

Documentation of Wild Plant Tubers as Food Resources in Thane District, Maharashtra

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Abstract: *Thane district is noted for its natural source of various plants of tubers and root importance, which provides carbohydrates and some minerals. Wild tubers are often important ingredients in traditional Medicines. Looking to the importance of wild tuberous crop in the tribal dominating region of the state. An ethnobotanical study was conducted to document and compile the wild edible tubers that had been observed and investigated in thane district, So that their importance, traditional uses could be realized among the Tribal people. The present survey encompasses documentation of 23 wild tuberous species belonging to 12 family with their botanical name, local name, family, mode of consumption and medicinal Uses.*

Keywords: Wild edible Plants, Food, Thane, Wild Tubers, Tribal.

1. Introduction

Tubers are a type of enlarged structure used as storage organs for nutrients in some plants. They are used for the plant's perennation, to provide energy and nutrients for regrowth during the next growing season, and as a means of asexual reproduction. It is clear that wild plant tubers continue to form a significant proportion of the global food basket, and while a local people are acting to reduce wild food use, thus their importance may be set to grow as pressures on agricultural productivity increase. Wild edible plants are important in the livelihood strategies of local people, and forest dwellers in many developing countries (Johns and Kokwaro, 1991). Carbohydrates and nutrients reserve are stored in these organs to support growth of plants. Importance of tuber crops is mainly because of the high starch content, which makes them high calorie value foods.

Nutritional profile of many wild edible plants has found comparable and sometime better compare and sometime better to many cultivated varieties (Sundaral and Sundaral, 2001; Rana *et al.*, 2007; Ali, 2009). The information on the wild edible tubers which are used by the local tribal communities are documented and compiled to provide values of the tuber plants and root plants available in Bastar region of Chhattisgarh (Ajay Banik *et al.*, 2014). Wild edible tuber species are an important source of food in India and have a significant place in the dietary habits of small and marginal farm families and forest-dwelling communities during periods of food scarcity (Arora and Pandey, 1996 and Roy *et al.*, 1988). Documentation was carried out of wild plant tubers as food resources in Hassan district (Prashant Kumar *et al.*, 2014).

2. Study Area

Thane district is a district in the Konkan division of Maharashtra, India. In August 2014 the district was split into two with the creation of a new Palghar district. Thane has a tropical wet and dry climate. The average annual

temperature in Thane is 26.7°C (80.1°F). The rainfall here is around 1439 mm (56.7 inch) per year.

The district is situated between 18°42' and 20°20' north latitudes and 72°45' and 73°48' east longitudes. The revised area of the district is 4,214 km². The district is bounded by Nashik district to the north east, Pune and Ahmednagar districts to the east, and by Palghar district to the north. The Arabian Sea forms the western boundary, while it is bounded by Mumbai Suburban district to the south west, and Raigad District to the South.

3. Method of Study

Ethno botanical survey with respect to wild edible tuberous plants was carried out during October 2022 to February 2023. Information was recorded by interviewing the tribal people through semi-structured questioner. The study area was frequently visited and informants were consulted and they provided useful information on wild edible tuberous plants and their usefulness in various dietary and other purposes. The categories of respondent were tribal women, forest villages and old man. Through the survey information was collected on wild edible tuberous plants which are used by tribal's and to identify and document by collecting samples of plant species.

The identified and collected plant samples were arranged and documented according to their botanical name, local names, family, habit and their uses. The identified wild edible plants were confirmed from the flora of Maharashtra, the flora of presidency of Mumbai and other tuber plant guides.

4. Experimental Results and Discussion

The study provides traditional knowledge and diversity of wild tuberous plants. 23 wild edible tuberous plants were recorded during the investigation to be eaten by the tribals of Thane district. The plant name arranged in alphabetical

order according to their botanical name. The information on 23 tuber species belonging to 12 families were identified.

The data from survey and literature were documented, analyzed and tabulated in the table given below:

S. No.	Botanical Name	Family	Local name	Dietary Use
1.	<i>Amorphophallus commutatus</i> (Schott) Engl.	Araceae	Surankand	Boiled corm eaten as vegetable.
2.	<i>Amorphophallus paeoniifolius</i> (Dennst.) Nicols. var. <i>campanulatus</i> (Decne.) Sivadasan.	Araceae	Kadu suvaragedde	Corms cooked and eaten.
3.	<i>Asparagusracemosus</i> Willd. Var. <i>javanica</i> (Kunth.) Baker.	Asparagaceae	Satawar, Shatawari	Tubers are consumed as vegetables and powder form is consumed by lactating mothers.
4.	<i>Ceropegia bulbosa</i> Roxb.	Asclepiadaceae	Kharpudi	Tubers are boiled and eaten which is food supplement.
5.	<i>Chlorophytumborivilianum</i> Sant. & Fern.	Liliaceae	Safed-musali	Tubers are consumed as vegetables.
6.	<i>Colocasiaesculenta</i> L.	Araceae	Kochai, Arvi	Corms are eaten as vegetables.
7.	<i>Costusspeciosus</i> (Koen.)J.E. Smith.	Costaceae	Halduli/Besemati.	Rhizomes are edibleand powderof dried rhizome used as colouring agent.
8.	<i>Curculigoorchiooides</i> Gaertn.	Hypoxidaceae	Kali musli	Tuberous roots eaten as vegetables; decoction is consumed during illness.
9.	<i>Curcuma amadaroxb.</i>	Zinziberaceae	Ambehalad	Pickle and chutney are prepared from rhizome.
10.	<i>Curcuma zerumbet</i> L.	Zinziberaceae	Ranhalad	Root is preserved as pickle, and extract consumed as medicines.
11.	<i>Cyperus rotundus</i> L.	Cyperaceae	Nagarmotha	Tubers are preserved as pickle.
12.	<i>Dioscorea alata</i> L.	Dioscoreaceae	Ratalu, Nagarkand	Raw tubers used as vegetable and boiled tubers used for constipation.
13.	<i>Dioscorea bulbifera</i> L.	Dioscoreaceae	Karunda	Tubers are boiled and eaten.
14.	<i>Dioscorea esculanta</i> (Lour.)Burkill.	Dioscoreaceae	Kanak	Tubers are cooked and eaten.
15.	<i>Dioscorea hispida</i> Dennst.	Dioscoreaceae	Kuliakand	Chips are prepared from tubers and eaten.
16.	<i>Dioscorea oppositifolia</i> L.	Dioscoreaceae	Mataru	Tubers cooked and eaten as vegetable.
17.	<i>Dioscorea pentaphylla</i> L.	Dioscoreaceae	Padmati	Tubers are cut in to small pieces and boiled in water, water is decanted and used as food.
18.	<i>Euphorbia fusiformis</i> Buch-Ham. Ex Don.	Euphorbiaceae	Bhuihod	Tuberous roots were used by Bhagat to cure abdominal pain and urinary stone.
19.	<i>Nelumbo nucifera</i> Gaertn.	Nelumbonaceae	Kamal kakdi	Roots are steamed, cooked as soup and fried.
20.	<i>Nymphaeapubescens</i> Willd.	Nymphaeaceae	Kamal	Rhizomes are boiled and eaten.
21.	<i>Pueraria tuberosa</i> (Roxb.exWilld.) DC.	Fabaceae	Pithana	Tubers cooked as vegetable.
22.	<i>Schoenoplectusgrossus</i> (L.f.) Palla.	Cyperaceae	Kasarkanda	Starchy roots eaten raw or cooked.
23.	<i>Vigna vexillata</i> (L.)A.Rich.	Fabaceae	Halind	Tuberous roots are cooked and eaten.

Acknowledgement:

We are extending our thanks to age old local people, rural and tribal people of Thane district for sharing their knowledge and help during the course of study.

Authors Contributions

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

Authors Funding

There is no any funding agency; total work is done by own money.

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