



Ethnobotanical Assessment of Edible Plant Diversity in the Satpuda Ranges of Khandesh Region, Maharashtra, India

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ABSTRACT

The current study is about the knowledge of plants and how people use them for food in the rural areas of the Satpuda ranges of Khandesh region, Maharashtra, India. We did a lot of field work between 2022 and 2024 visiting places and talking to people during different seasons. We found out that people use 49 kinds of plants that are safe to eat for food and to help them survive during hard times. These plants are from different families and come in different forms like herbs, shrubs, trees and climbers. This study shows how important wild plants that are safe to eat are for making sure people have food especially in areas where the farming depends on the rain. The study also says that we need to protect these plants use them in a way that's good for the environment and learn more about the nutrients they have.

Keywords: Ethnobotany, Satpuda ranges, Wild edible plants, Khandesh, Food security, Traditional knowledge

INTRODUCTION

The study of how people use plants or ethnobotany is very important for understanding how people and plants interact, in rural and tribal areas. In India people have been passing down knowledge about how to use plants for food, medicine and to make a living for a time (Jain, 1991). The Satpuda ranges in the Khandesh region are a place with a lot of different kinds of plants and animals and the people who live there rely heavily on the natural environment for food and other things. Wild plants that are safe to eat are very important for peoples diets especially when there is not food or when it is very dry (Arora, 1981). Even though many things are changing people in areas still use the plants that grow naturally in their area. This knowledge is disappearing quickly because of changes in society and the economy (Dhale, 2023). So, it is very important that we write down this knowledge and make sure it is accurate so that we can protect the plants and help the environment.

MATERIAL AND METHODS

We studied the Satpuda ranges of the Khandesh region from 2022 to 2024 to learn about the knowledge of plants. We visited the area times during different seasons to collect information about how people use

Table 1. Description of Study Area

District	Latitude	Climate	Dominant Vegetation	Communities
Jalgaon	20.99°N	Semi-arid	Dry deciduous forest	Bhil, Pawra
Dhule	20.90°N	Tropical	Mixed forest	Bhil, Kokna
Nandurbar	21.37°N	Moderate rainfall	Dense forest	Tribal communities

plants for food for their animals for fuel for building and for medicine. We used ways of collecting and preserving plants (Jain & Rao 1977) and talked to the people who live in the area farmers and others who have traditional knowledge. We put all the information together. Analysed it to understand how people use plants, for food and other things.

Study Area

The study took place in the Satpuda region of North Maharashtra. This region includes Jalgaon, Dhule and Nandurbar districts. The area has dry deciduous vegetation. It also has moderate rainfall. The region is home to diverse populations. These populations have knowledge, about ethnobotany. The Satpuda region and its tribal populations were the focus of the study. The study explored their knowledge (Dhale and Chamle, 2026).

Plant Collection and Identification

Plant specimens were collected. Then they were processed using the standard herbarium techniques they have. The plant specimens identification was confirmed by using floras and botanical references (Patil, 2003). Voucher plant specimens were preserved in the herbarium of the Department of Botany. The people who did this work were possessing ethnobotanical knowledge, about the plant specimens.

RESULTS

Diversity of Edible Plants

A total of 49 plant species belonging to different families were documented. These species are consumed as fruits, vegetables, or leafy greens.

Table 1: Ethnobotanical Classification of Edible Plants

Sr. No.	Botanical Name	Common Name	Family	Habit
1	<i>Abelmoschus manihot</i>	Edible Hibiscus	Malvaceae	Herb
2	<i>Amaranthus polygonoides</i>	Amaranth	Amaranthaceae	Herb
3	<i>Amaranthus spinosus</i>	Spiny Amaranth	Amaranthaceae	Herb
4	<i>Amaranthus viridis</i>	Green Amaranth	Amaranthaceae	Herb
5	<i>Anogeissus latifolia</i>	Dhaora	Combretaceae	Tree
6	<i>Balanites aegyptiaca</i>	Desert Date	Zygophyllaceae	Tree
7	<i>Bambusa arundinacea</i>	Bamboo	Poaceae	Tree
8	<i>Basella alba</i>	Malabar Spinach	Basellaceae	Climber
9	<i>Butea monosperma</i>	Flame of Forest	Fabaceae	Tree
10	<i>Capsicum annum</i>	Chilli	Solanaceae	Shrub
11	<i>Carissa congesta</i>	Karonda	Apocynaceae	Shrub
12	<i>Carthamus tinctorius</i>	Safflower	Asteraceae	Herb
13	<i>Cassia tora</i>	Chakramarda	Fabaceae	Herb
14	<i>Clitoria biflora</i>	Butterfly Pea	Fabaceae	Climber
15	<i>Colocasia esculenta</i>	Taro	Araceae	Herb
16	<i>Commelina benghalensis</i>	Dayflower	Commelinaceae	Herb
17	<i>Commelina forskalaei</i>	Dayflower	Commelinaceae	Herb
18	<i>Corchorus olitorius</i>	Jute Mallow	Malvaceae	Herb
19	<i>Cordia dichotoma</i>	Lasoda	Boraginaceae	Tree
20	<i>Cordia gharaf</i>	Cordia	Boraginaceae	Tree
21	<i>Cordia macleodii</i>	Cordia	Boraginaceae	Tree

Table 1: Continued...

Sr. No.	Botanical Name	Common Name	Family	Habit
22	<i>Cucumis melo</i>	Muskmelon	Cucurbitaceae	Climber
23	<i>Cucurbita moschata</i>	Pumpkin	Cucurbitaceae	Climber
24	<i>Digera muricata</i>	Digera	Amaranthaceae	Herb
25	<i>Emblica officinalis</i>	Amla	Phyllanthaceae	Tree
26	<i>Ficus nervosa</i>	Fig	Moraceae	Tree
27	<i>Helicteres isora</i>	East Indian Screw Tree	Malvaceae	Shrub
28	<i>Hibiscus caesius</i>	Wild Hibiscus	Malvaceae	Shrub
29	<i>Holoptelea integrifolia</i>	Indian Elm	Ulmaceae	Tree
30	<i>Kigelia africana</i>	Sausage Tree	Bignoniaceae	Tree
31	<i>Kirganelia reticulata</i>	Bhui Amla	Phyllanthaceae	Herb
32	<i>Lagenaria siceraria</i>	Bottle Gourd	Cucurbitaceae	Climber
33	<i>Limonia acidissima</i>	Wood Apple	Rutaceae	Tree
34	<i>Momordica charantia</i>	Bitter Gourd	Cucurbitaceae	Climber
35	<i>Mukia maderaspatana</i>	Mukia	Cucurbitaceae	Climber
36	<i>Murraya oleifera</i>	Drumstick	Moringaceae	Tree
37	<i>Musa paradisiaca</i>	Banana	Musaceae	Herb
38	<i>Opuntia elatior</i>	Prickly Pear	Cactaceae	Shrub
39	<i>Oxalis corniculata</i>	Wood Sorrel	Oxalidaceae	Herb
40	<i>Pithecellobium dulce</i>	Manila Tamarind	Fabaceae	Tree
41	<i>Pongamia pinnata</i>	Karanja	Fabaceae	Tree
42	<i>Portulaca oleracea</i>	Purslane	Portulacaceae	Herb
43	<i>Portulaca quadrifida</i>	Purslane	Portulacaceae	Herb
44	<i>Rhus sinuata</i>	Sumac	Anacardiaceae	Shrub
45	<i>Rivea hypocrateriformis</i>	Morning Glory	Convolvulaceae	Climber
46	<i>Solanum nigrum</i>	Black Nightshade	Solanaceae	Herb
47	<i>Sphaeranthus senegalensis</i>	East Indian Globe Thistle	Asteraceae	Herb
48	<i>Tamarindus indica</i>	Tamarind	Fabaceae	Tree
49	<i>Ziziphus glabrata</i>	Wild Jujube	Rhamnaceae	Tree

DISCUSSION AND CONCLUSIONS

The study shows that people living in areas of the Satpuda ranges have a lot of knowledge about wild plants that are safe to eat. These plants are very important for food during droughts and famines. People mostly eat the leaves as cooked vegetables and the fruits raw.

Looking at how these plants grow we see that herbs are the common type with 18 out of 49 species. They are easy to find grow and are easy to get. Trees, with 17 species give fruits and other useful things like wood and animal food. Climbers, those from the Cucurbitaceae family are also important for food.

The region relies heavily on rain for animal food, which can be a problem. So we need to come up with plans, like creating fodder banks promoting plants that grow all year and using farming methods that include trees. We also need to check the nutritional and health benefits of these plants as Kala said in 2007.

The Satpuda ranges of Khandesh region have a lot of plants that people can eat. We found 49 kinds of plants that people use for food. These plants are very important for the people who live in this area. They help people have food to eat and stay healthy. The people in this area have known about these plants for a time and they use them when they do not have a lot of food.

People in the countryside still use plants that grow in the wild or that they plant themselves. They know a lot about the environment and how to adapt to it. People are hurting the environment and this is a big problem for the plants. We need to do something to protect these plants.

We need to find ways to protect these plants and make sure people know about them. We should also study these plants to see how nutritious they are and if they can be used for medicine. This will help us make sure people have food to eat and that we can use these plants in a way that is good for everyone.

Our study helps us learn more about the plants, in this area and how people use them. It will also help us plan for the future. Find ways to use these plants to help people have better lives. The Satpuda ranges of Khandesh region and the plants that grow there are very important. We need to take care of them so that people can keep using them for food and other things.

Conflict of interest

The authors declare no competing interests.

Data Availability Statement: Not applicable.

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