

A Review on *Tridax Procumbens* Linn.: Traditional Uses and Modern Pharmacological Insights

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Abstract:

Plants play a crucial role in global healthcare, serving as valuable sources of medicine and therapeutic remedies. Medicinal herbs have long been recognized for their rich composition of bioactive compounds, making them essential for drug development. This has driven scientific research into their potential for treating various ailments. Among these, *Tridax procumbens* stands out as a highly potent plant with numerous health benefits and a wide range of medicinal applications. *Tridax procumbens* is a highly promising species known for producing secondary metabolites with a wide range of medicinal properties. These include anti-anemic, anti-inflammatory, anti-diabetic, and anesthetic effects. With a rich history of traditional use across various communities, this plant continues to be valued for its therapeutic potential.

Keywords: *Tridax procumbens*, Anti-hypertensive, Anti-diabetic, Wound healing, Antimicrobial, Antioxidant, anti-inflammatory

Introduction

T. procumbens has long been used as herbal medicine for anti-oxidant and antibiotic efficacies with lots of potential therapeutic benefits proved by in vitro methods. In a few tribal areas in India, reported that juice extracts from the leaf can be used to heal wounds / injurious caused in skin, as anti-coagulant and as hair promoting agents, if used as liquid suspension. *Tridax procumbens* is in the daisy family which are flowering plant species. This family commonly known as „Ghamra“. The appearance of flowers they are popularly known as „coat buttons“ in English. In Ayurvedic medicinal system *Tridax* used for various ailments and is dispensed for “*Bhringraj*”. Many Ayurveda practitioners are using this plant as a medicine for liver Disorders. The native of the plant is tropical America and naturalized in tropical Africa, Asia, Australia and India. Throughout India, *Tridax* is distributed and is also found along roadsides, meadows, waste grounds, railroads, riverbanks, dikes and dunes. It is an widespread important weed which possess spreading stems and abundant seed production *Tridax procumbens* is a very promising species that produces secondary metabolites reported to have a variety of medicinal uses including among others, anti-

anemic, anti-inflammatory, anti-diabetic and anesthetic properties. This species has a long history of traditional use by different communities.

Traditional uses

Traditionally, *Tridax procumbens* has been in use in India for wound healing and as an anticoagulant, antifungal, and insect repellent. The juice extracted from the leaves is directly applied on wounds. Its leaf extracts were used for infectious skin diseases in folk medicines. It is used in Ayurvedic medicine for liver disorders, hepato protection, gastritis, and heartburn. *Tridax procumbens* is also used as treatment for boils, blisters, and cuts by local healers in parts of India. Its leaves are traditionally used for diabetic and non-diabetic wound healing, and procoagulant activity. Its drink is also used to cure bronchial catarrh, diarrhea, dysentery. Its extract possess antihyperuricemia, antioxidant, and antibacterial, antifungal, anti-leshmanial, antibiotic against challenging multidrug-resistant urinary tract bacterial isolates, anti-hyperglycemic, anti-diabetic, hepato-protective, hypotensive, vasorelaxant, immuno-modulatory, anti-arthritis, analgesic, anti-osteoporosis, anti-inflammatory and anti-tubercular activity, and antitumor activities. It is also used to cure asthma and possesses antiviral activities.

Tridax procumbens, a Flavonoids Plant. Commonly used in Indian traditional medicine as anticoagulant, hair tonic, antifungal and insect repellent, in bronchial catarrh, diarrhoea, dysentery, and wound healing. *Tridax procumbens* is known for several potential therapeutic activities like antiviral, anti oxidant antibiotic efficacies, wound healing activity insecticidal and antiinflammatory activity. Some reports from tribal areas in India state that the leaf juice can be used to cure fresh wounds, to stop bleeding, as a hair tonic. Traditionally, *Tridax procumbens* has been in use in India for wound healing, may be due to presence of phytochemicals present in it as well as anticoagulant, antifungal and insect repellent. *Tridax procumbens* L. (Compositae) is a common weed that grows in the rice fields of India. Traditionally the juice from leaves of *Tridax procumbens* has been used for healing dermal wound. However, in experimental studies, equivocal pro and anti-healing action of *T. procumbens* has been demonstrated. The present study evaluates the effect of topical ointment formulation of the leaf juice of *T. procumbens* using excision wound model in mice.

Medicinal Properties and Applications

Anti-Inflammatory Activity

Tridax procumbens exhibits significant anti-inflammatory properties due to the presence of flavonoids and tannins. Extracts of the plant have been shown to inhibit inflammatory mediators, making it useful in managing inflammatory diseases.

Anti-Microbial Properties

This plant has demonstrated potent antibacterial and antifungal activity against various pathogens, including *Escherichia coli*, *Staphylococcus aureus*, and *Candida albicans*. The presence of phytochemicals such as flavonoids and alkaloids is responsible for its antimicrobial efficacy.

Wound-Healing Potential

Traditionally used as a wound-healing agent, *Tridax procumbens* promotes tissue regeneration and collagen synthesis. Its hemostatic properties make it beneficial for treating cuts, wounds, and burns.

Hepatoprotective Effects

Research indicates that *Tridax procumbens* exhibits liver-protective effects by reducing oxidative stress and enhancing detoxification mechanisms. This makes it a potential candidate for treating liver disorders.

Anti-Diabetic Activity

The plant has been reported to lower blood glucose levels and improve insulin sensitivity, suggesting its potential role in diabetes management.

Other Medicinal Applications

Additional studies highlight its potential in cardiovascular health, immunomodulation, and analgesic effects, further expanding its therapeutic applications.

Conclusion

Natural resources are essential for human survival, with plants playing a crucial role in providing food, medicine, shelter, and clothing. The knowledge of their uses has been passed down through generations, emphasizing their significance in sustaining life. The effectiveness of plants in managing and treating various ailments cannot be overstated. Therefore, adopting a more natural approach to healthcare, including the use of medicinal plants, is highly recommended. Based on the review, *Tridax procumbens* has demonstrated numerous health benefits, including wound healing and the management of various health conditions. *Tridax procumbens* is a valuable medicinal plant with diverse pharmacological properties. Its rich phytochemical composition contributes to its effectiveness in treating various diseases. Further research and clinical studies are required to explore its full therapeutic potential and possible applications in modern medicine.

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