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Collection and Identification of Some Medicinal Plants from Bhiwapur Mahavidyalaya, Bhiwapur

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Abstract: ***The present study shows the botanical survey, collection and identification of medicinal plants at Bhiwapur Mahavidyalaya, Bhiwapur. During the study, 37 medicinal plant species belonging to 24 families were identified. The highest number of medicinal plants belonged to Lamiaceae followed by Fabaceae. The identified medicinal plants show a wide variety of medicinal uses for fever, cough, cold, rheumatic problems, skin problems, heart diseases and cancer. The documented can be used for future research work.***

Keywords: Bhiwapur, medicinal plants, Lamiaceae, Fabaceae, medicinal uses

1. Introduction

Plants have been used since time immemorial to heal severe chronic illnesses, they also provide humans with food, shelter, and clothing. Many indigenous communities still use plants for healing purpose and this knowledge has been exceptionally passed down to generations (1).

India is one of the richest countries throughout on the basis of its natural resources. The diverse geography and climatic conditions of the country influence's the vegetation and the floristic composition. There are a number of ways through which the plants therapeutic potential could be harnessed. In specific ecosystems where high species diversity is available, survey and collection of plant specimens can be a very effective strategy for the discovery of novel bio-chemical constituents (2; 3).

Majority of the medicinal plants possess healing properties due to the presence of a variety of complex chemical constituents, some of which are synthesized by the plants themselves in the form of secondary metabolites. Herbal remedies provide conventional treatments for chronic diseases and are safe and well tolerated. Herbal medicines are capable of healing the human body systems without causing any inherent damage. The effect that active herbal medicines have on the human body is based on the chemical constituents of the plants from which they are derived (4).

The present study was conducted to identify the medicinal plants at the Bhiwapur Mahavidyalaya, Bhiwapur. These medicinal plant species with diverse medicinal uses can further be used for isolation and identification of the bioactive compounds.

2. Materials and Methods

Study Area

Bhiwapur is a town and tehsil place in Umred sub-division of Nagpur district. It is situated at 20.790° N latitude and 79.370° E longitude. The Bhiwapur Mahavidyalya, Bhiwapur is situated near the Bhimadevi temple road and is an educational institution (**Figure 1**).

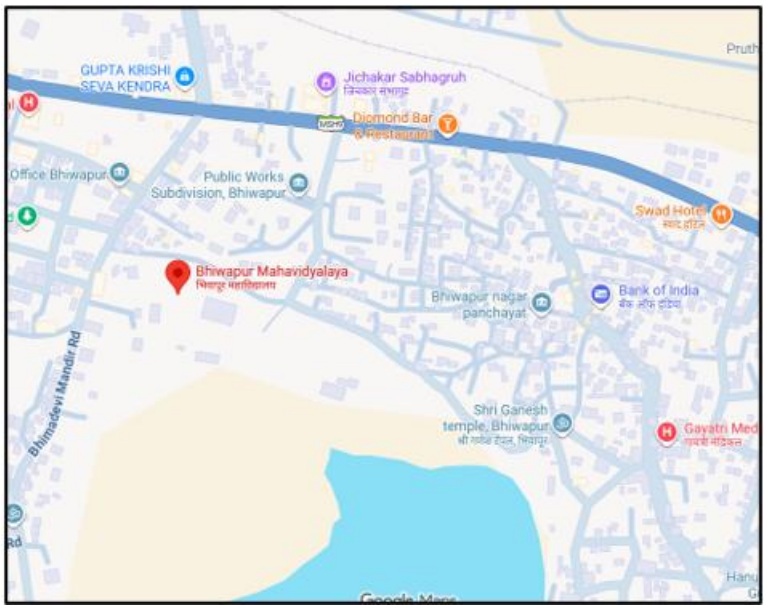

Figure 1: Map view of Bhiwapur Mahavidyalaya

Collection of Medicinal plants

The collection of the medicinal plants was performed from the college campus and the botanical garden. The plant sample survey and collection were performed during the study period of September 2024 to September 2025.

Identification of Medicinal plants

The identification of the medicinal plants was performed using Flora of Nagpur (1986) and Flora of Maharashtra state (2001) and the online available literature.

3. Results and Discussion

During the study, 37 medicinal plants belonging to 24 families were collected and identified from the Biwapur Mahavidyalaya campus (**Figure 2**). The highest medicinal plants were observed to be belonging to plant family Lamiaceae (5 plant species) followed Fabaceae (4 plant species) and Apocynaceae, Apiaceae, Zingiberaceae, Acatheceae, Asparageceae and Rubieace with 2 plant species each and all the other plant families with single plant species each. The collected medicinal plants were also checked for their medicinal applications which are described in **Table 1.**

Table 1: List of Medicinal plants with their applications

Sr No	Botanical name	Common name	Plant family	Medicinal Uses
1	*Syzygium aromaticum*	Clove	Myrtaceae	Pain relief: helps relieve toothaches and earaches; used as anti-inflammatory agent; supports bone health.
2	Acorus *calamus*	Sweet Flag Sweet root	Acoraceae	Used to treat bloating, gas, colic pain, upsent stomach and digestive tonic
3.	*Mimosa pudica*	Touch me not plant	Fabaceae	Used for dysentry with blood / mucus, piles and urinary calculi. The fresh juice of leaves is given internally to stop bleeding. The paste of the leaves is applied externally on piles, fissures, skin wounds, and ulcers.
4.	*Centella alba/asiatica*	Indian pennywort	*Apiaceae*	Skin conditions: helps treat wounds, burns, psoriasis, scleroderma, and photoaging skin; inhibits inflammation in hypertrophic scars and keloids; enhances memory.
5.	*Basella alba* (Malabar Spinach)	Red Indian Spinach	Basellaceae	Juice of red berries used for ink, cosmetics and food dye; leaves are used as a laxative; pulp of leaves as a poultice for sores; red fruit juice as eye drops to treat conjunctivitis, and the roots as a rubefacient.
6	*Cymbopogon citratus*	West Indian Lemon Grass	Poaceae	Oil is used to cool down body temperature; improves digestion, nausea and menstruation problems and ailments like headaches, muscle cramps, spasms and rheumatisms.
7	*Curcuma caesia*	black turmeric	Zingiberaceae	Rhizome is used to treat a variety of ailments, including digestive issues, respiratory problems, and skin conditions and breast cancer.
8	*Rauvolfia serpentina*	Indian snakeroot	Apocynaceae	Juice made from roots is used in blood pressure and heart disease. Decoction of roots is used in dysentery and diarrhea. The extract of the root is given two times for three days to cure fever and blood pressure.
9	*Caesalpinia crista*	Fever nut	Fabaceae	The root and bark are used to treat tumors, while the leaf juice is used to treat ulcers, pain, edema, and gynecological diseases; combination of roasted seeds and pipli with honey is used to treat malaria, and a decoction of roasted seeds is used to treat asthma
10	*Mentha piperita*	Peppermint	Lamiaceae	Used in aromatherapy, bath preparations, mouthwashes, toothpastes, and topical preparations. Topical preparations of peppermint oil are used to calm pruritus and relieve irritation and inflammation.
11	*Cinnamomum tamala*	Tejapatta	Lauraceae	It is used in perfumery industry and used as mouth refreshing, useful for removal of bad odour from body, mouth and also used in pharmaceutical industries
12	*Baliospermum montanum*	red physic nut	Euphorbiaceae	Roots are used in dropsy, and jaundice; decoction of leaves is used for treating asthma; seeds are purgative, used externally as stimulant, and are rubefacient; the oil from the seeds is used for external application in rheumatism
13	*Justicia gendarussa*	Krishna nirgundi	Acanthaceae	Used to treat chronic rheumatism, headache, earache, fever, cough, bronchitis, inflammation, bruises, paralysis of one side of the body and facial paralysis
14	*Dracaena angolensis*	Spear Orchid	Asparagaceae	leaves and roots used to treat coughs, diarrhea, hemorrhoids, chickenpox, rheumatism, gynaecological problems, as well as an antiseptic, snake bites, wound healing and refreshing beverage.
15	*Trachyspermum ammi*	Ajwain	Apiaceae	The fruit is used for flatulence, atonic dyspepsia, diarrhea, abdominal tumors appetite, galactogogue, asthma and amenorrhoea, abdominal pains, piles, and bronchial problems, lack of appetite, galactogogue, asthma and amenorrhoea
16	*Catharanthus roseus*	Periwinkle	Apocynaceae	Root paste is used in septic wounds; root decoction is used in fever; leaves are used in menorrhagia; leaf juice is used in blood dysentery. The decoction of leaf is used for babies in gripping pain while the latex is useful in scabies

17	*Asparagus racemosus*	Shatavari	Asparagaceae	Helpful in menstrual disorders and acts as a uterine tonic. It enhances breast development and increases breast milk production by regulating hormonal balance.
18	*Allium ursinum*	wild garlic	Amaryllidaceae	Used in cardiovascular disease, cancer, diabetes, neurological disorders, liver problems, arthritis, and allergy.
19	*Cissus quadrangularis*	Four-angled vine	Vitaceae	Used to cure bone fracture; hyperlipidemia, hyperlipoproteinemia, and dyslipidemia; lowers blood sugar.
20	*Vitex negundo*	Chaste tree	Lamiaceae	Used as a cough remedy; leaf smoke is inhaled to get rid of cough; in case of diarrhoea flowers are used; extract of the plant is taken as a diuretic; effective medicine for backache, muscular sprain and joint pain.
21	*Solanum indicaum*	Brihati (Wild eggplant)	Solanaceae	Used in the treatment of asthma, catarrh, dropsy, chest pain, chronic fever, colic, dry and spasmodic cough, oedema, scorpion stings, difficult urination, and worm infestation.
22	*Artemisia vulgaris*	green ginger	Asteraceae (Compositae)	Used for anxiety, irregular periods, colic, insomnia.
23	*Talinum paniculatum*	Pink Baby-Breath	Talinaceae	Used for the management of diabetes, cancer, stroke, obesity, and measles.
24	*Justicia pectoralis*	water-willow	Acanthaceae	Used for the treatment of cough, bronchitis and asthma.
25	*Canna indica*	Indian Shot	Cannaceae	Used to treat menstrual pains; root used to treat gonorrhea and amenorrhea; powder of is used to treat diarrhea and dysentery; flowers are used for malaria.
26	*Curcuma aromatica*	wild turmeric	Zingiberaceae	Rhizomes are used in combination with astringents and aromatics for bruises, sprain, hiccough, bronchitis, cough, leucoderma and skin eruptions. The paste made of benzoin and rhizome of C. aromatica is used for headache.
27	*Clerodendrum serratum*	Bharangi	Lamiaceae	Used in the treatment of common cold, chronic sinusitis, allergic rhinitis, cough and other chronic respiratory problems; fever and hyper-pyrexia
28	*Plumbago zeylanica*	Chitrak	Plumbaginaceae	Used in the treatment of stubborn chronic rheumatoid arthritis, skin diseases and tumerous growths; chronic menstrual disorders, viral warts and chronic diseases of nervous system.
29	*Ocimum purpureum*	Holy basil	Lamiaceae	Protects eye health by preventing viral, bacterial and fungal infections; soothes eye inflammation and reduces stress;used as a natural mouth freshener; cure mouth ulcers and an oral disinfectant.
30	*Ocimum canum*	wild basil	Lamiaceae	Cultivated for culinary purposes; used for treating cold, fever, parasitic infestations on the body and inflammation of joints and headaches; lowering blood glucose.
31	*Gardenia resinifera*	Dikamali	Rubiaceae	Infusion of bark and flower in water or coconut oil used as antiseptic, anti-inflammatory.
32	*Haldinla cordifolia*	Haldu	Rubiaceace	The paste of the stem bark or leaves heel deep wounds and jaundice, stomach ache, malarial fever, swelling in stomach and root is useful for dysentery.
33	*Pterocarpus santalinus*	Red sandalwood	Fabaceae	Used as antibiotic and hypoglycaemic, to control blood sugar; Kino gum, obtained from incisions in bark, has astringent, anti-diarrheal, and anti-haemorrhagic properties; Leaves are used externally to treat boils, sores, and other skin diseases, while flowers are febrifuge
34	*Piper longum*	Long pepper	Pipeperaceae	Used as spice; anti-parasitic and reduces swelling
35	*Helicteres isora*	Marodphali	Malvaceae	The fruits and roots are used for gastrointestinal disorders, diabetes, cancer, and infections
36	*Acacia concinna*	Soap-Pod	Fabaceae	An infusion of the leaves is used in malarial fever; decoction of the pods relieves biliousness and acts as a purgative; removes dandruff; ointment, prepared from the ground pods, is good for skin diseases
37	*Aloe vera*	Ghrit Kumari	Asphodelaceae	Aloe is used topically (applied to the skin) and orally for acne, lichen planus a very itchy rash on the skin or in the mouth, oral submucous fibrosis, burning mouth syndrome, burns, and radiation-induced skin toxicity.


Synzium aromaticum


Acorus calamus


Mimosa pudica


Centella alba

Figure 2: Picture of collected Medicinal plants

The collected and identified medicinal plants can further be used for the determination of their bioactive compounds and future therapeutic use. Similar studies were performed by Chopda and Mahajan (2009) in Jalgaon district (7); Tembhurne and Nanir (2012) in Solapur district (8); Karande et al. (2021) in Nashik district (9); Kahate (2023) in Pusad city (4); Todwani (2025) in Khandesh (10) and Vidarbha and Gangadhar (2025) in Wani district (3).

4. Conclusion

The present study highlights the diversity of medicinal plants at the Bhiwapur Mahavidyalaya, Bhiwapur. Documentation of the medicinal plants is essential for the survival of the species and their future detailed research. The study reveals that the observed medicinal plants are used for various ailments ranging from like cold, cough, fever, headache, to poisonous bites, skin problems, rheumatic pain, heart problems, diabetes, gastrointestinal disorders and cancer. Standardizing and preserving this information will contribute towards the broader goal of medical research and conservation.

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