

Full Length Research Paper

Wild edible plants used by the Kattunaikka, Paniya and Kuruma tribes of Wayanad District, Kerala, India

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Wayanad district is with a hilly terrain on the southern Western Ghats and located in the northeast part of Kerala state. The ethnic diversity of the district is very impressive as evidenced by ten different tribal groups. Ethnobotanical studies in the district resulted in the documentation of information on 165 edible plants used by Kattunaikka, Paniya and Kuruma tribes. The Paniya community possesses knowledge regarding 136 taxa of wild edible plants, with Kattunaikkas coming next with knowledge of 97 taxa. Amongst these tribal communities, the Kurumas are at the bottom of the knowledge-ladder with knowledge of 42 taxa of wild edible plants.

Key words: Ethnobotany, India, Kattunaikka, Kerala, Kuruma, Paniya, Wayanad, wild edible plants.

INTRODUCTION

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 (FAO, 1993). 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. For example, Quinoa (*Chenopodium quinoa*), a staple grain of Incas is little known to the modern world, yet it is one of world's most productive sources of protein (Reid and Miller, 1989). 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 (Roy et al., 1998). Wild food also contributes to the household income security of millions of forest dependent communities. In India those who collect species such as gooseberry, garcena, and honey

for market are mostly dependent on it as their major source of income (Muralidharan et al., 1997).

Many tribal and rural families of Wayanad district in Kerala still conserve knowledge on a wide range of species for their food needs (Hema et al., 2006; Anilkumar et al., 2008; Narayanan et al., 2011), medicine (Mathew and Unnithan, 1992; Nisha and Sivadasan, 2007; Mini and Sivadasan, 2007; Narayanan et al., 2011; Shanavaskhan et al., 2011), uses related to religious and supernatural beliefs (Pramod and Sivadasan, 2003), and various other uses (Narayanan et al., 2011). For certain communities among them, the consumption of wild-food plant seems to be one of the important local survival strategies and many of these species are not just consumed during periods of drought, food scarcity and other hardships but also forms part of their regular dietary intake (Narayanan and Anilkumar, 2007). The present study has been undertaken with the aim of recording the details of various edible plants used by the tribals of Wayanad district of Kerala.

STUDY AREA

Wayanad district (Figure 1) is with a hilly terrain on the southern Western Ghats and located in the northeast part

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Figure 1. Map of study area – Wayanad district in Kerala, India.

of Kerala state in India. The area lies between North latitudes $11^{\circ}26'$ to $12^{\circ}00'$ and East longitudes $75^{\circ}75'$ to $76^{\circ}56'$. The altitude varies from 700 to 2100 metres above MSL. It is bounded on the east by Nilgiris and Mysore district of Tamil Nadu and Karnataka respectively, on the north by Coorg district of Karnataka, on the south by Malappuram district and on the west by Kozhikode and Kannur districts of Kerala. Wayanad got the status of district in November 1, 1980 and the total geographic area is about 2136 km^2 . The name Wayanad is said to be derived from different names like Waynad (upper land - as its name denotes, an elevated plateau), Vayalnadu (land of paddy fields) and Vananad (land of forests) (Nair, 1911). The district is unique for its rich wealth of flora (earning it the sobriquet 'green paradise') and for the diverse ethnic cultures that inhabit the land. Several new taxa of plants have been discovered from the district and described as new to science by the authors (Sivadasan and Balakrishnan, 1989; Sivadasan and Jaleel, 2002; Narayanan et al., 2010a; Narayanan

et al., 2010b).

Ethnic groups

The ethnic diversity of the district is very impressive as evidenced by ten different tribal groups. Among them, three dominant tribal groups are Mulla Kuruma or Kuruma, Paniya, and Kattunaikka. These are the communities which still hold knowledge on biodiversity. The Paniya constitutes the single largest scheduled tribe in Kerala and is mainly found in the Wayanad district and the neighbouring areas of Karnataka. They have a distinct language of their own, closely related to Malayalam. There is a theory that the Paniyas were brought to Wayanad by the Gounders who were landlords, and they trained them to be agricultural labourers in their fields (Thurston, 1909). The community, almost entirely, depend on wage-labour in the paddy fields and farms of the land-owning classes for their

Table 1. Usage of plants and number of wild edible plant species/ varieties used by three major tribal groups and non-tribal communities.

Wild edibles	Number of taxa used by communities		
	<i>Paniya</i>	<i>Kuruma</i>	<i>Kattunaikka</i>
Leafy greens	71	21	35
Tuber and roots	15	6	25
Fruits and seeds	50	15	37
Total	136	42	97

livelihood. They are non-vegetarian, but generally avoid beef (Singh, 1994). The Kattunaikkas are referred to variously as Jenu Kuruman, Tenu Kurumban and Naickan. The term 'Kattunaikkan' has been derived from the word 'Kadu', meaning forest, and Naikkan meaning leader or headman (Thurston, 1909). The community is now predominantly distributed in the Wayanad district. They speak the Kattunaikka dialect, which is close to the Dravidian language, Kannada. Rice and ragi are their staple cereals supplemented by roots and tubers (Luiz, 1962).

Food and Non Wood Forest Produce (NWFP) gathering, hunting, fishing and trapping of birds and animals are the traditional occupations of the Kattunaikka, which a few of them continue to pursue to the day. A few of them are land-owning cultivators. They worship trees, rocks, the sun, moon, local deities and the spirits of their ancestors. The Kuruma are distributed within a radius of about 30 km, including the eastern part of Wayanad and the western part of Gudalur taluk of Tamil Nadu (Narayanan and Anilkumar, 2007). Their language is basically Malayalam with a spattering of Kannada and Tamil words. Agriculture is the main occupation of this settled land-owning community. The main crop is paddy, which is cultivated in the fallows and flat lands as well as on moderate slopes. In the past (about 20 to 25 years back), hunting and fishing were as important a means to garner food as agriculture, several of their religious rites and life cycle rituals prescribe the offering or use of meat of animals killed in the hunt (Janah, 1994).

METHODOLOGY

The field studies involved extensive field survey and data collection lasting through all the seasons of two calendar years from August 2001 to July 2003 and during the years 2008-2010. This has resulted in the information about all wild edible plant species and materials of the Wayanad district. Five study sites were selected at random using a grid map of Wayanad. Fifteen tribal hamlets from these five sites were randomly selected on the basis of degree of traditionalism of people, vegetation type of the area and dependency of local people on forest and natural resources. A total of 366 knowledge holders (men, women and children) of different age groups from three different socio-cultural groups were selected randomly from these hamlets and directly interviewed during the study. The data collection exercise attempted to enumerate and categorize the plant species of the area used as food, and the level of knowledge difference among different communities. The

interviews using unstructured questionnaire with open-ended questions and discussions were carried out either in gender specific groups or in mixed gender groups. The discussions were held in the local language – Malayalam. People who seemed comparatively more knowledgeable among the group were contacted individually and in-depth interviews were held with them. Separate transect-walks in different landscapes were undertaken with men and women of three different tribal groups. Plant specimens were collected and identified, and deposited in the herbarium of the Community Agrobiodiversity Centre (CAbC) of the MS Swaminathan Research Foundation, Kalpetta, Wayanad as vouchers.

RESULTS

Consumption of wild edible plants by different tribal communities of Wayanad varies remarkably. The study looked at the knowledge of wild edible plant species among the major 3 tribal communities in selected areas of the district. A total of 165 plants have been found to be used for edible purposes by the communities. The social values held by the community have a significant bearing on the manner in which wild edible plants are consumed and conserved by the community for food needs. The Paniya community possesses knowledge regarding 136 taxa of wild edible plants, with Kattunaikkas coming next with knowledge of 97 taxa (Table 1). Amongst these tribal communities, the Kurumas are at the bottom of the knowledge-ladder with knowledge of 42 taxa of wild edible plants, which is still way above the knowledge amongst non-tribal communities. The wild foods have been categorized into four groups based on the parts of the plant consumed, namely tubers and roots, leafy vegetables and greens, buds and flowers, fruits, seeds and nuts (Arora and Pandey, 1996). In the present study the same classification has been followed in which tubers and roots, leafy greens, and fruits and seeds are studied in detail.

Consumption of tubers

Edible roots, tubers and rhizomes of 24 wild plant species/varieties (Table 2) are eaten by the tribal communities in Wayanad. These species are still a major source of food for forest-based communities like Kattunaikka and these serve as a 'life saving' plant group during periods of food scarcity. Kattunaikka call these

Table 2. Wild tubers consumed by different tribes.

S/N	Scientific name	Local names used by communities		
		Kattunaikka	Paniya	Kuruma
1	<i>Adenia hondala</i>	-	Koombikilangu	-
2	<i>Aponogeton appendiculatus</i>	-	Chammikaya	-
3	<i>Asparagus racemosus</i>	-	Sathavarikilangu	-
4	<i>Costus speciosus</i>	-	Channakoova	-
5	<i>Dioscorea belophylla</i>	Hekku	-	-
6	<i>D. hamiltonii</i>	Kaluvenni	Bennykilangu	Vennangu
7	<i>D. hispida</i>	Kottunoora	-	-
8	<i>D. intermedia</i>	Shoddikalasu	-	-
9	<i>D. kalkapershadii</i>	Nara	-	-
10	<i>D. oppositifolia</i>	Kavalakalasu	Kavalaikilangu	-
11	<i>D. pentaphylla</i>	Noorakorana	Noorankilangu	-
12	<i>D. pentaphylla</i> var. <i>communis</i>	Hendhikorana	-	-
13	<i>D. pentaphylla</i> var. <i>linnaei</i>	Chenakorana	-	-
14	<i>D. pentaphylla</i> var. <i>rheedii</i>	Korana	Koranakilangu	-
15	<i>D. pubera</i>	Boojikavala	-	-
16	<i>D. tomentosa</i>	Salu	-	-
17	<i>D. wallichii</i>	Narra	Naraikilangu	Nara
18	<i>D. wightii</i>	Narramooyan	Mooyankilangu	-
19	<i>Dioscorea</i> sp.	Erekalasu	-	-
20	<i>Dioscorea</i> sp.	Moodavenni	Cholabenny	-
21	<i>Dioscorea</i> sp.	Hekkuheruman	-	-
22	<i>Dioscorea</i> sp.	Heruman	Naravayan	-
23	<i>Ipomoea mauritiana</i>	-	Muthukku	-
24	<i>Pecteilis gigantea</i>	-	Kudukilangu	-

tubers as Kalasu and they are knowledgeable about 18 taxa of *Dioscorea*. These communities who are dependent on wild *Dioscorea* for their food classify each member of this genus, based on characteristics like edibility, taste, colour, size, direction of growth, fiber content, cooking properties and occasionally the pattern of underground proliferation. Among the varieties known to them, *D. hamiltonii* (Vennikalasu), *D. belophylla* (Hehkkukalasu), *D. oppositifolia* (Kavalakalasu) are seen in interior evergreen and moist deciduous forests, and *Dioscorea wightii* (Erakalasu) in rocky grasslands. *D. pentaphylla* (Noorakalasu, Nallanoora), *D. wallichii* (Narakalasu), *D. bulbifera* (Hendiridaekalasu) are found among wayside-bushes and *D. pubera* (Boojikavalakalasu) in marshy areas.

The Kattunaikkas collect *Dioscorea* tubers from almost all these places, but more frequently from the forests and other such unmanaged habitats. Among the different species of *Dioscorea*, *Dioscorea pentaphylla* (Nallanoora) is the most commonly consumed tuber. As the name indicates, 'nalla' means safe or good to eat. The tuber is single, less fibrous and is smooth pasty when cooked and tastes good. This variety is common on the fringes of deciduous forests. *D. oppositifolia* (Kavala) is another very popular tuber among all the tribes of Wayanad. It is

excellent in taste and is commonly found in moist forests on which the Kattunaikka community depends more. *Dioscorea tomentosa* (Salukalasu) is not consumed regularly due to its high mucilaginous content, and is eaten only during times of acute famine. Communities other than Kattunaikka keep away from this tuber as it has peculiar kind of fibres that leave an itching sensation when consumed, particularly among children.

The Paniya community use roots and tubers of 15 plant species as their food. As in the case of Kattunaikkas, tubers of *Dioscorea* species (*Kattukachil* or *Kattukizhangu*) form important source of their food. They consume tubers of 9 taxa of *Dioscorea*, the most preferred being *D. oppositifolia* (Kavalakizhangu) and *D. pentaphylla* (Noorakizhangu). They consider the *Noorakizhangu* and *Kavalakizhangu* to be rich in 'podī' (starch) and 'kozhuppu' (pulp) and the *D. wallichii* (Narakizhangu) to be rich in 'naru' (fibre). *Noora* and *Kavala* do not need any detoxification or pretreatment before cooking. Kuruma tribe has the knowledge of about 6 species/varieties including 3 wild species of *Dioscorea* yielding edible tubers. Fifteen to twenty years ago, men of these communities used to collect Kavala and Nooran, but now a days wild tubers do not flavour their diets. They consider it too tedious a job to search and dig out the

tuber, being otherwise engaged. They grow *Dioscorea alata* in their home gardens and these are not too costly in the markets either. The collected tubers are stored inside the huts in the open. Almost all the roots and tubers require processing to make it palatable. A wide range of methods is adopted by Kattunaikka for processing the tubers. The tuber of *Dioscorea hispida* (*Kottunoora*) requires thorough processing before consumption. The chopped tubers are wrapped in a white cloth and kept in running water in the streams for over 24 h before being cooked. This species is considered toxic and except Kattunaikka none of the other communities consume it. After the tuber is dug out, the apical portion of it, along with the stem (vine) is put back in the pit and filled with soil up to three-fourth levels for regeneration. Another piece is placed in a small pit close by to confuse the wild boars, which are in constant competition with the tribals for wild tubers.

Consumption of leafy greens

Among the four socio-cultural groups studied, wild and weedy greens form the most regularly used food supplement among the three tribal groups and are of great dietary importance especially among the Paniya families. The study identified 84 plant species which are used as wild edible greens, but only a few species are widely used (Table 3). The household survey revealed that the Paniya families use about 71 species followed by the Kattunaikka who use 35 species, and the Kuruma use about 21 plant species as leafy greens. Most of these species are herbs (90%), and very few are trees. Among the frequently eaten greens are the species like *Alternanthera sessilis* (*Ponnamkkanni*), *Amaranthus spinosus* (*Mullencheera*), *Amaranthus viridis* (*Kuppacheera*) and *Solanum nigrum* (*Mudungachappu*). One wild species regularly used, which is strictly restricted to forest is *Embelia tsjeriam-cottam* (*Maracheera*) but it is consumed only by the Kattunaikka community. Species like *Adenia hondala* (*Koombichappu*), *Ophioglossum reticulatum* (*Nakkuneety*), *Momordica dioica* and *Momordica subangulata* (*Kattukaipa*), and *Alternanthera bidentata* (*Kozhivalan*) are greatly preferred, but their consumption does not match the revealed preference. These species are seen to be neither always readily available, nor easily accessible and are seasonal. Species like *Lycianthes laevis* (*Kattumudunga*), *Alternanthera bidentata* (*Kozhivalan*), and *Cryptocoryne retrospiralis* (*Panchithalu*) are rare in distribution and found only in forest and stream sides. But several of the edible leafy species, in fact, a large majority of those identified, are seldom consumed despite their abundance, availability and accessibility. The Paniya families, for instance, know over 60 such species but use them only during times like severe monsoon when there is acute food scarcity.

Compared to the Paniya, the Kattunaikka community uses less leafy greens (35 species) and this can partly be attributed to their lower dependency on agricultural and associated landscapes. However, they regularly include several greens in their diet. *Embelia tsjeriam-cottam* (*Marakkeera*), *Commelina benghalensis* (*Kannisoppu*) and *Justicia nilgherrensis* (*Hattakheera*) are among the greens regularly consumed by the community. Among the 84 wild greens identified, 13 species are exclusively consumed by the Kattunaikka community. Most of these are pure forest species, which are not generally accessed by the Paniya or Kuruma women. Among the three tribal communities, the Kuruma are the least dependent on wild leafy greens for their food requirements. The reasons cited for this reduced dependency range from low preference of the men and children in the family to wild leafy greens in the diet, non-availability/non-accessibility, time constraints for collection and perceptions that accessing wild greens for food reduces social prestige. Invariably, in all the Kuruma households, there are home gardens, which are maintained well by women and this may be another reason for their lower dependency on wild greens.

Consumption of fruits and seeds

Information on 62 edible fruits and seeds (fruits 53, seeds 9) was collected during the study (Table 4). Among the edible fruit yielding plants, 33 are trees, usually found in the forests and hills. Among the tribal communities, the Paniyas are the largest consumers of various wild fruits. There are about 50 species that are consumed by this community alone, largely collected from forests, wooded hills or such unmanaged areas. Fruits of 37 taxa including 16 trees like *Buchanania lanzan*, *Diospyros melanoxylon*, *Ficus racemosa*, *Flacourtia montana*, *Madhuca longifolia*, *Schleichera oleosa*, *Semecarpus anacardium*, etc. are eaten as raw after ripening by Kattunaikka community. *Emblia officinalis* (*Nellikka*) is one of the most widely collected wild fruits and it is an important source of income for Kattunaikka families. Another important wild fruit collected for the market is *Garcinia gummi-gutta* (*Kudampuli*). Kuruma women are rather selective in their choice of fruits. They accord greater preference to wild mango and jack. Wild mangoes are widely collected to prepare dishes like '*Mangapuli*', which is used as souring agent for their dishes. This can be stored for years-together with no deterioration in quality without any preservatives. An important seed, which is largely used by Paniya and occasionally by Kattunaikka, is that of bamboo called Mulayari. During the flowering season of bamboo, this is an important ingredient in their diet. Bamboo flowers very rarely, and at the onset of the flowering season the Paniya women start preparations for the collection of seeds. Women go to the bamboo brakes before fruit-

Table 3. Wild plants used as vegetables by *Paniya*, *Kattunaikka* and *Kuruma* tribes of Wayanad.

S/N	Scientific name	Part used	Local name used by communities		
			<i>Paniya</i>	<i>Kattunaikka</i>	<i>Kuruma</i>
1	<i>Abelmoschus angulosus</i>	F	Kattuveda	-	Kattuveda
2	<i>Abrus precatorius</i>	F	Kunni	-	-
3	<i>Achyranthes aspera</i>	L	Valiyakadaladi	-	-
4	<i>Achyranthes bidentata</i>	L	Kozhivalan	-	-
5	<i>Adenia hondala</i>	Fl	Koombichapu	-	-
6	<i>Allmania nodiflora</i>	L	-	Hallukeerai	-
7	<i>Alternanthera bettzickiana</i>	L	Cherucheera	-	-
8	<i>Alternanthera brasiliana</i>	L	Choracheera	Chorakkerai	Choracheera
9	<i>Alternanthera pungens</i>	L	Minnamkkanni	-	-
10	<i>Alternanthera sessilis</i>	L	Ponnamkkanni	Honkalasoppu	Ponamkanni
11	<i>Amaranthus caudatus</i>	L	Kattucheera	-	-
12	<i>Amaranthus spinosus</i>	W	Mullancheera	Mullankkeerai	Mullancheera
13	<i>Amaranthus viridis</i>	W	Kuppacheera	Valakkeerai	Kuppacheera
14	<i>Antidesma acidum</i>	L	Noolithali	-	-
15	<i>Arenga wightii</i>	TL	Netipankumpu	-	-
16	<i>Bacopa monnieri</i>	W	Brahmichappu	-	-
17	<i>Bambusa bambos</i>	TL	Kayalkkali	Kattaekalli	Mulankumpu
18	<i>Basala alba</i>	W	Vasalachapu	-	Vasala
19	<i>Bauhinia purpurea</i>	L	Katumandaram	-	-
20	<i>Begonia malabarica</i>	L	Malampuli	-	-
21	<i>Begonia floccifera</i>	L	Malampuli	-	-
22	<i>Bidens biternata</i>	L	Alanchappu	Uthransoppu	-
23	<i>Blumea barbata</i>	TL	-	Kadukucheera	-
24	<i>Boerhaavia diffusa</i>	W	Thazhuthama	-	Thazhuthama
25	<i>Bombax ceiba</i>	TL	Poola	-	-
26	<i>Canavalia cathartica</i>	F	Kattupayar	-	-
27	<i>Capparis brevispina</i>	L	-	Maradasoppu	-
28	<i>Capsicum frutescens</i>	TL	Cheenaparangi	Koorimanasu	Kanthary
29	<i>Caryota urens</i>	TL	Panamchapu	Panasoppu	-
30	<i>Cassia occidentalis</i>	TL	Poninthavara	-	-
31	<i>Cassia tora</i>	TL	Thavara	Thakattasoppu	Thakara
32	<i>Catunaregam spinosa</i>	TL	Kara	-	-
33	<i>Catunaregam uliginosa</i>	F	-	Hinnisan kaya	-
34	<i>Centella asiatica</i>	L	Muthilila	Muthilsopu	Muthil
35	<i>Ceropegia metziana</i>	L	-	Palankeera	-
36	<i>Chenopodium album</i>	L	-	Parippukkerai	-
37	<i>Cissus discolor</i>	W	Vallimaruma	Thadavasopu	-
38	<i>Cleome viscosa</i>	L	Naikkadugu	-	-
39	<i>Colocasia esculenta</i>	TL;P	Kollithalu	Henchichebu	Thalu
40	<i>Commelinabenghalensis</i>	L	-	Kannisoppu	-
41	<i>Costus speciosus</i>	R	Unnithandu	-	-
42	<i>Crotalaria laevigata</i>		-	Koovilisoppu	-
43	<i>Cryptocoryne retrospiralis</i>	W	Panchithalu	-	-
44	<i>Cucumis porphetarum</i>	TF	Attanga	-	-
45	<i>Cyathula prostrata</i>		Cherukadaladi	-	-
46	<i>Dillenia indica</i>	TL	Malampunna	-	-
47	<i>Diplazium esculentum</i>	W	Churuli	Surulisoppu	Churuli
48	<i>Diplocyclos palmatus</i>	F	Kuniyanchappu	Uvakandasoppu	-
49	<i>Dryopteris cucullata</i>	W	Parachava	-	-
50	<i>Embelia tsjeriam-cottam</i>	L	-	Marakkeera	-

Table 3. Contd.

51	<i>Emilia sonchifolia</i>	L	Muyalcheviyan	Muyalkivi	-
52	<i>Erythrina stricta</i>	L	Murikkinchapu	Murikkusoppu	-
53	<i>Euphorbia hirta</i>	L	Palcheera	-	-
54	<i>Gmelina arborea</i>	Fl	Kumbil	-	-
55	<i>Hibiscus hispidissimus</i>	L	Paruthiyila	-	Pulichapu
56	<i>Hygrophila schulli</i>	L	Kozhimullan	-	-
57	<i>Justicia nilgherrensis</i>	L	-	Hattakkerai	-
58	<i>Laportea interrupta</i>	L	Choriyanam	-	Choriyan
59	<i>Leea indica</i>	TL	-	Idavasoppu	-
60	<i>Lycianthes laevis</i>	L	Kattumudunga	-	-
61	<i>Marselia quadrifolia</i>	W	Vattachappu	-	-
62	<i>Momordica dioica</i>	F	Kattukaippa	-	Kaipa
63	<i>Momordica subangulata</i>	F	Kattupaval	Kattuhakhila	Katukaipa
64	<i>Monochoria vaginalis</i>	L	Karinkoovalam	-	-
65	<i>Mucuna monosperma</i>	F	Kattupayar	-	Payaru
66	<i>Mukia maderaspatana</i>	F	Mukkapeera	-	-
67	<i>Nymphaea nouchali</i>	R	Ambal	-	-
68	<i>Ophioglossum reticulatum</i>	W	Nakkuneeti	-	-
69	<i>Oxalis corniculata</i>	L	Puliyarila	Pulielai	Puliyela
70	<i>Passiflora calcarata</i>	TF	Kattuthakkali	-	-
71	<i>Phoenix sylvestris</i>	TL	Kattueenthu	-	-
72	<i>Phyllanthus urinaria</i>	L	-	Keezharnelli	-
73	<i>Physalis minima</i>	F	Motampuli	-	-
74	<i>Persicaria chinensis</i>	TL	Chorakam	-	-
75	<i>Persicaria glabra</i>	TL	Pulichapu	-	-
76	<i>Portulaca oleracea</i>	L	Kozhupacheera	Kozhupasoppu	Kozhupa
77	<i>Pteridium aquilinum</i>	W	-	Thaivasoppu	Churuli
78	<i>Remusatia vivipara</i>	L	Marachembu	Marachembu	-
79	<i>Solanum nigrum</i>	F	Mudungachapu	Ganagasopu	Mudunga
80	<i>Sonerila rheedei</i>	W	Kundimaruma	-	-
81	<i>Talinum cuneifolium</i>	L	Sambarcheera	-	-
82	<i>Thespesia populnea</i>	L	Poovarasu	-	-
83	<i>Waltheria indica</i>	W	Maracheera	-	-
84	<i>Zehneria mysorensis</i>	L	Aliyanchappu	Katusoppu	-

F: Fruit; Fl: flower, L: leaves; P: petiole; R: rhizome; TF: tender fruits; TL: tender leaves; W: whole plant.

setting and clear the undergrowth and prepare a clean bed for the seeds to fall. Sometimes, the people smear cow dung on the ground below huge canopies signifying the value attached to this rare bonanza from the forests. The collection may continue for days together and men and children join in gathering the seeds. Often the entire family stays amidst the bamboo brakes through the flowering period. The collected grains are carefully stored for future use, accentuated by the popular belief that a period of famine follows the flowering of bamboo.

Conclusion

An examination of the pattern of accessing wild food from various landscapes by the different communities bears

out the fact that the Paniya community successfully explore all the landscapes ranging from forests to grazing lands, but more from the habitats outside forest-thickets, plantations, paddy fields, swamps, waysides and grazing lands/mountains while the Kattunaikkas, on the other hand, forage mostly the forests, and the Kurumas access the plantations and paddy fields.

The consumption of wild food plants has been and still is being underestimated, and research, particularly concerning the socio-economic, cultural, traditional, and nutritional aspects of wild-food plants still lacks adequate attention. Further, there is little information on the distribution and the consumption pattern of the wild foods of different communities in different landscapes. The present work has focused on the tribal communities that are dependent on wild foods and other forest resources

Table 4. Wild fruits and seeds consumed by *Paniya*, *Kattunaikka* and *Kuruma* tribes.

S/N	Scientific name	Part/s used	Local name	Tribal groups
1	<i>Ficus racemosa</i>	F	Athypazham	K, P
2	<i>Syzygium densiflorum</i>	F	Arinjaval	P, K
3	<i>Artocarpus hirsutus</i>	F and S	Ayanichakka	K, Ku, P
4	<i>Grewia tiliifolia</i>	F	Chadachikkaya	P, K
5	<i>Schleichera oleosa</i>	F	Chakadahannu	K
6	<i>Flacourtia montana</i>	F	Chalir	P, Ku, K
7	<i>Aponogeton appendiculatus</i>	S	Chammikkaya	P
8	<i>Ixora coccinia</i>	F	Chekkipazham	K, P, K
9	<i>Diospyros melanoxylon</i>	F	Deprahannu	K
10	<i>Aporosa lindleyana</i>	F	Eachil	P
11	<i>Leea indica</i>	F	Edavahannu	K
12	<i>Cycas circinalis</i>	F	Eenthukaya	P, K
13	<i>Mimusops elengi</i>	F and S	Elanchipazham	P
14	<i>Buchanania lanzan</i>	S	Murickil	K
15	<i>Grewia hirsuta</i>	F	Hallaekaya	K
16	<i>Sterculia foetida</i>	S	Kalanhatta	P
17	<i>Solanum xanthocarpum</i>	F and S	Kandakarichunda	P, K, Ku
18	<i>Syzygium gardneri</i>	F	Karinjavel	P, K
19	<i>Solena amplexicaulis</i>	F and S	Karuvachakka	P
20	<i>Spondias indica</i>	F	Kattambazham	P
21	<i>Coix lacryma-jobi</i>	S	Kattubarli	P
22	<i>Artocarpus heterophyllus</i>	F and S	Kattuchakka	K, Ku, P
23	<i>Myristica malabarica</i>	F	Kattujadikka	P
24	<i>Clausena heptaphylla</i>	F	Kattukariveppu	P, K
25	<i>Garcinia gummi-gutta</i>	F	Kattukodampuli	P, K
26	<i>Mangifera indica</i>	F	Kattumanga	P, K, Ku
27	<i>Rubus fulvus</i>	F	Kattumundhiri	P, K
28	<i>Syzygium laetum</i>	F	Kattunjaval	P, K
29	<i>Passiflora calcarata</i>	F	Kattuthakkali	P
30	<i>Scleropyrum pentandrum</i>	F	Kirinda	P
31	<i>Lantana camara</i>	F	Kongini	P, Ka
32	<i>Aegle marmelos</i>	F	Koovalam	P
33	<i>Ziziphus jujuba</i>	F	Kottamullu	P
34	<i>Ziziphus oenoplia</i>	F	Kottapazham	P, Ku, K
35	<i>Elaeocarpus munronii</i>	F and S	Kottilampazham	P, K
36	<i>Bambusa bambos</i>	S	Mulayari	P, K, Ku
37	<i>Solanum ferox</i>	F and S	Kurukkanchunda	P, Ku, K
38	<i>Physalis minima</i>	F and S	Motampuli	P, K, Ku
39	<i>Baccaurea courtallensis</i>	F	Mottilthoory	P
40	<i>Solanum nigrum</i>	F and S	Mudungakaya	P, Ku
41	<i>Bridelia retusa</i>	F	Mukayani	P
42	<i>Toddalia asiatica</i>	F	Mulluvalli	P
43	<i>Bischofia javanica</i>	F	Neelipazham	P, K
44	<i>Phyllanthus emblica</i>	F	Nelli	K, Ku, P
45	<i>Bridelia scandens</i>	F	Nendravalley	P
46	<i>Syzygium cumini</i>	F	Njarapazham	P, K, Ku
47	<i>Syzygium caryophyllatum</i>	F	Njarapazham	P
48	<i>Gnetum ula</i>	S	Njenumkaya	P
49	<i>Physalis mouritiana</i>	F	Njotanjodian	P
50	<i>Palaquium ellipticum</i>	F	Palakkai	P

Table 4. Contd.

51	<i>Glycosmis pentaphylla</i>	F	Panlpazham	P
52	<i>Melastoma malabathricum</i>	F	Pillandi	P
53	<i>Tamilnadia uliginosa</i>	F	Pindichakka	K, Ku, P
54	<i>Syzygium zeylanicum</i>	F	Poochapazham	P
55	<i>Passiflora foetida</i>	F	Poodapazham	P, K
56	<i>Solanum torvum</i>	F and S	Putharichunda	P, K, Ku
57	<i>Terminalia bellirica</i>	S	Thanikkuru	P, H
58	<i>Ziziphus rugosa</i>	F	Thodali	P, Ku, K
59	<i>Syzygium hemisphericum</i>	F	Tholnjal	P, K
60	<i>Syzygium mundagam</i>	F	Undanjaval	P, K
61	<i>Madhuca longifolia</i>	S	Hippehannu	K
62	<i>Semecarpus anacardium</i>	S	Geruhannu	K

F: Fruit, K: Kattunaikk, Ku: Kuruma; P: Paniya, S: seed.

for their subsistence. Developmental interventions and the impact of various national and state forest policies have adversely affected the availability and access of the tribal communities to these forest resources and effected significant changes in their lifestyles. Parallel to the alarming depletion and at times total disappearance of a variety of flora on which the tribes depend for their sustenance, has been the erosion of tribal knowledge on the uses of a variety of plant species. There is now, a growing awareness of the value of such traditional knowledge and a recognition of the urgent need to document such knowledge concomitant to the efforts to preserve the natural forest environment and what remains of its floral and faunal diversity.

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