
3. **Skin Diseases:** Its anti-inflammatory and antimicrobial effects help treat conditions like eczema and acne.
4. **Diarrhea and Dysentery:** The plant's astringent nature aids in controlling diarrhea and dysentery.
5. **Piles (Arshas):** Lajjalu is known for its efficacy in reducing bleeding piles.
6. **Urinary Disorders:** It helps in conditions like urinary tract infections (UTIs) due to its antibacterial action.

Scientific Evidence

Modern studies have demonstrated the antimicrobial, anti-inflammatory, and wound-healing properties of Lajjalu, supporting its traditional uses in Ayurveda. A study published in the *Journal of Medicinal Plants Research* highlighted its effectiveness against common pathogens.

Kirattikta (*Swertia chirata*)

Phytochemical Constituents

Kirattikta contains compounds like amarogentin, swertiamarin, mangiferin, and flavonoids. These phytochemicals contribute to its therapeutic effects, particularly its antimalarial and hepatoprotective properties.

Therapeutic Uses

- Fever (Jwara):** Kirattikta is renowned for its antipyretic properties, making it a key herb in managing fevers, including malaria.
- Liver Disorders:** It supports liver health and helps manage jaundice and other hepatic conditions.
- Skin Diseases:** Its blood-purifying properties aid in treating skin conditions like psoriasis and eczema.
- Digestive Health:** It stimulates appetite and helps in indigestion, constipation, and flatulence.
- Diabetes Management:** The herb's hypoglycemic properties make it beneficial in controlling blood sugar levels.
- Immune Boosting:** Kirattikta enhances immunity and supports overall health.

Scientific Evidence

Numerous studies have validated the traditional claims regarding Kirattikta. For instance, research in the *Journal of Ethnopharmacology* highlighted its effectiveness in reducing fever and inflammation.

Comparative Analysis of Lajjalu and Kirattikta

Aspect	Lajjalu	Kirattikta
Rasa (Taste)	Kashaya (astringent)	Tikta (bitter)
Virya (Potency)	Sheeta (cooling)	Sheeta (cooling)
Dosha Karma	Balances Pitta and Kapha	Balances Kapha and Pitta
Key Actions	Astringent, antibacterial, wound healing	Antipyretic, hepatoprotective, blood purifier
Primary Uses	Bleeding disorders, wounds, skin diseases	Fever, liver disorders, diabetes

Modern Pharmacological Insights

1. Antioxidant Activity:

Both plants exhibit significant antioxidant properties, protecting cells from oxidative damage.

2. Anti-inflammatory Properties:

Lajjalu and Kirattikta reduce inflammation, making them beneficial in conditions like arthritis and skin diseases.

3. Antimicrobial Effects:

Both plants have been studied for their efficacy against bacterial, fungal, and parasitic infections.

4. Hepatoprotective Action:

Kirattikta, in particular, shows promising results in protecting the liver from damage caused by toxins and infections.

Formulations and Dosage

Lajjalu

- Powder (Churna):** 3–6 g with honey or water.
- Decoction (Kashaya):** 20–30 ml, taken twice daily.
- Paste:** Applied externally for wounds and skin conditions.

Kirattikta

- Powder (Churna):** 1–3 g with warm water.

- **Decoction (Kashaya):** 15–30 ml, prepared fresh.
- **Infusion:** Used for liver disorders and fevers.

Precautions and Contraindications

- **Lajjalu:** Prolonged use may cause constipation due to its astringent nature.
- **Kirattikta:** Should be used cautiously in individuals with severe Pitta imbalance or those who are underweight, as its bitter nature may aggravate these conditions.

Conclusion

Lajjalu and Kirattikta are two remarkable plants that showcase the profound wisdom of Ayurveda in harnessing nature's healing power. Their diverse therapeutic applications, ranging from wound healing and gynecological health to liver detoxification and fever management, highlight their indispensability in holistic medicine. Incorporating these plants into Ayurvedic and modern healthcare practices ensures a natural, effective approach to health and wellness.

This article offers a glimpse into their potential, urging further exploration and integration of these ancient remedies in contemporary medicine.

REFERENCES:-

1. Dr. Satish Chandra Sankhyadhar and Dr. Deepika Sankhyadhar translated "Rajnighantu of Shri Narahari Pandit" ; Published by Chaukhamba Orientalia, Varanasi; Reprint 2017; Page No. 179 Shlok No 103- 106.
2. By Acharya Priyavrat Sharama and Dr. Guruprasad Sharma edited " Kaiyadev Nighantu"; published by Chaukhambha Orientaliam, Varanasi; Reprint 1979, Shlok No. 1081- 1082.
3. By Acharya Priyavrat Sharama and Dr. Guruprasad Sharma edited "Dhanvantari Nighantu"; Published by Chaukhambha Orientalia, Varanasi; Reprint 2002, Shlok No. 97-98.
4. By Professor Shri Krushnachandra Chunekar Written "Bhavaprakash Nighantu"; published Chaukhambha Bharati Acadamy, Varanasi; Reprint 2018; Page No. 442, Shlok No. 272-273.
5. By Acharya Trikamajen Yadavsharman written "Dravyagunavidyanam" Uttarardha; published by Shri Sharma Ayurved Mandir: Print 1986.
6. P.V. Sharma Ayurved Ka Vajjnanik Ithihas Chaukhambha orientalia, Varanasi (1981), p. 431999 Ragini Garg et al: A critical review of kiratatikta (swertia chirata) in the ayurvedic treatise of laghutrayi and brihatrayi doi:10.46607/iamj2311092023 | IAMJ September 2023 | www.iamj.in 2321
7. Joshi P, Dhavan V. Swertia chirata-an overview. Current Science. 89(4); 2005: 635-640
8. Naveen Kumar et al: Review On Swertia Chirata Buch.-Ham. Ex Wall: A Bitter Herb W.S.R To Its Phytochemistry And Biological Activity, International Ayurvedic Medical Journal, 2017 4.
9. Charak Samhita by Agnivesa revised by Charaka and Dridhabala with the Ayurveda Dipika commentary of Chakrapanidatta edited by Vaidya Jadavaji Trikamji Acharya, Chaukhambha Sanskrit Sansthan.
10. Ashtanga Sangraha with commentary of Indu, by Vaidya Anant Damodar Aathbale, Chowkambha 7. Ashtanga Hridayam of Vagbhata by Kaviraja Atrideva Gupta with Vidyotini Hindi Commentary edited by Vaidya Yadunandana Upadhyaya, Chaukhambha Prakashan