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Tribal Medicine Wisdom and Sustainable Utilization in Pechiparai Reservoir, Southern Western Ghats, Tamilnadu

Y. Erkings Michael and **K. Dharmar***

*Department of Botany, PTMTM College, Kottaimedu - 623 604, Tamilnadu, India.
E-mail:dharmarsk@gmail.com.
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Abstract

The study was conducted to document tribal medicine wisdom of local Kani tribes and sustainable utilization of medicinal plants in Pechiparai reservoir in Southern Western Ghats of Tamil Nadu, India. The information gathered by interacting with tribal medicinal knowledge holders. The study revealed that the raw drugs which are mostly collected from the wild resources. There were 67 species of medicinal plants belonging to 31 families were recorded in the present study and are mostly used to cure cold, cough, fever, diabetes, urinary calculi, leucorrhoea, Jaundice, headache, indigestion, skin diseases, earache, stomach problems, hair fall, dental problems, itches, Oedma and fresh wounds. The wisdom of this traditional knowledge of medicinal plants is great potential for research and discovery of new drugs to fight modern diseases.

Keywords: Kani tribes, medicinal plants, tribal medicine, Petchiparai, Southern Western Ghats.

Introduction

About 60% of world's population and 80% of developing countries populations relay on traditional medicine, mostly plant drugs for their primary healthcare needs (Gaur and Tiwari, 1987). Ethnomedicinal studies are a suitable source of information regarding useful medicinal plants that can be targeted for domestification and management (Kunwar and Duwadee, 2003). Traditional medicine practices and ethnobotanical information play an important role in the scientific research, particularly when the literature and fieldwork data have been properly evaluated. The documentation of indigenous knowledge on the utilization of local plant resources by different ethnic groups or communities is one of the main objectives of ethnobotanical research (Shrestha, 1998). Thus there is enormous scope for ethno-medico botanical studies in our country. Tamil Nadu is spotted with tribal pockets rich in germplasm of medicinal plants (Arinathan *et al.*, 2003).

The Kanikkars are hill tribes that are distributed along the slopes of the Western Ghats of the Trivandrum, Kanyakumari and Tirunelveli. Because of time limitations, our investigations focused only on the settlements of Kanikkars in Pechiparai reservoir, Southern Western Ghats, Tamil Nadu. The Western ghats are characterized by numerous geological folds and extensions engulfing small narrow valleys and deep narrow valleys which are difficult to reach. The kanikkars are also commonly known as the Kanis. The kanis of the Tirunelveli District are thought to be immigrants from the District of Travancore and are believed to have entered into the Tamil Nadu area through the Kattalamalai Pass (Rajasingh, 1971).

Kanikkars are short in stature and are usually dark skinned. The word kanikkars means "hereditary proprietors of the land." They were once lords of the forests and practiced migratory cultivation. Today, as a result of the passage of governmental forest regulations, the Kanis are largely sedentary farmers since the new rules prevent forests from being set on fire or trees being felled at the unrestricted pleasure of individuals.

Materials and Methods

Systematic field trips for ethnobotanical wisdom were undertaken during September 2012 in Pechiparai, Kanyakumari District ,Tamil Nadu. During the surveys personal interview was conducted with the traditional healers and traditional knowledge holders. Drug information was documented as family, scientific name, tribal name, part used and medicinal uses. Plant species were identified with the help of local flora (Hooker, 1884; Gamble, 1936; Henry et al., 1987; Matthew, 1983).

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Table- 1: Tribal Medicine Wisdom of Pechiparai Reservoir

Sl. No	Botanical Name (Family Name)	Tribes Name	Useful Part(s)	Drug(s) Indication
1.	Abrus precatorius L. **(Fabaceae)**	Vellakunni	1.Leaf 2.Root	1.Pain 2.Cough
2.	Acalyph indica L. **(Euphorbiaceae)**	Kuppameni	1.Leaf 2.Leaf	1.Cough 2.Asthma
3.	Achyranthes aspera L. **(Amaranthaceae)**	Naiyuruvi	Root	Teeth Pain
4.	Achyranthes bidentata Blume. **(Amaranthaceae)**	Kadaladi	Leaf	Swellings
5.	Aegle marmelos (L.) Correa. (**Rutaceae)**	Kuvialam	Leaf	Diabetics
6.	Aloe vera L. **(Lilliaceae)**	Kattarvazha	Leaf	Skin diseases
7.	Andragraphis echiodes L. **(Acanthaceae)**	Malaithangi	Leaf	Painkiller
8.	Andrographis paniculata (Burm.f) Wall. **(Acanthaceae)**	Keeriyath	1.Whole 2.Whole	1.Snake bite 2.Diabetes
9.	Capsicum frutescens L. **(Solanaceae)**	Kanthari Melagu	Fruit	Blood pressure
10.	Caralluma atteuata (Wight) Grav. & Mayur. **(Asclepiadaceae)**	Perandai	Leaf	Bone fracture
11.	Cardiospermum halicacabum L. (**Sapindaceae)**	Uzhicha	Leaf	Back Pain
12.	Cassia fistula L. **(Fabaceae)**	Kanikontai	Leaf	Skin diseases
13.	Catharanthus pusillus (Murray) G. Don. (**Apocynaceae)**	Melagainankai	1.Whole 2.Whole	1.Stomach pain 2.Stomach Ulcer
14.	Centella asiatica (L.) Urban. **(Apiaceae)**	Kudangal	Whole	Blood purification
15.	Cleome viscosa L. (**Cleomaceae)**	Peikaduku	Leaf	Head ache
16.	Clerodendrum phlomidis L. (**Verbenaceae)**	Vathamudakki	Leaf	Rheumatism
17.	Clitoria ternatea L. (**Fabaceae)**	Neela kakkanam	Leaf	Impacted thorn
18.	Costus pictus D.Don. (**Costaceae)**	Mugakkanai charanai	Leaf	Ear ache
19.	Cymbopogon citratus (DC). Stapf. (**Poaceae)**	Sukkunari	Whole	Rheumatism
20.	Cynodon dactylon (L.) Pers. (**Poaceae)**	Aruvampullu	Whole	Blood pressure
21.	Cyperus rotundous L. (**Cyperaceae)**	Muthanga	Tuber	Boils
22.	Datura metal L. (**Solanaceae)**	Oomatthai	Root	Skin diseases
23.	Ensete superbum (Roxb.) Cheesm. (**Musaceae)**	Kalvazhai	Seeds	Urinary Calculi
24.	Eupatorium odoratum (L.) King & H.E Robins. (**Asteraceae)**	Aana vannthan Pachilai	Leaf	Fresh Wound
25.	Evolvulus alsinoides L. **(Convolvulaceae)**	Kondaiketty	Whole	Hair Fall
26.	Glycyrrhiza glabra L. (**Fabaceae)**	Athimathuram	Root	Cough
27.	Gynandropsis pentaphylla (L.) DC. (**Cleomaceae)**	Peruvelai	Leaf	Rheumatic pain
28.	Hedyotis corymbosa (L.). Lam.	Theevanki	Leaf	Burns

	(**Rubiaceae)**			
29.	Ionidium suffruticosum DC. (**Violaceae)**	Oorelai thamarai	Whole	Swelling
30.	Ixora coccinea L. (**Rubiaceae)**	Kattu Thetti	Flower	Itching
31.	Jasminum angustifolium (L.) Willd. (**Oleaeceae)**	Kuduvaivalli	Leaf	Bone fracture
32.	Jatropha curcas L. (**Euphorbiaceae)**	Kaattu amanukku	Latex	Teeth ache
33.	Lannea pinnatifida L. (**Anacardiaceae)**	Ezhutthani	Leaf	Cold
34.	Leucas aspera (Willd.) Spreng. (**Lamiaceae)**	Thumpai	Leaf	Indigestion
35.	Mimosa pudica L. (**Mimosaceae)**	Manivatti	1.Root 2.Leaf 3.Whole 4.Whole	1.Piles 2.Wound 3.Diabetes 4.Insect Bite
36.	Murraya koenigii (L.) Spreng. (**Rutaceae)**	Kariveppelai	Leaf	Worm infestation
37.	Ocimum tenuiiflorum L. (**Lamiaceae)**	Thulasi	Leaf	Cold
38.	Ocimum americanum L. (**Lamiaceae)**	Neela thulasi	Leaf	Head ache
39.	Pergularia daemia Forssk. (**Asclepiadaceae)**	Veliparathi	Leaf	Stomach ache
40.	Phyllanthus amarus L. (**Euphorbiaceae)**	Keezhanelli	Whole	Jaundice
41.	Physalis minima L. (**Solanaceae)**	Potten pachilai	Leaf	Boils
42.	Piper betle L. (**Piperaceae)**	Vetilai	Leaf	Itching
43.	Piper nigrum L. (**Piperaceae)**	Nalla Melaku	Stem	Cough
44.	Plectranthus amboinicus (Lour.) Spreng. (**Lamiaceae)**	Navara pachilai	Leaf	Cold
45.	Punica granatum L. (**Punicaceae)**	Mathulai	Flower	Dysentery
46.	Rauvolfia serpentine (L.). Benth. ex. Kurz. **Apocynaceae)**	Avalpori	Root	Snake bite
47.	Scoparia dulcis L. (**Scrophulariaceae)**	Kallurukki	1.Leaf 2.Root	1.Wound 2.Urinary Calculi
48.	Senna auriculata L. (**Fabaceae)**	Thagarai	Leaf	Fever
49.	Senna occidentilis L. (**Fabaceae)**	Peitagarai	Leaf	Skin diseases
50.	Sesbania grandiflora (L.) Poiret. (**Fabaceae)**	Akathi	Leaf	Stomach ache
51.	Sida acuta Burm.F. (**Malvaceae)**	Arivamunai Pondu	Leaf	Head ache
52.	Sida rhombifolia L. (**Malvaceae)**	Kurunthotti	1.Leaf 2.Root	1.Head ache 2.Rheumatism
53.	Solanum americanum L. (**Solanaceae)**	Manatthkkali	Leaf	Mouth ulcer
54.	Solanum nigrum L. (**Solanaceae)**	Kutty thakkali	Leaf	Stomach disorders
55.	Solanum surattense L. (**Solanaceae)**	Kandan kathirikai	Leaf	Skin diseases
56.	Stachytarpheta indica (L.) Valh. (**Verbenaceae)**	Seemai nayuruvi	Leaf	Dysentery
57.	Syzygium cumini (L.). Skeels. (**Myrtaceae)**	Naaval	Seed	Diabetes
58.	Thevetia neriifolia (Pers.). K.Sehun. (**Apocynaceae)**	Manjal Arali	Root	Boils
59.	Tridax procumbens L. (**Asteraceae)**	Murian pachilai	Leaf	Dandruffs
60.	Tylophora indica L.f. (**Apocynaceae)**	Nancharutthan	Tuber	Boils
61.	Vernonia cinerea (L.) Less. (**Asteraceae)**	Kucheri Kuuttam	Leaf	Eye diseases
62.	Vetivera zizanioides (L.). Nash.	Vetiver	Root	Skin diseases

	(Poaceae)			
63.	Vitex negundo L. (**Verbenaceae)**	Karu Nochi	Leaf	Fresh Wound
64.	Wrighita tinctoria (Roxb.) R.Br. **(Apocynaceae)**	Veppalai	Latex	Impacted thorn
65.	Zingiber officinalis Roscoe. (**Zingiberaceae)**	Inchi	Rhizome	Indigestion
66.	Zingiber zerumbet (L.). J.E. Smith. **(Zingiberaceae)**	Kattu inchi	Rhizome	Stomach disorders
67.	Zornia gibbosa Span. **(Fabaceae)**	Murikooti	Whole	Fresh wound

A. *Caralluma atteuata* (Wight) Grav.& Mayur., **B.** *Cymbopogon citratus* (DC) Stapf., **C.** *Rauvolfia serpentina* (L.) Benth. ex. Kurz., **D.** *Wrighita tinctoria* (Roxb.) R.Br., **E.** *Abrus precatorius* L., **F.** *Ocimum americanum* L.

Plate: 1. Selected medicinal plant used by Kani tribe

Results and Discussion

During present observation and interaction with the traditional healer and traditional knowledge holders in Pechiparai especially kani tribe focusing single drug information, 67 medicinal plants enumerated with their single drug information (Table. 1). There were 67 species of medicinal plants belonging to 31 families and are mostly used to cure cold, cough, fever, diabetes, urinary calculi, Jaundice, headache, indigestion, skin diseases, earache, stomach problems, hair fall, teeth ache, itches, and fresh wounds. The Fabaceae account for eight ethnomedicinal plants each; whereas the Solanaceae are next in line with six plant species each. As far as plant parts are concerned, the kani tribes use a wide variety of parts structures in ethnomedicine include leaves 53%, whole 17%, root 13%, rhizome 3%, tuber 3%, Seed 3%, Flower 3%, Latex 3%, fruit 1% and Stem 1%.

Conclusion

The wisdom of this traditional knowledge of medicinal plants is great potential for research and discovery of new drugs to fight modern diseases. 67 species of medicinal plants belonging to 31 families were recorded in the present study and are mostly used to cure cold, cough, fever, diabetes, urinary calculi, Jaundice, headache, indigestion, skin diseases, earache, stomach problems, hair fall, dental problems, itches and fresh wounds. Since, the Kanis depend on plants occur in nearby forest to remedy their diseases and disorders the wisdom of this traditional knowledge of medicinal plants is great potential for research and discovery of new drugs to fight modern diseases. This study revealed that medicinal plants still play a vital role in the primary healthcare of indigenous people. The information we gathered from the tribals may be useful to other researchers in the fields of ethnobotany, taxonomy and pharmacology. The medicinal wisdom Kanis need to be systematically screened by phytochemists and pharmacologists for the potent active principles. Scientific validation of these remedies may help in discovering new drugs from these medicinal plants.

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