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A REVIEW AND PRELIMINARY PHYTOCHEMICAL SCREENING OF TRIDAX PROCUMBENS L. AS IMPORTANT MEDICINAL PLANTS

Botany

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ABSTRACT

India has got a rich biodiversity of medicinal herbs and spices, which includes about more than 2000 species. Plants are one of five big groups (kingdoms) of living things. It is best known as a widespread weed. Tridax procumbens L. is a weed found throughout India. It is native to tropical America but it has been introduced to tropical, subtropical and temperate regions of world. Tridax procumbens L. Family-Asteraceae (Compositae) is a small perennial herb having short, hairy, blade like leaves. Tridax procumbens L. has many medicinal properties, such as immunomodulatory, antidiabetic, antihepatotoxic, antiviral, antioxidant, antibiotic efficacies, wound healing, insecticidal, parasiticidal insecticidal, anti-inflammatory activity, prevention of bleeding, bronchial catarrh, diarrhea, dysentery, etc. Phytochemical studies recorded the plant part contain broad spectrum of secondary metabolites. This study was carried out to reveal the scope and utility of selected plant in pharmaceutical industry. Further exploration for the isolation of phytochemical constituents of selected plant part has to be done in order to reveal its potential application in the field of drugs and medicine which is the urge of common man.

KEYWORDS

A Review of Medicinal Plant, Phytochemical Screening.

INTRODUCTION:

Tridax procumbens L. is a species of flowering plant in the daisy family (Compositae), a common weed in West Africa, sub region and other tropical zones of world and known as English in coat button, Sanskrit in jayanti Veda, Hindi in Ghamra and Marathi in Dagadi pala. It is best known as widespread weed and pest plant can be found in fields, meadows, croplands, disturbed areas, lawns, and roadsides. It is a semi prostate, annual, creeper herb. Stem is ascending 30-50 cm height, branched, sparsely hairy, rooting at nodes. Leaves are simple, opposite, exstipulate, lanceolate to ovate. 3-7 cm long irregularly toothed margin, base wedge shaped, shortly petioled, hairy on both surfaces. Flowers are tubular, yellow with hairs, inflorescence capitulum. *Tridax* has two types of flower: ray florets and disc florets with basal placentation. Flowering-fruiting throughout the year. Fruit is a hard achene covered with stiff hairs and having a feathery, plume like white pappus at one end. *Tridax procumbens* is known for several potential therapeutic activities like antiviral, anti oxidant, antibiotic efficacies, wound healing activity, insecticidal and anti-inflammatory activity. Leaf juice can be used to cure fresh wounds, to stop bleeding, as a hair tonic. *Tridax procumbens* has been in use in India for wound healing, as anticoagulant, antifungal and insect repellent. Its leaf extracts were known to treat infectious skin diseases in folk medicines. It is a well known medicine for liver disorders or hepatoprotective nature besides gastritis and heart burn. This plant is used as bioabsorbent for removal of harmful Cr (VI) from the industrial wastewater. It is an important component of "Bhringraj" an Ayurvedic preparation. Plants are the major resource of drugs in modern as well as in traditional system of medicine. Several secondary metabolites were isolated from the plants which are used as antimicrobial agents. Alkaloids, tannins, flavonoids and phenolic compounds are most important bioactive components present in plants (Hill, 1952). Phytochemicals (secondary plant metabolites) present in plants have been extensively investigated as source of medical agents (Prince and Prabakaran, 2011).

MATERIALS AND METHODS:

Plant material collection and Authentification:

The fresh leaves of *Tridax procumbens* L. were collected in the Vetal hill, District -Pune (MS), India. The plant of *Tridax procumbens* was authentified by Botanical Survey of India Pune.

Methods:

The collected part were washed thoroughly 2-3 times with running tap water and once with sterile distilled water and air dried at room temperature. After complete drying, these parts were powdered well using a mixer. Then the powdered material was weighed and kept in air tight container.

Extraction of plant material:

About 5 gm of the each powdered plant material was weighed and subjected to successive solvent extraction in 100 ml of different solvents such as acetone, alcohol, ethanol, methanol and water separately. The mixture was kept on shaker for 24 hours to obtain homogenate. This homogenate were filtered by whatmann filter paper and the extracts are stored in bottles at 10^{0} C for phytochemical screening.

Preliminary phytochemical screening of the plant:

The extracts of different solvent used for preliminary phytochemical screening was carried out using standard procedures to test the presence of bioactive compounds with slight modifications (Joshi *et al.*, 2011).

Test for alkaloids:

1 ml plant extract was treated with a few drops of Mayer's reagent. White–yellowish precipitate produced immediately which indicated the presence of alkaloids (Siddiqui and Ali, 1997). Alkaloids are precipitated from neutral or slightly acidic solution by Mayer's reagent (Evans, 2002).