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Research Article

UTILIZATION OF WILD EDIBLE PLANTS BY PALIYAR'S TRIBE OF SADHURAGIRI HILLS, TAMIL NADU, INDIA

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ABSTRACT

An survey was carried out among the Paliyar tribals in Sadhuragiri hills in Western Ghats. The purpose of the study was to document the traditional wild edible plants used by Paliyar tribals. Tribals mostly eat fresh fruits and vegetables of leafy varieties, which grow in wild and depend on such natural products in addition to their food. The study identifies 110 wild edible plant species under 80 genera and 47 families. Edible fruits are 66 species in identified, leaves eaten raw, cooked vegetables and curries. Tubers of certain species are eaten curries. These wild edible plants are free from artificial chemicals and enriched with high nutrition.

Key Words:

Wild edible plants, fruits, vegetables, tuber,
Western Ghats.

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INTRODUCTION

India is one of the second largest human populations in this planet 75% of the population is living in the rural areas. Most rural communities depend on the wild resources including wild edible plants to meet their food needs in periods of food crises, as well as for additional food supplements [1]. The diversity in wild plant species offers variety in family diet and contributes to household food security. Today, most human plant food is based on rather limited number of crops, but it is clear that in many parts of the world the use of wild plants is not negligible [2 and 3].

Wild plants have since ancient times, played a very important role in human life; they have been used for food, medicines, fiber and other purposes and also as fodder for domestic animals. In search for wild edible food plants many of which are potentially valuable for human being has been identified to maintain a balance between population growth and agricultural productivity, particularly in the developing countries [4 and 5]. There are at least 3000 edible plant species known to mankind, but just about 30 crops alone contribute to more than 90% of the world's calorie intake and only 120 crops are economically important at the national scale. This shows that several hundreds of species remain discarded or unnoticed at the hands

of various human societies. Among the edible plant diversity, many are nutritionally or otherwise important [6].

The scientific research conducted inside the forests reported, forest as a natural habitat of the wild edible plants such as cereals, fruits, tubers and vegetables. Wild edible plants play a very important role in the livelihoods of rural communities as being an integral part of the subsistence strategy of people in many developing countries. Locally available wild genetic resources can be used for new crop species development. In many parts of the world, wild plants are obtained from forests or wild areas are designated for extractive resources and managed by local communities. Food plants serves as alternatives to staple food during periods of food deficit and are the valuable supplements for a nutritional balanced diet one of the primary alternative source of income for many resource poor communities, and the source of species for domestication [7].

Wild edible plants are major source of food for tribal inhabitants in forests. Edible parts of wild plants such as fruits, flowers, leaves, tubers, inflorescence, roots, tubers, rhizome, etc. The nature's gift to mankind; these are not only delicious and refreshing but also the chief source of vitamins, minerals and proteins [8]. About 1,000 species of these plants provide sustenance to tribal inhabitants in India [9, 10 and 11].

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Similarly a number of such little known crops and edible species found in the wild are not getting recognition, though they play a crucial role in the food security of tribal and rural families. For instance, various wild species of *Dioscorea*, *Colocasia* and *Amaranthus* which are the source of vitamins and nutrients, supplement the food needs of a multitude of families who live near to forests [12].

These are also a good source of income for many poor communities in rural areas. A scientific investigation of wild edible vegetables is urgently needed to assess the potentiality which would be utilized at the time of food deficit or cultivated as a source of food material for an ever increasing population. Recent phytochemical investigations in fruits have attracted a great deal of attention, with mainly concentrations on their role in preventing diseases caused as a result of malnutrition. Though there are many wild fruits in this region, there is no proper collection, improvement and agro-techniques for these crops. Hence much emphasis should be given to exploration and collection, in situ or ex situ conservation, studying nutritional and anti-nutritional properties, product development and marketing [13].

Modern scientific researchers are also trying to value these traditional food items to fill the gaps between growing population and food production. These natural products are coming from wild sources and their herbal properties unknowingly flow in diverse ethnic preparations. Such preparation must be variable with the local availability plant resources, forest types, and geographical area and more specifically by different culture and tradition of ethnic groups [14, 15 and 16].

MATERIALS AND METHODS

Study area

Sadhuragiri hills are situated in Southern Western Ghats comes under Srivilliputhur Grizzled Squirrel Wildlife Sanctuary Srivilliputhur Taluk, Virudhunagar district of Tamil Nadu. Sadhuragiri is located at 1200 meters (3,937.0 ft) mountain in the part of Western Ghats of South India. It lies between 9° 42' - 9° 44" West latitude and between 77° 37' - 77° 41" East longitude and it has an elevation of 881 meters above sea level. Sadhuragiri is in an area with a Tropical evergreen forest, Semi evergreen forest and Mixed deciduous forest climate. Only Hindu Paliyar tribes residing in this area (Fig: 1a).

Methods

Several field trips were carried out in Sadhuragiri hills from July 2015 to September – 2016, Covering different seasons, in order to know the phenology of the plants and Intensive and extensive field survey was made in Sadhuragiri hills and villages in Virudhunagar district. The data were collected through repeated field visits and the careful interaction with the village people and Paliyar tribes. The collected specimens were identified taxonomically with the help of available Monographs, taxonomic revisions and floras and by using field keys [17, 18, 19 and 20]. The data including edible uses were collected through general conversations with the informants such as elder persons, village dwellers and tribal medicine men were contacted to collect data on uses of plants. Local names, plant parts used, method of utilization were gathered from them with regard to each plant. The information gathered from one

place was confirmed by different communities of village people, Paliyar tribals in different places of investigation. The collected plants specimen was deposited in the Department of Botany, National College (Autonomous), Tiruchirappalli, Tamil Nadu for future reference.

Paliyar Tribals

The indigenous people of the study area are called Paliyar/Paliyan. They are found in the hilly regions of Madurai, Dindigul, Theni, Thirunelveli, and Virudhunagar districts. It is believed that Paliyar's are indigenous people of Palani hills (Situating near to Kodaikanal a famous tourist place). In the Palani hills they are found at an altitude of up to 2200m. Generally Paliyar's are illiterate and they speak Tamil (Mother tongue of Tamil Nadu). Paliyar's when compared to various tribal communities in Tamil Nadu constitute redelivery a small group.

Paliyar's can be grouped in to three categories based on their life styles, namely, Nomadic, Seminomadic and Settled Nomadic Paliyar don't built houses, they live temporarily in rock caves called "Pudai" semi nomadic Paliyar build temporary house and confine themselves to small territories most of their huts are dark with no window or any other opening to admit air. Settled Paliyar are more less urbanized and live as agricultural laborers. Importance of traditional and folk medicine in the treatment of various human ailments is well recognized amongst these people (Fig: 1b) [21].



Fig 1a View of the study region



Fig 1b Author Interview with Paliyar's Tribes

RESULTS AND DISCUSSIONS

Wild plants gathering and exploitation is a common activity of the indigenous people in Paliyar tribes possesses a very good knowledge on the wild edible plants around the Sadhuragiri hills.

Table 1 Wild Edible Plants utilized by the Paliyar's tribes in Sadhuragiri hills

S.No	Botanical Name	Family	Local Name	Habitat	Part used	Method of Consumption
1.	<i>Aegle marmelos</i> (L.) Corr.	Rutaceae	<i>Vilvam</i>	Tree	Fruits& Leaves	Edible fruits and leaves raw eating.
2.	<i>Alangium salvifolium</i> L.	Alangiaceae	<i>Alangi</i>	Shrub	Fruits	Edible fruits
3.	<i>Allmania nudiflora</i> (L.) R.Br.ex.Wight.	Amaranthaceae	<i>Kumati</i> <i>Keerai</i>	Herb	Leaves	Cooked vegetables
4.	<i>Alternanthera pungens</i> H.B.K.	Amaranthaceae	<i>Ottumul</i>	Herb	Leaves	Cooked as vegetable
5.	<i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	Amaranthaceae	<i>Ponnakanni</i>	Herb	Leaves	Cooked as vegetable
6.	<i>Amaranthus graecizans</i> L.	Amaranthaceae	<i>Sirukeerai</i>	Herb	Leaves	Cooked as vegetable
7.	<i>Amaranthus spinosus</i> L.	Amaranthaceae	<i>Mullukeerai</i>	Herb	Leaves	Cooked as vegetable
8.	<i>Amaranthus tricolor</i> L.	Amaranthaceae	<i>Keeracheadi</i>	Shrub	Leaves & Stems	In curries
9.	<i>Amaranthus viridis</i> L.	Amaranthaceae	<i>Pattikerai</i>	Herb	Leaves	Cooked as vegetable
10.	<i>Anacardium occidentale</i> L.	Anacardiaceae	<i>Mundhiri</i>	Tree	Fruits & Seeds	Edible fruits and nuts
11.	<i>Annona reticulata</i> L.	Annonaceae	<i>Kattuseetha</i>	Tree	Fruits	Edible fruits
12.	<i>Artocarpus heterophyllus</i> Lam.	Moraceae	<i>Pala</i>	Tree	Fruits	Edible fruits
13.	<i>Artocarpus hirsutus</i> Lam.	Moraceae	<i>Aiyinipila</i>	Tree	Fruits	Edible fruits
14.	<i>Asparagus racemosus</i> Willd.	Liliaceae	<i>Thannirvittankizhangu</i>	Shrub	Tuber	Raw and Boiled eating tuber.
15.	<i>Atalantia monophylla</i> (L.) Corrêa	Rutaceae	<i>Kaattu Elumichai</i>	Tree	Fruits	Juice and tea
16.	<i>Atylosia scarabaeoides</i> (L.) Benth.	Fabaceae	<i>Kattuthuvurai</i>	Climber	Seeds	Edible seeds
17.	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	<i>Mukkurattai</i>	Herb	Leaves	Cooked as vegetable
18.	<i>Boerhavia erecta</i> L.	Nyctaginaceae	<i>Serandai</i>	Herb	Leaves	Cooked as vegetable
19.	<i>Bombax ceiba</i> L.	Bombacaceae	<i>Ilavuvam</i>	Tree	Flowers & Seeds	Edible flower and seeds roasted
20.	<i>Borassus flabellifer</i> L.	Arecaceae	<i>Panaimaram</i>	Tree	Fruits & Seeds	edible fruits and seeds
21.	<i>Brassica juncea</i> (L.) Czern.	Brassicaceae	<i>Kadugu</i>	Herb	Seeds	Cooked and edible oil yielding
22.	<i>Canavalia gladiata</i> (Jacq.) DC.	Fabaceae	<i>Thambatti</i>	Climber	Fruits	Cooked vegetables
23.	<i>Canthium coromandelicum</i> (Burm.f.) Alston	Rubiaceae	<i>Bellakarai</i>	Shrub	Fruits	Edible fruits
24.	<i>Capparis zeylanica</i> L.	Capparaceae	<i>Thorattimullu</i>	Shrub	Fruits	Edible fruits
25.	<i>Capsicum annum</i> L.	Solanaceae	<i>Kattumellakai</i>	Herb	Fruits	Cooked vegetables
26.	<i>Caralluma bicolor</i> Ramach, S. Joseph, H. A. John & C. Sofiya	Asclepiadaceae	<i>Kalmullaian</i>	Herb	Shoots	Edible in raw shoot and cooked curries
27.	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	<i>Mudakathan</i>	Climber	Leaves	Cooked as vegetable
28.	<i>Carissa carandas</i> L.	Apocynaceae	<i>Kallakai</i>	Tree	Fruits	Edible fruits
29.	<i>Carissa spinarum</i> L.	Apocynaceae	<i>Sirukallakai</i>	Shrub	Fruits	Edible fruits
30.	<i>Celosia argentea</i> L.	Amaranthaceae	<i>Pannaakeera</i>	Herb	Leaves	Cooked vegetables
31.	<i>Cereus pterogonus</i> Lem.	Cactaceae	<i>Sathurakalli</i>	Tree	Flowers	Raw eaten flower and cooking
32.	<i>Cissus quadrangularis</i> L.	Vitaceae	<i>Pirandai</i>	Climber	Shoots	Young shoots raw eat and cooked curries
33.	<i>Coccinia grandis</i> (L.) Voigt	Cucurbitaceae	<i>Kovakai</i>	Climber	Leaves& Fruits	Edible fruits and leaves cooked
34.	<i>Colacasia esculenta</i> (L.)Schott	Araceae	<i>Semakeerai</i>	Herb	Leaves	Cooked vegetables
35.	<i>Commelina diffusa</i> Burm.f.	Commelinaceae	<i>Kayyankena</i> <i>keerai</i>	Herb	Leaves	Leafy vegetable
36.	<i>Commelina benghalensis</i> L. (V. Kena, Kolar). Fam.	Commelinaceae	<i>Theankai</i> <i>poondu</i>	Herb	Leaves	Cooked vegetables
37.	<i>Cordia sinensis</i> Lam. Leaf & Fruit	Boraginaceae	<i>Naruvihli</i>	Shrub	Fruits	Edible fruits
38.	<i>Cucumis dipsaceus</i> Enherb.	Cucurbitaceae	<i>Mullampanni</i> <i>vellari</i>	Climber	Fruits	Edible fruits
39.	<i>Curcuma angustifolia</i> Roxb.	Zingiberaceae	<i>Kasturimanzal</i>	Shrub	Rhizome	Young shoot edible and rhizome cooking purpose.
40.	<i>Decalepis hamiltonii</i> Wight & Arn.	Asclepiadaceae	<i>Magalia</i>	Climber	Tuber	Cooked eat tuber
41.	<i>Digera muricata</i> (L.) Mart.	Amaranthaceae	<i>Theyyakeera</i>	Herb	Leaves	Cooked vegetables
42.	<i>Dioscorea oppositifolia</i> L.	Dioscoreaceae	<i>Pearuvalli</i>	Climber	Tuber	Edible in boiled tuber
43.	<i>Dioscorea tomentosa</i> Koen. exsprengr.	Dioscoreaceae	<i>Kattathi</i>	Climber	Tuber	Edible in boiled tuber
44.	<i>Diospyros malabarica</i> (Desr.) Kostel.	Ebenaceae	<i>Thumbai</i>	Tree	Fruits	Edible fruits
45.	<i>Diospyros montana</i> Roxb.	Ebenaceae	<i>Bankini</i>	Tree	Leaves	leaf Curries
46.	<i>Drypetes sepiaria</i> (Wight & Arn.) Pax&K.Hoffm.	Euphorbiaceae	<i>Thanuvam</i>	Shrub	Fruits	Edible fruits
47.	<i>Elaeagnus conferta</i> Roxb.	Elaeagnaceae	<i>Kolaga</i>	Tree	Fruits	Edible fruits
48.	<i>Erythroxylum monogynum</i> Roxb.	Erythroxylaceae	<i>Sembulichaana</i>	Shrub	Fruits	Edible fruits
49.	<i>Ficus benghalensis</i> L.	Moraceae	<i>Aalm</i>	Tree	Fruits	Edible fruits
50.	<i>Ficus microcarpa</i> L.f.	Moraceae	<i>Kalthhi</i>	Tree	Fruits	Edible fruits

51	<i>Ficus racemosa</i> L.	Moraceae	<i>Arasu</i>	Tree	Fruits	Edible fruits
52	<i>Flueggea leucopyrus</i> Willd.	Euphorbiaceae	<i>Sollapalam</i>	Shrub	Fruits	Edible fruits
53	<i>Grewia hirsuta</i> Vahl	Tiliaceae	<i>Kallaipalam</i>	Shrub	Fruits	Edible fruits
54	<i>Grewia obtusa</i> Wall. ex Dunn.	Tiliaceae	<i>Sollapalam</i>	Shrub	Fruits	Edible fruits
55	<i>Grewia tiliifolia</i> Vahl	Tiliaceae	<i>Lumma</i>	Shrub	Fruits	Edible fruits
56	<i>Grewia villosa</i> Willd.	Tiliaceae	<i>Jenukallai</i>	Shrub	Fruits	Edible fruits
57	<i>Hemidesmus indicus</i> (L.) R.Br. ex Schult.	Asclepiadaceae	<i>Nannari</i>	Climber	Tuber	Make a cooling juice
58	<i>Hibiscus lunarifolius</i> Willd.	Malvaceae	<i>Kattuveandai</i>	Shrub	Fruits	Cooked vegetables
59	<i>Hybanthus enneaspermus</i> L.f.) F.v.Muell	Violaceae	<i>Orithal thamarai</i>	Herb	Leaves	Cooked curries
60	<i>Ipomoea staphylina</i> Roem. &Schult.	Convolvulaceae	<i>Unnagodi</i>	Climber	Tuber	Cooked tuber
61	<i>Jasminum auriculatum</i> Vahl	Oleaceae	<i>Kattumullai</i>	Climber	Leaves	Cooked vegetables
62	<i>Jasminum trichotomum</i> B.Heyne ex Roth	Oleaceae	<i>Malligai</i>	Climber	Leaves	Cooked vegetables
63	<i>Lantana camara</i> L.	Verbenaceae	<i>Unnichi</i>	Climber	Fruits	Edible fruits
64	<i>Madhuca longifolia</i> (J.König ex L.) J.F.Macbr.	Sapotaceae	<i>Iluppae</i>	Tree	Fruits	Edible fruits
65	<i>Mangifera indica</i> L.	Anacardiaceae	<i>Manga</i>	Tree	Fruits	Edible fruits
66	<i>Milusa tomentosa</i> (Roxb.) Sinclair	Annonaceae	-	Tree	Fruits	Edible fruits
67	<i>Mimusops elengi</i> L.	Sapotaceae	<i>Magizhamaram</i>	Tree	Fruits	Edible fruits
68	<i>Moringa concanensis</i> Nimmo ex Dalz. & Gibson	Moringaceae	<i>Kattumurungai</i>	Tree	Leaves&Fruits	Cooked leaf vegetables and fruit curries
69	<i>Mucuna atropurpurea</i> Dc.	Fabaceae	<i>Thelluku</i>	Climber	Seeds	Roasted seeds
70	<i>Mukia maderaspatana</i> (L.) M.Roemer.	Cucurbitaceae	<i>Musumosaki</i>	Climber	Fruits	Edible fruits
71	<i>Murraya koenigii</i> (L.) Spreng.	Rutaceae	<i>Kariveppilai</i>	Tree	Leaves	Cooked curries
72	<i>Neonotonia wightii</i> (W.A.) Lackey	Fabaceae	<i>Kattuthuvarai</i>	Climber	Seeds	Cooked foods
73	<i>Opuntia monacantha</i> (Willd.) Haw.	Cactaceae	<i>Kalli</i>	Shrub	Fruits	Edible fruits
74	<i>Opuntia stricta</i> (Haw.) Haw.	Cactaceae	<i>Chappathikalli</i>	Shrub	Fruits	Edible fruits
75	<i>Oxalis corniculata</i> L.	Oxalidaceae	<i>Pulichera</i>	Herb	Leaves	Cooked vegetables
76	<i>Pachygone ovata</i> (Poir.) Diels	Menispermaceae	<i>Varinkodi</i>	Climber	Fruits	Edible fruits
77	<i>Passiflora edulis</i> Sims.	Passifloraceae	<i>Passion fruit</i>	Climber	Fruits	Edible fruits
78	<i>Passiflora foetida</i> L.	Passifloraceae	<i>Kurangupalam</i>	Climber	Fruits	Edible fruits
79	<i>Pavetta indica</i> L.	Rubiaceae	<i>Pavattai</i>	Shrub	Fruits	Edible fruits
80	<i>Phoenix loureiroi</i> Kunth	Arecaceae	<i>Eecham</i>	Tree	Shoots& Fruits	Edible fruits and young shoot boiled eating.
81	<i>Phyllanthus emblica</i> L	Euphorbiaceae	<i>Nellie</i>	Tree	Fruits	Edible fruits
82	<i>Phyllanthus indofischeri</i> Bennet	Euphorbiaceae	<i>Nellie</i>	Tree	Fruits	Edible fruits
83	<i>Phyllanthus reticulatus</i> Poir.	Euphorbiaceae	<i>Poola</i>	Tree	Fruits	Edible fruits
84	<i>Physalis angulata</i> L. var.	Solanaceae	<i>Potolai</i>	Herb	Fruits	Edible fruits
85	<i>Pithecellobium dulce</i> (Roxb.) Benth.	Mimosaceae	<i>Konapuli</i>	Tree	Fruits	Edible fruits
86	<i>Portulaca oleracea</i> L.	Portulacaceae	<i>Goni</i>	Herb	Leaves	Cooked vegetables
87	<i>Psydrax dicoccos</i> Gaertn.	Rubiaceae	<i>Oppai</i>	Shrub	Fruits	Edible fruits
88	<i>Rivea hypocrateriformis</i> Choisy	Convolvulaceae	<i>Mustae</i>	Climber	Leaves	Cooked vegetables
89	<i>Schleichera oleosa</i> (Lour.) Merr.	Sapindaceae	<i>Pulipoocha</i>	Tree	Fruits	Edible fruits
90	<i>Scutia myrtina</i> (Burm.f.) Kurz	Rhamnaceae	<i>Sodalie</i>	Shrub	Fruits	Edible fruits
91	<i>Senna tora</i> (L.) Roxb.	Caesalpiniaceae	<i>Oosithagarai</i>	Herb	Leaves	Cooked vegetables
92	<i>Sesbanis grandiflora</i> (L.) Poiret	Fabaceae	<i>Kattuagathi</i>	Tree	Leaves	Cooked vegetable
93	<i>Solanum americanum</i> Mill.	Solanaceae	<i>Kakaedagu</i>	Herb	Leaves	Cooked vegetables
94	<i>Solanum nigrum</i> L.	Solanaceae	<i>Manathakkali</i>	Herb	Leaves &fruits	Curries leaf and edible fruits
95	<i>Solanum pubescens</i> Willd.	Solanaceae	<i>Sundai</i>	Shrub	Fruits	Cooked vegetables
96	<i>Solanum rudepannum</i> Dunal	Solanaceae	<i>Sundai</i>	Herb	Fruits	Edible fruits
97	<i>Solanum sisymbriifolium</i> Lam.	Solanaceae	<i>Kattukathari</i>	Herb	Fruits	Cooked vegetables
98	<i>Solanum surattense</i> Burm. f.	Solanaceae	<i>Kandankathari</i>	Herb	Fruits	Curries fruits
99	<i>Solanum torvum</i> Sw.	Solanaceae	<i>Perusundai</i>	Shrub	Fruits	Cooked vegetables
100	<i>Solanum virginianum</i> L.	Solanaceae	<i>Kandakathiri</i>	Herb	Fruits	Edible fruits
101	<i>Strychnos potatorum</i> L.f	Loganiaceae	<i>Theathan</i>	Tree	Fruits	Edible fruits
102	<i>Syzygium arnottianum</i> Walp.	Myrtaceae	<i>Naval</i>	Tree	Fruits	Edible fruits
103	<i>Syzygium cuminii</i> (L.) Skeels	Myrtaceae	<i>Naval</i>	Tree	Fruits	Edible fruits
104	<i>Tamarindus indica</i> L	Caesalpiniaceae	<i>Puli</i>	Tree	Fruits, Leaves& Flower	Edible in fruit, leaf and flower.
105	<i>Vigna radiate</i> (L.) Wilez	Fabaceae	<i>Kattupasiparu</i>	Climber	Seeds	Edible seeds
106	<i>Zaleya decandra</i> (L.) Burm. f.	Portulacaceae	<i>Konikeera</i>	Herb	Leaves	Cooked vegetable
107	<i>Zingiber officinale</i> Roscoe	Zingiberaceae	<i>Kattuinzii</i>	Shrub	Rhizome	Young shoot edible and rhizome cooking purpose.
108	<i>Ziziphus abyssinica</i> Hochst. exA.Rich.	Rhamnaceae	<i>Kottapalam</i>	Shrub	Fruits	Edible fruits
109	<i>Ziziphus mauritiana</i> Lam	Rhamnaceae	<i>Elanthal</i>	Shrub	Fruits	Edible fruits
110	<i>Ziziphus oenopolia</i> (L.) Mill.	Rhamnaceae	<i>Thoratipuli</i>	Shrub	Fruits	Edible fruits

A total of 110 plant species from, 47 families and 80 genera have been recorded as wild edible plants in the study region (Table - 1), of which fruits recorded ranked first with 66 species, Green Leaves, Seeds, Tuber, Flowers and Shoots, rhizomes and shoots ranked next with 31 species, 8 species, 6 species, 3 species, 2 species, 1 species respectively (Fig: 2).

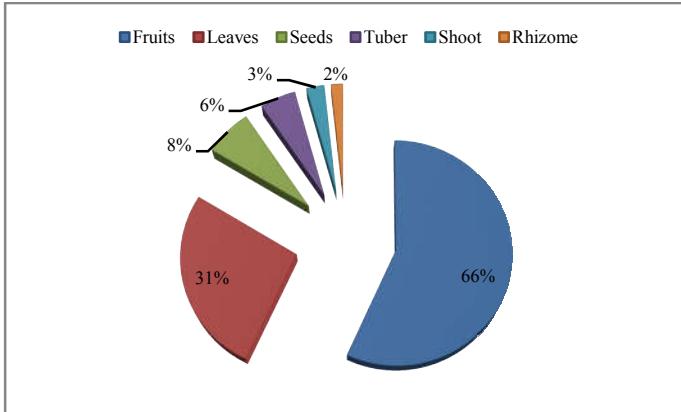


Fig 2 Parts wise edible plants distributed in the study region

Among the 47 families, the most utilized species belong to Solanaceae (10 species), Amaranthaceae (9 species), Fabaceae (6 species), Euphorbiaceae (5 species), Moraceae (5 species), Rhamnaceae (4 species), Tiliaceae (4 species), Asclepiadaceae (3 species), Cactaceae (3 species), Cucurbitaceae (3 species), Rubiaceae (3 species), Rutaceae (3 species), Anacardiaceae (2 species), Annonaceae (2 species), Apocynaceae (2 species), Arecaceae (2 species), Caesalpiniaceae (2 species), Commelinaceae (2 species), Convolvulaceae (2 species), Dioscoreaceae (2 species), Ebenaceae (2 species), Myrtaceae (2 species), Nyctaginaceae (2 species), Oleaceae (2 species), Passifloraceae (2 species), Portulacaceae (2 species), Sapindaceae (2 species), Sapotaceae (2 species), Zingiberaceae (2 species) and the remaining families were represented by one species each (Fig : 3),

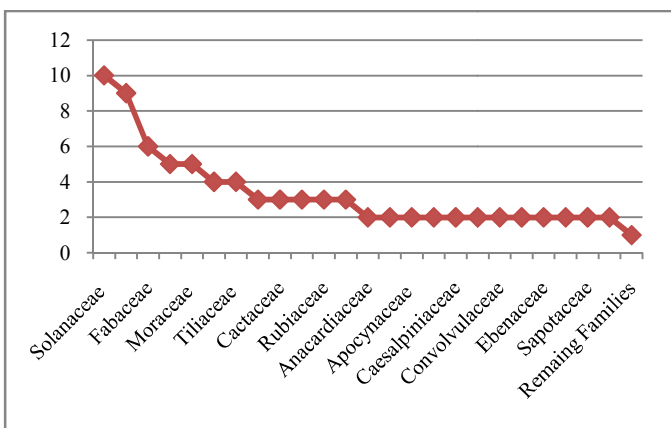


Fig 3 Family wise distributions in edible plants in the study region

The composition of edible plants under different categories of life forms indicates that out of 110 species; trees (32 species), are predominant, followed by herbs (28 species) shrubs (27 species) and climber (22) (Fig:4).

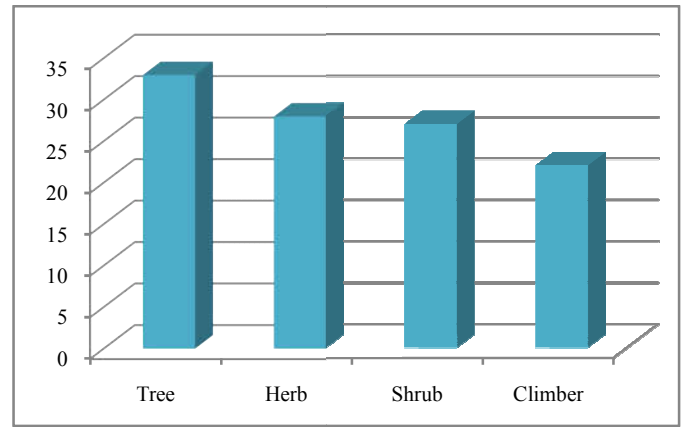


Fig 4 Habit wise distributed in the study region

From the survey, it was observed that the Paliyar inhabitants use the wild edible plants in raw or cooked form for maintaining their health, vitality and longevity. The different plant parts are consumed as a source of supplement of edible foods, As far as the edibility is concerned, the most frequently utilized plant part species are fresh fruits (66%), followed by leaves cooked vegetables (31%), foods (13%), curries (10%), raw eaten (8%), seeds roasted (6%), juice & herbal tea (2%) and edible oil (1%), according to their requirements and availability in nature (Fig: 5). Further, on the occasions of festivals, worships, weddings and other religious rituals special dishes and special wild tuber food and vegetable curry, cooling juice & herbal tea are traditionally prepared from the local plants based resources.

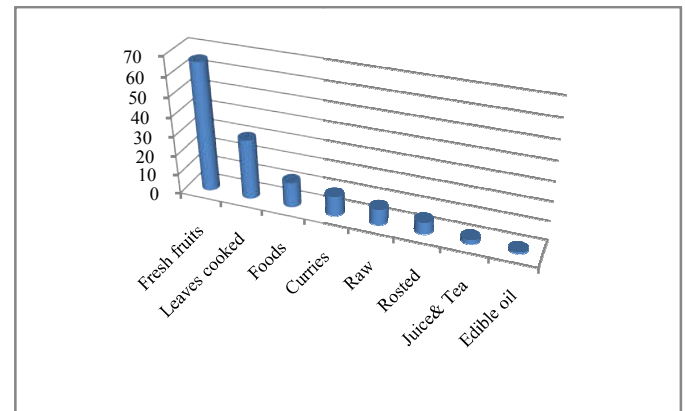


Fig 5 Mode of utilization by tribe's

Paliyar tribes of using 22 plant wild edible species as leafy vegetables [22]. These plants form an integral form of their food styles and this data is very helpful for the further studies in dietary diversification for augmenting food and nutrition security for ever increasing population of our country. It would also be necessary to undertake comparative study of plants and plant parts eaten by various tribals to bring out more useful information on the use of same plant by different tribal people [23].

Wild edible plants were gathered in the form of fruits, leaves, roots, tubers, flowers etc. These plants still share a good proportion of tribal dishes all over world [24, 25, 26 and 27]. Traditionally wild edible species have been meeting the protein, carbohydrates, fat, vitamin and mineral requirements of the local residents to a greater extent [28]. Fruits are mostly consumed raw and leafy vegetables are cooked, boiled or, fried,

species continue to be grown, managed, or collected, particularly in the rural areas of developing economies. Thus, these less-recognized plants contribute to the livelihood soft poor and to the agricultural biodiversity [6].

The food habits of the tribals are generally developed according to the availability of food and their nutritional value and hence the food supply is traditionally based on their own collection of food materials. Starvation among them due to seasonal scarcity of food is a regular phenomenon. Tribal's knowledge in Western Ghats use wild plants in their daily life. They identify these plants quickly by some character and the name to the plants based on these characters. The review of the literature indicates that the tribals have a sound knowledge on the edible plants in the vicinity [29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45 and 46].

CONCLUSION

Most of the wild edible plants may not be freely available in future due to overexploitation, habitat destruction, land-slides and invasion of exotic plant species. Therefore, efforts are being done to bring some of these valuable plant resources under cultivation in order to maintain their natural population and gene pool in the wild. These measures will definitely contribute in continuous supply of wild edibles to the local people and other forest based communities and also helps in their conservation. A drastic change in food styles and a decline in traditional knowledge among the local communities have been observed. Therefore, great efforts are required to document traditional knowledge among the local people so that these traditional knowledge can be preserved for the benefit of mankind in a holistic manner which will ultimately open new vistas in future.

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