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Morpho taxonomical study of medicinal plants found in Barari ghat and adjacent area of Bhagalpur, Bihar

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Abstract

This study presents findings based on morphotaxonomical research of medicinally significant plants discovered in Barari Ghat and surrounding regions in the Bihar district of Bhagalpur. The data presented in this work was gathered from field surveys conducted in the study region. The documenting of herbal plants was facilitated by Vaidhya, herbal practitioners, informed individuals, and locals who benefit from the medicinal uses of these plants. This essay discusses related herbal plants, their botanical names, family names, place names, how plants are used to treat the illness, and administration methods. This work covers the medicinal, pharmacological, and curative properties of herbal plants and their use in connected illnesses. It is based on the data gathered by review papers, books and literature.

Keywords: Medicinal plants, Bhagalpur district, herbal practitioner, Vaidhya, traditional knowledge

Introduction

Medicinal plants are defined as those plants and their parts that contain beneficial phytoconstituents that may be used to treat illnesses and increase the fitness of living things ^[1]. As is well known, medicinal plants have been used for centuries to treat illnesses and have been a part of nearly every society. Since our tribes and the locals have been using medicinal herbs ethno botanically and traditionally for a long time, they are highly significant to us ^[2]. Herbal medicine has a firm foundation since the plants are harmless and thought to have no negative side effects. India boasts a diverse range of plants. These days, there is a significant depletion of these priceless herbal plants as a result of increasing building for roads, railway lines, offices, residences, schools, malls, and other purposes. Every plant on the planet has some bioactive components that may be used to cure illnesses, therefore it's critical to recognize and research each one. Herbal practitioners have employed whole plants or plant parts, such as roots, leaves, stems, flowers, and seeds, in a variety of ways, such as kadha, vati and gutika, churna, arka Guggulu, Ghrita, Churna, asava arista, etc. The usage of herbal remedies during and after the COVID-19 pandemic has skyrocketed, with herbs like tulsi, ginger, turmeric, zinger, mulethi, black pepper, and aloe being used to make kadha that is used to cure patients. This research paper demonstrates how the locals and Vaidhya used herbal plants to heal a variety of local illnesses. With the assistance of an informed individual, surveys of the region and documentation of therapeutic plants have been completed. With the use of databases and existing literature, medicinal plant identification in the flora was done based on family names ^[3, 4].

Area of research

Barari ghat and adjacent village area situated at the bank of river Ganga in Bhagalpur district of Bihar. This area is located at an elevation of 16 meters above sea level. Its coordinates are 25 16' 0" N AND 87 1' 60" E in DMS (Degree Minutes Seconds) or 25.2667 and 87.0333 in decimal degrees. Barari Ghat is situated on the Bhagalpur side on the south bank of the Ganges. The study area is situated near the river Ganga, and has specific climatic conditions.

Materials and Methods

Surveys of the flora and documentation of the plants which are medicinally important have been carried out. For this purpose, Vaidhya and local people were interviewed during the study period.

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Plant samples were collected and they discussed with the relevant knowledgeable person. Use a camera for taking the images of the plants. A handbook and lead pencil were used to note information about the herbal plants found there. Studies of literature in related research journals and articles have been done.

Results and Discussion

In the present paper, some of the medicinally important plants

of the flora of barari ghat Bhagalpur were listed. Plants of the six families named Euphorbiaceae, Asteraceae, Acoraceae, Solanaceae, Amaranthaceae and Apiaceae are listed here. Plant's botanical names, vernacular names, types of the plants, plant parts used and mode of administration were listed in plantations in the table of related families. Exploration and documentation of medicinal plants is very important to conserve the traditional knowledge of the herbal plants for human well-being.

Table 1: Medicinally Important Plants of Barari Ghat Bhagalpur

S. No.	Botanical name	Family name	Local name	Type	Plant parts used	Mode of Administration
1.	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Badi dudhi	Herb	Whole plant	Whole plant is dried, roasted and ash is use to applied on cuts and wounds. ^[5]
2.	<i>Euphorbia thymifolia</i> L.	Euphorbiaceae	Choti-dudhi	Herb	Whole plant	The fresh juice of whole plant is used in worm infections, as stimulant, astringent. It is also used in bowel complaints. ^[8]
3.	<i>Ricinus communis</i> L. ^[5]	Euphorbiaceae	Yerand	Large shrub	Bark and leaves	Juice of leaf and bark is used in Rheumatic arthritis and oil from seeds is used as purgative.
4.	<i>Croton bonplandianus</i> Baill.	Euphorbiaceae	Kala Bhangra	Herb	Leaves and root	Juice of leaves and root are used in gastro intestinal disorder; it also helps in acute constipation. ^[6]
5.	<i>Phyllanthus niruri</i> ^[7]	Euphorbiaceae	Bhumi amla	Herb	Whole plant	Whole plant juice is recommended to take in Jaundice.
6.	<i>Eclipta alba</i> (L.) ^[9]	Asteraceae	Bhringraj, Bhangraiya	Herb	Leaves	Leaf paste is used to cure the skin disease, leaf decoction is orally taken to cure stomach and headache problems.
7.	<i>Tridax procumbens</i> L. ^[10]	Asteraceae	Ghamra	herb	Leaves	One glass leaf extract taken orally for five days helps in the treatment of piles and kidney stone.
8.	<i>Blumea lacera</i> (Burm. F.) DC. ^[11]	Asteraceae	Kukraundha	Herb	Leaves	Fresh leaf juice is used to expel threadworms, half to one TSP of fresh leaf juice is applied orally to children. The same dosage is applied for twice a day for a week or until to free from threadworms.
9.	<i>Cyanthillium cinereum</i> (L.) H. Rob.	Asteraceae	Sahdei	Herb	Whole plant	The whole herb's decoction or infusion is used to treat bladder strangury and spasms, as well as fever and wounds and sores. ^[12]
10.	<i>Acorus calamus</i> ^[13]	Acoraceae	Vachh	Herb	Leaves and rhizomes	The paste of <i>A. calamus</i> rhizomes are given with the paste of <i>Curcuma aromatica</i> rhizomes and <i>Azadirachta indica</i> leaves applied in eczema. Rhizomes paste <i>A. calamus</i> and <i>C. aromatica</i> are applied with the seed paste of <i>Argemone Mexicana</i> in skin disease. Oral intake of two teaspoonfuls of herbal powder containing <i>A. calamus</i> rhizomes, <i>Boerhaavia diffusa</i> roots, <i>Calonyction muricatum</i> flower pedicles, <i>Ipomoea muricata</i> seeds, <i>Senna</i> leaves, <i>Cassia fistula</i> fruits pulp, <i>Curcuma longa</i> rhizomes, <i>Helicteres isora</i> fruits, and <i>Mentha arvensis</i> leaves, black pepper is taken with lukewarm water helps in Cold, cough, and fever.
11.	<i>Solanum nigrum</i> L. ^[14]	Solanaceae	Makoi	Herbaceous perennials, or small shrubs	Whole plant	The decoction and juice of the berries is useful in cough, diarrhoea, inflammations and skin diseases.
12.	<i>Datura metel</i> L. ^[15]	Solanaceae	Dhotra	Herb or under shrub	Leaves, fruits and seeds	The dried leaves of this species smoked in the treatment of asthma and bronchitis.
13.	<i>Solanum xanthocarpum</i> Schard & Wendl ^[15]	Solanaceae	Bhatkataiya	Herb	Leaves	Fresh leaves extracts of this species are given in the case of respiratory disease and dropsy. It has also been good for the treatment of gonorrhoea and snake bite
14.	<i>Centella asiatica</i> (L) ^[7]	Apiaceae	Gotu kola	Herb	Whole plant parts	Fresh leaves chewed in tonsillitis, decoction of plant 100-150 ml administered orally once a day upto 10-12 days in case of pneumonia, memory improvement and piles.
15.	<i>Achyranthes aspera</i> L. ^[6]	Amaranthaceae	Latjira/ Chirchita	Herb	Whole plant, seed	Crushed leaves are used to cure cramp and piles. Ashes of plant used in asthma and cough. Seeds decoction used in asthma and cough.
16.	<i>Chenopodium album</i> L. ^[16]	Amaranthaceae	Bathua	Herb	Whole plant	The leaves of this plant are used in traditional medicines to treat digestive, peptic ulcer and hepatic disorder.



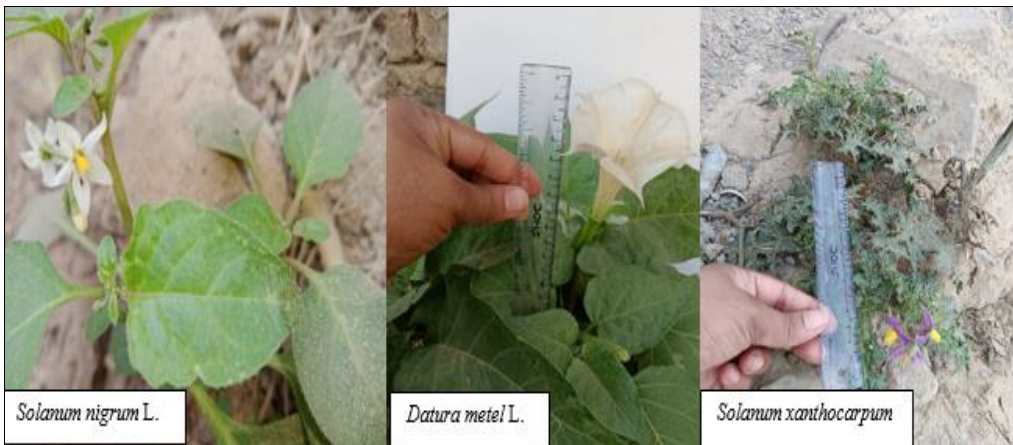




Fig 1: Medicinally important plants of Barari Ghat Bhagalpur

Conclusion

The study conducted morphotaxonomical research on medicinally significant plants in Barari Ghat and surrounding areas of Bhagalpur, Bihar. Data gathered through field surveys involved collaboration with local herbal practitioners, informed individuals, and traditional healers. The documented information includes botanical and vernacular names, plant types, utilized parts, and administration methods. Such documentation is vital for preserving traditional herbal knowledge. The study underscores the importance of exploring and documenting medicinal plants to safeguard traditional practices and enhance human well-being, drawing on insights from literature and local expertise.

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References

- Sharma T, Pandey B, Shrestha BK, Koju GM, Thusa R, Karki N. Phytochemical screening of medicinal plants and study of the effect of phytoconstituents in seed germination. *Tribhuvan University Journal*. 2020;35(2):1-11. <https://doi.org/10.3126/tuj.v35i2.36183>.
- Hussain K, Shahzad A, Hussain ZU. An ethnobotanical survey of important wild medicinal plants of Hattar, District Haripur, Pakistan. *Ethno botanical Leaflets*. 2008;12:29-35.
- Haines HH. *The Botany of Bihar and Orissa, Vol I. III*. BSI, Calcutta; c1921-25.
- Duthie JF. *Flora of the upper gangetic plain and of the adjacent siwalik and sub-himalayan tracts*; c1911, 2-3.
- Mundhe BF, Borse RD. Traditional uses of medicinal plants by tribal and rural folk from Parner taluka Ahmednagar district (M.S). *Ad. Plant Sci*. 2013;26(1):195-196.
- Tiwari S, Chandrol GK. Ethnomedicinal importance of some plants of Udanti Sanctuary of Chhattisgarh, India. *Ad. Plant Sci*. 2013;26(1):201-202.
- Yonzone R, Bhujel RB, Ram RL, Rai S. Medicinal wealth of Darjeeling hills used against various ailments. *Ad. Plant Sci*. 2012;26(11):603-607.
- Gupta B, Srivastava RS, Goyal R. Therapeutic uses of *Euphorbia thymifolia*: A review. *Pharmacognosy Reviews*. 2007;1:2.
- Datta K, Singh AT, Mukherjee A, Bhat B, Ramesh B, Burman AC, et al. *Eclipta alba* extract with potential for hair growth promoting activity. *Journal of Ethnopharmacology*. 2009;124(3):450-456. <https://doi.org/10.1016/j.jep.2009.05.023>.
- Patil AV, Rathod VS, Waghmare MB. Ethno botanical survey of folklore plants for treatment of kidney stone and piles in Chandgad Tahsil of Kolhapur District in Maharashtra, India. *Ad. Plant Sci*. 2012;25(11):725-727.
- Tomar A. Folk medicinal use of *Blumea lacera* (BURM. F.) DC. To cure threadworms. *J Med Plants Stud*. 2017;5(2):336-37.
- Shruthi Roy, Madhu KP, Jyolsna G Krishna. Pharmacognostical and phytochemical evaluation of the drug Sahadevi (*Cyanthillium cinereum* (L.) H. Rob.). *International Journal of Ayurveda and Pharma Research*. 2019;7:9.
- Singh R, Sharma PK, Malviya R. Pharmacological Properties and Ayurvedic value of Indian Buch Plant (*Acorus calamus*): A short review. *Advan. Biol. Res*. 2011;5:145-54.
- Goel K, Ahmed MS, Singh R, Saini V, Bansal S. A Sneak peek (1970-2021) into phytochemistry and ethno medical properties of *Solanum Nigrum* Linn (Makoi). *Journal of Pharmaceutical Negative Results*; c2022. p. 576-594. <https://doi.org/10.47750/pnr.2022.13.s05.95>
- Sonawane VB, Sonawane MD. Ethno botanical and Ethnomedicinal Survey of Jawhar, District Thane in Maharashtra. *Ad. Plant Sci*. 2012;25(11):713-718.
- Bakshi DNG, Sen Sarma P, Pal DC. *A Lexicon of medicinal plants in India*. Calcutta: Naya Prakash; c1999. p. 424-425.