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Traditional Leafy Vegetables consumed by Oraon Tribes of Lohardaga, Jharkhand

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Abstract
Jharkhand consists of total 32 tribes in total, out of which Oraons are one of the major tribes found in Lohardaga district. Their livelihood mainly revolves around the forest products and agriculture. This present study aims to study the one of the most consumed food in their day to day life which is leafy vegetables. Total of 49 plant species belonging to 27 families were found. Out of which plant species belonging to family Fabaceae were found to be maximum followed by Amaranthaceae, Brassicaceae and others. More than half of the leafy vegetables were found to be herbs (68%) followed by trees (12%) whereas creepers and shrubs were found to be in same composition that is 10% each.

Keywords: Jharkhand, Leafy vegetables, Oraon, Traditional, Tribes

1. Introduction

Jharkhand is a state of India, known as 'Land of Forests' and is a home for various medicinal plants and tribal communities. About 32 tribal communities are found in different regions of the state. Tribal people play important roles in Jharkhand for having dense forest and vegetation, since the livelihood of tribal is totally revolves around the forest resources [1]. They use forest resources in their day to day life such as wood, leaves, barks, fruits etc. for their food, shelter, medicines and for their various domestic chores. Even the festivals they celebrate are dedicated to trees. 'Sarhul' and 'Karma' is a festival celebrated especially by 'Oraon' communities where they worship Saal (*Shorea robusta*) trees and Karam (*Adina cardifolia*) trees. 'Magh Parab' and 'Baha' festivals are celebrated by 'Ho' and 'Santhal' communities which involve rice crops, Saal tress and Bel (*Aegle marmelos*) trees. 'Sohrai' is a festival mainly celebrated by 'Santhal' communities to celebrate new crops of the season. Since tribals mainly dependent on forest resources they are more familiar to wild edible and non-edible plants which are generally unknown to us. One of the most edible plant parts is leaves commonly known as 'Saag'. Since they are easily available in forests, easy to cultivate, cheap and nutritious, they consume it as daily food [2]. According to various research and studies it has been found that LV (leafy vegetables) is high in mineral and protein contents [3]. Oraon communities of the studied area consume saag as cooked or steamed like any other vegetables with rice and chapatti. Seasonal LV is sun dried, powdered and kept in air tight containers so that it can also be consumed in off season. Suparna Ghosh- Jerath *et al* (2015) [4] studied traditional diet of Oraon tribes of Jharkhand where consumption of rice, pulses and green LV were found commonly. It was also observed that different varieties of Green LV were consumed in large amount with rice as compared to pulses in their daily diet [4].

2. Materials and Methods

2.1. Study Area

The study was conducted in Lohardaga district. Lohardaga is one of the districts located in Jharkhand and covers 1491 km^2 of area. It is surrounded by Latehar, Gumla and Ranchi district in north, south and west respectively. It ranges from 23°30'N to 23°40'N latitudes and from 84°40'E to 84°50'E longitudes and receives about 1000- 1200mm of annual average rainfall. According to Census, the population of Lohardaga is 461,790 and 67.61% of literacy rate. Lohardaga is known as 'Land of Bauxite' and is covered with hill blocks and forests. And about 56.9% of total population is of tribal communities. Hence, large no of population of this district depends on agriculture and forest products. District has seven blocks namely Peshrar, Kairo, Kuru, Kisko, Bhandra, Lohardaga and Senha.

2.2. Data Collection

A field survey was carried out in areas of Oraon communities residing in Lohardaga district. The main purpose of the study is to explore traditional information with the help of local Oraon people who call themselves 'Kurukhars' as they mainly speak 'Sadri' and 'Kurukh' language [5]. Interviewed people were inhabitants of different blocks of Lohardaga. Information was collected through semi- structured interview. Plant species were collected from the farms, cultivated land, local markets and home garden. Majority of interviewed people were fluent in both, their mother tongue (Kurukh) and local language that is Hindi. Identification of collected specimens of LV was done with the help of taxonomic experts and also with the help of floras [6].

3. Results

After interaction with Oraon tribals of Lohardaga district, total of 49 LV and 27 different families were found which was mainly consumed by them in their daily diet (Table 1). Out of 27 plant families, maximum were of Fabaceae family followed by Amaranthaceae and Brassicaceae families (Figure1). Mostly leaves and young shoots are consumed followed by other plant parts like bulbs, tubers, roots, fruits and flowers. The species of LV have been arranged alphabetically (Table 1). Botanical names of species have been mentioned followed by local name, family name, parts consumed and habit.

Table 1: List of traditional leafy vegetables consumed by Oraon tribes in Lohardaga district

SL No.	Botanical Name	Local Name	Family	Parts Consumed	Habit
1.	*Allium cepa* L.	Pyaz saag	Amaryllidaceae	Leaves , bulb	H
2.	*Aliium sativum* L.	Lahsun saag	Amaryllidaceae	Young leaves, bulb	H
3.	*Amaranthus dubius* Mart. Ex Thell.	Gandhari saag	Amaranthaceae	Leaves, Young shoots	S
4.	*Amaranthus gangeticus*	Laal saag	Amaranthaceae	Leaves, Young shoots	H
5.	*Amaranthus virdis* Linn.	Bhaji saag	Amaranthaceae	Leaves	H
6.	*Amorphophallus paeoniifolius* (Dennst.) Nicolson	Oal saag	Araceae	Young leaves, tuber	H
7.	*Anethum graveolens* Retz.	Soya saag	Apiaceae	Leaves, Young shoots	H
8.	*Antidesma acidum*	Matha saag	Phyllanthaceae	Leaves	T
9.	*Basella alba* L.	Pui saag	Basellaceae	Leaves, Young shoots	C
10.	*Buhinia purpurea* L.	Koinar saag	Fabaceae	Leaves, Flowers	T
11.	*Brassica campestris*	Sarson saag	Brassicaceae	Leaves	S
12.	*Brassica juncea* L. Czern.	Rai saag	Brassicaceae	Leaves	S
13.	*Brassica oleracea* L.	Kobi saag	Brassicaceae	Whole plant	H
14.	*Brassica oleracea* var. botrytis	Bandha saag	Brassicaceae	Leaves, Flowers	H
15.	*Cassia tora* L.	Chakod saag	Fabaceae	Leaves	H
16.	*Celosia argentea* L.	Silwary saag	Amaranthaceae	Leaves, Young shoots	H
17.	*Centella asiatica* Linn.	Beng saag	Apiaceae	Whole plant	H
18.	*Chenopodium album* Linn.	Bathua saag	Amaranthaceae	Young whole plant\ Mature leaves	H
19.	*Cicer arietinum*	Chana saag	Fabaceae	Leaves	H
20.	*Cinnamomum tamala*	Tej patta	Lauraceae	Leaves	T
21.	*Colocasia antoquorum*	Kachhu saag	Araceae	Leaves, Young shoots, tubers	H
22.	*Colocassia esculenta* (L.) schott	Chitrawali saag	Araceae	Leaves, Young shoots	H
23.	*Coriandrum sativum* L.	Dhaniya saag	Apiaceae	Whole plant	H
24.	*Corchorus capsularis* L.	Chench saag	Malvaceae	Leaves	H
25.	*Cucurbita pepo* L.	Konhra saag	Cucurbitaceae	Leaves, Flowers, Young shoots	C
26.	*Diplazium esculentum* Retz.	Machli saag	Athyriaceae	Whole plant	H
27.	*Ficus geniculate* Kurz.	Phutkal saag	Moraceae	Young leaves	T
28.	*Hibiscus sabdariffa* L.	Kudrum saag	Malvaceae	Leaves, Flowers	S
29.	*Gamochaeta pensylvanica* W.	Rakh saag	Asteraceae	Leaves	H
30.	*Ipomoea aquatic* Forssk.	Karmi saag	Convolvulaceae	Leaves	C
31.	*Ipomea batatas* (L.) Lam.	Kanda saag	Convolvulaceae	Leaves, tubers	C
32.	*Lathyrus sativus* L.	Khesra saag	Fabaceae	Whole plant	H
33.	*Limnophila conferta* Benth.	Muchri saag	Scrophulariaceae	Whole plant	H
34.	*Marsilea quadrifolia* Linn.	Sunsuniya saag	Marsileaceae	Whole plant	H
35.	*Mentha piperita*	Pudina saag	Lamiaceae	Whole plant	H
36.	*Moringa oelifera* Lam.	Joki/ Munga saag	Moringaceae	Leaves, flowers, fruits	T
37.	*Murraya koenigii* (L.) Sprengel	Karipatta	Rutaceae	Leaves	T
38.	*Oxalis corniculata* Linn	Netho saag	Oxiladeaceae	Leaves	H
39.	*Pisum sativum* L.	Matar saag	Fabaceae	Young leaves	H
40	*Polygonum plebeium* R. B	Chimti saag	Polygonaceae	Whole plant	H
41.	*Portulaca oleracea* Linn.	Golgola saag	Portulacaceae	Whole plant	H
42.	*Raphnus sativus* L.	Muli saag	Brassicaceae	Leaves, tubers	H
43.	*Solanum tuberosum* L.	Aloo saag	Solanaceae	Leaves, tubers	H
44.	*Spergula arvensis* L.	Chari saag	Caryophyllaceae	Leaves, Fruits	H
45.	*Spinacia oleracea* L.	Palak saag	Amaranthaceae	Whole plant	H
46.	*Trianthema monogyna* Linn.	Khapra saag	Aizoaceae	Whole plant	H
47.	*Trigonella foenumgraecum* L.	Methi saag	Fabaceae	Whole plant	H
48.	*Vangueria spinose* Roxb.	Katai saag	Rubiaceae	Leaves	S
49.	*Vicia hirsute* (L.) Gray.	Chirnji saag	Fabaceae	Whole plant	C

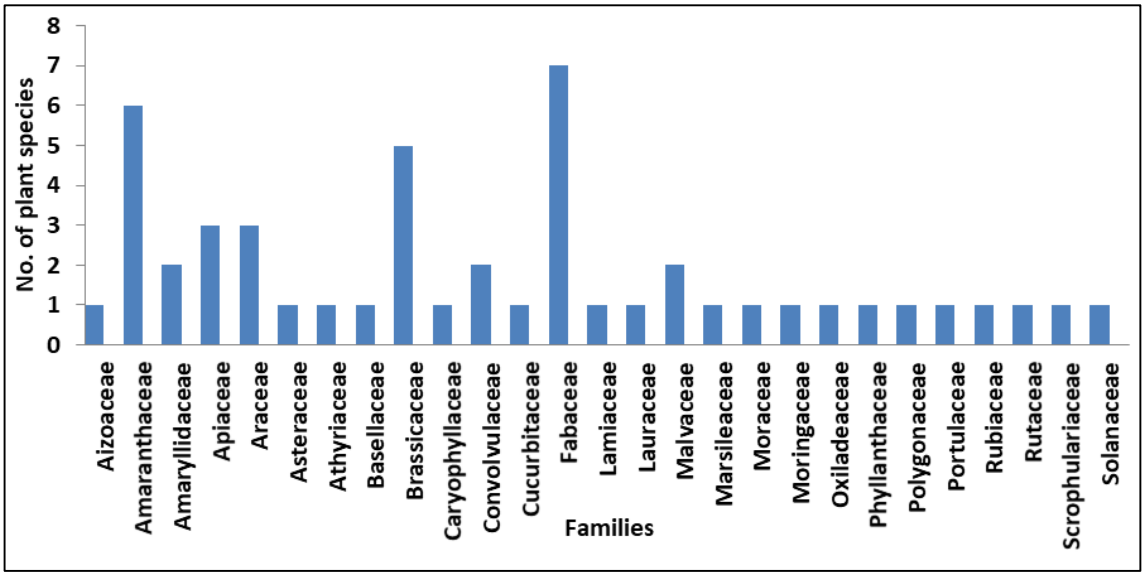

Fig 1: Bar graph showing families with their species number present in Lohardaga district

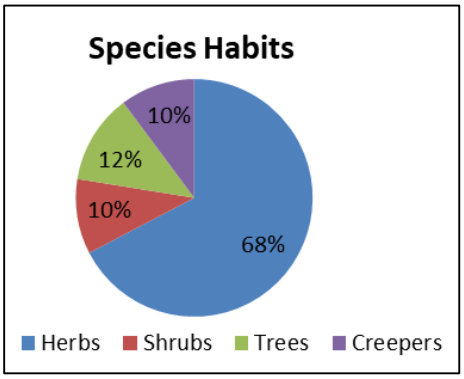

Fig 2: Pie chart showing proportion of different habits of plant species of Lohardaga district

4. Discussion

Many rural parts of India are still dependent on agriculture for their day to day life. Oraon tribes are also one of them. Since LV are easy to cultivate than any other vegetables, easily availability of wild edible LV in forests, cost effective, nutritious and low maintenance in preserving for long time are some of the reasons why tribal mostly prefer LV as their food. Even name of the plants including LV varies in different tribes and region to region as the names were kept depending on their looks, taste and characters such as *Amaranthus gangeticus* are called as laal saag due to its red color, *Centella asiatica* Linn. as 'beng saag' because of its resemblance with frog and *Diplazium esculentum* Retz. as 'machli saag' due to its resemblance with fish [7- 8]. It was also found that most of the plant species have same name in Kurukh as in local name. It is also possible that local name of LV are mostly taken from kurukh names. Some LV such as *Buhinia purpurea* L., *Centella asiatica* Linn., *Corchorus capsularis* L., *Diplazium esculentum* Retz., *Ficus geniculate* Kurz., *Marsilea quadrifolia* Linn., *Trianthema monogyna* Linn. and *Moringa oelifera* Lam. are also used for the treatment of different ailments by the Oraon tribes due to their medicinal properties. Out of total 27 plant species half of them were herbs (68%) followed by trees (12%) whereas creepers (10%) and shrubs (10%) were found to be the least (Figure 2). Most of the LV is seasonal and cultivated while some semi- wild and wild ones are collected from the forests. *Marsilea quadrifolia* Linn. is been at a risk of extinction and also been categorized as endangered plant [9-10]. From past generation till today tribes are mainly dependent on agriculture and forest products and Oraon tribe is one of them. LV has also been encouraged by AVRDC to be grown in kitchen or home garden [11].

Fig 3: Some of the traditional leafy vegetables consumed by Oraon tribes of Lohardaga

Fig 4: Some of the traditional leafy vegetables consumed by Oraon tribes of Lohardaga

5. Conclusion

Leafy vegetables are tribal's go to food as they are easy to cultivate as compared to other vegetables and are quick and easy to cook. Some of the collected LV are still unknown to majority of non-tribal locals and are not used by them in any form. These unknown leafy vegetables have great medicinal potential [12]. These LV have potential to fulfil the demand of food and nutrition of increasing population and also in healthcare sector as well due to their medicinal properties. Therefore, it is important to acknowledge and secure this traditional knowledge of Oraon tribe and further nutritional study is required in less known species.

References

1. Islam MA, Rai R, Quli SMS. Forest resources use for building livelihood resilience in ethnic communities of Jharkhand, Trends in Biosciences. 2015; 8(5):1256-1264.
2. Ghosh-Jerath S, Singh A, Lyngdoh T, Magsumbol MS, Kamboj P, Goldberg G. Estimates of indigenous food consumption and their contribution to nutrient intake in Oraon Tribal Women of Jharkhand, India, Food. Nutri. Bull. 2018; 39(4):581-594.
3. Gupta S, Srivastava A, Lal EP. Food and Nutritional Security through wild edible vegetables or weeds in two district of Jharkhand, India, J. Pharmacogn. Phytochem. 2017; 6(6):1402-1409.
4. Ghosh-Jerath S, Singh A, Kamboj P, Goldberg G, Magsumbol MS. Traditional knowledge and nutritive value of indigenous foods in the Oraon tribal community of Jharkhand: an exploratory cross-sectional study, Ecol. Food Nutr. 2015; 54(5):493-519.
5. Xaxa V, Oraons: religion, customs and environment, IIC Quarterly. 1992; 19(½):101-110.
6. Haines HH. The botany of Bihar and Orissa, Published under Authority of the government of Bihar and Orissa, London, 1925.
7. Narayan MR, Anil kumar N, Balakrishnan V, Sivadasan M, Alfarhan HA, *et al*. Wild edible plants used by the Kattunaikka, Paniya and Kuruma tribes of Wayanad District, Kerala, India, Med. Plant Res. 2011; 5(15):3520-3529.
8. Singh LR, Rani V. Food and nutritional security through edible leafy wild vegetables constituting the food environment of tribal and other forest dwellers in the Jharkhand State of India, J Pharmacogn. Phytochem. 2019; 5:255-263.
9. Bruni I, Gentili R, De Mattia F, Cortis P, Rossi G, Labra M. A multi-level analysis to evaluate the extinction risk of and conservation strategy for the aquatic fern *Marsilea quadrifolia* L. in Europe, Aquat. Bot. 2013; 111:35-42.
10. Schneider-Binder E. The four leaf water clover (*Marsilea quadrifolia* L.) an endangered species. Aspects of conservation and management. TRSER. 2014; 16(1):161-176.
11. Easdown WJ, Ravishankar M, Kaur DP, Bhushan KB. Traditional leafy vegetables of a tribal community in Jharkhand, India. In XXIX International Horticultural Congress on Horticulture: Sustaining Lives, Livelihoods and Landscapes (IHC2014), 2014, 43-52.
12. Marandi RR, Britto SJ. Medicinal properties of edible weeds of crop fields and wild plants eaten by Oraon tribals of Latehar district, Jharkhand, Int. J Life Sci. Pharma. Res. 2015; 5(2):9-20.