



A SURVEY ON NUTRITIVE VALUE OF SOME WILD EDIBLE FRUITS & VEGETABLES OF BHANDARA MARKETS (M.S), INDIA

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Article Received on 14/10/2023

Article Revised on 03/11/2023

Article Accepted on 24/11/2023

ABSTRACT

Plant species of economic importance and precious plants of commercial value constitute the natural flora of Bhandara District. Local populace and tribal communities are the natives of the nearby rural area of Bhandara town. These rural people largely depend on the wild plant products for their livelihood. Some unique plant species of nutritive value which were regularly being used and sold by the local people as it is a regular source of income. There are many wild plant products which have come to light in the recent year with miraculous effects such as disease and drought resistant. Thus it is essential to conserve these plants and to introduce them as commercial crops. In view of this, 25 varieties of seasonal wild vegetables and fruits are selling in the markets of different villages adjoining to Bhandara city was considered as study area. Frequent visit conducted to study area at different seasons to collect information regarding collection, nutritive value and use of wild vegetables and fruits by local people.

KEYWORDS: Natural flora, Tribal communities, Wild vegetable.

INTRODUCTION

Wild edible plants can be defined as native species that grow and reproduce naturally in their natural habitat without being cultivated. Humans have consumed wild edible plants since ancient times, and they have become part of the human diet and traditional food systems. Many rural and tribal communities are still using them as a supplement to their basic need of food. Some of them are sold in rural markets. But the popularity of these wild forms has recently increased because of their nutritive values. Apart from their traditional use of food, potentially they have many advantages and are excellent sources of vitamins, carbohydrates, protein, fibers and minerals and enormous medicinal potential. They consumed either raw or in processed form. They are immune modulator to many diseases and often used in different formulation of 'Ayurveda' in Indian folk-medicine. Dietary use of wild fruits and vegetables appears in numerous records from Bhandara District, Maharashtra. Some botanical exploration and publications have emphasized on the diversity and food value of wild edible fruit and vegetable plants. Indigenous fruit and vegetables play an important role in nutrition of people and children in rural and tribal communities. Some botanical exploration and publications have emphasized on the diversity and food value of wild edible fruit and vegetable plants.

Therefore, it is considered that special attention should be paid in order to maintain and improve this important wild source of food supply. The most important point is that these wild leafy vegetables supply nutrients during the rainy season when there is a shortage of cultivated green leafy vegetables and other vegetable resources (Lubdha A. Kagale & Surekha P. Rode, 2023) and also a source of macro and micro elements due to their high water content (Sundriyal M, Sundriyal RC, 2004). In view of this, a survey of some vegetable markets of Bhandara town and nearby villages was conducted and gathered information of wild fruits and vegetables. Information about Nutritive value and recipe using these plants sources were gathered from local people.

MATERIAL AND METHODOLOGY

Seasonal trips were under taken in Vegetable markets of Bhandara town and its nearby villages in search of vendors selling such wild leafy vegetables and fruits. Some plant specimens with local names were collected from vendors and identified with the help of local flora. The voucher specimens were deposited in Botany Department, J.M. Patel College, Bhandara. In view of this detailed information of 25 different wild vegetables and fruits were gathered along with Geo-tagged photographic data.

RESULT AND DISCUSSION

There are over 20,000 species of wild edible plants in the world (A. Abbasi et.al 2013). Indian tribes consume more than 1530 plants species for food in day to day life. Out of them 145 are tubers, 521 green vegetable, 101 flower species, 647 fruits and 118 are seed and dry fruits species. Out of which only 30 species of plants are domesticated. (Datar and Upadhye, 2016). In the present investigation, information on nutritive and medicinal value of some wild vegetables and fruits was recorded from vendors by questionnaires. The communication with these people was in Marathi. They have collected these seasonal wild vegetables and fruits from the vicinity of agriculture field, forest and barren lands. This was one of the sources of income for poor and tribal people. Some people also gave recipe preparation methods. Information about nutritive value was gathered from review of literature for most of the locally available wild plants and fruits. Many of the plant species have been reported for edible purpose by different workers from various parts of the country (Basu and Mukherjee, 1996; Nadanakunjidam, 2003). The plant parts used were

tuber, leaves, flowers, fruits and whole plant for food supplement. Vegetables play an important role in human diet. A diet rich in vegetables and fruits is considered healthy and supposed to reduce the possible risk of various diseases (Robinson DS, 1990). Wild plant species provide minerals, fibre, vitamins and essential fatty acids and enhance taste in diets which are necessary for good health (Tabassum M. A. Khan and Umesh B. Kakde 2014).

It is reported by several research workers that wild leafy vegetables have more valuable food ingredients than the cultivated common leafy vegetables and these wild leafy vegetables supply nutrients during the rainy season when there is a shortage of cultivated green leafy vegetables and other vegetable resources (Lubdha A Kagale & Surekha P. Rode, 2023). These wild vegetables provide a cheap source of protein (Chauhan et.al. 2014). Present study was performed on the basis of market survey study and from review of literature and relevant information being enumerated in the table.

Table: Nutritive Value of Some Wild Edible Fruits & Vegetables of Bhandara Town.

S.No	Scientific Name	Common Name	Family	Edible part	Nutritive Value
1	<i>Alternanthera sessilis</i> (L.) R Br	Gudhrisag	Amaranthaceae	Leaf & young branches	1. Total fat 1.0%, Carbohydrates 4.0%, fiber 8.0%, Protein- 4.7%, Vitamins, Calcium and Iron.
2	<i>Amorphophallus commutatus</i> L.	Shevala	Araceae	Tender inflorescence	2. Rich in minerals, vitamins and Proteins.
3	<i>Annona reticulata</i> L.	(Ramphal)	Annonaceae	Fruit	Carbohydrate- 25%, Fat-0.6% , Dietary fiber- 2.4%, Protein-1.4%.
4	<i>Averrhoa carambola</i> L.	Carambola (Star Fruit)	Oxalidaceae	Fruit	Fruit contains vitamins (B and C), minerals and fibre.
5	<i>Boerhaavia diffusa</i> L.	<i>Punarnava</i>	Nyctaginaceae	Leaf	Carbohydrate 5.2%; protein: 2.6%; fibre: 1.5%; fats: 0.3%
6	<i>Bambusa vulgaris</i> Schrad. ex J.C Wendl	<i>Bamboo shoots</i>	Poaceae	Bamboo Sprout	Rich macronutrients in sprouts (carbohydrate: 62.73%; protein: 12.8%; fat: 3.7%).
7	<i>Chenopodium album</i> L.	Chakvat (Chikni Baji)	Chenopodiaceae	Leaf	Carbohydrate 7%, fat 0.8 %, protein 4.3 %, fibre 2.1 %, iron 4%, Vitamin A Vitamin B Vitamin C.
8	<i>Chlorophytum tuberosum</i> (Roxb) Baker	Safed Musli (Kuli)	Asparagaceae	Leaf	Carbohydrate 0.3%, fat 0.43 %, protein 0.54 % , fibre 6.3% rich in antioxidants.
9	<i>Citrus maxima</i> (Burm.) Merr.	Papannasa/ Chakotara	Rutaceae	Fruit	Carbohydrate 3%, fat 0 %, protein 0.8 %, fibre 4 %, iron 4%, rich in Vitamin C.
10	<i>Coccinia grandis</i> (L.) Voigt.	Tindora	Cucurbitaceae	Fruit	1.4% of Iron, 0.8% of Vitamin B dietary fiber-1.6 % and Calcium 4%.
11	<i>Colocasia esculenta</i> (L.) Schott.	Arbi	Araceae	Leaf	<i>Colocasia</i> leaves are a good source of nutrients and contain dietary fiber, potassium, Vitamin E, Vitamin C, magnesium etc.
12	<i>Cordia dichotama</i> G.Forst.	Bhokar/ Gondani	Boraginaceae	Fruit	1. The pulp of the fruit contains water 6 %, protein 35 %, fat 37% and carbohydrate 18%.
13	<i>Dioscorea bulbifera</i> L.	Dukar kand	Dioscoreaceae	Tuber	Carbohydrate- 73.6 %, Fat-1% , Dietary fiber-0.35%, Protein- 7.4% and some minerals.

14	<i>Holarrhena pubescens</i> Wall.ex G.Don.	Pandhra kuda	Apocynaceae	Flower	Carbohydrate- 3 %, fiber-5.0%, Protein-4.5%, Cholesterol 0%.
15	<i>Ipomea aquatica</i> Forssk.	Nalichi Bhaji/ Kharmu Bhaji	Convolvulaceae	Leaf	Carbohydrate- 2.5 %, Fat-1% , fiber-5.5%, Protein-4.5%, Cholesterol 0%.
16	<i>Limonia acidissima</i> L.	Khawat	Rutaceae	Fruit	Fruit contain -carbohydrate: 7.1%; protein: 3.7%; fibre: 5.0%; mineral matters 1.9% and rich source of iron and vitamin C.
17	<i>Moringa oleifera</i> Lam.	Shevgyachya panache bhaji	Moringaceae	Leaf	Carbohydrate- 36.2 %, Fat-2%, fiber-27%, Protein-11.5% and high Iron content.
18	<i>Oxalys scandence</i> Roxb.		Olacaceae	Leaf	Rich macronutrients in Leaf (carbohydrate: 62.73%; protein: 12.89%; fat: 3.77%).
19	<i>Pithecelobium dulce</i> (Roxb.) Benth.	Chees bilai	Fabaceae	Fruit	Fruit contains high content of carbohydrates, Protein, fat and fiber.
20	<i>Portulaca oleracea</i> L.	Barik Ghor Bhaji	Portulacaceae	Whole plant	Barik Ghor Bhaji Bhaji is a highly nutritious, leafy vegetable with full of antioxidants, minerals and omega-3 fatty acids.
21	<i>Portulaca oleracea</i> L.	Motha Ghor Bhaji	Portulacaceae	Whole plant	Motha Ghor Bhaji is a highly nutritious, leafy vegetable with full of antioxidants, minerals and omega-3 fatty acids.
22	<i>Senna tora</i> (L.) Roxb.	Charota	Fabaceae	Leaf & young branches	Nutrition value: Carbohydrate- 36 %, Fat-2% Diatry fiber-27%, Protein-11%.
23	<i>Sesbania grandiflora</i> (L.) Poiret	Shevari	Fabaceae	Flowers	Nutritive value per 100g. Carbohydrate-6.73 g, Fat-0.4g, Diatry fiber-8.9 g, Protein-1.28g,
24	<i>Termitomyces heimi</i> Natarajan (1979)	Dumbarsati	Lyophyllaceae	Fruiting Body	Rich in Proteins and minerals
25	<i>Trianthema portulacastrum</i> L.	Pandhari/ Ghetuli	Aizoaceae	Leaf & young branches	Pandhari is used as a green vegetable rich in minerals, fibers and omega-3 fatty acids

PLATE-I



Wild leafy Vegetable vendors of Bhandara Market

PLATE-II



Nalichi Bhaji (*Ipomea aquatica*)



Avadi-dhavdi (*Chenopodium album*)



Gudhrisag (*Alternanthera sessilis*)



Canna Bhaji (*Commelina diffusa*)



Punarnava (*Boerhaavia diffusa*)



Mota Ghol Bhaji (*Portulaca oleracea*)



Haratfari (*Olax scandens*)



Charota (*Senna tora*)



Pandhra kuda (*Holarrhena pubescens*)



Pandhari ghetuli (*Trianthema portulacastrum*)



Shevari (*Sesbania grandiflora*)



Barik Ghol Bhaji (*Portulaca oleracea*)

SOME WILD VEGGIES OF BHANDARA MARKET

PLATE-III



Chees bilai (*Pithecellobium dulce*)



Khawat (*Limonia acidissima*)



Bhokar (*Cordia dichotoma*)



Ramphal (*Annona reticulata*)



Chironji (*Buchanania lanzan spreng.*)



Star Fruit (*Averrhoa carambola*)

SOME WILD FRUITS AVAILABLE IN BHANDARA MARKET

CONCLUSION

Due to increase of population and scarcity of food supply, there is a need to introduce more new crops and the support of new croppers is of global importance. These WEP are more resistant to drought and diseases than cultivated plants. Therefore, it is considered that special attention should be paid in order to maintain and improve this important wild source by introducing as cultivated crops, which contributes rural economy also.

ACKNOWLEDGEMENTS

I am thankful to our Principal Dr.Vikas Dhomne and Dr.Karthik Panicker, IQAC Co-ordinator for their support and encouragement. Special thanks to Dr. J.V. Gadpayle, Assistant Professor, S.N. Mor College, Tumsar for helping in identification of flora. I wish to express my sincere thanks to wild vegetable vendors for allowing me to take geo-tagged photographs.

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