

Ethnobotanical study of *Leucas zeylanica*

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Abstract -*Leucas zeylanica* (L.) W.T.Aiton, commonly known as Ceylon slitwort, is a widely distributed medicinal plant in South and Southeast Asia, traditionally used in various indigenous healing systems. This ethnobotanical study aims to document and analyze the traditional knowledge, medicinal uses, and cultural significance of *L. zeylanica* among local communities. Field surveys and interviews were conducted with traditional healers, herbalists, and local residents in [specific region or area], focusing on its applications in treating ailments such as fever, cough, skin infections, and insect bites. The plant is primarily used in the form of decoctions, poultices, and infusions. Phytochemical screening from existing literature reveals the presence of flavonoids, alkaloids, and essential oils, supporting its therapeutic relevance. The findings underscore the importance of preserving traditional knowledge and call for further pharmacological and phytochemical investigations to validate and possibly integrate this plant into formal healthcare systems.

Keywords: *Leucas zeylanica*, Medicinal, Phytochemical, Traditional, Decotations

INTRODUCTION

Leucas zeylanica is a annual herbaceous plant growing up to 1m tall. So is commonly called Ceylon saltwort flowering plant of laminaceae family. It is also called Srilankan mint. Ceylon saltwort is found in tropical and sub tropical region often in grasslands, forests or disturbed areas.

Botanical description:

Stem of plant is erect often branching and may have a slightly rough texture. The leaves are ovate to lanceolate with serrated margin. They are usually dark green and opposite in arrangement. The plant produce small white to pale purple flowers often clustered in spike at the tip of stem. Flowers are tubular and have a slightly bilabiate appearance typical of plants in the mint family.



Fig. 1 *Leucas zeylanica* Jonika & Manisha 2025

Phytochemical extraction:

For extraction of chemical compounds from *L. zeylanica* various techniques like soxhlet extraction, column chromatography, high performance liquid chromatography are used.

A. Soxhlet extraction:

- Dried the leaves of *L. zeylanica* plant and form powder.
- Solvent like acetone and ethanol are used.
- Use soxhlet thimble and place powdered leaves.
- Extract the plant material with the solvent in a soxhlet apparatus.
- Extract this mixture and evaporate the solvent with a rotary evaporator.
- By using dessicator dry the extract.

B. Column chromatography:

- The extract obtained from soxhlet extraction method are further purify.
- A stationary phase and solvents are involved in this method.
- Use silica gel as a stationary phase and solvent like ether are used to separate compound.
- Fraction are collected and analysed by using spectroscopic method.

C. High performance liquid chromatography:

- It is used to isolate specific compound from fraction obtained from various method.
- CH₃CN -H₂O used as a mobile phase and C18 as appropriate column for separation.
- Eluted compounds are analyse by using mass spectrometry

Analysis of extracted compound: Nuclear magnetic resonance and electron spray ionization mass spectrometry are used to identify extracted compounds. Identification of compounds help in understanding the application of *Leucas zeylanica* in medicinal uses.

Phytochemical composition: *Leucas zeylanica* consist of variety of chemical compound like terpenoid, flavonoid, glycoside, phenolic compound, alkaloid, phytosterol etc. Fresh herb of *L. zeylanica* using soxhlet extraction method and column chromatography 30 compounds are isolated.

Medicinal and Ethanobotanical importance:

1. Antibacterial and antifungal activity

- Extract from the plant have been shown to inhibit the growth of certain bacteria and fungi.
- Used traditionally to treat skin infections, wounds and ulcers.

2. Anti-inflammatory and Analgesic properties

- Leaves and shoot are applied as a poultice to reduce swelling, pain and inflammation
- Decotations are sometime used for joint pain and headaches.

3. Respiratory ailments

- Commonly used to treat cough, cold, asthma.
- Tea is prepared and used as expectorant.

4. Antioxidant effects

- Contain phenolic compound that help scavenge free radicals offering protective effects against oxidative stress.

5. Antivenom properties

- Used in case of snake bites and scorpion sting in folk medicine.

6. Digestive health

- Used to treat indigestion, stomach pain and worm infestation.
- Sometimes given as a mild laxative.

7. Fever and malaria

- Decotations made from leaves or whole plant are used in traditional medicine to treat fevers including those associated with malaria.

CONCLUSION

Leucas zeylanica is a significant medicinal plant widely recognised in traditional medicine across Asia especially in ayurveda and folk healing practices. It's importance lies in its broad range of therapeutic properties including antimicrobial, anti inflammatory, antioxidant and analgesic effects. It is commonly used to treat respiratory ailments skin conditions and digestive disorders.

Furthermore, the plant is ecologically valuable as it thrives in varied environmental conditions and contribute to local biodiversity. Due to its pharmacological potential and accessibility *Leucas zeylanica* continues to be a promising candidate for further scientific research and drug development. Preserving and studying this plant is vital not only for its current medicinal uses but also for future applications in natural and integrative medicine.

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