



## ETHNOVETERINARY IMPORTANT PLANTS IN KULATHUPUZHA RESERVE FOREST AREA, KERALA

Kaladevi, V. & Preetha, S.S.\*

PG Dept of Environmental Sciences St.John'S college, Anchal

\*Dept of Botany St. John's College, Anchal

### ABSTRACT

India is rich in ethnic diversity and traditional knowledge that has resulted in a considerable body of ethno botanical research, of which one study has revealed a deep understanding of medicinal plants supported by high consensus. Ethnobotany means the studies of plants used by primitive people living in rural and forest areas. Rural people of the study area have strong relations with the surrounding environment. Traditionally this treasure of knowledge has been passed on orally from generation to generation without any written document and is still retained by various indigenous groups around the world. Kulathupuzha, part of the southernmost reserve forests of the State, falling in the SOI sheet No. 58 H/1. Kulathupuzha reserve covers an area under 1000 km<sup>2</sup>. Its forest constitutes predominantly of tropical wet and semi - evergreens and moist deciduous types mainly of teak, eucalyptus and acacia. It is one of the tribal settlements in Thenmala Forest division. Kani is the common tribe residing this area. An ethno medical survey was undertaken to collect information from traditional healers on the use of plants in animal. The indigenous Knowledge of local traditional healers and the native plants used for medicinal purpose were collected through questionnaire and personal interviews during field trips. The tribal community has contributed greatly to the health of cattle by using plants and plant products. Due to the richest biodiversity in Kulathupuzha there are nearly 45 plants were noticed as ethnoveterian importance and is used to cure various diseases in animals. The documented medicinal plants were mostly used to cure skin disease, in wounds, indigestion etc. The study showed that many people in the studied parts of Poonch district still continue to depends on medicinal plants at least for the treatment of there cattles. Plants have been used in traditional medicine for several thousand years. Documenting the indigenous knowledge through studies in important for the conservation and utilization of biological resources. Ethnobotany is not new to India because of its rich ethnic diversity.

**KEYWORDS:** Ethnoveterinary, traditional healers, indigenous knowledge, medicinal plants, herbal remedies.

### INTRODUCTION

Ethnobotany is not new to India because of its rich ethnic diversity. Jain (1991) pointed out that there are over 400 different tribal and other ethnic groups in India. The tribals constitute about 7.5 percent of India's population. In India, it is reported that traditional healers used 2500 plants species and 100 species of plants serve as regular sources of medicine Pei SJ (2001). During the last few decades there has been an increasing interest in the study of medicinal plants and their traditional uses of different parts of India and there are many reports on the use of plants in traditional healing by either tribal people or indigenous communities of India. Apart from the tribal groups, many other forest dweller s and rural people also posses unique knowledge about plants Jain (1991). There are considerable economic benefits in the development of indigenous medicines and in the use of medicinal plants for the treatment of various diseases Azaizeh H (2003). Traditional knowledge encompasses tacit knowledge and practices of indigenous communities, and is often linked to customs of crop and animal husbandry, fisheries and human health. With its vast geographic expanse spread across different climatic regions and notified as indigenous, India abounds in traditional

knowledge. However, this knowledge is diffuse and tends to get extinct as individuals/communities get more and more marginalized. Loss of traditional knowledge is recognized as of great global concern in the present Century Ramirez, (2010). Plants have been used in traditional medicine for several thousand years Abu (2005). Documenting the indigenous knowledge through ethnobotanical studies in important for the conservation and utilization of biological resources. The medicinal plants occupy an important position in the social- culture, and therapeutic arena of the India Kurup *et al.* (1979). In Kerala, the diversified system of traditional practices prevails among the rural communities since time immemorial. Medico-ethnobotany acts as a bridge between botany and tribal knowledge regarding medicinal plants Jomy *et al.* (2010). Many tribal groups have been using several plant or animal products for medicinal preparations and these medicines are known as ethno medicine Silja *et al.* (2008). The importance of ethno botany stems from the varied economic uses of plants among the primitive human societies which may be equally beneficial to modern man. It has also brought to light numerous little known or unknown uses of plants Jain, (1981). The objective of this study was to interact with local traditional healers and

document their knowledge on medicinal plants, their, usage and the types of diseases treated in animals *etc*, the present-day traditional healers are very old. Due to lack of interest among the younger generation as well as their tendency to migrate to cities for lucrative jobs, wealth of knowledge in this the area is declining. So far no systematic ethnoveterian survey has been made in this area and this is the first report on the medicinal plants used by the local traditional healers. During the course of exploration of ethno medicinal plants of the district, the information's have been gathered from the healers of this area where the people depend mostly on forests for their need and sound knowledge of herbal remedies.

### MATERIALS & METHODS

During the course of study field trips were carried out and also interviewed local tradition healers having practical knowledge of plants medicine. This knowledge has been transmitted orally from generation to generations; however it seems that it is vanishing from the modern society since younger people are not interested to carry on this tradition. Ethnomedicinal data were collected through general conversations with the informants. The questionnaires were used to obtain informants on medicinal plants with their local names, parts, used, mode of preparations and administrations.

### RESULTS & DISCUSSION

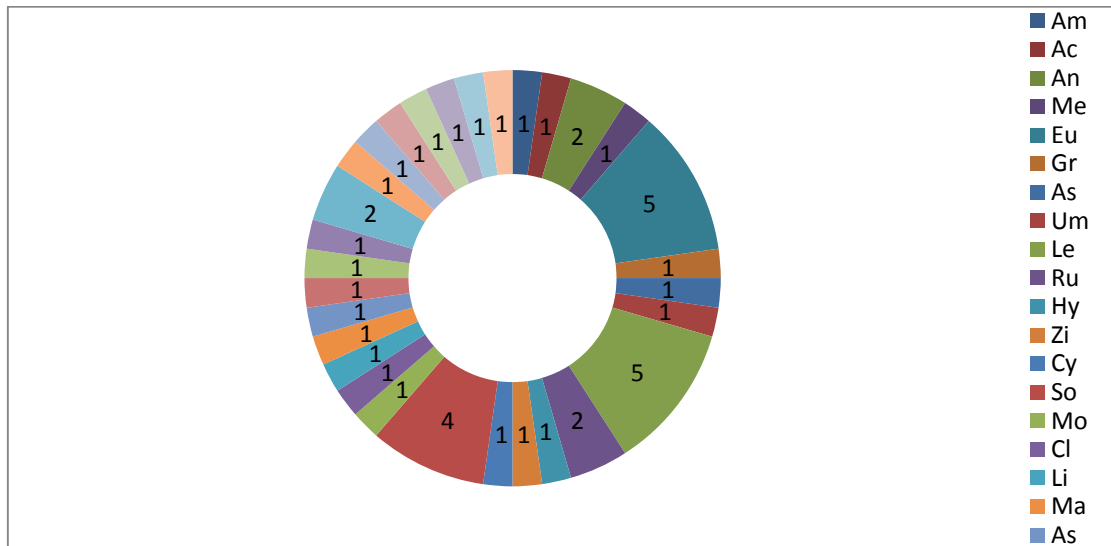
Total 45 plant species belonging to 30 families were used by the tribals in Kulathupuzha area. For each species botanical names, family, local name, parts used, methods of preparation, administration and ailments treated are provided. Traditional healers are using these plants to cure diseases related to skin problems and hair loss in animals, diarrhea, fertility problems, milk secretion, stomach problems, wounds, bone fractures, and poison (snake, scorpion and insect) bites. Different parts of medicinal plants were used as medicine by the local traditional healers. Among the different plant parts, the leaves were most frequently used for the treatment of diseases followed by whole plant parts, fruit, stem, root, stem and root bark, seed, flower and latex. The methods of preparation fall into four categories, plants applied as a paste, Juice extracted from the fresh plant parts, powder made from fresh or dried plant parts, some fresh plant parts, and decoction. External applications (mostly for skin disease, snake bites and wounds) and internal consumption of the preparation were involved in the treatment of disease. It was observed that, most of the remedies consisted of single plant part and more than one method of preparation. However, many of the remedies consisted of different parts of the same plant species to treat single or more disease.

**TABLE 1:** Medicinal plants used for the ethnoveterian importance

Sl. NO	Botanical Name	Family	Parts used	Modes of Administration
1	<i>Achyranthes aspera</i> Linn	Amaranthaceae	Leaves	Leaves are used to cure boils in cats and dogs.
2	<i>Andrographis paniculata</i> Nees	Acanthaceae	Leaves	Leaf paste is used to treat poison bites in all animals and leaf powder is used to treat small wounds caused by worms.
3	<i>Annona muricata</i> L	Annonaceae	Seeds	Paste of seeds of plants is used to cure lice attack in cattles and all animals.
4	<i>Annona squamosa</i>	Annonaceae	Seeds	Paste of seeds of plants is used to cure lice attack in cattles and all animals.
5	<i>Artemisia absinthum</i> Linn.	Compositae .	Leaves	An infusion of leaves is given as enema during delivery time of cattles to avoid worms.
6	<i>Azadirachta Indica</i> A. Juss	Meliaceae	Leaves	Leaf paste is used to treat small skin diseases in all animals.
7	<i>Baliospermum montanum</i> L	Euphorbiaceae.	Root	Root paste is applied in burns seen in anal openings of all animals
8	<i>Bambusa bambos</i> Voss	Graminae	Leaves	Leaf bud juice are used to kill worms in dogs.
9	<i>Calotropis gigantea</i> (Willd)	Asclepidaceae	Stem	Latex from stem used to cure burns in the legs of cattle.
10	<i>Centella asiatica</i> (L)	Umbelliferae	Leaves	Leaf paste is used to cure droopiness in chicks.
11	<i>Cicer arietinum</i> Linn	Leguminosae	Seeds	Boiled seeds are used to strengthen bones in horses and all cattles.
12	<i>Cinchona officinalis</i> Moens	Rubiaceae	Leaves	Leaves are used to stop dysentery in cattle.
13	<i>Croton tiglium</i> Linn	Euphorbiaceae	Seeds	Seeds oil is used to avoid insect visit in cattles
14	<i>Curculigo orchioides</i> L.	Hypoxiodaceae	Tubers	Tubers are used to stomach problems after delivery.
15	<i>Curcuma domestica</i> valet	Zingiberaceae	Tubers	Paste of tubers used to heal wound.
16	<i>Cyperus malaccensis</i> Lamk.	cyparaceae	Roots	Root tubers increase milk secretion and paste of whole plant cures scorpion bites.
17	<i>Datura stramonium</i> Linn .	solanaceae	Seeds	Seeds are used to treat fungal diseases in animals
18	<i>Euphoriba hirta</i> L	Euphorbiaceae	Leaves	Leaf and stem paste is used to cure wounds.

19	<i>Ficus benghalensis</i> Linn.	Moraceae	Stem latex & Aerial roots	Stem latex is used to treat cracks in foot of castles. Aerial roots are used to prepare oil for the use massage in mammary glands in cattles.
20	<i>Garcinia gummi gutta</i> (L.)	Clusiaceae	Seeds	Seed paste is used to treat bleeding in the nostril area of cattle.
21	<i>Gloriosa superba</i>	Liliaceae	Leaves	Leaf juices are used in the treatment of skin diseases in animals.
22	<i>Glycine max</i> (Linn)	Leguminosae		Dried plants increase milk secretion in cattle.
23	<i>Glyrizidia maculata</i>	Leguminosae	Leaves	Leaves are used to cure digestive problems in animals and seeds are used to cure insect bites.
24	<i>Gossypium herbaceum</i> Linn.	Malvaceae	Seeds	Seeds are used to increase milk secretion.
25	<i>Gymnema sylvestres</i>	Asclepidaceae	Root	Root powder is used to treat poison bites.
26	<i>Hopea glabra</i> Wight&Arn	Dipterocarpaceae	Fruits	Fruits are used to treat viral diseases in castles.
27	<i>Jatropha curcas</i> Linn Fresh	Euphorbiaceae	Latex	Latex is applied to bleeding wounds in cattle created by other animals.
28	<i>Lantana camera</i>	verbinaceae	Leaves	Leaf oil of this plant is used in the treatment of itches of skin. Dried leaves are used for smoking to avoid insects in the cattle shed.
29	<i>Luffa acutangula</i> (L)	Cucurbitaceae	Fruits	Dried fruit are used as scrub for cattle bathing.
30	<i>Mentha piperata</i> L.	Labiatae	Leaves	Leaves along with other cattle feed helps easy digestion and also lowers stomach problems in animals.
31	<i>Morinda tintoria</i> Roxb	Rubiaceae	Root	Root decoction is used to cure wounds in mouth parts of cattle.
32	<i>Moringa oleifera</i> Lam.	Moringaceae	Leaves & Flowers	Boiled leaves and flowers are used to cool the eyes and increases sperm production in cattles.
33	<i>Musa paradisiaca</i>	Musaceae	Pseudostem & Leaves	Pseudo stem and leaves are used as fodder.
34	<i>Nicotiana tabacum</i> L	solanaceae	Leaves	Dried leaves help as insect propellant.
35	<i>Oxalis tuberosa</i> Moline	oxalidaceae	Leaves	Leaf paste is used to cure worms in wound and also bleeding from wound.
36	<i>Pongamia pinnata</i> (L.),	Leguminosae	Seeds and Barks	Seeds and bark are used to cure insect bites in animals and dried leaves are used to smoke near cattle shed to avoid insects. Leaf paste is used to cure ulcer caused by worms.
37	<i>Psidium guajava</i> L.	Myrtaceae	Leaves	Young leaves paste helps to cure insect bite and also scorpion bites in animals.
38	<i>Ricinus communis</i> Linn.	Euphorbiaceae	Leaves	Juice extracted from leaves is used to increase secretion of milk and oil obtained from seeds is used to treat stomach diseases in cattle and also applied in the eyes of cattle to avoid flies.
39	<i>Ruta graveolens</i> L.	Rutaceae	Leaves	Leaves both dry and fresh are used to tie in cattle shed to avoid insects the characteristic smell helps to avoid the insects.
40	<i>Solanum nigrum</i> Linn	solanaceae	Leaves	Leaves are applied on swollen testicles of cattle.
41	<i>Solanum torvum</i> Linn	solanaceae	Leaves	Juice extracted from the leaf is used to reduce digestive problems in cattle especially in horse.
42	<i>Terminalia arjuna</i> Roxb.	combretaceae	Barks	Barks were used to treat dental problems in cattles.
43	<i>Vigna sinensis</i> (Linn)	Leguminosae	Seeds	Dried seeds are used to feed cattles and poultry.
44	<i>Vitex negundo</i>	Labiatae	Leaves	Leaf paste is used to cure insect bite in animals.
45	<i>Zizyphus mauritiana</i> Lamk	Rhamnaceae	Barks	Bark is used to heal scorpion bite.

Ethnoveterinary important plants in Kulathupuzha Reserve Forest



**CONCLUSION**

The survey indicated that, the study area has plenty of medicinal plants to treat a wide spectrum of animal ailments. Earlier studies on traditional medicinal plants also revealed that the economically backward local and tribal people of Kulathupuzha prefer folk medicine due to low cost and sometimes it is a part of their social life and culture. This study also points out that certain species of medicinal plants are being exploited by the local residents who are unaware of the importance of medicinal plants in the ecosystem. The present-day traditional healers are very old. Due to lack of interest among the younger generation there is a possibility of losing this wealth of knowledge in the near future.

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