Wild vegetables used by Rural communities of Akole district, Maharashtra

Sangita Dandwate

Department of Chemistry, SMBST College, Sangamner, Ahmednagar.422605, Maharashtra, India

Abstract

The present paper deals with the various wild vegetables plants used by triables of Akole district. During present study 22 species of plants have been studied, the ethnobotanical exploration, identification, concerns and unconventional wild vegetables consumed by the tribal communities inhabiting in the Kalsubai-Harishchandragarh Wildlife. They are consumed by cooked or raw. The proximate analyses of the sample were determined. Proximate analysis showed that Alternanthera sessilis L. is rich in the amount of protein with composition of 13.96 % and mean value for carbohydrates (61.4%)

KEYWORDS: Wild vegetable, nutrition, Akole district, community

Introduction:

Tribals of different parts of the world use their local plant resources for different purpose like food, medicine shelter and others. About 800 species of wild & edible plants used in different floristic regions and are consumed by tribal communities (Sing & Arora, 1978). Several works have been done on wild edible plants used by different communities of India, such as edible plants from Melghat forest Maharashtra (Bhogaonkar et.al 2010), Plant resources from Thane district Maharashtra (Marathe 2012), Wild edible plants from Arunachal Pradesh India (Tapan et.al 2017) Wild leafy vegetables from North East India
(Saikia et.al 2013), Wild edible plants from Annamalai Coimbtore district Western Ghat
(Ramchandran 2007), Dietary uses of wild plants in Skkim Himalalaya (Sunder day et.al 2004), Wild plants from Tripura India (Majumdar et.al 2009), and wild edible plant uses in Ahmednagar district Maharashtra (Khyade et.al 2009) .Tribal communities in this region are Warli, Koli, Thakar, Katkari and Dhodia. These communities use plants from their locallity as per seasonal availability. They have maintained valuable knowledge system of plant utilization.

The Western Ghats of Maharashtra covers an area of 52,000 km^2 Ahmednagar district is one of the ten district of Western Ghats region. This district covers an area of 17,035km2 and lies between 73º9' to 75º5' E and 18º2' to 19º9' N. Vegetables are sources of vitamins, ascorbic acid, niacin, riboflavin and thiamine and minerals, calcium and iron, as well as supplementary protein and calories (FAO, 1988).

Material and Methods:

The field survey was undertaken during the period from June 2014 to March 2016. During this 2 years period all seasons of a year observed and studied the tribal areas of Akole district Maharashtra. Different field visits will be undertaken in different seasons along with tribal people for collection wild vegetables. The studies were

undertaken on twenty two wild edible vegetables Chlorophytum tuberosum, Caralluma adscendens, Cassia tora, Arisaema murrayi, Celosia argentea, Clerodendrum serratum and Smithia purpurea etc.. Different field visits will be undertaken in different seasons along with tribal people for collection wild vegetables. The choice of plant parts were leaves, stems, flowers, and fruits which were collected from Kalsubai- Harishchandragarh wildlife sanctuary. These plants were identified and classified with expert using floras; moreover photographs of the plant will be taken Out of these one wild vegetable were analyzed .The sample were washed under running water and blotted dry .The moisture content of the leaf sample was determine at 60^{o}c the dried matter obtain was ground to a fine powder and store at 5^{0}c in air tight containers prior to further analysis.

The proximate analyses (moisture, ash, crude fats, proteins and carbohydrates) of the sample were determined. The moisture and ash determined using weight difference method. All the proximate values were reported in % (AOAC 1990)**.** The results were presented with their means, standard deviation. Table 1 shows plant used as vegetables by tribal and villager of Akole district and Table 2 shows mineral Composition Alternanthera sessilis (L.)

Table 1: Plant used as vegetable by tribal and villager of Akole district

Sr. No	**Botanical Name**	**Family**	**Growth Habit**	**Parts used**
1	*Arisaema murrayi* (Grah.) Hook.	Araceae	Herb	Tuber
2	*Argyreia nervosa* (Burm.f.) Boj.	Convolvulaceae	Climbers	Leave
3	*Boerrhavia diffusa* Linn	Nyctaginaceae	Herb	Leaves
4	*Caralluma adscendens* R.Br.	Asclepiadaceae	Herb	Stem
5	Alternanthera sessalis	Amaranthaceae	Herb	Leaves
6	*Cassia tora* L.	Caesalpiniacea	Herb	Leaves,unripe fruit
7	*Celosia argentea* L.	Amaranthaceae	Herb	Leaves
8	*Ceropegia bulbosa* Roxb	Asclepidaceae	Climber	Tuber
9	*Chlorophytum tuberosum*	Liliaceae	Herb	Tuber
10	*Clerodendrum serratum* (L.) Moon.	Verbenaceae	Herb	Leaves
11	*Colocasia esculenta* (L.)Schott.	Areceae	Herb	Leaves,Tuber
12	*Coccinia indica* weight	Cucurbitaceae	Climber	Fruit
13	*Cordia dichotoma* Forst.f.	Boraginaceae	Tree	Fruit
14	*Digera muricata* (L.) Mart	Amaranthaceae	Herb	Young fruit

15	*Dioscorea bulbifera* L.	Dioscoreaceae	Climber	Bulbils
16	*Ipomoea aquatica*	Convolvulaceae	Climber	Leaves
17	*Momordica dioica* Roxb. Ex. Willd.	Cucurbitaceae	Climber	Fruits
18	*Oxalis corniculata* L.	Oxalidaceae	Herb	Whole plant
19	*Rivea hypocrateriformis* (Desr.) Choisy.	Convolvulaceae	Climber	Leaves
20	*Smithia bigemina* Dalz	Papilionaceae	Herb	Leaves
21	*Smithia purpurea* Hook	Papilionaceae	Herb	Leaves
22	*Solanum anguivi* Lam.	Solanaceae	Herb	Fruits

Table 2: Proximate Composition of *Alternanthera sessalis*

Sr.No	Parameter	*Alternanthera sessalis*
1	Moisture (%)	46.2±0.42
2	Ash content (%)	20.43±0.77
3	Energy value (Kcal/100g)	301.66±14.50
4	Protein (%)	13.96±0.60
5	Carbohydrate (%)	61.4±0.87
6	Crude Fiber (%)	10.36±0.70
7	Fat (%)	0.27±0.04

Table 3: Mineral composition in mg/100 gram

Sr.No	Parameter (mg/100g)	*Alternanthera sessalis*
1	Na	104.67±7.63
2	K	2460±48.87
3	Ca	1036.33±25.77
4	Mg	1282.66±13.01
5	Mn	35.27±0.70
6	Fe	7782.33±51.20
7	Co	0.63±0.046
8	P	125.67±7.02
9	Cd	0.726±0.02
10	Cr	53.63±0.15
11	Pb	BDL(DL:0.1)

12	Ni	10.16±0.83
13	Zn	39.76±0.30

Result and discussion:

The mineral composition of Alternanthera sessilis is as shown in Table 2.The mineral .The moisture content of the dried sample is 46.2±0.42 % and is within the acceptable range for good keeping (Harvey, 1995). The fat content is 0.11±0.01%. This value is within the range reported in literature for leafy vegetables (Sheela et al., 2004). The crude protein is 13.96±0.60 % , its crude fibre is 10.36±0.70%. The ash content of 20.43±0.77% indicates its high inorganic components (Pearson, 1981). Alternanthera sessilis showed high concentrations of calcium, phosphorus, potassium, sodium, magnesium, iron, zinc and copper while the concentrations of manganese, cobalt are in trace. The low concentrations of cobalt and other heavy metals make it suitable for consumption. . A detail evaluation of nutritional content of potential species should be conducted for integration into the agriculture system based on the nutritive value and for conservation of important germplasm.

Conclusion:

Now a days the knowledge and practice of using wild plant as food is fast disaapering. Only the senior people of the community have this traditional knowledge. The traditional knowledge of wild food plant may serve as base line data for future research. It will be documentary of traditional knowledge on diet for future generation.

. It will be good practice for health and helpful for researchers and students . Only the senior people of the community have this traditional knowledge So efforts must be taken to conserve wild food plants species and also the traditional knowledge for sustainable uses of biodiversity and food security.

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