



## A REVIEW ON *ACALYPHA INDICA* LINN AN IMPORTANT HERBAL MEDICINAL PLANT AND USES

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Article Received on 21/02/2025

Article Revised on 11/03/2025

Article Accepted on 01/04/2025

### ABSTRACT

*Acalypha indica* is a flowering weed plant of the family Euphorbiaceae and is well known for its multifarious medicinal uses. The plant comprises about 460 species and are mostly found in warm temperate regions excluding Europe. It is widely distributed throughout the plants of India and is also used in traditional medicinal system of India. The innumerable medicinal properties and therapeutic uses of *Acalypha indica* as well as its photo chemical investigations prove its importance as a valuable medicinal plant. It has been reported to possess hepato protective, anti inflammatory, anti ulcer, anti bacterial, anti fungal, anti arthritic and wound healing properties.

**KEYWORDS:** Medicinal plant, *Acalypha indica*, Phytochemical, Pharmacology, Herbal medicine, Traditional uses.

### INTRODUCTION

The term medicinal plant refers to a variety of plants that have medicinal properties. These plants are a rich source of compounds that can be used to develop drug synthesis.<sup>[1]</sup> The parts of medicinal plant that may be used as different types of seeds, root, leaf, fruit, skin, flowers or even the whole plant. The active compounds in most parts of the medicinal plants have direct or indirect therapeutic effects and are used as medicinal agents. In the body of these plants, certain materials are produced and stored that are referred to an active compounds, which have physiological effects on the living organisms.<sup>[2]</sup> Human is mainly dependent on raw plant materials in order to meet medical needs to maintain health and cure diseases.<sup>[3]</sup>

Medicinal plants are used for the treatment because they have certain properties, including synergistic actions. The constituents of the plant may interact with each other and this interaction can be beneficial for both or adverse to either of them or eliminate the harmful effects of both. Plant derived compounds can dramatically improve hard to treat illnesses, such as cancer. Plant components are also characterized by their ability to prevent the development of certain diseases. The toxicity and adverse effects of conventional and allopathic medicines have also been important factors in the sudden increase in population demands and increase in the number of

herbal drug manufactures as well as a reduction in the use of chemical drugs.<sup>[4]</sup>

*Acalypha indica* L is an annual, erect herb, grows up to 1m high. Leaves 2.5-7.5 cm long, ovate or rhomboid-ovate, crenate-serrate. Flowers in numerous lax, erect, elongated axillary spikes, the male minute, clustered near the summit of the spike, the females scattered, surrounded by a large, dentate, cuneiform bracts. Capsules small and hispid [5,6; Fig A,B].

### TAXONOMICAL CLASSIFICATION

Kingdom	:	Plantae
Super Division	:	Embryophyta
Division	:	Tracheophyta
Sub Division	:	Spermatophytina
Class	:	Magnoliopsida
Sub	:	Rosanae
Order	:	Malpighiales
Family	:	Euphorbiaceae
Genus	:	<i>Acalypha</i>
Species	:	<i>Indica</i>

### VERNACULAR NAMES

Bengali	:	Muktajhuri Stera-basanta
Sanskrit	:	Haritamanjari
Malayalam	:	Kuppameni
Tamil	:	Kuppivaeni, Kuppaimeni

Kannada	:	Kuppigida
Hindi	:	Kuppikhokslī, Kuppu, Khokali
Telugu	:	Kuppichettu, Harita-manjiri,
Kuppinta, Muripindi		
English	:	Indian acalypha
Gujarathi	:	Vanchi Kanto

### HABITAT

It is found in various places such as waste lands, road sides, gaps in walls. It also grows in rocky hillsides, Forest edges and river banks. It also grows at moist and shaded places.

### LEAVES

The leaves are acute or sub obtuse to crenate-serrate, glabrous thin and base are found to be cuneate. Their petioles are usually longer than the blade, slender and stipulate minute. The leaves of *Acalypha indica* are simple and arranged spirally, 0.02-12cm petiole long.<sup>[7]</sup>

### FLOWERS

Flowers are elongated in nature, axillary spikes and are clusters near to spikes. Flowers are unisexual, sessile and lack petals. Male flowers are 4 – lobed, minute, granular dotted, calyx greenish and stamens 8. Female flowers have 2 triangular – ovate, ciliate sepals, superior ovary, 3 – celled slightly 3- lobed, styles 3, fused at base, and fringed. The inflorescences are in axillary, solitary or paired spike reaching up to 6-10cm.<sup>[8]</sup>

### FRUITS

The fruits of the *Acalypha indica* are smaller and hairy, capsule is bristly, 1mm broad.

### SEEDS

The seeds are minute, ovoid and pale brown in appearance. Depending on its maturity, the colour of the seed will shift from greenish white to entirely brownish or grey in the early phases of seed production.<sup>[9]</sup>

### ACALYPHA INDICA MEDICINAL USES

*Acalypha indica* is a well known traditional medicinal plant with significant pharmacological potential. Its various parts have been used for centuries in traditional medicine to treat a wide range of ailments. Recent scientific studies have validated many of these traditional uses and have also revealed new therapeutic potentials of this plant. *Acalypha indica* rich in various phyto chemicals such as alkaloids, flavonoids, terpenoids, tannins, phenolics that are responsible for its diverse pharmacological actions. *Acalypha indica* exhibits a range of pharmacological actions, including anti oxidants, anti microbial, anti inflammatory, anti diabetic, anti ulcer, wound healing and anti arthritic activity, anti cancer, immune modulatory activities.

*Acalypha indica* Linn Belongs to the Family Euphorbiaceae, is an annual erect herb commonly present in India, Bangladesh, Srilanka, Philippines and Tropical Africa.<sup>[10]</sup> Traditionally, *Acalypha indica* used

as laxative, anti snake venom, anti – estrogenic activity, anti helminthic and cathartic properties. It is also used for the treatment of throat infections, wound healing, migraine pain relief, scabies, rheumatoid arthritis and syphilitic ulcer.<sup>[11,12,13,14,15,16,17,18,19,20]</sup> Phyto chemical analysis of *Acalypha indica* leaves showed a very rich source of tannins, saponins, terpenoids, glycosides and alkaloids.<sup>[21,22]</sup>

*Acalypha indica* used in traditional system of Indian medicine for the treatment of anti cancer, anti inflammatory, hepato protective, anti ulcer, anti diabetic, anti viral, wound healing, gastro productivity, Immunomodulatory, anthelmintic, asthma, pneumonia, bronchitis and rheumatism, skin disease, snake bite, anti microbial, anti oxidant, analgesic, cough, ocne and digestive disorder.<sup>[22-42]</sup>

### ACALYPHA INDICA LINN HABIT



Fig. A



Fig. B

### Enlarged aerial parts of a plant

### CONCLUSION

*Acalypha indica* the whole plant is applicable for treatment depending on the therapeutic activities. The most potential therapeutic treatment are as anti ulcer, anti arthritic, anti inflammatory, anti bacterial, anti fungal, anti cancer, anti diabetic, pneumonia, asthma, hyperlipidamic and wound healing properties. Some pharmacological studies have shown a very good

potential to be explored and furthered because the test results obtained have been almost comparable or better than the used standard, however, the test results are still not enough and should be supported by a few related tests including clinical trials. The responsible compound that reacts with the pharmacological studies should be isolated from the extract and purified for further analysis. There is a potential to find a new natural drug as an alternative to existing drugs. *Acalypha indica* is a valuable medicinal plant, use this plant to cure several diseases and ailment.

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