

## ROLE OF WILD EDIBLE FRUITS USED BY THE TRIBALS FROM SHAHPUR TALUKA OF THANE DISTRICT

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### ABSTRACT

**Objectives:** The objectives of this study were as follows: (1) The present study deals with the identification, ethno botanical exploration, and documentation of plant species that deal with wild edible fruits with respect to food and medicinal value. (2) Documentation of the medicinal value of wild edible fruits was done through discussion with local medicine men and Vaidus.

**Methods:** The ethno botanical survey was carried out in Shahpur Taluka of Thane District from June 2021 to January 2023. The data were collected through discussions and interviews with experienced people and traditional healers. The data on wild edible fruits were collected using preparation of questionnaire in the local language and group discussions. Voucher specimens were collected during the walk with informants. The collected plants were identified using standard floras.

**Results:** From Shahpur Taluka of Thane district, a total of 40 wild edible fruit plants belonging to 25 families have been documented. Wild edible plants play an important role in the lives of rural populations in every aspect, such as supplemented food, nutritionally balanced diets, medicine, fruits, and fodder, along with their daily income potential. Among different parts of plant species, fruits are more consumed by the tribals. Thane district is rich in indigenous plants that have been explored for their nutritional and medicinal values, and that's why it is necessary to conserve the biodiversity, which could help to maintain and improve the source of food supply for the inhabitants.

**Conclusion:** The present work documented 40 wild edible fruit plants. Out of these, most of the plants have medicinal value. Further investigation of their phytochemical and nutraceutical studies may provide better nutritional and medicinal sources in the future.

**Keywords:** Wildedible fruits, Nutrition, Shahpur Taluka, Thane district.

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### INTRODUCTION

Maharashtra is one of the places that is suitable for wild edible fruiting plants because of its complex geography, climatic conditions, and delicacy of fruits. Since the beginning of 2020, the world has been facing severe disruption in all aspects of life, due to which people have become more attracted to wild plant resources. Ethnobotany deals with the study of the natural relationship of man with plants in a broad, particular, and historical manner. Thus, tribal people have deep faith in the supernatural powers of plants. Furthermore, they have a systematic method and use of those plants for medicinal, nutritional, and purpose of vegetative life interrelated with human beings.

Fruit is a ripened ovary; it may be either fleshy or nut-like, and it is divided into cultivated as well as wild categories. Wild edible fruits are the chief source of vitamins, minerals, sugars, and water; therefore, fruits play an important role in nutrition. Some wild fruits might be explored for their nutritional and medicinal properties; that's why they need to be conserved for biodiversity maintenance. Mahadkar *et al.* (2016) carried out an ethno botanical survey of wild edible plants in Palghar district. Sharma *et al.* (2017) documented the wild fruits of Uttarakhand (India) along with their ethno botanical and medicinal uses.

The main aim of the present study is as follows:

To document the wild edible plants of the area and to collect information regarding the uses, availability, and ethno botanical uses of documented wild edible plants.

To make a foundation for further research with sustainable utilization of the resources.

### METHODS

#### Study area

The present ethno botanical survey was carried out in Shahpur tehsil of Thane district in February-April, 2022. Shahpur Tehsil is located in Thane district of Maharashtra. Thane district consist of a total of 15 talukas and Shahpur is one of them. There are 225 villages and six Towns in Shahpur Taluka. The total area of Shahpur is 1616.16 sq. km. Out of the total population, 77.49% of lives in rural areas. There are 5.74% of the population from scheduled caste (SC) and 35.72% from scheduled tribe (ST).

#### Data collection

The study was conducted in villages like Ambekhor, Ambivali, Belwad, Dahagaon, Dhakane, and Satga during February 2022–April 2022. The study was based on an ethno-botanical survey, the identification of wild edible fruit plant species with the help of villagers, farmers, traditional knowledge holders, and local Vaidyas and the medicinal importance of wild edible fruits. The region was frequently visited to assess the traditional knowledge, and discuss it with the help of a questionnaire. The fruits were preserved and identified with the help of standard flora and available literature. (Hooker 1872–1877; Cooke 1967); the information about the wild edible plants is given by mentioning their botanical name, family, local name, stages of fruits, and their uses.

### RESULTS AND DISCUSSION

The present study comprises 40 plant species, which are mostly fruit plants belonging to 25 families, and used by local people for their various ethno botanical purposes.

**Table 1:** List of wild edible fruit plants and their uses

S. No.	Botanical name	Family	Local name	Edible part	Uses
1.	<i>Adansonia digitata</i> L.	Malvaceae	Gorakhchinch	Dried fruit	Fruits used in Malaria, microbial infections, and juice preparation
2.	<i>Aegle marmelos</i> (L) Corr.	Rutaceae	Bel	Ripe fruit	Refreshing drink in summer, Ulcer healing and anticancer
3.	<i>Anacardium occidentale</i> L.	Anacardiaceae	Kaju	Ripe fruit	The cashew apple when fermented gives a well-known liquor called "fenie" in goa. The shell is removed and nuts are roasted
4.	<i>Annona reticulate</i> L.	Annonaceae	Ramphal	Ripe fruit	Fruits are edible, pulp is soft, sweet, and aromatic. Medicinally used as blood compliments
5.	<i>Artocarpus heterophyllus</i> Lam.	Moraceae	Phanas	Ripe fruit	Ripe fruit has a distinctive sweet and fruity aroma. It is a source of dietary fiber
6.	<i>Averrhoa carambola</i> L.	Oxalidaceae	Laxmanphal	Ripe fruit	The fruit is used in traditional medicine to treat chicken pox, intestinal parasites, headache, and other illness
7.	<i>Azadirachta indica</i> Juss.	Meliaceae	Kadu-nimb	Ripe fruit	Dried berries immersed in whisky have been employed against tapeworm. The seeds are used in rheumatism.
8.	<i>Borassus flabellifer</i> L.	Areaceae	Tadgole	Ripe fruit	Summer-fruit to cool down your body, hydrates the body, and increases the energy level
9.	<i>Cardiospermum helicacabum</i> L.	Sapindaceae	Kapadphodi	Ripe fruit	Ripened fruits are edible and taste like tomatoes
10.	<i>Carissa carandus</i> L.	Apocynaceae	Karunda	Both ripe and unripe stage	Fruits are consumed for anti-scorbutic, cooling agent with vitamin C.
11.	<i>Cordia dichotoma</i> Forst.f.	Boraginaceae	Bokhar	Ripe fruit	Ripe fruits are delicious and can be eaten raw. Unripe fruit is used to make pickle
12.	<i>Dillenia pentagyna</i> Roxb.	Dilleniaceae	Karmal	Unripe fruit	Fruit used for asthma, dysentery, jaundice, weakness, and rheumatic pain
13.	<i>Dioscorea bulbifera</i> L.	Dioscoreaceae	Karanda	Ripe fruit	Bulbils are boiled and consumed effectively on "tridoshas," anti-ageing
14.	<i>Diospyros perigrina</i> (Gaertn.) Guerke	Ebenaceae	Tembhurni	Ripe fruit	Fruit pulp use for the preparation of jam, candy toffees, murraba, etc.
15.	<i>Diospyros sylvatica</i> Roxb.	Ebenaceae	Karimaram	Ripe fruit	The ripe fruits are edible
16.	<i>Ficus hispida</i> L.f.	Moraceae	Kalaumber	Ripe fruit	Ripe fruits are edible and made as jams by poor household
17.	<i>Flacourtia indica</i> (Burm.f.) Merr.	Flacourtiaceae	Athrana	Ripe fruit	Fruits with sweet taste and pleasant flavor, given to jaundice person
18.	<i>Garcinia indica</i> (Thou.) Chois.	Clusiaceae	Kokam	Ripe fruit	Fruits are widely consumed in the form of sharbat and preparation of fish curries
19.	<i>Grewia asiatica</i> L.	Malvaceae	Dhamna	Ripe fruit	Ripe Fruits are eaten raw. The fruit pulp is used to prepare squash by mixing it with sugar and used as a cooling agent
20.	<i>Holarrhena antidysenterica</i> Sensu. Wall.exD.C.	Apocynaceae	Pandhrakuda	Unripe fruit	Fruit decoction used as anti-inflammatory and anti-malarial
21.	<i>Meyna laxiflora</i> Robyns	Rubiaceae	Alu	Ripe fruit	Fruits are consumed for treatment of inflammation, boils and narcotic as well
22.	<i>Milium tomentosum</i> (Roxb.) Sinclair.	Annonaceae	Humb	Ripe fruits	Ripe fruits are eaten raw
23.	<i>Momordica dioeca</i> Roxb exWilld.	Cucurbitaceae	Kartoli	Unripe fruit	Tubers used in treatment of piles. Male tuber powder applied in the form of paste to ulcers caused by snakebite
24.	<i>Morinda pubescens</i> J.E. Smith	Rubiaceae	Bartondi	Ripe fruit	The ripe fruits are edible, while unripe are pickled and eaten with curries
25.	<i>Morus alba</i> L.	Moraceae	SafedTuti	Ripe fruit	Ripe fruits are edible tastes sour and sweet. Improve the skin disease
26.	<i>Opuntia dillenii</i> Grah	Cactaceae	Nagphani	Ripe fruit	The ripe fruits are edible, baked fruit is given for relief in cough
27.	<i>Oroxylum indicum</i> (L.) Vent.	Bignoniaceae	Tetu	Ripe fruit	Tender fruits have carminative, and stomachic properties, while seeds are purgative
28.	<i>Phoenix acaulis</i> (L.) Roxb.	Areaceae	Janglikhajur	Ripe fruit	The fruit having sweet pulp, are consumed in a large-scale by tribes
29.	<i>Phyllanthus emblica</i> L.	Phyllanthaceae	Awla	Both unripe and ripe stage	Fresh fruit is used as vermifuge. The mixture of fruit juice and sugar relieves burning in vagina. Fruit powder and red sandal is given with honey to stop vomiting

(Contd...)

Table 1: (Continued)

S. No.	Botanical name	Family	Local name	Edible part	Uses
30.	<i>Semecarpus anacardium</i> L.f.	Anacardiaceae	Bibba	Roasted fruit	Fruits are used in Ayurveda medicine for improving sexual power and cough dosha
31.	<i>Solanum torvum</i> Sw.	Solanaceae	Ranwangi	Unripe fruit	The fruit extract contributes a cardio protective function
32.	<i>Solanum virginianum</i> L.	Solanaceae	Bhuiringani	Ripe fruit	A decoction of the fruits of the plant is used for treatment of diabetes
33.	<i>Solanum xanthocarpum</i> Schrad and Wendl	Solanaceae	Bhuiringani	Ripe fruit	Extract of fruit used for asthma, piles and rejuvenation
34.	<i>Spondias pinnata</i> (L.f.) Kurz.	Anacardiaceae	Ambada	Unripe fruit	Fruits are used in pickle preparation and also used as a souring agent in curries
35.	<i>Syzygium cumini</i> (L.) Skeels.	Myrtaceae	Jamun	Ripe fruit	Ripe fruits are eaten raw and Treatment for diabetes
36.	<i>Tamilnadia uliginosa</i> (Retz.)Tirveng and Sastr	Rubiaceae	Pendhar	Unripe fruits	Fruit extract is used against diarrhea and dysentery. Fruits are used to make vegetable
37.	<i>Terminalia bellirica</i> (Gaertn.) Roxb	Combretaceae	Behada	Dried fruit	Fruits are used to protect the liver and Respiratory conditions, cough and sore throat
38.	<i>Terminalia chebula</i> Retz	Combretaceae	Hirda	Dried fruit	Fruit powder used in chronic disease, useful for digestion and stimulate liver.
39.	<i>Terninalia catappa</i> L.	Combretaceae	Desibadam	Ripe fruit	Ripe husk of the fruit can be eaten raw but are best when young, oil is extracted from the seed
40.	<i>Ziziphus jujube</i> (L.) Gaertn	Rhamnaceae	Bor	Ripe fruit	Fruits are believed to alleviate stress, traditionally for antifungal and antibacterial

## CONCLUSION

Wild fruits are worldwide distributed but in very low quantity. Thane district is characterized by a rich diversity of ethno botanic plants as well as a rich heritage of wild edible plants. The study deals with many spheres of living beings and nature (Plants) and their interrelationship in empirical and applied sciences. Wild edible fruits were in more demand during the COVID-19 situation as they contribute to herbal medicines for improving immunity, which is an important part of our culture and tradition in India. Moreover, conservation of wild edible fruit plants can help the inhabitants earn their livelihood to some extent.

## AUTHORS CONTRIBUTIONS

Shivprasad D Mahadkar and Bhargavi Y Patil carried out seasonal field visits and collected information and identifications of wild edible plants. All the authors have read and approved the final manuscript.

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