

COMMONLY USED MEDICINAL TREES OF MORADABAD (U.P.) INDIA

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ABSTRACT

The present study was carried out to record the diversity, traditional use and the utilization pattern of medicinal trees of Moradabad district of Uttar Pradesh. During this survey, a total of 25 tree species of medicinal plants belonging to 22 genera and 15 families. Plant parts such as leaves twigs, roots, flowers, fruits, seeds, etc. are used for medicinal purpose. The investigation highlights the present status of medicinal tree diversity and suggests the strategies for conservation of medicinal plants present in Moradabad district.

KEYWORDS: Medicinal, Moradabad, Tree, Diversity.

INTRODUCTION

India has a rich diversity of medicinal and aromatic plants and holds a unique place in the world in the traditional system of medicine (Kumar and Bhagat, 2012). Medicinal plants grow naturally around us. Over centuries, cultures around the world have learned how to use plants to fight illness and maintain health. Traditional medicine based on herbal remedies has always played a key role in curing various ailments in humans as well as in animals. About 2000 plant species are used in Ayurveda, Siddha, Homeopathy and Unani system of medicine (Annonymys, 2000; Kirtikar and Basu, 2001).

In the Indian system of medicine, most practitioners formulate and dispense their recepies, hence this requires proper documentation and research. In western world, the use of herbal medicines is steadily growing with approximately 40% of population reporting use of herb to treat various diseases within the past years (Bent and Ko, 2004). Public academic and government interest in traditional medicines in growing exponentially due to the increased incidence of the adverse drug reactions and economic burden of the modern system of medicine (Dubey et al., 2004).

Some ethnobotanists have contributed in the field of ethnomedicine from different parts of India. Few of them are Naithani, 1973; Gaur et al., 1980; Nautiyal 1981; Pangtey, 1981; Karnick and Pathak, 1982; Gaur et al., 1983, Negi et al., 1985; Gaur et al., 1986; Joshi et al., 1989; Jain and Saklani, 1991; Saklani and Jain, 1996; Pundir and Singh, 1997 a, b; 1998 a, b; Kaul and Handa, 2001; Samant et al., 2001; Ghani, 2003; Sundryal, 2005; Ekka et al., 2007; Kumar and Bhagat, 2012; Bhushan and Kumar, 2013; Bhardwaj et al., 2014; Bhati et al.,

2014; Sachan et al., 2015;Maurya et al., 2015; Sharma, 2015;0020Bhatnagar et al., 2016; Bhushan and Khajuria, 2018.

MATERIALS AND METHODS

Study Area

Uttar Pradesh is one of the most populated and largest states in India. Moradabad is one of the districts of western Uttar Pradesh, which is known as Brass city. It is situated at a distance of 167 km from the national capital, New Delhi, on the bank of River Ram Ganga. Moradabad district is a part of Moradabad division. Moradabad, known as Brass city, is renowned for brass work. The modern, attractive and artistic brassware, jewellery and trophies made by skilled artisans are the main crafts. Moradabad lies between 28⁰21' and 28⁰16' North Latitude and 78⁰4' East and 79⁰0' Longitude. The shape of district is roughly a rectangular. The district Moradabad is bounded by Bijnor on the North and Nainital districts, on the East by Rampur district and on the South by Sambhal. The Ganga forms its natural boundary on the West and separates it from the district Bulandshahar and Meerut. The average rainfall of the area is 60-100 cms. *Mangifera indica*, *Azadirachta indica*, *Dalbergia sissoo*, *Ficus religiosa*, etc. are the common plants found in this region.

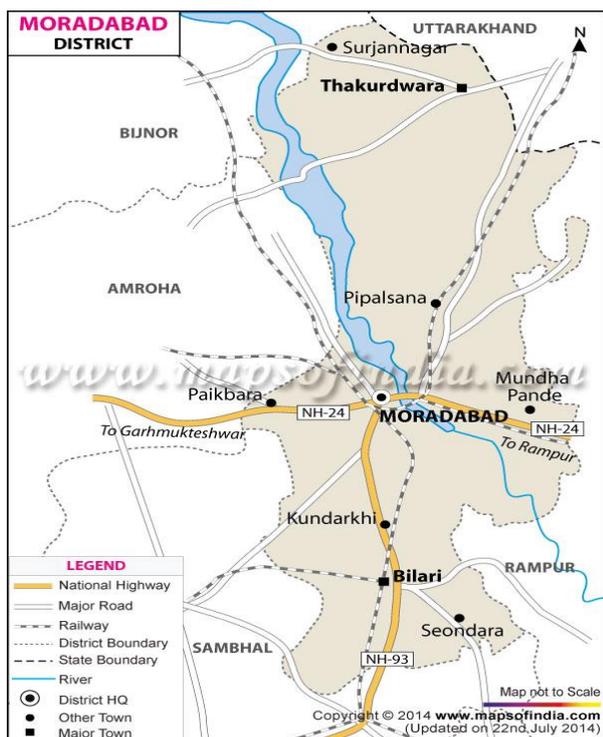


Fig. 1: Map of Moradabad district, Uttar Pradesh.

Questionnaire was prepared before the survey of the study area. Contacts were made with senior persons to gather information on the points outlined in the questionnaire. Personal interviews were held with 'vaidys and hakims' with reference to the medicinal use of various plants. After a long discussion with several villagers the information was verified, recorded and documented.

Data collection and analysis

Present investigation was carried from different sites of Moradabad district of Uttar Pradesh. The information regarding medicinal plants was collected from many Vaidyas and elderly village people. The medicinal plants are enumerated alphabetically in botanical names, family name, local name, part used and medicinal uses. The collected plant specimen were identified by using standard floras and preserved for further use.

Enumeration of plant species.

1. *Acacia catechu* Willd.

Family : Fabaceae

Vernacular name : Khair

Plant part used : Heart wood

Uses

- 'Kattha' is produced from heartwood which is used in sore throat and cough.
- It is useful for wounds and bleeding.

2. *Acacia nilotica* Willd

Family : Fabaceae

Vernacular name : Kikar

Plant part used : Bark, Tender shoots, Pods, Gum

Uses

- Decoction of bark yields spongy gum used for skin diseases, diarrhoea and leucorrhoea.
- Powder of gum is given in dysentery and diabetes.
- Pods are used to stop bleeding from bites of leeches.
- Tender shoots are used to treat cough.

3. *Aegle marmelos* Corr

Family : Rutaceae

Vernacular name : Bel

Plant part used : Fruit, Leaves

Uses

- Leaves are useful in diarrhoea, dysentery, seminal weakness, vomiting and diabetes.
- Ripe fruits are good for heart, brain, digestive system and for back pain.

4. *Albizia lebeck* Benth.

Family : Fabaceae

Vernacular name: Siras

Plant part used : Seeds, Leaves, Flower, Bark, Oil

Uses

- Seeds are used in piles, astringent in diarrhoea
- Leaves are used in eye problems.
- Flowers are used to cure boils, eruptions, swellings, and act as antidote to poisons.
- Oil is obtained from seeds used in leucoderma
- Bark powder strengthens gums.

5. *Anthocephalus cadamba* Miq.

Family : Rubiaceae

Vernacular name : Kadamb

Plant part used : Bark, Leaves

Uses

- Bark is used as febrifuge.
- Leaves are used in the form of gargle.
- Paste of leaves is used for treating skin diseases.

6. *Azadirachta indica* Juss

Family : Meliaceae

Vernacular name: Neem

Plant part used : Leaf, Bark, Flower, Twig, Seeds

Uses

- Bark is astringent, refrigerant, insecticidal and used for skin troubles.
- Leaves are ophthalmic, anthelmintic, appetizer and also useful in skin diseases, ulcers, eczema, malaria and intermittent fever.
- Flowers tonic and stomachic.
- Seeds are used in diabetes and to kill insects.
- Fresh tender twigs used to clean teeth.

7. *Bambusa bambos* Voss.

Family : Poaceae

Vernacular name: Bans

Plant part used : Culm (Stem), rhizome, leaves and seeds

Uses

- Culm (stem) and leaves are used for leucoderma, inflammations, wounds and piles.
- Seeds are useful for urinary tract problems.
- Rhizome is used as tonic and applied to ringworms, bleeding gums and joint pains.
- Leaves are good for piles, gonorrhoea and fever.

8. *Bauhinia variegata* L.

Family : Fabaceae

Vernacular name : Kachnar

Plant part used : Bark, Roots, Flowers

Uses

- Bark is used in skin diseases and ulcers. It also acts as blood purifier. Decoction of bark is given to persons suffering from syphilis, leprosy and other skin diseases.
- Roots are used as antidote to snake poisoning.
- Dried flowers are used in dysentery, piles and worms.

9. *Bombax ceiba* L.

Family : Bombacaceae

Vernacular name : Simbal

Plant part used : Fruits, Gum, Roots

Uses

- Fruits are used in calculus affections, ulceration of bladder and kidneys.
- Gum is used for surgical dressing in the case of wound.
- Roots are used in influenza, inflammations, blood impurities and haemorrhoids.

10. *Butea monosperma* Taub.

Family : Fabaceae

Vernacular name : Palash

Plant part used : Flowers, Leaf, Gum,

Uses

- Flowers and leaves astringent, depurative, diuretic and aphrodisiac.
- Gum used to cure diarrhoea.
- Flowers are stimulant and diuretic which are used to treat ulceration of kidney and bladder.

11. *Carica papaya* Linn.

Family : Caricaceae

Vernacular name : Papita

Plant part used : Raw fruit, Leaf, Latex

Uses

- Ripe fruits are given in piles, enlarged liver & spleen and diabetes.
- Leaf juice is given in hypersia, bleeding piles and typhoid.
- Latex acts as anthelmintic and febrifuge.

- Boiled vegetable of raw fruit is given to the patients for few days (Kumar & Pal, 2009).

12. *Cassia fistula* L.

Family : Fabaceae

Vernacular name : Amaltash

Plant part used : Leaf, Root, Fruits

Uses

- Leaf juice is useful dressing for ringworms, swellings and facial paralysis.
- Root bark extract mixed with alcohol is used against black water fever.
- Fruits are used against heart diseases and snake bite.

13. *Cordia dichotoma* Forst.

Family : Boraginaceae

Vernacular name: Lusara

Plant part used : Fruits

Uses

- Fruits are anthelmintic, expectorants and also used in infection in urinary passages.
- Fruits mucilage is highly used in coughs, chest diseases and urinary infections.

14. *Dalbergia sissoo* Roxb.

Family : Fabaceae

Vernacular name: Sheesham

Plant part used : Leaves, Oil, Roots

Uses

- Leaves are used in eye disorders.
- Wood oil is used in treatment of scabies and leprosy.
- Roots are used in diarrhoea and dysentery.

15. *Emblica officinalis* Gaertn.

Family : Euphorbiaceae

Vernacular name: Amla

Plant part used : Fruits, Seeds

Uses

- The fruits are one of the constituent of Triphala (*Terminalia bellerica* and *Terminalia chebula*).
- Fruits are used against vomiting, indigestion and constipation.
- Seeds are given in fever and diabetes.
- Juice of fruits is also given to cure the jaundice for two weeks (Chaudhary and Kumar, 2015).

16. *Eucalyptus citridora* Hook.

Family : Myrtaceae

Vernacular name: Liptis

Plant part used : Leaf

Uses

- Leaf paste is applied over the forehead during headache.
- Decoction of leaves is given in cold and cough.

- c. The leaves are added to bath water to relieve pain of the body (Chaudhary and Kumar, 2015).

17. *Ficus benghalensis* Linn.

Family : Moraceae
Vernacular name: Bargad
Plant part used : Bark, Leaves, Buds

Uses

- Bark acts as astringent.
- Leaves are used for ulcers, leprosy, burning sensation and abscesses.
- Buds are useful in diarrhoea and dysentery.

18. *Ficus racemosa* Linn.

Family : Moraceae
Vernacular name: Gular
Plant part used : Fruit, Bark, Root

Uses

- Fruits are used in diabetes and leucoderma.
- Decoction of fresh bark is useful in diarrhoea and also acts as an anti-fertility agent.
- The juice of root is given in dysentery.

19. *Ficus religiosa* Linn

Family : Moraceae
Vernacular name: Peepal
Plant part used : Bark, Fruit

Uses

- Decoction of bark is given in gonorrhoea, scabies and snake bite.
- Fruit is laxative and digestive.

20. *Mangifera indica* Linn.

Family : Anacardiaceae
Vernacular name: Aam
Plant part used : Leaves, Bark, Gum

Uses

- Dried tender leaves powder is given in diarrhoea and diabetes.
- Bark is given in dysentery, bleeding piles, haemorrhage from the lungs, intestine or uterus.
- Resinous gum is a useful dressing for scabies and other skin diseases.

21. *Melia azedarach* L.

Family : Meliaceae
Vernacular name: Bakain
Plant part used : Bark, Leaves, Flowers

Uses

- Paste of leaves is used for headache.
- Root bark is anthelmintic.
- Flowers are used to kill head lice.
- Decoction of leaves is used to cure ulcers and eczema (Sharma & Raina, 2016).

22. *Moringa oleifera* Lamk.

Family : Moringaceae
Vernacular name: Sahanjan
Plant part used : Leaves, Flowers

Uses

- Tender leaves are used in scurvy.
- Flowers juice is digestive and used against asthma.

23. *Nyctanthes arbour-tristis* Linn.

Family : Oleaceae
Vernacular name : Haar-shingar
Plant part used : Leaves, Bark, Seeds

Uses

- Leaves are used in rheumatism and fever.
- Bark acts as expectorant.
- Powdered seeds are used for scurvy.

24. *Toona ciliata* M. Roem.

Family : Meliaceae
Vernacular name: Toon
Plant part used : Bark and Seeds

Uses

- Bark is cardio-tonic, expectorant, anthelmintic.
- It also helps to prevent skin from scabies.
- Seeds are useful in ulcers.

25. *Ziziphus mauritiana* Lam.

Family : Rhamnaceae
Vernacular name: Ber
Plant part used : Leaves, bark and roots

Uses

- Leaves are useful in gonorrhoea and paste is effective dressing for wounds.
- Bark is used for diarrhoea.
- Roots help to promote menstruation.

RESULTS AND DISCUSSIONS

A total of 25 species of medicinal trees belonging to 22 genera and 15 families were identified from Moradabad district. Different plant parts like roots, leaves, bark, stem, latex, flowers, fruits, seeds, etc. are used by the locals as source of traditional medicine for various diseases. For each species botanical name, family, vernacular name, part part used and medicinal uses are provided. Family-wise distribution of medicinal plants shows Fabaceae is most dominant family with 7 species and Meliaceae and Moraceae were co-dominant families with 3 species each, while families Anacardiaceae, Bombacaceae, Boraginaceae, Caricaceae, Euphorbiaceae, Moringaceae, Myrtaceae, Oleaceae, Poaceae, Rhamnaceae, Rubiaceae and Rutaceae are represented by single species. Genus-wise distribution reveals that genus *Ficus* is represented by 3 species, followed by *Acacia* with 2 species and genera *Aegle*, *Albizia*, *Anthocephalus*, *Azadirachta*, *Bambusa*, *Bauhinia*, *Bombax*, *Butea*, *Carica*, *Cassia*, *Cordia*,

Cassia, *Cordia*, *Dalbergia*, *Emblca*, *Eucalyptus*, *Mangifera*, *Melia*, *Moringa*, *Nyctanthes*, *Toona* and *Ziziphus* are represented by single species. Leaves (1) are the most useful part as compared to other plant parts followed by bark (12), fruits (10), Seeds (7), roots (5), flowers (4), gum (3), twig (2), Oil (2) and wood, pods, buds, latex and rhizome are represented by single species. The number put in parentheses represents the number of species.

Since time immemorial people made use of plants for basic needs, medical care and livelihood. Some plants used by the locals are cultivated while others grow in wild conditions. Younger generations believe in allopathic medicines but the old people still believe in traditional medicine based on herbal remedies. But now a day, herbal medicine system has drawn the intention of people towards the use of medicinal plants. There are a large number of side-effects of allopathic medicines but the herbal medicines do not have any harmful effect on the body of the humans. Therefore, herbal medicines are preferred over allopathic medicines at present.

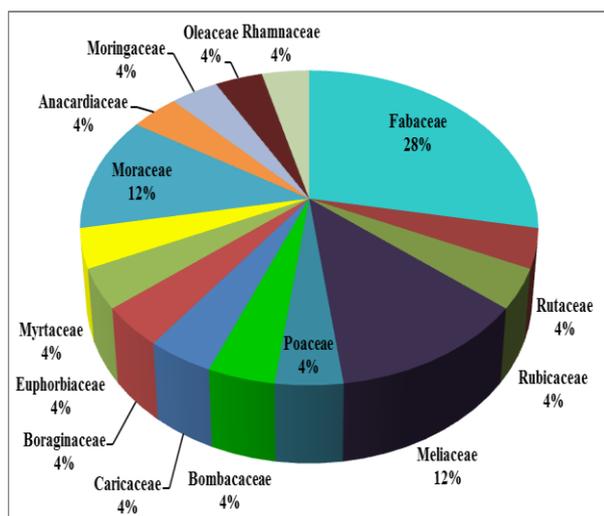


Fig. 2: Distribution of families.

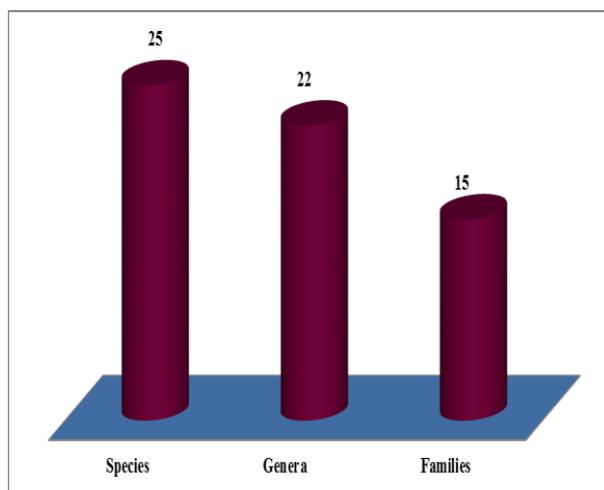


Fig. 3: Graph representing the number of species, genera and families.

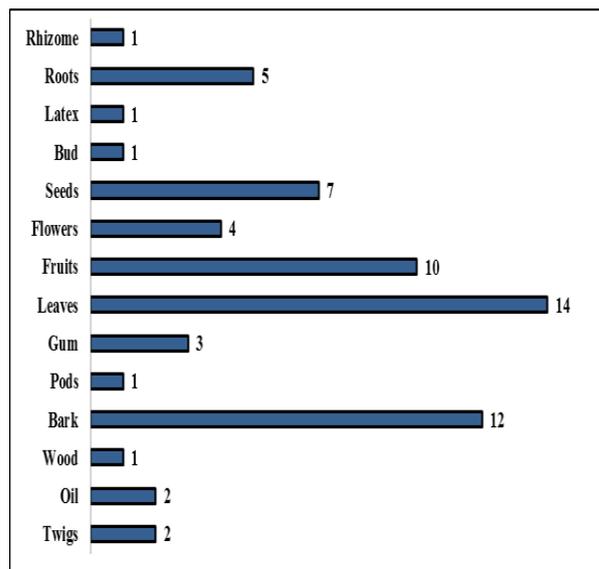


Fig. 4: Graph showing plant part used and number of plant species.

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