



RESEARCH ARTICLE

MICROSCOPIC STUDIES OF *TRIDEX PROCUMBENS* LINN.

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Present study was aimed to develop complete microscopy and macroscopy of *Tridex procumbens*. *Tridex procumbens* Linn. (Family: Asteraceae) commonly known as 'coat buttons', is an important plant used against various disorders in indigenous system of medicine viz. hepatoprotective, anti-hepatotoxic, antipyretics, anti-inflammatory, anti-diabetic, immunomodulator, blood coagulant, and wound healing activity. The transverse section of leaf showed single layered epidermis on both the surfaces, covered with thick cuticle. The mid rib region showed slight depression on ventral side and slightly protuberated on dorsal side. Trichomes were of covering type, simple, multicelled and more in number on dorsal side. Leaves consisted of glandular and non-glandular type of trichomes. The anomocytic types of stomata were present in both lower and upper surface of leaves. The quantitative microscopical studies of leaf were also carried out and various leaf constants such as palisade ratio, vein islet number, vein termination number, stomatal number (lower surface), stomatal index (upper and lower surface) were determined.

Key words: Macroscopy, Microscopy, *Tridex procumbens*, Asteraceae.

INTRODUCTION

Tridax procumbens Linn. (Family: Asteraceae) is a common plant which was introduced in China in the 1940. It is found in tropical areas, growing primarily during rainy season and commonly known as 'ghamra' and popularly called 'coat buttons' because of appearance of flowers (Chatterjee and Pakrashi, 2000; Saxena and Albert, 2005).

Tridax procumbens is reported to have hepatoprotective activity (Ravikumar *et al* 1995). It also possesses anti-inflammatory, immunomodulator, anti-diabetic activity, and *in vitro* activity against promastigotes, haemostatic, antioxidant, anti-hepatotoxic, antipyretic and antibacterial activity (Nazeruddin *et al* 2011; Wagh, 2010; Mundada and Shivhare, 2010). The leaves are reported as antidiarrheal, antidysentric and found to be useful in bronchial catarrh (Jude *et al* 2009). The juice of leaves control bleeding wounds. In addition, *Tridax procumbens* is also utilized to manage hypertension, in treatment of fever,

typhoid fever, cough, asthma and epilepsy (Salahdeen *et al* 2004; Tejaswini *et al* 2011).

The plant has been reported to contain flavonoids, alkaloids, sterols, carotenoids and tannins. The plant also contain glucoluteolin, luteolin, isoquercetin and quercetin (flowers), fumaric acid (leaves), *n*-alkanes (C₁₅-C₃₂), saturated and unsaturated fatty acid (C₁₂-C₂₂), arachidic, behenic, lauric, linoleic, linolenic, myristic, palmitic, palmitoleic and stearic acid, dotriacontane, 1-(2,2-dimethyl-3-hydroxypropyl)-2-isobutylphthalate, heptacosanyl-cyclohexane carboxylate, 12-hydroxytetracosan-15-one, methyl-14-oxooctadecanote, methyl-14-oxo nonacosanoate, 3-methylnondecylbenzene, 32-methyl-30-oxotetriacont-31-en-1-ol, 30-methyl-28-oxodotriacont-29-enoic acid, 9-oxoheptadecane, 10-oxononadecane, β -amyrin, β -amyrone, Δ -dehydrolupen-3-one, lupeol, fucosterol and β -sitosterol were also isolated from the plant (Verma and Gupta, 1988). It is also a potential source of the