MEDICINAL PLANT DIVERSITY AND THEIR THERAPEUTIC USES IN HONNAVAR TALUK, NORTH KANARA DISTRICT

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Abstract : Medicinal plants play a vital role in the healthcare of rural folk in India. Since they are indigenous or endemic and available locally without much expenditure, the traditional medicinal uses of these plants are scaling up. This knowledge acquire significance and find future scope only when they are documented. The present paper highlights the traditional potential of the diverse medicinal plants distributed in different bioregions of Honnavar taluk, North Kanara district. About 58 plant species belonging to 42 families were recorded during our survey. Mode of administration and therapeutic uses of these species were also documented.

IndexTerms - Medicinal plants, Traditional knowledge, Therapeutic uses.

I. INTRODUCTION

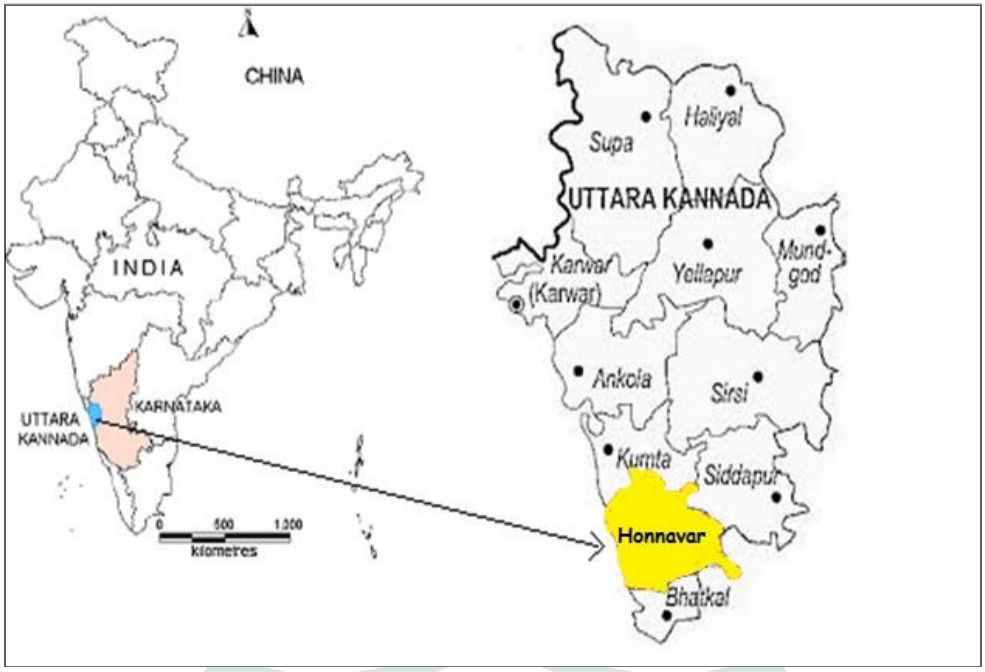
Plants and their products have been systematically used in India through traditional practices since time immemorial. A major portion of global population in developing countries still relies on botanical drugs to meet its health needs [1]. Around 4,20,000 flowering plants are identified all over the world. Plants contain a large number of spread of pharmacologically active ingredients and each herb has its own unique combination and properties. Ethnic people depend on the plants around them toacquire knowledge of economic values and medicinal properties of many plants which is based on need, observation, experience of older ethnic people, and trial and error. Indigenous medicines provide considerable economic benefits to ethnic people. The World Health Organization (WHO) mentioned that about 25% of modern medicines are developed from plants sources used traditionally and research on traditional medicinal herbal plants lead to discovery of 75% of herbal drugs [2]. WHO(2002) [3] recorded approximately over 21,000 plant species for their medicinal uses throughout the world. Traditional medical knowledge of medicinal plants and their use by indigenous culture are not only useful for conservation of cultural traditions and biodiversity but also for community healthcare and drug development now and in the future [4,5].

Worldwide, ten thousand of species of higher plants and several hundred lower plants are currently used by human beings for a wide variety of purposes such as food, fibre, oil, herbs, spices, industrial crops and as forage and fodder for domesticated animals [6]. In our country, the traditional system of medicine plays an important role in health care of rural people for all type of ailments. The healing power of traditional herbal medicines have been realized and documented since Rigveda and Atharvaveda [7]. Since then plants and their extracts have been used therapeuticallyand even today plant-based medicines continue to play an essential role in the world health care. India has about 45,000 plant species and 35,000 plant species have been claimed to possess medicinal properties and are being used in various human cultures around the world for medicinal purposes [8].

Ethnomedicinal knowledge is usually passed verbally from one generation to the next through family members [9] and most of this knowledge has not been scientifically documented. However,in recent years there has been a continuous decline in traditional medicinal practices, because of reduced interest in the younger generation towards traditional treatment systems, coupled with rural depopulation, mass deforestation and migrations of traditional medicinal healers to other jobs. These factors have contributed to the rapid loss of this rich knowledge [10]. However, the knowledge of medicinal plants is rapidly dwindling due to the influence of western life styles, reduction in number of traditional healers and the lack of interest to carry on the tradition [11,12]. Therefore, the need of the ours is to preserve the traditional knowledge on the use of medicinal plants. The study area for this research has a rich potential for utilization and consumption of medicinal plants. The main objective of the present study was to comprehensively document the ethnomedicinal information from the traditional healers and present a database on indigenous knowledge on medicinal plants inhabited in western Ghats region of Honnavar taluk, North Kanara district.

II. RESEARCH METHODOLOGY

The study area Honnavar taluk is located in North Kanara district of Karnataka. It lies between North latitude 14° 17' and East longitude 74° 27'. It lies at an altitude of 2 M above mean sea level. The mean maximum and minimum temperature were 33°C and 22°C.



Map 1: Study area Honnavar taluk.

Periodic field trips of ethno botanical exploration were undertaken in Honnavar taluk of North Kanara district. During the surveys personal interviews were conducted with the medicine practitioners, traditional healers, elderly people of the village. The survey was focused on identification, distribution and collection of medicinal plants in western Ghats region of Honnavar. The diverse medicinal plants recorded were distributed in evergreen, semi evergreen, dry and moist deciduous forests.

The plant specimens were collected and identified using local flora, available field keys and with the help of taxonomists at University of Mysore.

Data on the plant species, local names, habit, parts used, mode of administration and therapeutic uses were recorded. The collected data were processed and the details of the same are shown in Table-1.

III. RESULTS AND DISCUSION.

The study was carried out in the Western Ghats region of Kekkar, Kerekon, Salkod, Santeguli, Kadatoka, Karki, Hadinabal and Chandavar villages of Honnavar taluk, North Canara district. The traditional medical practitioners utilise numerous plants and their parts such as Root, Leaf, Stem, Bark, Rhizome, Fruit and Seeds for treating various diseases of human beings. The present study documented 58 plant species belonging to 42 families used by traditional medical practitioners at different forests of Honnavar taluk. Among these 21 species are used for skin problems followed by 13 species for digestive disorders, 8 species for reproductive problems, 5 species for kidney related problems and 3 species each for snake bite, diabetes and wound healing.

During our field studies we learnt that most commonly occurring diseases in this region are Herpes and Jaundice which were successfully treated by the local medical practitioners. The data obtained from our results showed that about 27 species have external use and 43 species are internally applied. We observed that most of the medicines in this region are prepared from members of Apocynaceae and Euphorbaceae.

The utilization and exploitation of these species for medicinal purposes has scaled up without much attention for their conservation. The present documentation about traditional knowledge of medicinal plants in Western Ghats region of Honnavar taluk serve as valuable information tool for future bioprospection, sustainable utilization and conservation.

Table-1. Diversity of medicinal plants and their therapeutic uses.

S.No.	NAME OF THE PLANT	FAMILY	LOCAL NAME	HABIT	PARTS USED	FORMULATIONS
1.	*Rauvolfia serpentina* (L.) Benth. ex Kurz	Apocynaceae	Sarpagandha.	Herb	Root	Equal quantity of root and *Aristolochia indica* root is made paste and given for purification of blood. applied on snakebite. Root paste is given to eat for common skink bite.
2.	*Celastrus punctatus* Thunb	Celastraceae	Gangammanaballi.	Liana	Root Seed	Root is grinded and are given to eat for eczema. Seed is made oil and applied on the skin for skin problems.
3.	*Piper nigrum* L.	Piperaceae	Kaalumenasu	Climber	Fruit	Decoction is made by mixing with *Ocimum tenuflorum* used for fever and cough.

						Fruit is made as paste with *Santalum album* and used for pain.
4.	*Curcuma zedoaria* Rosc.	Zingiberaceae	Kachora.	Herb	Rhizome	Rhizome is chewed for oral problems.
5.	*Myristica fragrans* Houtt.	Myricaceae	Jaayikaayi.	Tree	Mace	Mace is eaten for cough and sleeplessness. Mace is consumed to increase the sperm count in males.
6.	*Datura stramonium* L.	Solanaceae	Ombatli.	Shrub	Leaf	Leaves are applied externally for the mumps.
7.	*Mappia foetida* (Wt.) Miers	Icacinaceae	Godasaga.	Tree	Leaf	Leaves are mixed with Coriander and Jasminum, *Lawsonia alba* leaves in definite quantity grinded with turmeric and copra of coconut is applied for eczema.
8.	*Achyranthes aspera* L.	Amaranthaceae.	Uttharani.	Herb	Leaf Seed	Leaves and roots are used for poisonous bites. Made as decoction and are used for headache.
9.	*Centella asiatica* (L.) Urban	Apiaceae.	Vandelaga.	Herb	Leaf Root	Leaves are consumed to increase the memory power and for cough. Root is made as decoction and consumed for Epilepsy.
10.	*Antidesma acidum* Retz.	Euphorbaceae.	Kolmaddu.	Tree	Bark	Juice of bark is extracted and are used to mix with ground rice flour for joint problems.
11.	*Catharanthus roseus* (L.) G.Don	Apocyanaceae.	Nityapushpa.	Herb	Root	Root is made as decoction and given for consuming for menstrual cycle problems.
12.	*Drynaria quercifolia* (Linnaeus) J. Sm.	Polypodiaceae.	Bandalaka.	Epiphyte	Root	Root is grinded with sugarcane and sugar and 10g of *Cuminum cyminum* and given for consumption for Jaundice.
13.	*Tribulus terrestris* L.	Zygophyllaceae.	Negilamullu.	Herb	Whole plant Root	Plant is grinded with milk and added with *Aerva lanata* to remove Kidney stone. Root is grinded and consumed for prevention of early ejaculation of sperm.
14.	*Machilus macrantha*Nees.	Lauraceae.	Gulmaavu.	Tree	Bark	Bark is made as decoction with jaggery is used for piles
15.	*Aerva lanata* (L.) Juss. ex Schult	Amaranthaceae.	Paashanabedhi.	Herb	Whole plant	Decoction is made and consumed for kidney stones.
16.	*Anacardium occidentale* L.	Anacardaceae.	Geruhannu.	Tree	Fruit Seed	Fruit is eaten for asthma. Seed is made as oil and applied for Ringworm.
17.	*Salacia chinensis* L.	Celastraceae.	Ekanaayaka.	Tree	Root	Root is consumed as decoction for diabetes. Root is made as paste and used for blood pressure. Roots are grinded with the root of *Syzygium cumini* and given for piles.
18.	*Curcuma aromatica* Salisb.	Zingberaceae.	Kasturi arishina.	Herb	Rhizome	Rhizome is made as paste with *Pothos scandens* and handful of rice are applied for piles.
19.	*Aloe vera* (L.) Burm.f.	Asphodelaceae.	Lolesara.	Herb	Leaf	It is mixed and made as paste with castor oil and applied for piles. It is applied for dry skin.
20.	*Nyctanthes arbor-tristis* L.	Oleaceae.	Paarijata.	Tree	Leaf	Leaves are made as juice and used for diabetes. Decoction is made by combination with *Ocimum*

						tenuiflorum and *Piper betle* leaves are used for fever.
21.	*Ervantamia heyneana* Wall. ex T. Cooke	Apocynaceae.	Maddarasa.	Tree	Leaf Bark	Leaves are burnt and used as antiseptic. Bark is burnt and applied on wounds.
22.	*Alseodaphnesemecarpifolia*Nees	Lauraceae.	Marsya.	Tree	Bark	Bark is made as decoction with bark of *Cuminum cyminum* and used for skin diseases.
23.	*Withania somnifera* (L.) Dunal	Solanaceae.	Ashwagandhi.	Shrub	Root Leaf	Root is made as paste and consumed with milk for reproductive problems. Leaves are combined with *Catharanthus roseus* and *Azhadirachta indica* roots and decoction is made for diabetes.
24.	*Cyperus rotundus* L.	Cyperaceae.	Bhadramushti.	Herb	Leaf	Juice is made and consumed for gastric problems.
25.	*Ficus racemosa* L.	Moraceae.	Atti.	Tree	Bark Leaf	Decoction is prepared with bark and mixed with the bark of *Polyalthia longifolia* and *Ficus benghalensis* used as tonic. Young leaves are boiled in 1.5Litre of water and cooled and used for Menstrual problems.
26.	*Croton oblongifolius* Roxb., nom. Illeg.	Euphorbaceae.	Somavaari.	Tree	Root	Decoction is made and consumed for Herpes. Root is made as paste with combination of *Pogostemoncablin*root and applied for eczema. Same is given for consumption.
27.	*Vitex negundo* L.	Verbenaceae.	Nukki.	Tree	Leaf	Leaves are used to apply on Herpes. Oil is prepared by the leaves and are applied for itching and scabies.
28.	*Calotropis procera* (Aiton) W.T.Aiton	Apocynaceae.	Ekka.	Shrub	Root Leaf	Root is made as paste and consumed for cough. Root is made as paste and applied for Ringworm. Leaves are heated and applied for pain.
29.	*Mangifera indica* L.	Anacardaceae.	Maavu.	Tree	Seed	Seed is burnt and consumed for Dysentery.
30.	*Mimosa pudica* L.	Fabaceae.	Naachikemullu.	Herb	Leaf	Leaves are mixed with Equal quantity of rice and Black gram are consumed for Piles. Leaves are roasted with Piper nigrum and consumed for Dysentery.
31.	*Hibiscus rosa-sinensis* L.	Malvaceae.	Bili daasavaala.	Shrub	Leaf	Mixed with coconut oil and used for Dandruff problems of hair.
32.	*Moringa oleifera* Lam.	Moringaceae.	Nuggekaayi.	Tree	Fruit Leaf	Fruit is consumed in day to day life for Night blindness and to increase the sperm. Oil is prepared by the leaves are applied for skin problems.
33.	*Piper betle* L.	Piperaceae.	Veelyadele.	Climber	Leaf	Leaves are grinded and juice is consumed for stomach upsets. Leaves are made paste with

						Lemon and applied for wounds.
34.	*Syzygium cumini* (L.) Skeels.	Myrtaceae.	Nerale.	Tree	Fruit Bark	Fruit is dried and made as powder are consumed regularly for Diabetes and Giddiness. Decoction is made by combination with *Ficus racemosa* bark is used for mouth ulcers.
35.	*Momordica charantia* L.	Cucurbitaceae.	Haagalakaayi.	Herb	Root Fruit	Root is grinded with lemon and applied for tooth worms. Fruit is consumed for diabetes.
36.	*Cyclea peltate* Hook. f. & Thoms.	Menispermaceae.	Haadeballi.	Climber	Leaf	Leaves are crushed and applied for Headache and migraine problems.
37.	*Tectona grandis* L.f.	Lamiaceae.	Saagavaani.	Tree	Leaf	Leaves are crushed and applied for Ringworms. Oil is prepared by leaves are boiled and used for Burnt wounds.
38.	*Ensete superbum* Roxb.	Musaceae.	Kallubaale.	Tree	Pith	Juice is prepared from pith are used for Kidney stones.
39.	*Crossandra infundibuliformis* (L.) Nees	Acanthaceae	Habbasige.	Shrub	Leaf	Oil is prepared and are applied for hair problems.
40.	*Cymbopogon citratus* (DC.) Stapf,	Poaceae.	Majjigehullu.	Herb	Leaf	Used to make juice and consumed for digestion problems. Decoction is made and used for fever.
41.	*Cissus quadrangularis* L.	Vitaceae.	Sandhuballi.	Herb	Stem	Stem is mixed with ground rice flour and are consumed for joint and bone health.
42.	*Phyllanthus emblica* L.	Phyllanthaceae.	Nelli.	Tree	Fruit Seed Leaf	Dried fruit is mixed with *Tinospora cordifolia* and 5spoon of Honey is consumed for piles and also for development of sperms. Seeds are mixed with spoon of *Cuminum cyminum* and mixed with buttermilk and consumed for diabetes. Leaves are dried and crushed are mixed with buttermilk is used for Jaundice.
43.	*Parthenium hysterophorus* L.	Asteraceae.	Congress.	Herb	Leaf	Leaves are crushed and applied on wounds. Leaves are applied for herpes.
44.	*Leucas aspera* (Willd.) Link	Lamiaceae.	Tumbe.	Tree	Leaf Root	Oil is prepared and applied for psoriasis. Roots are boiled in coconut oil and cooled is dropped in ear to reduce the Toothache.
45.	*Chamaecostus cuspidatus* (Nees& Mart.) C. Specht & D.W.Stev.	Costaceae.	Insulin plant.	Shrub	Leaf	Decoction is made and used for Diabetes.
46.	*Ixora coccinia* L.	Rubiaceae.	Kusumaale.	Shrub	Leaf	Leaves are mixed with 2 spoons of *Cuminum cyminum* and leaves of *Azadirachta indica* are eaten for psoriasis problems.
47.	*Prosopis juliflora* (Sw.) DC.	Fabaceae.	Jaali.	Tree	Root	Roots are grinded with the leaves of *Lawsonia alba* and are consumed for bone problems.

48.	*Terminalia chebula* Retz.	Combretaceae.	Analekaayi.	Tree	Fruit.	Outside skin is mixed with jaggery and cow urine is consumed for piles.
49.	*Tinospora cordifolia* (Thunb.) Miers	Menispermaceae.	Amrutaballi.	Climber	Whole plant	Plant is made as pieces and mixed with buttermilk is consumed for blood red urine. Plant is made as decoction and consumed for diabetes.
50.	*Aristolochia indica* L.	Aristolochiaceae.	Eeshwariballi.	Climber	Leaf Root	Leaves are applied to warts. Leaves are used to make decoction and consumed for Herpes. Roots are grinded and given for scabies.
51.	*Acampe praemorsa* (Roxb.) Blatt. & McCann	Orchidaceae	Seethe dande.	Epiphyte	Root	Root is grinded applied for skin problems.
52.	*Adhatoda zeylanica* L.	Acanthaceae.	Aadusoge.	Shrub	Leaf	Leaves are heated and applied on chest for cough and asthma. Leaves are heated and applied for body pain.
53.	*Phyllanthus niruri* L.	Phyllanthaceae.	Nelanelli.	Herb	Leaf	Are crushed with *Aerva lanata* plant is consumed for kidney stone. Leaf is mixed with *Vitex negundo* in coconut oil is used for herpes.
54.	*Embelia ribes* Burm.f.	Myrsinaceae.	Vaayuvilanga.	Climber	Root	Paste is consumed for Blood pressure and Diabetes. Root is mixed with root of *Withanea somnifera* and *Salacia chinensis*, bark of *Syzygium cumini* and *Aloe vera* with bark of *Cinnamonum verum* and *Leptadenea hastata* is used for preparation of oil for bone problems.
55.	*Leptadenia hastata* (Pers.) Dec'ne	Asclepiadaceae	Haalballi.	Herb	Whole plant	Decoction is made from the pieces of plant are used for kidney stone.
56.	*Litsea glutinosa* (Lour.) C.B.Rob.	Lauraceae	Maalegandha.	Tree	Bark	Bark is used as paste for the preparation of plaster for bone fracture.
57.	*Calycopteris floribunda* (Roxb.) Lam. ex Poir	Combretaceae	Kukkarasa.	Shrub	Leaf	Leaves are crushed applied for eczema and for ringworms.
58.	*Garcinia gummi-gutta* (L.)	Clusiaceae	Uppaage.	Tree	Fruit	Fruit extract is consumed for heart problems and ulcers.

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