

Survey on Diversity of Exotic Medicinal Plant Species in Nasik District of Maharashtra, India.

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Abstract: In the current paper, 32 exotic medicinal plants belong to 21 families and 27 genera that were found in various locations throughout the Nasik district are reported. Some of them have since become a part of our native flora. For centuries, tribal people, bhagat and Vaidyas have used various plant parts to make crude medicines. The goal of the current investigation is to list the medicinal plants that are used by tribal people as well as their therapeutic applications.

Key Words: Diversity, Exotic, medicinal plants, Nasik District.

1. INTRODUCTION:

Exotic plants have been naturalised in some areas of woodland near roadsides, dams, canals, field hedges and in the forests of Nasik district of Maharashtra, where they are outcompeting local vegetation. Some plants can hurt both humans and animals. But most of the plants are used in the preparation of crude drugs. We discovered during our exploratory tour of the forest that several plants are frequently used as medicine by the locals and tribal cultures. The introduced or exotic species can adversely affect the ecosystem. Number of exotic plant species has been introduced from other parts of the world through the ages.

The Nashik district is located between latitude 19°35' and 20°50' and longitude 73°55' and extend over the area of 15,587 sq. km. It is bounded on the north-west by the Dang and Surat district of Gujarat state on the north by Dhule district, on the east by Jalgaon and Aurangabad district, State of Maharashtra is bordered on the south by Ahmednagar and on the southwest by Thane district. Ethnobotanical work is carried out by Mahabale, T.S. (1973), Jain S.K. (1981), Patil D.A., (1990), Jain (1991), Ghate and Vartak (1996), Ghate (1998), Bhattacharjee (2008) and Ahire D.U. (2021).

2. MATERIAL AND METHOD:

In order to research the exotic medicinal plants found in the Nasik region, the current studies were conducted in the Nasik district in the years 2014–2015. The ethnobotanical information was gathered through interviews, talks with tribal people, bhagat and Vaidyas, and the literature that was available on the same species. It was discovered that the majority of the exotic plants are now employed by tribal people, bhagat and Vaidyas instead of native plants, maybe because they produce better outcomes. The flora of Almeida (1990), Naik (1999), Lakshminarsimhan & Sharma (1991), Shah (1978), and Sharma et al. (1996) were used to identify the exotic medicinal plants, The 32 exotic plants used as exotic medicinal plants are listed with their botanical name, common name, family, origin and medicinal uses in the following ways.

Acacia auriculiformis A.Cunn. ex Benth, Local Name: Akashya

Family: Mimosaceae

Origin : Africa

Medicinal uses: A decoction of the root is used medicinally to relieve aches and pains and sore eyes. Bark used for rheumatism.

Achyranthes aspera L. Local Name: Aghada

Family: Amaranthaceae

Origin: South-east Africa

Medicinal uses: Whole plant decoction along with roots is given to treat, diarrhoea, stomach pain. Seed paste is given to treat rabies. Roots are useful against antifertility in women, ear complaint and piles.

Annona reticulata L. Local Name Ramphal

Family: Annonaceae.

Origin : Tropical America.

Medicinal Uses: The plant is traditionally used for the treatment of epilepsy, dysentery, cardiac problems, worm infestation, constipation, haemorrhage, antibacterial infection, dysuria, fever, ulcer etc.

Annona squamosa L. Common Name: Aant, Sitaphal

Family: Annonaceae.

Origin : Indigemous in West Indies.

Medicinal Uses: Leaves are highly rated as pesticidal and insecticidal. Commonly used by farmers to kill white ants, seed powder is utilised to abolish lice, leaf extract is used to pacify boils and treat ulcers, and the fruit acts can be used to treat tumours, reduce vomiting, and act as a sedative in circumstances involving cardiac conditions.

Argemone mexicana L. Common Name : Pivla dhotra

Family: Papaveraceae

Origin : Mexico.

Medicinal Uses: used in the treatment of several diseases including skin diseases, inflammations, rheumatism, jaundice, leprosy, microbial infections, and malaria.

Adansonia digitata L. Local Name: Gorakh chinch.

Family : Bombaceae

Origin: Tropical Africa

Medicinal uses: The leaves, bark and seeds are used to treat almost any disease include the treatment of malaria, tuberculosis, fever, microbial infections, diarrhoea, anaemia, dysentery and toothache. Fruit pulp gives relief in bronchial and asthma and allergic dermatitis.

Acanthospermum hispidum DC. Common Name: Landaga.

Family: Asteraceae.

Origin: South America

Medicinal Uses: used in the treatment of jaundice, malaria, vomiting, head-ache, abdominal pain, stomachache, constipation, snake bite, epilepsy and viral infections.

Agave americana L. Common Name: Kekt

Family: Agavaceae.

Origin: southern America

Medicinal Uses: The *plant* is used internally in the treatment of indigestion, flatulence, constipation, jaundice and dysentery.

Aloe vera (L.) Burm. Common Name: Korphad

Family: Liliaceae.

Origin: Africa

Medicinal Uses: It is used for healing and softening the skin. Additionally, aloe has a long history of use as a traditional treatment for a number of ailments, including constipation and skin issues.

Alternanthera pungens Kunth. Common Name: Chibu-kata

Family: Amaranthaceae.

Origin: Central and South America

Medicinal Uses: it is used to treat hepatitis, tight chest, bronchitis, asthma and other lung troubles. The leaves and shoots boiled and drunk as antihypertensive remedy³

Azadirachata indica A. Juss. Local Name: Kadu limb

Family: Meliaceae

Origin: tropical America

Medicinal uses: Decoction of leaves is for ulcers and eczema. Stem bark is used on skin diseases. Seed oil is on skin diseases, indolent ulcer, sores, ringworm, scrofula and rheumatism.

Cassia occidentalis L. Local Name: Ran-tarota

Family: Caesalpinaceae

Origin: tropical America

Medicinal uses: Leaf paste is applied to treat sores, itches, ring-worm and leucoderma. Root bark decoction is used to treat fever, dysentery and gonorrhoea. Seed powder is applied to treat skin eruptions.

Cryptostegia grandiflora R. Br. Common Name:

Family: Periploaceae.

Origin: south-west Madagascar

Medicinal Uses: The leaves and the latex are *used* to treat fungal infections and heart problems.

Datura innoxia Mill. Common Name: Dhotra

Family: Solanaceae.

Origin: Southwestern United States

All components of the plant are used medicinally because they are anodyne, antispasmodic, psychedelic, hypnotic, and narcotic.

Gomphrena serrata L. Common Name:

Family: Amaranthaceae.

Origin: *South America*

Medicinal Uses: It is for the treatment of several liver-related and dermatological diseases, dysmenorrhoea, bronchial infections, renal disorders, and also as an analgesic

Hyptis suaveolens (L.) Poit. Common Name:

Family: Lamiaceae.

Origin: West Indies, and South America

Medicinal Uses: It is used in the treatment of respiratory and gastrointestinal infections, indigestion, cold, pain, fever, cramps, skin diseases.

Ipomoea carnea Jacq. Common Name:

Common Name: Besharam

Family: Convolvulaceae.

Origin: South America

Medicinal Uses: possess anti-bacterial, anti-fungal, anti-oxidant, anti-cancer, anti-convulsant, immunomodulatory, anti-diabetic, hepatoprotective, anti-inflammatory, anxiolytic, sedative and wound healing activities.

Ipomoea hederifolia L. Common Name:

Family: Convolvulaceae.

Origin: Tropical America

Medicinal Uses: An oil extract of the plant is used for external application in the treatment of headache, rheumatism, leprosy, epilepsy, ulcers and fever.

Ipomoea nil (L.) Roth. Common Name:

Family: Convolvulaceae.

Origin: Tropical America

Medicinal Uses: The seed are used as anthelmintic, anticholinergic, antifungal, antispasmodic, antitumour, diuretic and laxative

Jatropha curcas L. Common Name: Erand

Family: Euphorbiaceae.

Origin: Mexico

Medicinal Uses: It is used for treating dysentery and diarrhea.

Jatropha gossypifolia L. Common Name: Mogli-Erand

Family: Euphorbiaceae.

Origin: South America

Medicinal Uses: The leaves of the plant are used for intermittent fevers, carbuncles, eczema, itches, sores on the tongues of babies, swollen mammae, stomachache, and venereal disease.

Lantana camara L. Common Name: Gangu-tai, Ghaneri

Family: Verbenaceae.

Origin: Central and South America

Medicinal Uses: The extracts is used for the treatment of cancers, chicken pox, measles, asthma, ulcers, swellings, catarrhal infections, tetanus, rheumatism and malaria,

Lagascea mollis Cav. Common Name:

Family: Asteraceae.

Origin: Mexico,

Medicinal Uses: used in Haemorrhages, Skin disorders, Snake bites, Bleeding, Fever.

Martynia annua L. Common Name: Wagh-nakhi

Family: Martyniaceae.

Origin: Central America and the Caribbean

Medicinal Uses: The leaf paste is used topically on Tuberculosis of the lymphatic glands and wounds of domestic animals.

Opuntia elatior Mill. Common Name: Nagaphani

Family: Cactaceae.

Origin: Southern Central America

Medicinal Uses: The pulp and juice are used to treat many diseases like skin wounds, and stomach swelling.

Parthenium hysterophorus L. Common Name: Congress gavat

Family: Asteraceae.

Origin: north-east Mexico

Medicinal Uses: is used to treat malaria, amoebic dysentery, fever, urinary tract infections and migraine headaches

Pithecellobium dulce (Roxb.) Bth. Local Name: Vilayati-chinch

Family: Mimosaceae

Origin: North Africa

Medicinal uses: Root decoction along with ginger is used to treat dysentery. Stem bark paste is applied to treat wounds.

Leaf paste is applied to suppress boils and swelling.

Portulaca oleracea L. Local Name: Ghatghol

Family: Portulacaceae

Origin: Australia

Medicinal uses: Leaf paste is given to treat asthma, cough, leucorrhoea, piles, vomiting and ulcer.

Sonchus oleraceus L. Local Name: Mhatara

Family: Asteraceae

Origin: Europe and Western Asia.

Medicinal uses: The root and leaves are used as febrifuges and for dyspepsia. An ointment prepared from the root's decoction is used to treat wounds and ulcers.

Synedrella nodiflora (L.) Gaertn. Common Name:

Family: Asteraceae.

Origin: South- Central America,

Medicinal Uses: used for the treatment of inflammatory diseases, including liver disease, asthma, rheumatism and earache

Tridax procumbens L. Common Name: Tantani, Ekdandi

Family: Asteraceae.

Origin: tropical America

Medicinal Uses: used as a drink to treat bronchial catarrh, diarrhea, dysentery and liver diseases.

Vicia sativa L.

Family: Fabaceae.

Origin: native to North Africa, Western Asia and Europe

Medicinal Uses: is traditionally used medicinal plant in skin infections, asthma, bronchitis, urinary diseases and also used as antiseptic, anti-poison, aphrodisiac, anti rheumatic and antipyretic.

Xanthium indicum Koen. Common Name:

Family: Asteraceae.

Origin: southern Europe

Medicinal Uses: strumarium, as a traditional herbal medicine, has been extensively applied to treat many diseases, such as rhinitis, nasal sinusitis, headache, gastric ulcer, rheumatism bacterial, fungal infections and arthritis.

3. DISCUSSION

The results of the focus group and individual interviews indicate that younger people in the study region are less knowledgeable about the usage of ethnomedicines. Naturalists and environmentalists are aware that an area's

biodiversity includes both indigenous and invasive species. Among native species, some are endemic to particular regions, such as a state or country, and some are found elsewhere. Exotic knowledge is a later invention or addition to conventional knowledge. Researchers are currently attempting to ascertain what parts of traditional knowledge were related to native species and what proportion was tied to invasive plants. Native people's utilisation of exotic species can reveal certain traits in the exotics. Most people turn to plant-based medicines for common illnesses like the common cold, the common flu, diarrhoea, dysentery, and skin problems.

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REFERENCES

1. Almeida, S.M. (1990): *The Flora of Savanantwadi*, Scientific Publ. Jodhpur.
2. Bhattacharjee, S.K. (2008): *Handbook of Medicinal Plants* (5th Rev.Edn.).Pinter Publisher, Jaipur.
3. Ghate, Vinaya S. and V.D. Vartak (1996): *Socio-economic and domestic utilization of forest tree resources by tribal communities in western Maharashtra*, Deep Publication, New Delhi, India.
4. [https://www.google.com/search?q=medicinal+uses+of+Vicia+sativa&oq=&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIHCAEQIRigAdIBCjE2NzIxajBqMTWoAgCwAgA&sourceid=chrome&ie=UTF-8/.....](https://www.google.com/search?q=medicinal+uses+of+Vicia+sativa&oq=&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIHCAEQIRigAdIBCjE2NzIxajBqMTWoAgCwAgA&sourceid=chrome&ie=UTF-8/)
5. Jain S.K. (1981): *Contribution to Ethnobotany of India*, Scientific Publication Jodhpur.
6. Jain S.K. (1991): *Dictionary of Indian Folk Medicine and Ethnobotany*, DeepPublication, New Delhi.
7. Lakshimnarsimhan P. & Sharma B.D. (1991): *The Flora of Nasik District* BSI Calcutta.
8. Mahabale, T.S. (1973): *Endemic and exotic plants in the Deccan Flora, in symposium on Deccan Trap Country*. I.N.S.A. Bull. No. 45 : 102-107.
9. Naik, V.N (1999): *The Flora of Marathwada*, Amurt Prakashan, Stationroad, Aurangabad.
10. Pathak, Kalyani & Zaman, Md. Kamaruz. (2014): *An overview on medicinally important plant-Annona reticulata linn*. International Journal of Pharmacognosy and Phytochemical Research. 5. 299-301.3
11. Patil, D.A. (1990): *Exotic elements in the flora of Dhule District (Maharashtra)*. J. Econ. Tax. Bot. 14: 721-724.
12. Shah, G.L.(1978): *Flora of Gujarat*. Vols. I- II, S.P.ValIabh Vidyanagar.
13. Sharma, B. D., Karthikeyan S. and Singh, N.P. (1996): *Flora of Maharashtra State*.BSI.