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Ethnobotanical Survey to Perceive the Knowledge of Wild Edible Plants Related to Ecology and Society in Parapram, Kerala

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Abstract: This paper discusses the value of nutritional plants and importance of them in the diet. Different parts of plants are edible; they include fruits, leaves, stems etc. Each plant has its own nutritional value in maintaining the nutritional deficiency of people. This paper list out most important wild edible plants available in Parapram, Kerala and also to identifies highly nutritive plant source.

Keywords: Wild edible plants, ethnobotany

I. INTRODUCTION

Planet earth is endowed with a rich variety of life forms, and the teeming millions of these living organisms have been well knit by the laws of nature. The interdependence of the various life forms starting from the unicellular primary producers to the complexly built higher plants and animals is a unique feature of this green planet.

Global food security and economic growth now depends on a declining number of plant species. In human history, 40-100,000 plant species have been regularly used for food, fibres, shelter, industrial, cultural and medicinal purposes. However, only a small number of plants are widely used. The remaining plant diversity is underutilized. Underutilized

plants contribute immensely to family food security and serve as means of survival during times of drought, famine, shocks and risks. They can also supplement nutritional requirements due to their better nutritional value. (Jyotsna Salvi *et al*, 2016)

The aim of this study was to explore, collect and identify wild plants used by villagers of Parapram, Kerala. The data were collected from the people through questioner survey.

The edible plants have played an important role as a natural source of food. During famine and before regularization of conventional agriculture wild edible plants are the only sources of food. This survey helps to identify the value of edible plants and uses of them in our diet.

II. MATERIALS AND METHOD

The ethno botanical survey was carried out in rural areas of Parapram, Kerala (Fig-1). Plant species and field note book were the main materials used in the survey. The data collected through discussions and interviews with experienced persons, traditional healers, available floras and literature. All observations are noted in the field note book. The uses of plant species are gathered by interviewing elderly people and traditional vaidyas of the area. Photographic documentation of the plant species was also done. The plant species has been enumerated family wise. The families are arranged alphabetically and under each family genus and species are also arranged alphabetically.

A. Study Area

Parapram is situated in Pinarayi Gramapanchayath of Thalassery Taluk, Kannur District, Kerala (Fig 1). It is 9 meters above the sea level. The area exhibits a variety of habitats such as coconut and Arecant plantation, wetland and cultivated land. It is located 14 KM towards East from District head quarters Kannur, 8 KM from Thalassery . 472 KM from State capital Thiruvananthapuram.

Malayalam is the local language used here. The main occupation of villagers in the area is beedi manufacturing and toddy tapering. Parapram is surrounded by Thalassery Taluk towards south, Kuthuparamba taluk towards east, Kannur taluk towards west. The place is in the border of Kannur district and Kozhikode district. The people living in this area mainly depend up on wild edible plants for their food and also they cultivate edible plants for food.

Fig 1



III. RESULT AND DISCUSSION

Based on the survey taken in Parapram, Kannur district, Kerala, 71 wild edible plants were recorded. The wild edible plants were grouped based on their families and part used. Among the 71 plants 5 red listed plants were also recorded.(Table 1)

In the selected area Parapram, Kannur district kerala while considering the edible plants, dicots are the dominating plants and monocots are very less in number. That is among 71 plants 65 are dicot plants and 6 are monocot plants (Chart 1). 4 categories of plants found in the study area. That is herb, shrub, tree and vine. Tree found in 46.48%, herb found in 28.17%, vine in 15.49% and shrub in 9.86%. This shows that trees are the most dominating category of plant and shrubs are the least dominating category in the study area (Chart 2). Different parts of the plant are consumed directly or indirectly such as leaf, fruit, seed, root, bark, tuber, rhizome, flower, nuts and kernel. It shows that fruits are most commonly used as edible part (54.88%) followed by leaves (25.61%). (Chart 3)

Table 1 - WILD EDIBLE PLANTS USED IN PARAPRAM

S.No	BOTANICAL NAME	FAMILY	LOCAL NAME	HABIT	PARTS USED
1	<i>Amaranthus viridis</i> ,L.;	Amaranthaceae	Kuppacheera	Herb	Leaf stem
2	<i>Amarantus dubuis</i> , Mart. ex Thell.;	Amaranthaceae	Red spinach	Herb	Leaf, Stem
3	<i>Alternanthera brasiliiana</i> ,(L.)Kuntze.;	Amaranthaceae	Kaattu cheera	Herb	Leaves
4	<i>Amaranthus spinosus</i> , L.;	Amaranthaceae	Mullik cheera	Herb	Leaves Stem
5	<i>Spondias mombin</i> , L.;	Anacardiaceae	Sweet ambazham	Tree	Fruit
6	<i>Anacardium occidentale</i> , L.;	Anacardiaceae	Cashew tree	Tree	Fruit
7	<i>Mangifera indica</i> , L.;	Anacardiaceae	Mango tree/ Maavu	Tree	Fruit
8	<i>Anona reticulate</i> , L.;	Annonaceae	Custard apple/ Aatha	Tree	Fruit
9	<i>Anona squamosa</i> ,L.;	Annonaceae	Sugar apple / Seetha fruit	Tree	Fruit
10	<i>Centella asiatica</i> ,(L.)Urb.;	Apiaceae	Muthil	Herb	Leaf
11	<i>Amorhophallus campanulatus</i> , Bl.;	Araceae	Chena	Herb	Tuber leaf
12	<i>Carica papaya</i> , L.;	Caricaceae	Papaya	Sparsely branched tree	Fruit

13	Terminalia catappa L.;	Combretaceae	Badham	Tree	Nuts Kernel
14	Coccinia grandis(L.) Voigt.;	Cucurbitaceae	Kovakka	Vine	Fruit
15	Luffa aegyptiaca Mill.;	Cucurbitaceae	Sponge gourd	Vine	Fruit
16	Benincasa hispida(Thunb.)Cogn.;	Cucurbitaceae	Ash gourd	Vine	Fruit
17	Cucumis sativus L.;	Cucurbitaceae	Cucumber	Vine	Fruit
18	Cycas circinalis, L.;	Cycadaceae	Eendhu	Tree	Seed
19	Manihot esculenta Crantz.;	Euphorbiaceae	Tapioca / Kappa	Shrub	Root(under ground tuber)
20	Targia involucrata L.;	Euphorbiaceae	Kodithoova	Climber	leaves
21	Phyllanthus emblica L.;	Euphorbiaceae	Indian gooseberry	Tree	Fruit
22	Phyllanthus acidus(L.)Skeels.;	Euphorbiaceae	Chathura nellikka	Tree	Fruit
23	Phyllanthus niruri L.;	Euphorbiaceae	keezharnelli	Herb	Leaf
24	Cassia tora, L.;	Fabaceae	Thavara/Thakar a	Herb	Leaf
25	Vigna unguiculata (L.) Walp.;	Fabaceae	Cowpea	Vine	Fruit
26	Tamarindus indica L.;	Fabaceae	Tamarind	Tree	Fruit
27	Samanea saman F.Muell.;	Fabaceae	Rain tree	Tree	Fruit
28	Lablab purpureus(L.)Sweet.;	Fabaceae	Avara	Vine	Fruit
29	Glycine max(L.)Merr.;	Fabaceae	Glycine max	Vine	Fruit
30	Garcinia indica, Chois.;	Guttiferae	Kokum	Tree	Fruit
31	Garcinia xanthochymus, Hk. F.;	Guttiferae	Mangosteen	Tree	Fruit
32	Ocimum sanctum L.;	Lamiaceae	Tulsi / Holy basil	Herb	Leaves
33	Plectranthus barbatus Andrews.;	Lamiaceae	Panikoorkka	Herb	Leaf
34	Cinnamomum burmannii (Nees&T.Nees)Blume.;	Lauraceae	Carappa	Tree	Bark
35	Persea americana Mill.;	Lauraceae	Butter fruit	Tree	Fruit
36	Aloe vera(L.)Burm.f.;	Liliaceae	Kattar vazha	Herb	Leaf
37	Maranta arundinacea L.;	Marantaceae	Koova	Herb	Rhizome
38	Artocarpus altilis(Parkinson)Fosberg.;	Moraceae	Kadachakka/che emachakka	Tree	Fruit
39	Moringa oleifera, Lam.;	Moringaceae	moringa	Tree	Leaf, Drumstick
40	Musa paradisiacal, L.;	Musaceae	vaazha	Herb	Fruit , Stem, Flowers
41	Syzygium cumini (L.) Skeels.;	Myrtaceae	Njaval pazham	Tree	Fruit
42	Psidium guajava L.;	Myrtaceae	Guava	Tree	Fruit Leaf
43	Syzygium samarangense (Blume)Merr.&L.M. Perry.;	Myrtaceae	Chaamba	Tree	Fruit
44	Boerhaavia diffusa L.;	Nyctaginaceae	Boerhaavia	Herb	Leaf
45	Boerhaavia erecta L.;	Nyctaginaceae	Boerhaavia	Herb	Leaf
46	Nymphae nouchali Burm.f.;	Nymphaeaceae	Blue water lilly	Herb	Tuber Rhizome
47	Averrhoa bilimbi L.;	Oxalidales	bilimbi	Tree	Fruit
48	Passiflora ligularis A. Juss.;	Passifloraceae	Passion fruit	Vine	Fruit

49	Pipper nigrum L.;	Piperaceae	Black pepper	Woody vine	Fruit
50	Portulaca oleracea L.;	Portulacaceae	Verdolaga	Herb	Leaf Stem
51	Talinum fruticosum (L.) Juss.;	Portulacaceae	Sambar cheera	Herb	Leaf
52	Ziziphus oenoplia, Mill.;	Rhamnaceae	Nullikka	Shrub	Fruit
53	Prunus cerasus, L.;	Rosaceae	Cherry	Tree	Drupe fruit
54	Ixora coccinea L.;	Rubiaceae	Chekki	Shrub	Flowers
55	Coffea arabica L.;	Rubiaceae	Coffee plant	Tree	Fruits
56	Murraya koenigii (L.) Sprengel.;	Rutaceae	Curry tree	Tree	Leaves
57	Citrus medica L.;	Rutaceae	Naarthanga	Tree	Fruit
58	Citrus lemon(L.)os beck.;	Rutaceae	Lemon	Tree	Fruit
59	Citrus maxima merr.;	Rutaceae	Pomelo	Tree	Fruit
60	Nephelium ramboutan- ake (Labill.)Leenh.;	Sapindaceae	Pulasan	Tree	fruit
61	Nephelium lappaceum, L.;	Sapindaceae	Rambutan	Tree	Fruit
62	Cardiospermum halicacabum L.;	Sapindaceae	Uzhinja	Vine	Leaf
63	Synsepalum dulcificum (Schumach.&Thonn.) William Freeman Danielferl.;	Sapotaceae	Miracle fruit	Ever green bush or tree	Fruit
64	Manilkara zapota (L.) P.Royen.;	Sapotaceae	sapota	Tree	Fruit
65	Pouteria campechiana Baehni.;	Sapotaceae	Mutta pazham	Tree	Fruit
66	Capsicum frutescences L.;	Solanace	Kaanthari	Shrub	Fruit
67	Capsicum annuum L.;	Solanaceae	Green chilly	Shrub	Fruit
68	Solanum nigrum L.;	Solanaceae	Manathakkali	shrub	Fruit leaf
69	Solanum melongena L.;	Solanaceae	Brinjal	Shrub	Fruit
70	Physalis minina L.;	Solanaceae	Native goose berry	Herb	Fruits
71	Curcuma longa L.;	Zingiberaceae	Manjal	Herb	Rhizome

Chart 1 - Class Wise Representation of Wild Edible Plants

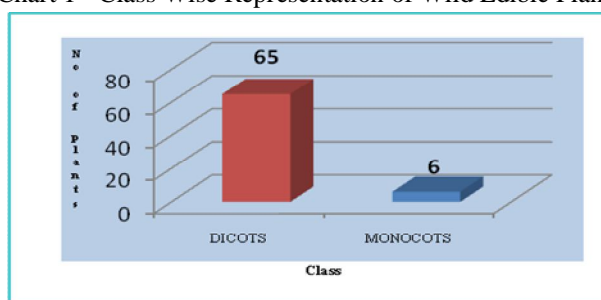


Chart 2 - Distribution Of Wild Edible Plants Based On Habit

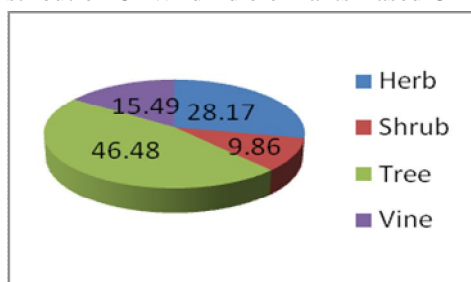
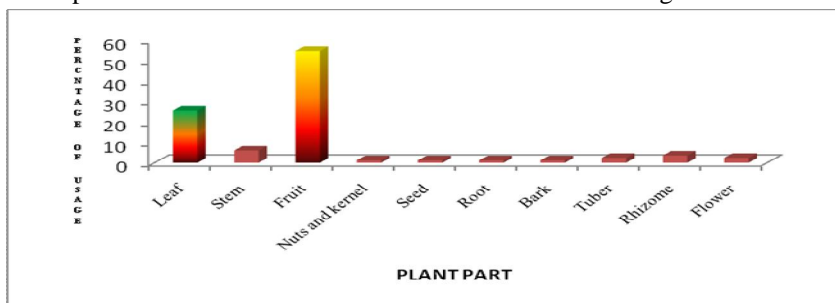


Chart 3 - Representation Of Wild Edible Plants Based On The Usage Of Plant Part



IV. CONCLUSION

Throughout history, wild edible plants have sustained human populations in each of the inhabited continents. Human consumption of wild plants has been documented from antiquity into the common Era. Dietary use of wild fruits, nuts, seeds, and leaves appear in numerous historical records. Today, most human plant foods are based on a rather limited number of crops. However, it is clear that in many parts of the world, the use of wild plants is not negligible. In India, the indigenous fruits collected from the wild play a significant role in the food and nutrient security of rural poor. Some wild fruits have been identified to have better nutritional value than cultivated fruits. The present communication deals with the ethnobotanical exploration, identification, concerns and future potentialities of the wild edible fruits consumed by the villagers of Parapram, Kannur district of Kerala.

Villagers are mainly depending upon wild edible plants. It is very nutritious. They help to improve the health of common people. It is very helpful to reduce malnutrition faced by local communities.

Present study aim to record wild edible plants present in Parapram, Kannur District, Kerala. Through this survey 71 wild edible plants were recorded. Photographs of the plants are taken for future reference. In this plants are arranged alphabetically. This survey help to understand the diversity of wild edible plants in the study area. By the method of survey 71 plants were documented. This work help to identify the edible plants present in the study area. It shows that many part of the plant is edible. It include leaf, stem, fruit, nuts and kernel, seed, root, bark, tuber, rhizome and flower. Edible parts of plants are mainly used to prepare curry, upperi, juices shakes etc. This documentation help to expand our food options.

The present study is only a preliminary one and helped in documentation of primary data based on the floristic diversity and their utility. The information on the utility of plants in terms of food has been documented by interviewing elderly people. Studies of this kind will help in generating authentic data pertaining to the diversity and utility of plants before it is lost. This survey indicate the importance of wild edible plants in human life and it also shows the need of conservation of plant diversity.

V. DISCUSSION

Edible plants are extremely important in the lives of people. People depend on plants for their needs such as food, clothing, shelter and health care. Use of wild edible plants are increasing due to increase in need of food. It is used as food for both man and other live stock. Similar work is done by Mudasir Yousuf Mir (2014). He documented 31 plants, and recorded 4 classes of plants such as dicotyledones, monocotyledons, fungi and Pteridophytes. Setiya A.V, Narkhede S.D, Dongarwar N.M (2016) recorded 40 families out of which 32 are dicotyledons and 8 are monocotyledons. Deepika Thakur, Alpy Sharma Sanjay Kr. Uniyal (2017) reported 50 plant species belongs to 42 genera falling under 28 families. They represent habit of plant species in the form of Bar diagram. They found that trees, Shrubs, herbs, fern and fungi are the categories of plant present in the study area and herbs are the most dominating category. This survey indicate the importance of wild edible plants in human life and it also shows the need of conservation of plant diversity.

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