



## Assessment of Medicinal Properties of Some Angiosperms of Moradabad Used in Ayurveda

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### ABSTRACT

*Primeval history of India has directed the connection between human and plants. Medicinal angiosperms are those which contains many special substance and chemical which are used for therapeutic purposes to their special properties by which they can be used for medicinal purpose for curing different types of diseases. They play an important role in supporting the health care system in India. They considered as a rich resource of ingredients which can be used in drug developed pharmacopeia, non-pharmacopeia or synthetic drugs. In this article we report the therapeutic values of selected angiosperm plants specially used in Ayurveda.*

**Keywords:** Medicinal angiosperms, Diseases, Uses, Ayurveda.

### INTRODUCTION

Therapeutic plants are the source for curing in local peoples from ancient times. Still, it is an important principal health care approach for around 85% of the world's populace, and a main source for new medicine finding. About 80% of all artificial medicines of current market are deriving from them (Namdev, 2012; & Martin et al., 2020). According to Plants statistics of India done by B.S.I., West Bengal, a total of 2,68,600 angiosperm plants worldwide among them 18,386 (6.84% of world) occurred in India. In India, more than 3000 species of plants are acknowledged for their healing properties (Dwivedi et al., 2019; Singh et al., 2019; & Singh & Kumari, 2019).

The medicinal assets of these plant species have been examined all around the world by the scientist, due to their component, pharmacologic actions, low noxiousness and commercial viability (Panda et al., 2018).

Native people of low socioeconomic backgrounds are highly believed on traditional medicine due to unaffordability and unapproachability of modern health care facilities (JU et al., 2019). Ayurveda has a clinical specialty called rasayana, which prevents diseases and counteracts the aging progression. It has been reported that these chemicals are rejuvenators, nutritious supplements and have strong antioxidant action (Sumner, 2000).

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Numerous plants of therapeutic values have been broadly used in the Ayurveda. Information from ethnic groups or indigenous traditional medicines has played dynamic role in the finding of innovative outcome from plants (Subhose & Narain, 2005). Herbal medicines have been main source of primary healthcare in all over the world (Rossato et al., 1999). From the simple beginning of the earlier healers and botanist, the learning of medicine and related herb have established into recent pharmacognosy by dealing with phytology, conservation and market of crude drug. The medicinal value of the angiosperm plants is mainly due to the occurrence of certain substances such as alkaloids, glycosides, resins, volatile oils, gums, and tannins (Hebbbar et al., 2004).

### MATERIALS AND METHODS

For this study we collected the angiosperm plants with maximum medicinal values that are used in Ayurveda and data from primary sources such as books and herbal pharmaceutical companies. The other information regarding the medicinal uses of

plants and their parts were collected by questionnaire, interviews and discussion with local Vaidya and from elderly villagers.

### RESULT AND DISCUSSIONS

We have taken 20 medicinal plants belonging to 15 families, which were frequently found in the district Moradabad. These plants were highly used in Ayurvedic system against several diseases like dysentery, cholera, diarrhoea etc. Herbal medicines are most favourite for the people, and attract the people more instead of allopathic drugs, because these are cheap and have less side effect (Chopra et al., 2002). The results of the study are presented in the Table 1 and images of plants are shown below. A lot of work on medicinal plants from different families has been documented in different literature, but this paper is restricted to only 20 species of angiosperm plants of medicinal properties in the district Moradabad. These plants are used as home remedies, primary health care by traditional healers in the district. Various parts of these medicines are used to cure different diseases are listed in table 1.

**Table 1: List of some Medicinal Plants of Moradabad district used in Ayurveda**

SN.	Botanical Name	Family	Habit	Medicinal uses
1.	<i>Acalypha indica</i> L.	Euphorbiaceae	H, W	The paste of leaves can be applied to burns and infected wounds. The leaves juice mixed with lime and applied on skin to cure disease caused by ringworm. Fresh juice of leaves mixed with oil and salt is used for rheumatoid arthritis and to cure scabs.
2.	<i>Aerva lanata</i> . (L.) Juss. ex Schult.	Amaranthaceae	H, W	Decoction of the root is given as tonic to pregnant women and also used for the treatment of gonorrhoea and kidney stones, cutaneous affections and sugar in urine. Roots used in headache and also as demulcent. Ayurvedic practitioners recommend a decoction of the whole plant to be taken internally for a few days to dissolve the stone and to clear the urinary path.
3.	<i>Andrographis paniculata</i> (Burm.f.) Nees	Acanthaceae	S, W	The herb has been widely used as a treatment for the common cold, flu, upper respiratory infections, and a variety of infectious diseases. It is a traditional herbal treatment for diarrhoea, dysentery, cholera, pneumonia, leprosy, bronchitis, sore throats, tuberculosis, chicken pox, ear infection, inflammation and mumps. It is better known replacement for quinine. Ayurvedic practitioners suggested this shrub for immunity-boosting.
4.	<i>Calotropis gigantea</i> (L.) Dryand.	Asclepiadaceae	S, C	The latex is antifungal, vomitive, cleansing and vermifuge. Bark used in neurodermatitis and syphilis. Smoke of leaves helpful in asthma attacks. The flowers powder used to treat coughs, colds and asthma. Simmered water of flowers is helpful to treat abdominal worms and rheumatism.
5.	<i>Catharanthus roseus</i> (L.) G. Don	Apocynaceae	H, O	All parts of plant especially the root barks contain three alkaloids namely ajmalicine, serpentine and reserpine, which have hypotensive, sedative and tranquilizing properties. They also cause depression of control nervous system and relaxation of pain muscles. These are used as folk remedy for diabetes. It is also an antibacterial agent.
6.	<i>Cinnamomum verum</i> J. Presl	Lauraceae	T, P	It has been reported to have anti-diabetic, antibacterial, antioxidant, anti-inflammatory, and anticancer effects. It is used to treat odontalgia and remove bad breath. It helps in removing impurities from the blood and stop bleeding, facilitates the healing process.
7.	<i>Clitoria ternatea</i> L.	Fabaceae	Cl, O	In traditional ayurvedic medicine, it has been used as memory enhancing, anti-stress, anxiolytic, anti-depressant, antic on valiant, tranquilizing and sedative agent. It has potent antimicrobial activity against bacteria. Syrup of flowers in a colouring agent and powerful cathartic action used in weakness of eye sight. Leaves used against poison.
8.	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	H, W	The grass is highly medicinal with anti-viral and anti-microbial activities. It is helpful in urinary problems. The extract of whole grass is applied externally to control the bleed from the swelling. Useful medicine for skin diseases if consume with turmeric.
9.	<i>Eclipta prostrata</i> (L.) L.	Asteraceae	H, W	The fresh juice of leaves is given to the treatment of fever, liver disorder and joint pains. It is used Ayurveda for hepatitis, enlarged spleen and skin disorder. It has also shown excellent antifungal and antimicrobial. A paste of whole plant and coconut oil keeps the hair dark and lustrous, when applied to the scalp it promotes hair growth.
10.	<i>Emilia sonchifolia</i> (L.) DC. ex Wight	Asteraceae	H, W	It is an edible plant used in the Ayurvedic system of medicine for the treatment of tumours, inflammation, cough, rheumatism, and wounds. The powder of leaves removes worms, relief in snake poisoning. Leaves juice used for eyes inflammation and night blindness. It gives cooling as Rose water.
11.	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	S, O	The plant act as an antiseptic, astringent, purgative, sedative, tonic etc. Leaves are emollient, Ayurvedic and sedative. Seeds and mature calyxes exhibit diuretic and anti-scorbutic properties. Boiled calyx is used as drink in nauseous complications. Bitter roots are used as aperities and tonic
12.	<i>Justicia adhatoda</i> L.	Acanthaceae	S, C	The roots, leaves, flowers, and bark are used in the forms of decoctions or powders to cure cough, colds, asthma and tuberculosis. The plant contains a non-volatile alkaloid, vasicine, an organic acid, adhatodic acid, sugar, gum and salts.

13.	<i>Leucas aspera</i> (Willd.) Link	Lamiaceae	H, W	It is antifungal inhibition property and antioxidant, antimicrobial and antipyretic activities. Traditionally, it is used to treat scorpion bite and treatment of fever. Flower decoction used in sinusitis, headache and to remove intestinal worm in children.
14.	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	H, C	It is used widely in Ayurvedic and naturopathic medicines which helps in the healing of the human body in a natural manner. Decoction of leaves given against malaria, gastric diseases and liver disorders. It is used as prophylactic against malaria. Fresh leaves with black pepper helpful for throat problems. It is also used to check vomiting and as an anti-helminthic.
15.	<i>Physalis angulate</i> L.	Solanaceae	H, C	Fruits and Leaves are used in Malaria, Toothache, Hepatitis, Rheumatism. It includes Carotenoids, Flavonoids and Polysaccharides which possess anti-inflammatory, immune modulatory and anti-pyretic activities. The secondary metabolites of plant including alkaloids, quinines and terpene used to cure protozoan and parasitic diseases.
16.	<i>Psidium guajava</i> L.	Myrtaceae	T, C	Root, bark, leaves and immature fruits, are used in the treatment of gastroenteritis, diarrhoea and dysentery. Leaves paste is used in toothache, rheumatic pain and ulcers. And its extract reduces the blood glucose level, in diabetics.
17.	<i>Punica granatum</i> L.	Punicaceae	T, C	The juice of wild pomegranates yields citric acid and sodium citrate for pharmaceutical purposes. Fruit juice used in dyspepsia and leprosy. Juice is used as tonic for fever. Bark of root and wood is used as vermifuge for tapeworm also used for diarrhoea and dysentery. Fruit is a valuable astringent contain tannins. Petals boiled in desi ghee, and poured into nostrils to relief in neuralgia. Root bark used to expel tape worms.
18.	<i>Solanum nigrum</i> L.	Solanaceae	H, W	It is a traditional Indian medicine used in dysentery, stomach complaints and fever. Juice of whole plant is useful to cure ulcers, tuberculosis and skin diseases. Fruits are used as a tonic, laxative, appetite stimulant and for treating whooping cough and asthma.
19.	<i>Vitex negundo</i> L.	Verbanaceae	S, C	Leaf used in rheumatic swelling. Dried leaves pillows can reduce headache. Leaves juice helpful in removal of worms and relief in ulcers. Decoction of roots given in fever and typhoid. Juice of roots increases growth of hair.
20.	<i>Wrightia tinctoria</i> (Roxb.) R.Br.	Apocynaceae	S, W	The leaves are applied as a poultice for mumps and sometimes they also munched to relieve tooth ache. It has anti-inflammatory and anti-dandruff properties. Hence it is used in hair oil preparation. The Indigo prepared from the leaves called Pala-indigo.

[H=Herb, S=Shrub, T=Tree, Cl=Climber, W=Wild, C=Cultivated, O=Ornamental, P=Planted]



1. *Acalypha indica* L., 2. *Aerva lanata*. (L.) Juss. ex Schult., 3. *Andrographis paniculata* (Burm.f.) Nees, 4. *Calotropis gigantea* (L.) Dryand., 5. *Catharanthus roseus* (L.) G.Don, 6. *Cinnamomum verum* J.Presl, 7. *Clitoria ternatea* L., 8. *Cynodon dactylon* (L.) Pers., 9. *Eclipta prostrata* (L.) L., 10. *Emilia sonchifolia* (L.) DC. ex Wight, 11. *Hibiscus rosa-sinensis* L., 12. *Justicia adhatoda* L., 13. *Leucas aspera* (Willd.) Link, 14. *Ocimum tenuiflorum* L., 15. *Physalis angulate* L., 16. *Psidium guajava* L., 17. *Punica granatum* L., 18. *Solanum nigrum* L., 19. *Vitex negundo* L., 20. *Wrightia tinctoria* (Roxb.) R.Br.

## CONCLUSION

This study concluded that even though the accessibility of Western medicine for simple and complicated diseases is available, many people in the studied parts of Moradabad district still continue to have faith in medicinal plants. Local people regularly used these plants for the treatment of common illnesses like, common cold, cough, fever due to normal infection, regular headache, tooth infections, toxic bites of insects, normal fungal and skin problems. So, it is our responsibility to preserve this wealth of knowledge of traditional system of medicine.

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## Conflict of Interest

The author declares no conflict of interest.

## Author Contribution

All authors contributed equally to establishing the topic of the research and design experiment.

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