

BIOCHEMICAL INVESTIGATION, QUANTITATIVE ESTIMATION AND ANTIOXIDANT ACTIVITY OF *TRIDAX* *PROCUMBENS* L.

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Abstract

Tridax procumbens L. is a herbaceous trailing weed found throughout India. *Tridax procumbens* L. is later on reported from tropical, subtropical and temperate regions of the world but originally it is native to tropical America. *Tridax procumbens* L. plant is present throughout India and is employed as indigenous medicine without side effects. Hence it is a valuable herbal drug yielding plant.

Tridax procumbens L. is a small perennial herb having short stem, blade like, thick, dark green simple, serrate pubescent leaves and long trailing unbranched peduncle bearing terminal head inflorescence with central tubular disc florets and peripheral ray florets. Ray-florets are yellow in colour. Phytochemical screening using crude extract of *Tridax procumbens* L. was carried out with different solvents such as aqueous, acetone, chloroform, diethyl ether, ethanol, methanol and petroleum benzene. The quantitative estimation of total phenolics, flavonoids, carbohydrates, proteins, lipids, alkaloids has been studied. DPPH radical scavenging activity of *Tridax procumbens* L. leaves has been determined.

Keywords - *Tridax procumbens* L., Phytochemical screening, total phenolics, flavonoids, carbohydrates, proteins, lipids, alkaloids, 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay.

INTRODUCTION

Ayurveda is one of the world's oldest medicinal systems. Plants are the major resource of drugs in modern as well as in traditional system of medicine. In modern society herbal drugs are gaining importance due to the undesirable side effects of allopathic drugs and high cost. Medicinal plants contain important natural antioxidants traditionally used as medicines for thousands of years which are used in herbal preparations of Ayurveda.

It is an important component of Bhringraj an Ayurvedic preparation. 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).

Tridax procumbens L. has many medicinal properties, such as immunomodulatory, antidiabetic, antihepatotoxic, antiviral, antioxidant, antibiotic efficacies, wound healing, insecticidal, parasiticidal, anti-inflammatory activity, prevention of bleeding, bronchial catarrh, diarrhea, dysentery, etc.

Tridax procumbens L. is a species of flowering plant growing as a common weed. It is found in America, West Africa and other tropical zones of world including India, classified under the daisy family Asteraceae. It is known coat button in English, jayanti Veda in Sanskrit, Ghamra in Hindi and Dagadipala in Marathi.

MATERIAL AND METHODS

Plant material collection and Authentication

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

Methods

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

Extraction of plant material

Five grams of stem, Five grams of leaves and Five grams of inflorescence of *Tridax procumbens* L. was powdered and taken then subjected to successive solvent extraction in 100 ml of different solvents such as acetone, ethanol, methanol and water separately. Each mixture was kept on shaker for 24 hours to obtain homogenate. These homogenates were filtered by whatmann filter paper-1 separately. The extracts were stored separately in sterile bottles at 10⁰ C for phytochemical screening.