A Study on Ayurvedic Herb Tridax Procumbans Plant (Asteraceae)

Rajbala

Lecturer, Department of Botany, SRRM Government P.G College, Jhunjhunu,Rajasthan

ABSTRACT

Nature has been a source of medicinal agents for thousands of years and an impressive number of modern drugs have been isolated from natural resources. Tridax procumbens is well known Ayurvedic, ethno-botanical and unani medicinal plant. Tridax procumbens belongs to Asteraceae family.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. The present paper is an attempt to give the taxonomy, phytochemical properties, medicinal uses, ecological conditions and pharmacological activities of this valuable herb.

Key Words: medicinal, inflammatory, pharmacological & taxonomy.

I. INTRODUCTION

India has been known to be rich repository of medicinal plants. Ayurveda is widely practiced in India. The emphasis on development of biologically active new molecule has been gradually replaced by the use of total herbs as medicine and food supplements. Weeds are not really “unwanted” especially in terms of traditional herbal medicines. These “naturally growing plants” are generally known as a group of very aggressive, noxious, competitive and troublesome plants.

Tridax procumbens, commonly known as coat buttons or tridax daisy, is a species of flowering plant in the daisy family. It is best known as a widespread weed and pest plant. It is native to the tropical Americas but it has been introduced to tropical, subtropical, and mild temperate regions worldwide. Traditionally, Tridax procumbens has been in use in India for wound healing, as anticoagulant, antifungal and insect repellent. It is used in diarrhoea and dysentery. Its leaf extracts were known to treat infectious skin diseases in folk medicines. It is a well-known ayurvedic medicine for liver disorders or hepato-protective nature besides gastritis and heart burn.

Its common names include coat buttons and tridax daisy in English, Jayanthi in Kannada, cadillo chisaca in Spanish, herbe caille in French, Jayanti veda in Sanskrit, ghamra in Hindi, Bishalya karani in Oriya, Kambarmodi in Marathi, Gaddi Chemanthi in Telugu, vettukaaya poondu in Tamil and kotobukigiku in Japanese. (Saxena et al., 2005)

II TAXONOMY

Kingdom :Plantae

Subkingdom : Tracheobionta

Super division: Spermatophyta

Division :Magnoliophyta

Class	:Magnoliophyta
Subclass	:Asteridae
Order	:Asterales
Family	:Asteraceae
Genus	:Tridax L.
Species	:Tridax procumbens
Binomial name	:Tridax procumbens L.

III ECOLOGICAL CONDITIONS


Tridax Procumbens

The plant is native of tropical America and naturalized in tropical Africa, Asia, Australia and India. It is a wild herb distributed throughout India. Coat buttons is also found along roadsides, waste grounds, dikes, railroads, riverbanks, meadows, and dunes. (Chauhan et al.,2008)

IV PHYTOCHEMICAL PROPERTIES

The phytochemical screening revealed the presence of alkaloids, carotenoids, flavonoids (catechins and flavones), fumaric acid, fl-sitosterol, saponins and tannins. It is richly endowed with carotenoids, saponins, oleanolic acid and ions like sodium, potassium and calcium. Luteolin, glucoluteolin, quercetin and isoquercetin have been reported from its flowers. (Sneha Mundada et al.,2010).

V MEDICINAL USES

Tridax procumbens is employed as indigenous medicine for a variety of ailments. It has been extensively used in Indian traditional medicine for wound healing, as anticoagulant, antifungal and insect repellent, in diarrhea and dysentery (Ali et al.,2001)

Leaf extracts are used to treat infectious skin diseases in folk medicines. It is also dispensed as 'Bhringraj' which is well known ayurvedic medicine for liver disorders. (Pathak et al.,1991).

VI PHARMACOLOGICAL ACTIVITY

1. **Prolongation of Clotting time:** T. procumbens extract 200 mg/µg IP injected to experimental rabbits, reduced normal heparin induced prolongation of clotting time (Kanungo et al., 1995)
2. **Wound Healing activity:** Aqueous extract of T. procumbens (leaves) not only promoted healing but also overcame steroid depressed healing in experimental male wistar rats. (Udupa et al., 1991a)

3. **Hepatoprotective activity:** Hepatoprotective effect of ethanolic extract of Arial parts of T. procumbens and its chloroform soluble and insoluble fractions were studied on acute hepatitis induced in rats by single dose of carbon tetrachloride. (Pathak et al., 1991; Saraf and Dixit, 1991).
4. **Antimicrobial activity:** The maximum inhibition was observed by T. procumbens againstAeromonas hydrophilla and bacillus cereus (Perumal et al., 1999).

   5. Anti-inflammatory activity: The aqueous extract of T. procumbens leaves was lyophilized and studied on the excision wound model, rat skin fibroblast and rat paw oedema. (Margaret et al., 1998).
5. **Immunomodulatory activity:** The immunomodulatory properties of ethanol insoluble fraction of aqueous extract of T. Procumbens have been investigated. After IP administration of TPEIF in doses of 0.25 and 0.5 g/kg body weight (BW) a significant increase in phagocytic index, leucocyte count and splenic antibody secreting cells was noticed. (Tiwari et al., 2004).
6. **Insecticidal activity:** The essential oils isolated from T. procumbens exhibited insecticidal activities against house flies, mosquito larvae, Dysdercus similes and cockroaches. (Pathak and Dixit, 1988).
7. **Antioxidant activity:** Fractions of methanolic extract from the aerial part were screened for antioxidant activity by DPPH method. (Agrawal et al., 2009)

VII CONCLUSION

Green herbal medicinal plants play a very important role in health services around the world. From the present review, it is concluded that Tridax procumbens is widely useful in Antimicrobial, Hepatoprotective,Anti-inflammatory, Wound healing activity and other miscellaneous applications. Therefore, there is huge room for research in direction of more pharmacological activities of plant and to elucidate the mechanism of action of same in future.

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