

Significance and use of medicinal and edible plants: A case study

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Received: 11.08.2023

Revised and Accepted: 16.9.2023

Key Words: Medicinal and edible plants, Uses, Kozhikode, Kerala.

Abstract

The present study documented 90 species of plants belonging to 78 genera and 35 families from Kozhikode District are having medicinal and edible potentialities. These kinds of documentations are highly beneficial in formulating policies for their sustainable use, conservation and propagation. The consumption of wild food plants are still 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 food crops by various communities.

1. Introduction

Ethnobotany deals with past and present interrelationships between human cultures and the plants. The investigation of the cultural values of plant species plays a significant role to modern medicine, farming, pharmaceutical and nutraceutical industrial sectors of a society (Pei, 1995). The diversity in wild plant species contributes to household food security and health (Cavender, 2006; Pieroni *et al.*, 2007). Wild edible plants play an important socio-economic role as medicines, dyes, poisons, shelter, fibers and religious and cultural ceremonies (Heywood & Skoula, 1999). About 46% of world's poor live in South Asia (Bhattarai, 1998) of which 75 million dwell Himalayas (Dutta & Pant, 2003) and the biomass extraction is most widespread pressure on forests (Pattanayak *et al.*, 2003).

Despite agricultural societies primary reliance on crop plants, the tradition of eating wild plants has not

completely disappeared, because of their nutritional role and health benefits. However, consumption is determined less by calorie input and more by the pleasure of gathering wild resources, recreating traditional practices and enjoying characteristic flavors (Santayana *et al.*, 2007). Previous epidemiologic studies have consistently shown that diet plays a crucial role in the prevention of chronic diseases (Temple, 2000). This convincing evidence suggests that a change in dietary behavior such as increasing consumption of fruit, vegetables, and grains is a practical strategy for significantly reducing the incidence of chronic diseases. Consumption of vegetables, as well as grains, has been strongly associated with reduced risk of cardiovascular disease, cancer, diabetes, Alzheimer disease, cataracts, and age-related functional decline (Willett, 1995; Bazzano *et al.*, 2001; Liu, 2003; Espin *et al.*, 2007).

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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 (Cooper, 1996). 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 (Roy *et al.*, 1998). There are about more than 1000 edible wild food species in India, mostly from Western Ghats and Himalayan regions (Arora & Pandey, 1996). In India certain wild tubers, root types, green leaves, flowers, unripe as well as ripe fruits, grains and legumes are consumed by different tribal groups (Khoshoo, 1991). The hill chain of Western Ghats are recognized as a region of high level of biodiversity is under the threat of rapid loss of genetic resources (Gadgil, 1996). The relationship between food and health becomes increasingly significant as consumers now demand healthy, tasty and natural functional foods that have been grown in uncontaminated environment (Ercisli, 2007). Knowledge of such foods is a part of traditional knowledge which is mainly

transmitted through contribution of individuals of households (Misra, 2008). In many parts of the world the traditions of using wild edible plants as food and medicine are at risk of disappearing, hence it is of outmost importance to obtain data about popular uses of such plants species before this knowledge disappears (Pieroni *et al.*, 2005; Hadjichambis *et al.*, 2008).

2. Materials and Methods

2.1 Study Area

Kerala state is located on the tropical Malabar Coast of South western India with the Arabian Sea in the west, the Western Ghats towering 500-2700 m in the east and networked by 44 rivers. It was formed on 1 November 1956 following the States Reorganization Act by combining Malayalam-speaking regions. Kerala is divided into 14 districts with the capital being Thiruvananthapuram. It is a tropical state with green and lush vegetation and has a 550 km coastline on the Arabian Sea. Due to its terrain and its physical features, it is dividing in east west cross-section into three district regions such as hill & valleys, midland plains and coastal region. Medicinal herbs, abundant in the forests, are used in Ayurveda.



Fig. 1. Map of India showing Kerala State and Kozhikode District

2.2. Kozhikode District

Kozhikode also known as Calicut, is a city in the state of Kerala in Southern India on the Malabar coast. It is the largest urban area in the state and 195th largest urban area in the world. The city of Kozhikode is 410 kilometres north of the state capital Thiruvananthapuram. It is located at approximately 11.25°N 75.77°E. It has an elevation of 1 metre along the coast with the city's eastern edges rising to at least 15 metres. The city has a 15 km long shoreline and small hills. The average annual rainfall is 3266 mm and the best weather is found in towards the end of the year, in December and January (Fig.1).

2.3. Documentation & authentication

The present study was based on an extensive survey and field observations during the year December 2021- February 2022 In this study an attempts were made to todocment and analyze some medicinal and edible potential plants from the kozhikode District, Kerala. The documentation was mainly based on the field observation, discussions with local peoples as well as scrutinizing the literature review. During the field visits, the plant specimens were collected at different reproductive stages to prepare herbarium specimens. The collected specimens were identified taxonomically with the help of available floras and literature (Hooker, 1984; Gamble & Fischer, 1915 - 1936;

Sasidharan, 2004). The nomenclature of each species has been brought up to data as per the rules given in the International Code of Nomenclature (ICN). The specimens were processed for the preparation of Herbarium by standard methods (Santapau & Hentry, 1973). The voucher specimens were deposited in the Herbaria of Center for PG & Research Department of Botany, St. Joseph's College, Calicut (DEV) for future reference.

3. Results and Discussion

3.1. Documentation

According to the present documentation, out of 35 families represented, the class dicotyledons are dominant over (31 Nos.) monocotyledons (4 Nos.). Among the dicotyledons sub class polypetalae is dominant (15 Nos.) followed by gamopetalae (12 Nos.) and Monochlamydae (4 Nos.). Similarly in the case of total 78 genera represented, dicotyledons are dominant over (74 Nos.) monocotyledons (4 Nos.). Similarly the evaluation of dominant families from the present documentation also revealed that, Fabaceae is dominant family with 11 species belonging to 9 genera, followed by Acanthaceae with 7 species belonging to 6 genera followed by Solanaceae and Amaranthaceae with 7 species belonging to 5 genera This is followed by Astraceae and Cucurbitaceae with 5 species belonging to 5 genera respectively (Table-1 & Fig.2).

Table 1: Analysis of species diversity

Analysis of species diversity		Families		Genera		Species	
Dicotyledons	Polypetalae	15	31	31	74	34	86
	Gamopetalae	12		32		37	
	Monochlamydae	4		11		15	
Monocotyledons		4		4		4	
Total		35		78		90	

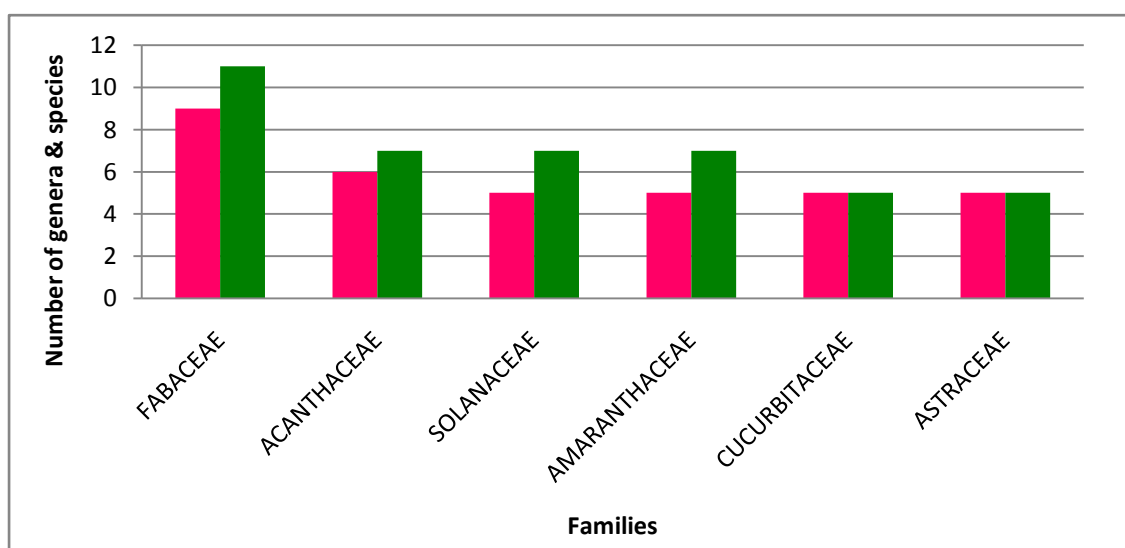


Fig 2: Analysis of dominant families, genera and species of Dicotyledons plants

3.2. Medicinal plants in the study area

In this study, there are 70 species are documented with medical potentialities from the study area. Among these Fabaceae is the most dominant family with 8 species having medical significance. The other dominant families includes Acanthaceae with 7 species followed by Astraceae, Lamiaceae, Amaranthaceae with 5 species each and Solanaceae with 4 species respectively (Table-2 & Fig.3).

Similar study was conducted by Yadav *et al.* (2006). They made ethnomedicinal observations from the rural areas of Haryana, revealed that valuable phytotherapeutic information on the various gynecological disorders. Uses of 17 plant species for menstrual disorders, 15 species for leucorrhoea, 6 species for delivery problems, 5 species for gonorrhea, 4 species for lactation troubles, 3 species for abortion and 2 species for miscarriage have been enumerated.

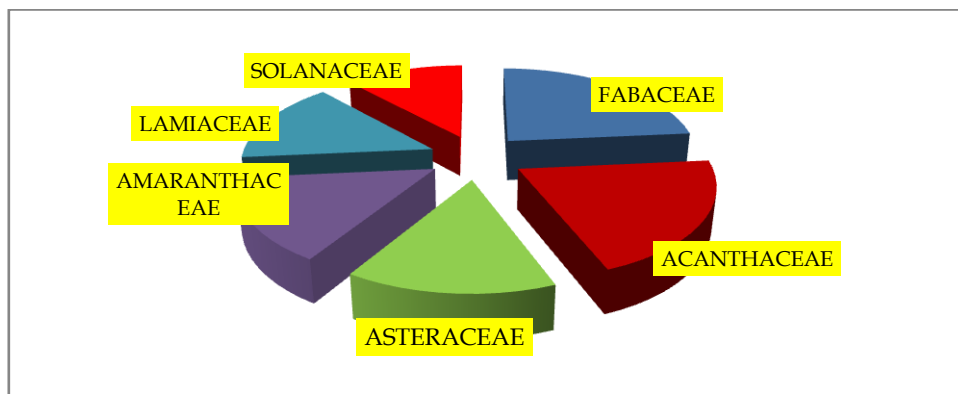


Fig 3: Analysis of dominant families with medical potentialities

Table- 2: List of medicinal plants in the study area

Sl No.	Botanical Name	Family	Uses	References
1	<i>Abrus precatorius</i> L.	Fabaceae	Tonic to the brain and the body, aphrodisiac. Root is considered emetic and alexiteric.	Kishor <i>et al.</i> , 2012
2	<i>Acalypha fruticosa</i> Forssk.	Euphorbiaceae	Against skin diseases . Leaf and root paste is applied topically on the affected places	<u>Ignacimuthu</u> <i>et al.</i> , 2006
3	<i>Acalypha indica</i> L.	Euphorbiaceae	Useful in treating pneumonia, asthma, rheumatism and several other ailments	Raja & Savitha, 2013
4	<i>Achyranthes aspera</i> L.	Amaranthaceae	Antiperiodic, diuretic, purgative, laxative, antiasthmatic, hepatoprotective, anti-allergic	Srivastav <i>et al.</i> , 2011
5	<i>Aerva lanata</i> (L.) Juss. ex Schult.	Amaranthaceae	Antiurolithiatic, diuretic, hepatoprotective, anticancer, immunomodulatory, antioxidant, antimicrobial	Bitasta & Madan, 2016
6	<i>Andrographis paniculata</i> (Burm. f.) Wall.	Acanthaceae	To get rid of body heat, dispel toxins from the body; prevent common cold, upper respiratory tract infections including sinusitis and	Joselin & Jeeva, 2014



			fever and as an antidote against poisons of snakes and insects	
7	<i>Amaranthus blitum</i> (L.) Hook. f.	Amaranthaceae	Contain vitamins and minerals	
8	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Contain vitamins and minerals	
9	<i>Amaranthus viridis</i> L.	Amaranthaceae	Contain vitamins and minerals	
10	<i>Aristolochia indica</i> L.	Aristolochiaceae	It has been recommended for the treatment of dry cough, joints pain, snake bite and also used as abortifacient.	Sati <i>et al.</i> ,2011
11	<i>Barleria prionitis</i> L.	Acanthaceae	Leaves shows antimicrobial activity	Khare, 2016
12	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Plant extract rejuvenates liver, male reproductive system and other organ system along with this it detoxifies liver and skin	Santhosh <i>et al.</i> , 2011
13	<i>Caesalpinia mimosoides</i> Lam.	Fabaceae	The decoction prepared from the plant shows antioxidant activity.	Ranjith <i>et al.</i> , 2014
14	<i>Cajanus carabaeoides</i> (L.) Thouars	Fabaceae	Possess wound healing, anti diabetic, anti-inflammatory, hepatoprotective, anti-diarrhoeal, anthelmintic and anti bacterial activities.	Pattanayaket <i>et al.</i> , 2011
15	<i>Calotropis gigantea</i> (L.) R. Br. in Ait.f.	Asclepiadaceae	The Leaf extract is used for skin diseases, boils and sores. , ringworm, leprosy, The crushed and warmed leaves are applied on burns, headaches and rheumatic pains, and as a tincture for intermittent fever	Gaur <i>et al.</i> ,2013
16	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	This herb act as a diaphoretic, diuretic, emetic, laxative, anti-	Syed <i>et al.</i> , 2013



			diarrheal, antioxidant activities. This herb is also useful in curing of rheumatism and severe bronchitis.	
17	<i>Celastrus paniculatus</i> Willd.	Astraceae	Oil obtained from the seeds of the plant is reported to be highly beneficial in stimulating intellect and sharpening the memory.	Pandey,2012
18	<i>Centella asiatica</i> (L.) Mart.	Apiaceae	Used for asthma, skin disorders, ulcers and body aches, for improving memory as a nervine tonic and in treatment of dropsy, elephantiasis, gastric catarrh.	Singh <i>et al.</i> ,2010
19	<i>Chassalia curviflora</i> (Wall. ex Kurz) Thw.	Rubiaceae	Decoction prepared from the plant is used to treat jaundice and wounds. In addition, the different parts of the plant are reported to be used for various ailments such as headache, ulcers, sore throat, rheumatism, pneumonia, eye and ear diseases	Ajeeshet <i>al.</i> , 2014
20	<i>Chromolaena odorata</i> (L.) King & Robins.	Astraceae	The young leaves are crushed, and the resulting liquid can be used to treat skin wounds.	Kumaret <i>al.</i> ,2011
21	<i>Clerodendrum infortunatum</i> L.	Verbenaceae	It is used for ailments skin disorder wounds, wormicide and post natal complication.	Saroj, 2016
22	<i>Coccinia grandis</i> (L.) Voight	Cucurbitaceae	The fruit of the plant is used ton prepare side dishes and it also shows anti- diabetic activity.	
23	<i>Costus pictus</i> D.	Zingiberaceae	It is used as a	Jayasriet <i>al.</i> ,2008



	Don ex Lindl.		munching dietary supplement for the treatment of diabetes.	
24	<i>Cyclea peltata</i> (Lam.) Hook. f. & Thoms.	Menispermaceae	Leaf extract for various skin problems.	Jyothi, 2012
25	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	It is used for cuts and wounds also to headache, diarrhea, cramps, epilepsy, dropsy, dysentery, hemorrhage, hypertension, hysteria, measles, snakebite, sores etc.	Kumar, <i>et al.</i> , 2013.
26	<i>Cyperus rotundus</i> L.	Cyperaceae	Rhizomes are considered astringent, diaphoretic, diuretic, analgesic, antispasmodic, aromatic, carminative.	Sivapalan, 2013
27	<i>Datura stramonium</i> L.	Solanaceae	Leaf extract are externally used for injuries, wounds bleeding and pains. Juice of fruit is applied to scalp for falling hair and as antidandruff	Sayyed & Shah, 2014
28	<i>Desmodium triflorum</i> (L.) DC.	Fabaceae	It is used for the treatment of fever, diarrhea, dysentery toothache, rheumatism and leaf of both the species are found to be used locally on wound, sores, boils, abscess, scabies, eczema etc.	Singh <i>et al.</i> , 2015
29	<i>Diplocyclos palmatus</i> (L.) Jeffrey	Cucurbitaceae	The decoction prepared from the plant parts shows anti asthmatic and anti inflammatory activities.	Gautham <i>et al.</i> , 2013
30	<i>Eclipta prostrata</i> L.	Asteraceae	Decoction prepared from the plant is used to treat Bronchitis, pneumonia, diarrhea and dysentary. In	Vigar & Ali, 2008



			addition, the different parts of the plant are reported to be used for various ailments such as Asthma, Body pain, Fever and General weakness etc.	
31	<i>Emilia sonchifolia</i> (L.) DC.	Astraceae	The plant is used as a cure for various ailments such as sore-throat, tonsillitis, styptic, stomach ache, bowel complaints.	Essienet <i>al.</i> , 2009
32	<i>Eranthemum capense</i> L.	Acanthaceae	The extract prepared from leaves shows anti-inflammatory activity.	
33	<i>Eryngium foetidum</i> L.	Apiaceae	leave and roots decoction use for flu, pneumonia, diabetes and constipation, The crushed leaves are placed in the ear to treat pain. It also has been used as a folk medicine for scorpion sting The other properties includes anti inflammatory, analgesic, antimalarial and antibacterial properties are also reported.	Shavandiet <i>al.</i> , 2008.
34	<i>Glycosmis pentaphylla</i> (Retz.) DC.	Rutaceae	Used as a mosquito repellent	Govindarajuet <i>al.</i> , 2016
35	<i>Hemidesmus indicus</i> (L.) R. Br. in Ait.f.	Apocynaceae	It is used in Rheumatism, Rheumatoid arthritis and also used in nephritic disorders. It is an alternative, diaphoretic, depurative, diuretic, aphrodisiac.	Sumona& Rachana, 2014
36	<i>Holostemma adakodien</i> Schult.	Asclepiadaceae	The roots are sweet, ophthalmic, emollient,	Sudhakaran, 2017



	in Roem. & Schult.		aphrodisiac, expectorant and galactagogue.	
37	<i>Hygrophila schulli</i> (Buch.-Ham.) M. R. & S. M. Almeida	Acanthaceae	Used for rheumatism, inflammation, jaundice, hepatic obstruction, pain, urinary infections, oedema and gout. athisaram(Dysentry)etc.	Vijayakumar,2014
38	<i>Hyptis suaveolens</i> (L.) Poit.	Lamiaceae	The plant extracts were used to cure swellings, abscesses and also used as memory aid. The extract is also used to treat fever and cold	Sharma <i>et al.</i> , 2013.
39	<i>Ichnocarpus frutescens</i> (L.) R. Br.	Apocynaceae	The plant is having a broad spectrum of use as in atrophy, bleeding gums, convulsions, cough, delirium, dysentery, glossitis, haematuria, measles etc.	Chaudhary <i>et al.</i> , 2012
40	<i>Indigofera tinctoria</i> L.	Fabaceae	The plant possesses antitoxic, hemostatic, sedative properties and are useful in the treatment of piles, healing of ulcers, dropsy.	Verma & Suresh, 2002.
41	<i>Jasminum angustifolium</i> (L.) Willd.	Oleaceae	Traditionally the plant has been used to treat dysmenorrhoea, amenorrhoea, ringworm, leprosy, skin diseases.	Akash <i>et al.</i> , 2011.
42	<i>Justicia adhatoda</i> L.	Acanthaceae	The plant is used in the treatment of cough, bronchitis, asthma & symptoms of common cold.	Dhankharet <i>et al.</i> , 2011.
43	<i>Justicia gendarussa</i> Burm. f.	Acanthaceae	Decoction of leaf of <i>J. gendarussa</i> is a popular remedy for chronic rheumatism also used for fever, cough,	Sonala <i>et al.</i> , 2011.



			jaundice, thrush, arthritis and bronchitis liver disorders.	
44	<i>Lantana camara</i> L.	Verbenaceae	The plant extracts were used to cure swellings, abscesses and also used as memory aid.	Sharma <i>et al.</i> , 2013.
45	<i>Leucas zeylanica</i> (L.) R. Br.	Lamiaceae	It is being used in the treatment of burning and urination. It also used for the treatment of cough and cold.	Hossain <i>et al.</i> , 2013
46	<i>Lawsonia inermis</i> L.	Lythraceae	The plant is reported in use of headache, hemicranias, lumbago, bronchitis, boils, ophthalmia, syphilitis, sores, amenorrhea, scabies, diseases of the spleen, dysuria, bleeding disorder, and skin diseases.	Boradeet <i>et al.</i> , 2011.
47	<i>Mimosa pudica</i> L.	Fabaceae	The plant extract have been reported to have anti diabetic, antitoxic and wound healing activities.	Joseph <i>et al.</i> , 2013
48	<i>Momordica charantia</i> L.	Cucurbitaceae	The plant shows anti-diabetic, antimicrobial, anti-cancer properties.	Das <i>et al.</i> , 2015
49	<i>Mussaenda frondosa</i> L.	Rubiaceae	The plant have anti-inflammatory, antioxidant, antimicrobial properties.	Gunasekaran <i>et al.</i> , 2015
50	<i>Naravelia zeylanica</i> (L.) DC.	Ranunculaceae	The plant have antibacterial, anti inflammatory, antihelmintic, anxiolytic, antiulcer, antiarthritic, antifungal, antioxidant activities.	Manasa, 2013.
51	<i>Naregamia alata</i>	Meliaceae	The plant extract shows	Sharma <i>et al.</i> ,



	Wight & Arn.		antibacterial activity.	2010.
52	<i>Ocimum basilicum</i> L.	Lamiaceae	The plant is commonly used for anti-osteoporotic effect, anxiolytic and sedative effect, Anti-colitis effect and antibacterial activities.	Miraj and Kiani, 2016.
53	<i>Ocimum gratissimum</i> L.	Lamiaceae	It is a valuable medicinal plant which has numbers of pharmacological properties. Antitumor and anti-cancer effects have been reported in in vitro experiments. It is also recommended for treatment of diseases like bronchitis, bronchial asthma, diarrhea, dysentery chronic fever etc.	Monga <i>et al.</i> , 2017
54	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Plant extract used as a remedy for skin diseases, intestinal disorders, eye problems.	Bhateja & Arora, 2012.
55	<i>Oxalis corniculata</i> L.	Oxalidaceae	The plant contain phenol, glycosides, fatty acids and volatile oil with antihelmintic, anxiolytic, antiulcer, antiarthritic, antifungal, antioxidant activities.	Kumari, 2011
56	<i>Pergularia daemia</i> (Forssk.) Chiov.	Asclepiadaceae	The plant has been traditionally used as anthelmintic, laxative, antipyretic expectorant and also used to treat infantile diarrhea and malarial intermittent fevers.	Bhaskar & Balakrishnan, 2009.
57	<i>Physalis angulata</i> L.	Solanaceae	It is widely used in traditional medicine to cure several disorders	Mahalakshmi & Ramesh, 2014.



			such as malaria, asthma, jaundice, gout, inflammatory disorders mainly rheumatism, constipation, digestive problems.	
58	<i>Phyllanthus amarus</i> Schum. & Thonn.	Euphorbiaceae	The plant extract shows usefulness in several health problems such as diarrhoea, dysentery, dropsy, jaundice, intermittent fevers, urinogenital disorders and wounds.	Verma <i>et al.</i> , 2014.
59	<i>Plumbago zeylanica</i> L.	Plumbaginaceae	The plant is used as a stimulant digestant, expectorant, laxative and in the treatment of muscular pain and rheumatic diseases.	Sharma and Kaushik, 2014.
60	<i>Ricinus communis</i> L.	Euphorbiaceae	the plant is used as laxative, purgative, fertilizer and fungicide etc. whereas the plant possess beneficial effects such as anti-oxidant, antihistamic, Antinociceptive, antiasthmatic, anti inflammatory, antimicrobial properties.	Jena & Gupta, 2012.
61	<i>Ruellia elegans</i> Poir.	Acanthaceae	The palntextract has antinociceptive, antioxidant, analgesic, antispasmodic, antiulcer, antidiabetic and anti-inflammatory properties.	Afzal <i>et al.</i> , 2015.
62	<i>Scoparia dulcis</i> L.	Scrophulariaceae	The whole plant is used for ailments like diarrhea, stomach-ache, kidney stones, kidney problems, and fever.	Mishra <i>et al.</i> , 2013
63	<i>Senna occidentalis</i> (L.) Link	Fabaceae	The plant extract shows antiinflammatory activities.	



64	<i>Senna tora</i> (L.) Roxb.	Fabaceae	The therapeutic potentials, including antioxidant, antimicrobial and anticarcinogenic properties.	Kaur & Arora, 2009
65	<i>Sida acuta</i> Burm. f.	Malvaceae	The plant have good antiplasmodial activity due to its alkaloids cryptolepine.	Simpliceet <i>al.</i> , 2012.
66	<i>Sida cordata</i> (Burm. f.) Borss.	Malvaceae	The whole plant is used on cut wounds, The whole plant decoction for rheumatism.	Gulnaz & Savitha, 2013
67	<i>Solanum americanum</i> Mill.	Solanaceae	The plant have antiviral activity against the herpes simplex virus.	Ali <i>et al.</i> , 1996.
68	<i>Tinospora cordifolia</i> (Willd.) Miers	Menispermaceae	<i>T. cordifolia</i> shows anti-cancer activity. Root extract of this plant has been shown a decrease in the regular resistance against HIV	Jitendra <i>et al.</i> , 2014
69	<i>Tridax procumbens</i> L.	Astraceae	The decoction prepared from the whole plant shows antimicrobial activity. In addition to this the extract of the leaves are applied on wounds.	Jain & Amita, 2012.
70	<i>Xanthium indicum</i> Koenig	Astraceae	The whole plants as well as leaves are used as blood purifier and in scabies.	Bhogaonkar & Ahmad, 2012

3.3. Edible plants in the study area

As per the study there are 25 plants with edible potential in the study area. Among these Amaranthaceae is the dominant family with 5 species. This is followed by Fabaceae and Solanaceae with 4 species and is followed by

Cucurbitaceae with 3 species (Table-3 & Fig.4).

Similar study was done by Binu (2010) on Wild edible plants used by the tribals in Pathanamthitta district, Kerala. According to the study, a total of 41 plant species of wild edible

plants used by the tribals in Pathanamthitta district, Kerala. In this study food habits of six tribal communities inhabiting the area

such as Malappandaram, Urali, Malaarayan, Ulladan, Malavedan, Malakurava were also analyzed.

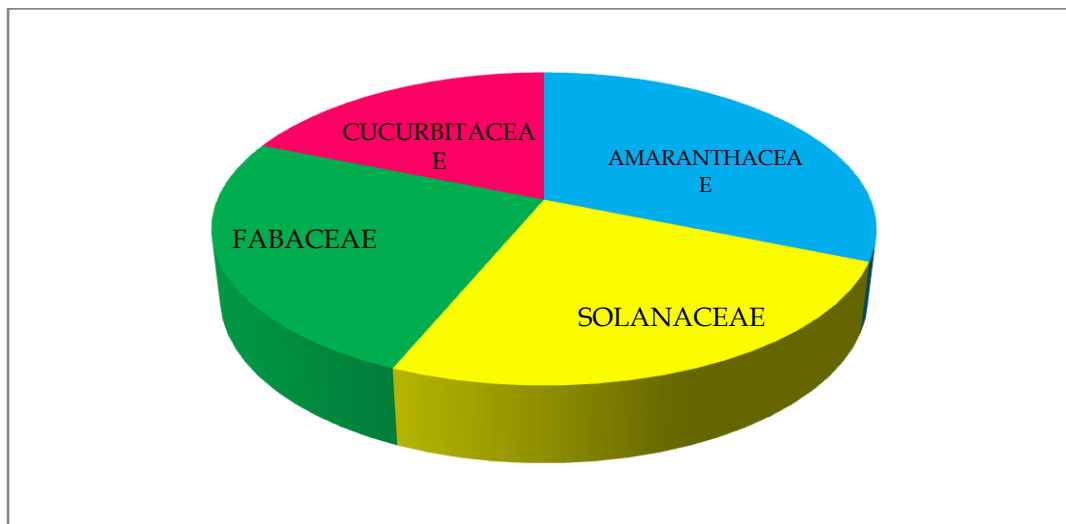


Fig 4: Analysis of edible plants in the study area

Table-3: List of edible plants in the study area

SI No.	Botanical Name	Family	Edible property
1.	<i>Alternanthera philoxeroides</i> (Mart.) Griseb.	Amaranthaceae	The plant is used as vegetable.
2	<i>Amaranthus blitum</i> L.	Amaranthaceae	They are highly nutritious, contain vitamins and minerals. The leaves, shoots, tender stems and grains are eaten as pot herb. The plants are also used as forage for livestock.
3.	<i>Amaranthus spinosus</i> L.	Amaranthaceae	The leaves of the plant are used as a leafy vegetable.
4.	<i>Amaranthus viridis</i> L.	Amaranthaceae	The leaves of the plant are used as a leafy vegetable.
5.	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Tender leaves and stem are used as leafy vegetable.



6.	<i>Cajanus cajan</i> (L.) Millsp.	Fabaceae	The plant is reported to have high protein, vitamin and mineral content in the seeds.
7.	<i>Capsicum annuum</i> L.	Solanaceae	Its potential uses and benefits to mankind cover many areas such as food nutrition and medicine.
8.	<i>Coccinia grandis</i> (L.) Voight	Cucurbitaceae	The fruit of the plant is used to prepare side dishes and it also showed anti-diabetic activity.
9.	<i>Colocasia esculenta</i> (L.) Schott	Araceae	The petiole and leaves are edible after cooking.
10.	<i>Coriandrum sativum</i> L.	Apiaceae	Its leaves, seeds, leaves and roots are edible, although they have very distinct flavors and uses. The herb has a light and fresh flavor. Whole plant of coriander mainly fresh leaves and ripe fruits are used for culinary purposes.
11.	<i>Cucurbita maxima</i> Duch.	Cucurbitaceae	Fruit of the plant is used in preparation of curry and various other side dishes.
12.	<i>Digera muricata</i> (L.) Mart.	Amaranthaceae	The leaves and spikes are used to vegetable.
13.	<i>Glycosmis pentaphylla</i> (Retz.) DC.	Rutaceae	The plant is cultivated for its edible pink fruits.
14.	<i>Ipomoea batatas</i> (L.) Lam.	Convolvulaceae	The crop is highly nutritive, and it outranks most carbohydrate foods in terms of vitamin, mineral, dietary fibre and protein content.
15.	<i>Lablab purpureus</i> (L.) Sweet	Fabaceae	Pod of the plant is cooked and used as a food supplement.
16.	<i>Lycopersicon esculentum</i> Mill.	Solanaceae	It is one of the most important edible and nutritious vegetable crops in the world. Fruit of the plant is used widely in food preparation.
17.	<i>Momordica charantia</i> L.	Cucurbitaceae	The fruit of the plant is used in culinary purposes



18.	<i>Passiflora edulis</i> Sims	Passifloraceae	Fruit of the plant is eaten as raw and also used to prepare juice.
19.	<i>Portulaca oleracea</i> L.	Portulacaceae	It is used as a leafy vegetable.
20.	<i>Senna tora</i> (L.) Roxb.	Fabaceae	The leaves of the plant is cooked eaten as a part of human diet due to its high iron content.
21	<i>Solanum melongena</i> L.	Solanaceae	The raw fruits can have a somewhat bitter taste or even an astringent quality, but becomes tender when cooked and develops a rich, complex flavor. The fruit is capable of absorbing large amounts of cooking fats and sauces, making for very rich dishes.
22.	<i>Solanum torvum</i> Sw.	Solanaceae	The cooked fruits are used as an important ingredient of soups and sauces.
23.	<i>Talinum portulacifolium</i> (Forssk.) Asch. ex Schweinf.	Portulacaceae	Leaves and young stems - raw or cooked. Used as a vegetable or added to salads. The leaves can also be stored dry for later use.
24.	<i>Vigna mungo</i> (L.) Hepper	Fabaceae	Grains are used as food.
25.	<i>Ziziphus oenoplia</i> (L.) Mill.	Rhamnaceae	The berries are edible and the bark is used for tanning.

4. Conclusion

The present study documented various non crop medicinal and edible plants were distributed in Kozhikode District, out of 35 families represented the class dicotyledons dominant over (31 Nos.) monocotyledons (4 Nos.). Among the dicotyledons sub class polypetalae is dominant (15 Nos.) followed by gamopetalae (12 Nos.) and Monochlamydae (4 Nos.). Similarly in the case of total 78 genera represented, dicotyledons dominant over (74 Nos.) monocotyledons (4 Nos.). Evaluation of dominant families and genera of dicotyledons plants shows that, out of 35 families distributed, Fabaceae is dominant family with 11 species belonging to 9 genera, followed by Acanthaceae with 7 species belonging to 6 genera followed by Solanaceae and Amaranthaceae with 7 species belonging to 5 genera. This is followed by Astraceae and Cucurbitaceae with 5 species belonging to 5 genera. As per this study, there are 70 species documented with medical potentialities from the study area. Among these Fabaceae is the most dominant family with 8 species having medical significance. This is followed by Acanthaceae with 7 species, Astraceae, Lamiaceae, Amaranthaceae with 5 species each and followed by Solanaceae with 4 species. This study also deals with diversity of edible plants, which reveals that there are 25 plants with edible characteristics in the study area. Among these Amaranthaceae is the dominant family with 5 species. This is followed by

Fabaceae and Solanaceae with 4 species and is followed by Cucurbitaceae with 3 species.

There is a great scope for further pharmacological research on some of these species. It is of prime importance to document the existing plant resources, which would be beneficial in formulating policies for their sustainable use, conservation and propagation. This fundamental approach of local inventory will help to enrich and strengthen the holistic approach of national and global biodiversity enumerations. However, decline in use of some species may lead to the diminishing of the traditional knowledge about such plants.

The consumption of wild food plants are still 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 food crops by various communities. Present findings also revealed that many non crop edible vegetables species are under pressure from various anthropogenic factors. Thus demand public awareness, community based management and urgent collection of germplasm. Further these data can be used for nutritional profiling, phytochemical analysis, antioxidant potential evaluation, identification of essential and toxic components in conventional food resources

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PLATE-1



A) *Abrus precatorius* L.



B) *Andrographis paniculata* Burm. f.



C) *Acalypha fruticosa* Forssk.



D) *Boerhavia diffusa* L.



E) *Coccinia grandis* (L.) Voight



F) *Costus pictus* D. Don.

PLATE-2



A) *Cynodon dactylon*(L.) Pers.



B) *Cyclea peltata* (Lam.) Hook.f. & Thoms



C) *Cardiospermum halicacabum* L.



D) *Clerodendrum infortunatum*L.



E) *Cajanus scarabaeoides* L.



F) *Chassalia curviflora* Wall. ex Kurz.

PLATE-3



A) *Caesalpinia mimosoides* Lam.



B) *Chromolaena odorata* (L.) King & Robins.



C) *Datura stramonium* L.



D) *Digera muricata* (L.) Mart.



E) *Desmodium triflorum* (L.) DC



F) *Eclipta prostrata* L.

PLATE-4



A) *Eryngium foetidum* L.



B) *Emilia sonchifolia* (L.) DC



C) *Glycosmis pentaphylla* (Retz.) DC



D) *Hyptis suaveolens* (L.) Poit.



E) *Hemidesmus indicus* L.



F) *Ichnocarpus frutescens* (L.) R. Br.

PLATE-5



A) *Indigofera tinctoria* L.



B) *Jasminum angustifolium* L.



C) *Lablab purpureus* (L.) Sweet



D) *Leucas zeylanica* (L.) R. Br.



E) *Lawsonia inermis* L.



F) *Mukia maderaspatana* (L.) Sw.

PLATE-6



A) *Mimosa pudica* L.



B) *Mussaenda frondosa* L.



C) *Naravelia zeylanica* (L.) DC.



D) *Oxalis corniculata* L.



E) *Plumbago zeylanica* L.



F) *Ziziphus oenoplia* L.