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Review Article

MEDICINAL POTENTIAL OF *LANTANA CAMARA*: VERBENACEAE

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ABSTRACT

Lantana camara is a shrub that belongs to the family of Verbenaceae. *Lantana camara* is one such notorious weed which is affecting ecosystem, and causing biodiversity loss at greater extent. It is highly invasive and currently occupies a large percentage of the vegetation cover wherever it was introduced. But, *Lantana camara* is well known to cure several diseases and used in various folk medicinal preparations. It used in many pharmacological activities. These studies established the therapeutic potential of *Lantana camara* in modern medicines and a possible candidate for the drug discovery. The present review aims to document the taxonomy, ecology, morphology and medicinal properties of *L. camara*.

Keywords: Invasive, Ecology, Medicinal, Pharmacological, Weed.

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INTRODUCTION

In India, the Ayurvedic systems of medicine has been existing for over three thousand years, Charaka and Sushruta, two of the earliest Indian scholars had sufficient knowledge of the properties of the Indian medicinal plants. The Vedas are the epic poems, which contain rich material on the herbal medicine of that time¹. Medicinal plants have been used for years in daily life to treat disease all over the world². A wide range of medicinal plant parts is used for extract as raw drugs and they possess varied medicinal properties³. People living in tribal localities and in villages are using indigenous plants as medicines from long ago because this knowledge reaches to them through generation to generation, and is based on experience⁴. The herbal drugs, which are cheap with less side effects, will be helpful to cure diseases of all the people including countries of the third world⁵. In recent time, there has been a marked shift towards herbal cures because of the pronounced cumulative and irreversible reactions of modern drugs⁶.

India is abode of indigenous species and well known for its biodiversity hotspots. A large majority of exotics plaguing the country are natives of American continent, followed by Eurasia, Europe, Asia, Africa and Australia.

Although, a large number of exotics have reached naturalization in India; only a few have noticeably altered the ecosystem structure and functions. Amidst them, *Lantana camara* stands out distinctly in the list of top invaders^{6,7,8}.

Lantana camara is one such pantropical weed which is affecting ecosystem, and causing biodiversity loss at greater extent. It is a shrub that belongs to the family of Verbenaceae. *Lantana camara* is one of the notorious weeds causing dramatic and apparently irreversible degradation of natural communities in India. It is highly invasive and currently occupies a large percentage of the vegetation cover wherever it was introduced. Its growth poses a threat to other biodiversity. The species is native of Central and South America and the Caribbean with geographical expansion between 35°N and 35°S¹⁰.

The present review aims to document the taxonomy, ecology, morphology and medicinal properties of *L. camara*.

Taxonomy

Kingdom : Planate

Division : Magnoliophyta

Class : Magnoliopsida

Order : Lamiales
 Family : Verbenaceae
 Genus : Lantana
 Species : *Lantana camara*

Ecology

Lantana camara's widespread and diverse distribution is a reflection of its wide ecological tolerances. The species occurs in varied habitats ranging from open unshaded regions which include wastelands, rainforest edges, beachfronts, and forests disturbed by activities such as fire or logging¹¹. The species also thrive well in disturbed areas which include roadside, railway tracks and canals^{12, 13, 14}. Anthropogenic activity further aggravates the invasion and allows it to spread¹⁰.

Botanical Characters

L. camara is a low erect or subscandent vigorous shrub with tetragonal stem, stout recurved pickles and a

strong odour of black currents. Plant grows up to 1 to 3 meters and it can spread to 2.5 meter in width. Leaves are ovate or ovate oblong, acute or sub acute, crenate serrate, rugose above, scabrid on both sides. The leaves are 3-8 cm long by 3-6 cm wide and green in colour. Leaves and stem are covered with rough hairs. Small flower held in clusters (called umbels). Colour usually orange, sometime varying from white to red in various shades and the flower usually change colours as they ages. Flowers are having a yellow throat, in axillary head almost throughout the year. The calyx is small, corolla tube slender, the limb spreading 6 to 7 mm wide and divided in to unequal lobes. Stamen four in two pairs, included and ovary two celled, two ovule. Inflorescences are produced in pairs in the axils of opposite leaves. Inflorescences are compact, dome shaped 2-3 cm across and contain 20-40 sessile flowers. Root system is very strong and it gives out new fresh shoots even after repeated cuttings¹⁵.



Figure 1: Whole plant of *Lantana Camara*

Medicinal Uses

Medicinal plants are an important source of drugs in traditional system of medicine¹⁶. *Lantana camara* has several therapeutic uses, mainly as herbal medicine^{17, 18, 19}. There has been much work conducted in India on the chemical constituents of *Lantana camara*; extracts from the leaves exhibit antimicrobial, fungicidal, insecticidal, nematicidal, biocidal activity²⁰. Plant extracts are used as medicine for the treatment of cancers, chicken pox, measles, asthma, ulcers, swellings, eczema, tumors, high

blood pressure, bilious fevers, catarrhal infections, tetanus, rheumatism, malaria and atoxy of abdominal viscera²¹. It is further reported that verbacocide, a compound isolated from lantana extract has been demonstrated to possess anti microbial immunosuppressive and anti tumour activities. Use of lantana oil in treatment of skin itches and as an antiseptic for wounds and externally for leprosy and scabies is also reported²².

CONCLUSION

Lantana camara (Verbenaceae) is one of the well-known medicinal plants in traditional medicine. It is also popular in folkloric treatment as cure to various ailments including rheumatism, wound, fever, and asthma in various tribal community. *L. camara* is also known as an

ornamental weed in various regions. Its flexible nature makes the plant invasive, widely distributed and turns a problematic weed due to its dominant nature. So, new strategies should be developed to optimize the usefulness of this plant such as exploring its pharmacologic potential.

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