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# FOLK MEDICINAL PLANTS IN GHAZIABAD DISTRICT OF WESTERN UTTAR PRADESH, INDIA

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In the present paper fifty medicinal angiospermic plant species belonging to forty four genera and thirty two families are listed, which are useful for curing diverse form of ailments. These plant species are used as folk medicines by Hakims, Vaidhyas, Tribes and common people in Ghaziabad district. While surveying the area, stress has been laid to collect first hand information on the local folk medicinal claims of plants pertaining to various diseases.

**Key words:** Folk medicine, medicinal plants, Ghaziabad district

Traditional medicine based on herbal remedies has always played a key role in the health systems of many countries. In India the people exploit a variety of herbals for effective curing of various ailments. The plants presented in the paper are frequently used by the local inhabitants of the district Ghaziabad for treatment of various diseases. The Indian system of medicine is as old as the Indian history itself, because it formed an integral part of the Indian traditions since time immemorial. Hooker (1872-1897) has worked on the flora of British India, Duthie (1903-1929) has similarly worked on the Flora of the Upper Gangetic Plain and of the Adjacent Siwalik and Sub-Himalayan tracts. Maheshwari (1962) studied on the Naturalized Flora of India.

## STUDY AREA

The district Ghaziabad occupies an area of about 2571.3 sq km. The approximate bearing of the district are 28°22' - 29°20' N latitude and $76^0$10'-$78^0$47' E longitude. It is bounded by Meerut district in the north, by Bulandshahar district in the south, by Moradabad district in east and Delhi Metropolis in the west. Ghaziabad district is a part of Indo- Gangetic Plain of northwest India. In this district, soils are sandy, silty and clay loam. Most of the yearly rainfall occurs in the months of July to September.

## MATERIALS AND METHODS

The work was done through field study carried out during the period of June 2009 to June 2011 in numerous areas of the district. This work was carried out besides my research work on Folk Medicinal Plants of District Bijnor. We have gone the district for field visits to collect information on therapeutic value of the plants from Vaidhyas, Hakims, Tribes and the populace of the district. For ethno-medicinal literature Jain (1981), Pandey *et al*. (1981), Vedavathy *et al*. (1997), Malkhuri *et al*. (1998), Kathikeyani (2003), Kumar *et al*. (2006), Chandola and Singh (2003), Pushpangadan and Kumar (2005) and Mehrotra and Mehrotra (2005) have been consulted. This paper describes only most important local available plants which are used medicinally.

## RESULTS AND DISCUSSION

Fifty medicinal angiospermic plant species belonging to forty four genera and thirty two families have been presented in the table 1. The medicinal taxa enumerated alphabetically in their botanical names followed by families, local names, flowering and fruiting period and folk medicinal uses.

Altogether, 66 types of ailments have been reported to be cured by using these fifty medicinal plant species among the populace of the district. Most of the populace of the study area still believe on traditional health care system. The study reveals that the plants recorded from the area are highly valuable for medicinal uses. Many communities use wild plants for the primary healthcare, due to belief in its effectiveness, lack of access to modern medicines and medication and poor economic

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Fig. 1 *Abutilon indicum* (Linn.) Sweet

Fig. 2 *Achyranthes aspera* Linn

Fig. 3 *Adhatoda zeylanica* Medikus

Fig. 4 *Anagallis arvensis* Linn.

Fig. 5 *Anthocephalus chinensis* (Linn.) A. Richard ex Walpers

Fig. 6 *Bombax ceiba* Linn.

Fig. 7 *Cassia occidentalis* Linn.

Fig. 8 *Cichorium intybus* Linn.

Fig. 9 *Cordia dichotoma* Forster f.

Fig. 10 *Dalbergia sissoo* Roxb.

Fig. 11 *Ficus racemosa* Linn.

Fig. 12 *Ficus virens* Aiton

**Plate 1**: Folk Medicinal Plants in Ghaziabad District (U.P.)

**Table 1 :** List of most important local available plants of the district Ghaziabad (U.P.) India

| S. No. | Botanical Name & Voucher No. | Family Name | Local Name | Flowering & Fruiting | Folk Medicinal Uses |
|---|---|---|---|---|---|
| 1 | *Abutilon indicum* (Linn.) Sweet V. No.-2 | Malvaceae | Kanghe | – – | Decoction of the leaves and bark is given in fever and dysuria. |
| 2 | *Acacia nilotica* (Linn.) Wild. Ex Delile V. No.-6 | Mimosaceae | Babul, Kikar | March – November | Bark of the tree is used in bronchitis, asthma, urinary disorders and dysentery. |
| 3 | *Achyranthes aspera* Linn. V. No.-8 | Amaranthaceae | Chirchita | March – December | The root infusion is taken in malarial fever, the leaf extract is given to facilitate delivery and the plant decoction is used in dropsy and bronchitis. |
| 4 | *Adhatoda zeylanica* Medikus V. No.-9 | Acanthaceae | Adusa | December – June | The juice of flower is useful in pulmonary affections and the leaves and roots infusion is given in bronchitis and fever. |
| 5 | *Amaranthus spinosus* Linn. V. No.-11 | Amaranthaceae | Kateli Chaulai | July – December | The infusion of leaves with salt is given in dysmenorrhoea. |
| 6 | *Anagallis arvensis* Linn. V. No.-12 | Primulaceae | Molina | February – September | The whole plant or dried seeds of the plant are ground with black pepper *(Piper nigrum)* and given twice a day in diptheria internally. |
| 7 | *Anthocephalus chinensis* (Linn.) A. Richard ex Walpers V. No.-14 | Rubiaceae | Kadamb | March – September | The flowers and roots are used as abortifacient. The plant is also used in cholera and dysentery. |
| 8 | *Boerhavia diffusa* Linn. V. No.-26 | Nyctaginaceae | Punarnava | August – December | The leaf extract is used in eye complaints and the infusion of the plant is given in asthma and bronchitis. |

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| 9 | *Bombax ceiba* Linn. V. No.-27 | Bombacaceae | Semal | January – May | The seeds of the plant are used in gonorrhoea, chronic cystitis and catarrhal affections. |
| 10 | *Calotropis procera* (Aiton) Dryander V. No.-30 | Asclepiadaceae | Aak, Aakra | December – August | The latex and root bark is used as expectorant and flowers of the plant are used in cold, cough and asthma. |
| 11 | *Cassia occidentalis* Linn. V. No.-35 | Caesalpiniaceae | Kasondi | May – November | The leaf and root paste is beneficial in piles, boils and ringworms. |
| 12 | *Cassia tora* Linn. V. No.-36 | Caesalpiniaceae | Pamhar | April – December | A powder of the seeds is given in abnormal delivery. |
| 13 | *Cichorium intybus* Linn. V. No.-38 | Asteraceae | Kasni | March – September | A paste of the herb is applied in inflammations over the skin externally. |
| 14 | *Cleome gynandra* Linn. V. No.-39 | Cleomaceae | Hulhul | July – December | The leaf paste is used in headache, and rheumatism. |
| 15 | *Cleome viscosa* Linn. V. No.-40 | Cleomaceae | Hulhul | July – October | A poultice of the seeds is used in chronic painful joints. |
| 16 | *Coccinia grandis* (Linn.) Voigt V. No.-41 | Cucurbitaceae | Kanduri | January – October | A juice of the leaves and roots is given in diabetes and the fruit juice is given in gonorrhoea. |
| 17 | *Convolvulus arvensis* Linn. V. No.-42 | Convolvulaceae | Hirankhuri | September – April | The plant paste is applied on burns and bruises externally. |
| 18 | *Cordia dichotoma* Forster f. V. No.-43 | Ehretiaceae | Lasora | March – July | The decoction of its leaves is given in cough and cold. |
| 19 | *Cuscuta reflexa* Roxb. V. No.44 | Cuscutaceae | Aakashbel | June – December | A poultice of the stem is used in rheumatic pain and skin ailments. |
| 20 | *Cynodon dactylon* (Linn.) Persoon V. No.45 | Poaceae | DoobGhas, Dubla | January – December | Roots of the plants is taken in fever and internal injury. |
| 21 | *Cyperus rotundus* Linn. V. No.-46 | Cyperaceae | Motha, Nagarmotha | July – December | The roots are scraped and pounded with ginger *(Zingiber officinale)* and mixed with honey given in dysentery. |

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| 22 | *Dalbergia sissoo* Roxb. V. No.-47 | Fabaceae | Shisham | March – June | The dried bark is effective in menorrhagia and the resin is used in skin ailments. |
| 23 | *Datura stramonium* Linn. V. No.-49 | Solanaceae | Dhatura | May – September | The juice of the fruits is applied to scalp for curing dandruff and alopecia (loss of hair). |
| 24 | *Eucalyptus citriodora* Hook. V. No.-50 | Myrtaceae | Eucalyptus | October – March | The leaves are added to bath water to relieve pain of the body. |
| 25 | *Euphorbia hirta* Linn. V. No.-51 | Euphorbiaceae | Dudhi | January – December | The decoction of the plant is given in bronchial infection and asthma and the latex of the plant is used to warts. |
| 26 | *Ficus racemosa* Linn. V. No.-53 | Moraceae | Gular | May – August | The juice of the root is given in dysentery and a poultice of the leaves and bark is used to cure eczema. |
| 27 | *Ficus religiosa* Linn. V. No.-54 | Moraceae | Pipal | April – September | The bark is astringent and is used in gonorrhoea. |
| 28 | *Ficus virens* Aiton V. No.-55 | Moraceae | Pilkhan | February – May | The fruits are used in scabies and bronchitis. |
| 29 | *Fumaria indica* (Haussknecht) Pugsley V. No.-56 | Fumariaceae | Papra | January – May | A decoction of the plant and gloe*(Tinospora cordifolia)* in equal parts with black pepper *(Piper nigrum)* is given in chronic fever and cough. |
| 30 | *Ipomoea aquatica* Forssk. V. No.-59 | Convolvulaceae | Sarnali | October – December | The plant is considered to be laxative or purgative. |
| 31 | *Ipomoea pestigridis* Linn. V. No.-60 | Convolvulaceae | Kaladana | July – December | The roots are used as antidote to snake – bite. |
| 32 | *Kigelia africana* (Lam.) Benth V. No.-62 | Bignoniaceae | Balamkhira | April – February | The bark is used in rheumatism and dysentery. |
| 33 | *Lantana camara* Linn. V. No.-63 | Verbenaceae | Van Tulsi | January – December | The decoction in the dose of about half cup with little quantity of 'Kala Namak' is taken twice a day till relief in tetanus and it is also useful in rheumatism and malaria. |

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| 34 | *Leucas cephalotes* (Roth) Sprengel V. No.-64 | Lamiaceae | Gumba | July – November | A decoction of the plant is used in malarial fever and the leaf powder is sniffed for treating half headache. |
| 35 | *Malva parviflora* Linn. V. No.-65 | Malvaceae | Diwlaghas | January – June | The seeds are used in gonorrhoea and roasted seeds are chewed in throat irritation. |
| 36 | *Malvastrum coromandelianum* (Linn.) Garcke V. No.-66 | Malvaceae | Balabhed | January – December | Its leaves are applied on wounds and inflamed sores. |
| 37 | *Morus alba* Linn. V. No.-68 | Moraceae | Shahtoot | February – June | The leaves are diaphoretic and the bark is used as purgative. |
| 38 | *Oxalis corniculata* Linn. V. No.-69 | Oxalidaceae | Khati – Meethi | January – December | The leaf juice is dropped in cataract and conjunctivitis. |
| 39 | *Phyllanthus amarus* Schumacher &Thonning V. No.-70 | Euphorbiaceae | Bhuiamla | May – September | The decoction of the plant is given in the jaundice and the latex from the plant is applied on the sores. |
| 40 | *Plumbago zeylanica* Linn. V. No.-71 | Plumbaginaceae | Cheetaghas | August – February | A paste of the root is applied in leprosy and other skin diseases. |
| 41 | *Pongamia pinnata* (Linn.) Pierre V. No.-72 | Fabaceae | Danaphal, Karanj | March – October | The leaf juice is used in cough, dyspepsia and diarrhoea. |
| 42 | *Ranunculus scleratus* Linn. V. No.-73 | Ranunculaceae | Jaldhaniya | February – August | The juice of the plant is used in pneumonia and asthma and the seeds are given in kidney problems. |
| 43 | *Sida cordifolia* Linn. V. No.-75 | Malvaceae | Kharenti | August – December | The juice of the whole plant with water in the dose of 250 gm is used for spermatorrhoea and gonorrhoea. |
| 44 | *Solanum nigrum* Linn. V. No.-77 | Solanaceae | Makoi | January – December | The extract of the plant is used in piles, dysentery and liver disorders. |
| 45 | *Solanum surattense* Burm.f. V. No.-78 | Solanaceae | Kateli | March – June | A decoction of the plant is given in gonorrhoea and fruits are used as medicine in fever, cough and asthma. |

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| 46 | *Sonchus asper* (Linn.) Hill V. No.-79 | Asteraceae | PiliDudhi | March – September | The plant is used as a tonic to purify blood and the leaf paste is applied on wounds. |
| 47 | *Tephrosia purpurea* (Linn.) Persoon V. No.-80 | Fabaceae | Sarphooka | September – December | The extract of herb is useful in hepatic disorders. |
| 48 | *Trianthema portulacastrum* Linn. V. No.-81 | Aizoaceae | Bishkhapra | June – December | An infusion of its roots is given in constipation and jaundice. |
| 49 | *Tribulus terrestris* Linn. V. No.-82 | Zygophyllaceae | Gokhru | July – November | Seed powder of the plant and Chirayta *(Swertia chirayita)* is given in cough and asthma. |
| 50 | *Withania somnifera* ( Linn.) Dunal V. No.-85 | Solanaceae | Aswagandha | January – June | The leaf juice is given in fever and urinary disorders. |

status of people. The present study could be possible with the help of native informants (Chhida Saini) who have therapeutic knowledge of the plants, Hakims (Fidda Husain), Tribes (Mahendra Ji) and Vaidhyas (Rajendra Singh, Sheetal Ayurvedic Davakhana) of the district.

## CONCLUSION

The study suggests an effective coordination for strengthening medicinal plant sector in the district Ghaziabad. This could only be achieved by pooling conservation, biodiversity and health care system together by involving the Government, NGO's and research organizations. Plants commonly used as traditional medicines in rural areas could still be found in the city, and are collected and used by the populace of the district. The current over-exploitation, soil compaction due to trampling and urbanization seems to limit the ability of some species to propagate, however, despite dense urbanization in the area, medicinal plants still play a key role in the health care of the populace. Hence, it is time to conserve these precious species for sustainable uses for the future and multidimensional efforts should be taken to start sustainable cultivation and harvesting programmes in the district Ghaziabad.

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