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Ethnobotanical notes on wild edible plants used by Malayali tribals of Yercaud Hills, Eastern Ghats, Salem District, Tamil Nadu.

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ABSTRACT
An ethnobotanical survey was carried out among the Malayali tribals in Yercaud hills in Eastern Ghats. The purpose of the study was to document the traditional wild edible plants used by Malayali tribals. Tribals mostly eat vegetables of leafy varieties, which grow in wild and depend on such natural products in addition to their food. The study identifies 42 wild edible plant species under 36 genera and 29 families. Leafy vegetables: varieties of leaves are collected in different seasons, cooked and eaten along with boiled rice. 9 species of leafy vegetables consumed by these tribal groups have been identified. Fruits: There are a large number of wild edible fruits plants. Some are eaten raw either ripe or unripe while others are consumed after cooking as curries. 27 edible fruits are identified. Tubers: Tubers of certain species are eaten curries. These wild edible plants are free from artificial chemicals and enriched with high nutrition.

Keywords: Wild edible plants, vegetables, fruits, tuber, Yercaud hills, Malayali tribals.

1. Introduction
Forests have a large and indispensable role to play in improving food security of tribes. Wild edible plants are important in the livelihood strategies of forest dwellers/tribal populations because they help the people to meet one of their most important basic needs the food. While these foods are not widely accessible, locally they are of great relevance for nutrition and food security in many countries. India has a tribal population of 42 million of which some 60% live in forest areas and depend on forest for various edible products. Wild edible plants are much important than is generally assumed in the food supplies of many countries some wild foods are used as staples or as basic components of substantial meals. Many plants used in industrialized countries today were originally identified and developed through indigenous knowledge [1]. The present study aim to reveal their indigenous knowledge with the identification, documentation and ethnobotanical exploration with respect to food value of wild edible species consumed by tribal communities from Yercaud hills.

2. Materials and Methods
2.1. Study area
The present study was undertaken in the Yercaud Hills located in Salem district of Tamil Nadu. Yercaud hills located in the forest types range from evergreen to moist deciduous with the altitude of 1515 meters (4970 Ft) above sea level the highest point in Yercaud is the Servarayan temple, at 5,326 feet (1.623 m) lies between $11^0$45’56” N latitude and $78^0$17’55” E longitude. The temperature ranges from 13 ^{0}C to 29 ^{0}C on the peaks and 25 ^{0}C to 40^0 C at the foot hills. The average annual rainfall is around 1500 mm – 1750 mm. The soil is deep and non-calcareoces.

2.2. Malayali tribals
Malayali simply means a hill person an appellation distinguishing them from the people of plains. In physical appearance they scarcely differ from the people of plains. They speak Tamil dialect of their own. They are supposed to be descendants of Kanchipuram vellalar. They appear to have migrated from Kanchipuram (a town near Chennai, Tamil Nadu) between seventh and eleventh centuries. The tribals are mostly working as casual laborers in coffee estates. They are cultivating food grains, fruits and vegetable [2].

2.3. Data collection

Frequent field surveys were carried out in Yercaud hills in different seasons during November 2012- March 2014.

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 specimens collected were identified with the help of floras [2 & 3] and taxonomic revisions monographs and other available field keys.

Table 1: Edible fruit yielding plant of Yercaud Hills used by Malayali tribes

S. No	Botanical Name	Vernacular Name	Family	Habit	Form of uses/Recipe
1	*Alangium salvifolium*, Linn.	Alangal	Alangiaceae	Tree	Ripe fruits eaten
2	*Anacardium occidentale* , L	Mundhiri	Anacardiaceae	Tree	Ripe fruits eaten
3	*Ananas comosus*, L.	Anasipalam	Bromeliaceae	Herb	Ripe fruits eaten
4	*Artocarpus heterophyllus*, Lam	Pala	Moraceae	Tree	Ripe fruits eaten
5	*Artocarpus hirsutus*, Lam	Kattupala	Moraceae	Tree	Raw fruits cooked and eaten
6	*Atalantia monophylla* (L) Corr.	Thurethekai	Rutaceae	Shrub	Green fruits used to make a pickled
7	*Buchanania angustifolia*, Roxb	Seeramaram	Anacardiaceae	Tree	Ripe fruits eaten
8	*Calocarpum sapota* (Jacq.) Merr.	Muttaipazhalam	Sapotaceae	Tree	Ripe fruits eaten
9	*Canavalia ensiformis*, Dc.	Kattuavarai	Fabaceae	Climber	Green fruits used in curries
10	*Citrus maxima* (Burn) Merril.	Pampuilmaspalam	Rutaceae	Tree	Ripe fruits eaten
11	*Clausena dentate*, Willd.	Annaikattipalam	Rutaceae	Shrub	Ripe fruits eaten
12	*Cyphomandra betacea*, Cav.	Marathakkali	Solanaceae	Shrub	Fruits used in curries
13	*Grewia disperma*, Rottl.	Uduppai	Tiliaceae	Herb	Un ripped and ripped fruits eaten.
14	*Lantana montevidensis* (Spr.) Briq.	Arjunasedi	Verbenaceae	Shrub	Ripe fruits eaten
15	*Limonia acidissima*, Linn.	Vilankay maram	Rutaceae	Tree	Ripe fruits eaten
16	*Opuntia elatior*, Mill.	Sappathaikkalai	Cataceae	Herb	Ripe fruits eaten
17	*Passiflora edulis*, Sims.	Tappasupalam	Passifloraceae	Climber	Ripe fruits eaten
18	*Persea americana*, Mill.	Vennaipathinikai	Lauraceae	Tree	Ripped fruits used to make juice
19	*Phoenix farinifera*, Roxb.	Icham	Palmaceae	Shrub	Ripe fruits eaten
20	*Plectronia didyma*, Kurz.	Nikkanai maram	Rubiaceae	Tree	Ripe fruits eaten
21	Pyrus communis, , L.	Baerikkai	Rosaceae	Tree	Ripe fruits eaten
22	*Securinega leucopyrus* (Willd.) Mull. Arg.	Poolapazhalam	Euphorbiaceae	Shrub	Ripe fruits eaten
23	*Semecarpus anacardium*, L.f.	Saramaram	Anacardiaceae	Tree	Ripe fruits eaten
24	*Sollanum torvum*, Swartz.	Sundakkai	Solanaceae	Shrub	Green fruits salted, dried, roasted in oil and eaten.
25	*Zizyphus glabrata*, Heyne.	Karukattankai	Rhamnaceae	Shrub	Ripe fruits eaten
26	*Zizyphus mauritiana*, Lamk.	Yellande	Rhamnaceae	Tree	Ripe fruits eaten
27	*Zizyphus oenoplia*, Mill.	Surai pazham	Rhamnaceae	Shrub	Ripe fruits eaten

Table: 2 Edible leafy vegetables yielding plant of Yercaud Hills used by Malayali tribes

S. No	Botanical Name	Vernacular Name	Family	Habit	Form of uses/Recipe
1	*Acacia pennata* (L.) Willd.	Inddumullu	Mimosaceae	Tree	Mentioned plants leaves are collected in different seasons, cooked and eaten along with boiled rice.
2	*Alternanthera sessilis* (L) R.Br.ex.Dc.	Ponnangenni	Amaranthaceae	Herb	
3	*Amaranthus spinosus*, L.	Mullukeerai	Amaranthaceae	Herb	
4	*Bauhinia purpurea*, L.	Komakkeerai	Caesalpiniaceae	Small tree	
5	*Colocasia esculenta, Schott*.	Sembu	Araceae	Herb	
6	*Eclipta prostrata*, Roxb.	Karisalankanni	Asteraceae	Herb	
7	*Oxalis corniculata*, Linn.	Puliyarai	Geraniaceae	Herb	
8	*Oxalis latifolia*, Kunth.	Puliyari	Geraniaceae	Herb	
9	*Cissus quadrangularis*, Linn	Pirandai	Vitaceae	Climber	Young shoots are used for chutney preparation.

Table: 3 Edible seeds yielding plant of Yercaud Hills used by Malayali tribls

S. No	Botanical Name	Vernacular Name	Family	Habit	Form of uses/Recipe
1	*Coffea arabica*, Linn	Coffee	Rubiaceae	Shrub	Seeds are made in powder. This powder used to make a coffee.

Table: 4 Edible underground parts yielding plant of Yercaud Hills used by Malayali tribls

S. No	Botanical Name	Vernacular Name	Family	Habit	Form of uses/Recipe
1	*Decalepis hamiltonii*, Wight & Arn.	Maavilikilangu	Periplocaceae	Herb	Rhizomes are boiled and eaten
2	*Dioscorea alata*, L.	Vetrilaikilangu	Dioscoreaceae	Climber	Mentioned plants tubers are cooked with salt, chilly, turmeric used as curry.
3	*Dioscorea oppositifolia*, L.	Kattukilangu	Dioscoreaceae	Climber	
4	*Dioscorea pentaphylla*, L.	Vallikilangu	Dioscoreaceae	Climber	
5	*Drynaria quercifolia* (L) J.Sm	Aadukalkilangu	Polypodiaceae	Herb	Rhizomes are boiled and made into soup.

3. Results and discussions

The present study focused mainly used by the Malayali tribals for wild edible plants. During the study period, 42 species plants belonging to 36 genera and 29 families were identified as food plants which are used by the Malayali tribals in Yercaud hills, Salem district, Tamil Nadu. The plants listed mainly belong to Rutaceae (4 species) followed by Dioscoreaceae, Rhamnaceae, Anacardiaceae and Rubiaceae (3 species), solanaceae, Moraceae, Geraniaceae, Amaranthaceae (2 species) and remaining with one species each. Among 42 plant species tree (13 species) were found to be most used plants followed by herb (11 species), shrub (8 species), climber (6 species) and small tree (4 species). These products are collected from both wild and cultivated plants. The tribals cultivated tuber and leafy edible plants in their home garden and collected fruits from wild plants. These indigenous plants must be taken into consideration and treated with equal importance as like medicinal plants, many research work must be carried out in these plants to increases their productivity which will help in increasing our counters economy and food security.

Some of the researches carried out in wild edible plants are Malayali tribals in Shevaroy hills in Tamil Nadu using 30 plant species as edible fruits [1], Malayali tribals in Jawadhu hills of Tamil Nadu using 24 plant species for food, religious purposes, rituals, decorative purposes, insect repellents, biofertilizers, construction purposes, making household implements and hedge and fuel [3], Paliyar tribes of Pachalur in Dindigul district of Tamil Nadu using 22 plant species as leafy vegetables [4], Todas, Kotas, Kurumbas, Paniyas, Irulas and Kattunayakas in Nilgiri Hills of Tamil Nadu using 70 plant species as wild edible fruits [5] and Mising, Bodo, Sonowal Kachari and Hajong in Poda reserved forest of Assam using 122 wild edible plants [6].

Wild fruits are always available throughout the years. These wild edible plants grow in organic rich soil and in pollution free area. They are not exposed to any artificial chemical fertilizers and are enriched with natural nutrients. Consumption of these wild edible plants makes the tribal people less prone to diseases and they have more strength when compared to people in plains. Useful wild plants in ethnic ecosystems show a trend of utilization of locally available resources both in areas with high plant diversity and marginal habitats. The oral transferrable of the indigenous knowledge of conventional uses of wild plants between elder and younger generation is not always ensured. Now-a-days the traditional knowledge is declining due to lack of interest in the present generation and also absence of records about the useful plants. Hence, the truthful indigenous knowledge is immediately to be documented and validated for serving future generations and their nutritional values should be analyzed.

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