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Ethnobotanical observations on tribe *Arnatans* of Nilambur Forest, Western Ghats region of Kerala, India

[1]Binu Thomas*, [2]Ranji P. Mathews, [1]Rajendran, A. and [1]Prabhu Kumar, K.M.

[1]Department of Botany, School of Life Sciences, Bharathiar University, Coimbatore, Tamil Nadu- 641 046.
[2]Department of Botany, Mar Thoma College, Chungathara, Malappuram District, Kerala – 679 334
*Corresponding author email: **binuthomasct@gmail.com**

The ethnobotanical observation on tribe *Arnatans* of Nilambur region reveals that, They utilize numerous plants and their various parts *viz*., leaves, bark, roots and rhizome *etc*. for both internal and external applications were involved in the treatment of various ailments in their daily life. A total of 30- species of medicinal plants belonging to 28- families have been collected.

Keywords: Ethnobotanical observations, *Arnatans,* Nilambur, Western Ghats, Kerala

Introduction

India has a vast emporium of ethno medicinal and folklore wealth. The indigenous groups possess their own distinct cultural and religious rites, food, habit and a rich knowledge of traditional medicine (Anuradha, *et al*., 1986). The World Health Organization (WHO) has listed 21, 000 plant species to be of medicinal use in the world. India is about 2, 500 plant species are used for medicinal purposes by traditional healers (Ayyanar and Ignacimuthu, 2009). The traditional medicinal knowledge of plants and their use by indigenous culture are not only useful for conservation of cultural tradition, but also for community health care and drug development in the present and future (Gazzaw *et al*., 2005).

Today, there are about one and half million traditional healers of the Indian system of medicine used medicinal plants and their materials for various curative applications (Thurston, 1909). It was reported that 60 – 80 % of population in every developing countries of the world relies on medicinal plants for the treatment of various ailments (Sofowora, 2000). These plants in which one or more of its parts contain substances that can be for the synthesis of useful drugs (Jain and Patole, 2001).

Study area and Methodology

Nilambur (11° 26′ - 11° 9′ N latitude and 75° 48′- 76° 33′ longitude) forms the Eastern sector of Malappuram district in Kerala state (Fig.1) and includes a major range in the Southern Western Ghats, rich in biodiversity and tribal population. It is horded by the undulating midlands on the West, Nilgiri on the East, Silent Valley National park of Palghat District on the South and Wayanad forests on the North. It extends to an area of about 150 sq km (Binu Thomas *et al*., 2010; 2011).

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Several field visits were conducted during December 2011 – April 2012 in Nilambur region among the tribe *Arnatans* to collect information on medicinal plants used by them through personal contact, observations and interviews with tribal people. The plant species were identified taxonomically with the help of The *Flora of Nilambur* (Sivarajan & Matthew, 1997) and *Biodiversity documentation for Kerala* (Sasidharan, 2004). These specimens were confirmed with the plants deposited in the regional herbarium at Coimbatore (MH). The collected specimens were deposited in the herbarium at the Department of Botany, Mar Thoma College, Chungathara, Nilambur. An overview of the medicinal plants which are used by these tribals were given in Table-1.

Fig. 1 Map of Kerala state showing Malappuram District

Discussion and Conclusion

The traditional knowledge of tribal communities of Nilambur has high ethnobotanical importance. They utilize numerous plants and their various parts *viz*., roots, leaves, bark, rhizome *etc*. for various ailments in their daily life. Some of the notable ethnobotanical observations on Nilambur region of Western Ghats was conducted by Binu Thomas *et al*., (2010;

2011). During the field survey on tribe *Arnatans* of Nilambur area reveals that, a total of 30- species of medicinal plants belonging to 28- families have been collected (Table.-1). Among the documented medicinal plants leaves are the most used parts (11) followed by roots (5), whole plant(4), seeds (3), bark and flowers (2), rhizome, gum and fruits (1). Both internal and external applications were involved in the treatment of various ailments (Fig.-2). In addition to the medicinal value of some species like *Asparagus racemosus* Willd., *Centella asiatica* (L.) Urb., *Dioscorea pubera* BI., *Polygonum chinense* L., *Spondias pinnata* (L.f.) Kurz. is cooked and eaten for maintaining dietary equilibrium of tribal people of the area.

PLATE -1

A). ***Alstonia scholaris*** (L.) R. Br.

B). ***Anogeissus latifolia*** (Roxb. *ex* Dc.) Wall.

C). ***Butea monosperma*** (Lam.) Taub.

D). ***Dodonaea viscosa*** L.

E). ***Physalis peruviana*** L.

F). ***Vitex negundo*** L.

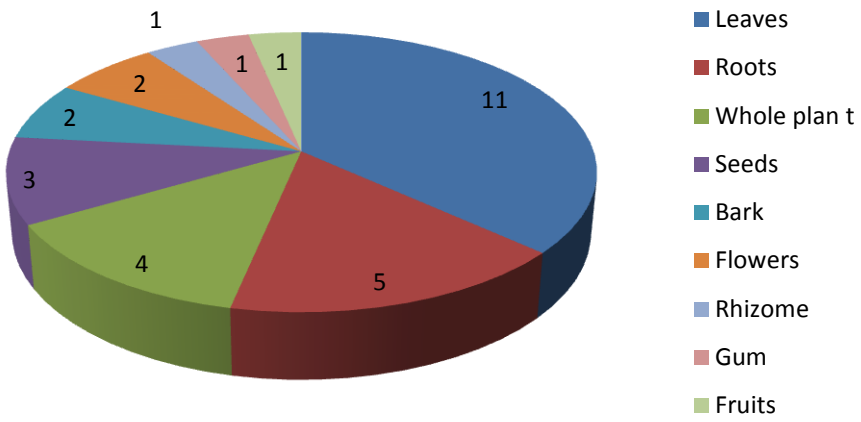

Figure 2: Percentage of utilization of plant parts as medicines from the study area

The present ethnobotanical observation on tribe *Arnatans* of Nilambur region reveals that, they possess rich traditional heritage. The present study noticed that the younger generation takes no interest for preserving the traditional skills and technology. The documentation of this traditional knowledge of older generation is necessary for the sustainable development of younger generation on natural resources available in their surroundings. Such studies may produce valuable information to phytochemists and pharmacologists to develop new drugs for various human ailments

Table 1: **List of Medicinal plants used by tribe *Arnatans* of Nilambur region**

S No	Botanical Name	Family	Part Used	Mode of administration
1	***Achyranthes aspera*** L.	Amaranthaceae	Roots	Root powder used for cholera
2	***Alstonia scholaris*** (L.) R. Br. (Plate: 1-A)	Apocyanaceae	Leaf	Leaf juice is used as hair tonic
3	***Andrographis paniculata*** (Burn.f.)Wall. *ex* Nees.	Acanthaceae	Leaf	Leaf extract is applied for various skin allergies
4	***Anogeissus latifolia*** (Roxb. *ex* Dc.) Wall. (Plate: 1-B)	Combretaceae	Bark	Bark powder is used for the treatment of diarrhoea
5	***Asparagus racemosus*** Willd.	Asparagaceae	Roots	Root decoction is used as healthy tonic
6	***Bauhinia purpurea*** L.	Caesalpiniaceae	Seeds	Consumption of leaf juice is good for health
7	***Butea monosperma*** (Lam.) Taub. (Plate: 1-C)	Fabaceae	Seeds	Seed paste is applied for various skin diseases
8	***Celastrus paniculatus*** Willd.	Celastraceae	Seeds	Seed oil is used as mosquito repellent
9	***Centella asiatica*** (L.) Urb.	Apiaceae	Whole plant	Crushed plant is applied against various skin diseases
10	***Cissampelos pareira*** L.	Menispermaceae	Roots	Root extract is applied to wounds till the wound is healed
11	***Clitoria ternatea*** L.	Fabaceae	Roots	Root paste is used as antidote for poisonous bites
12	***Cymbopogon travancorensis*** Bor.	Poaceae	Leaves	Distilled oil from leaves used against pains

13	***Dioscorea pubera*** BI.	Dioscoreaceae	Rhizome	Cooked tuberous rhizome is for colic pain
14	***Dodonaea viscosa*** L. (Plate: 1-D)	Sapindaceae	Leaf	Leaves are boiled with water and it is used for swellings
15	***Emilia scabra*** DC.	Asteraceae	Leaf	Leaf paste is used against sprains and muscle spasm
16	***Hemigraphis colorata*** Blume	Acanthaceae	Whole plant	Whole plant paste is applied on cuts and wounds
17	***Holorrhena pubescens*** (Buch.-Ham.) Wall.	Apocyanaceae	Bark	Bark powder is mixed with powder of black pepper is taken orally against malarial fever
18	***Madhuca longifolia*** (Koening) Mac.	Sapotaceae	Gum	Gum obtained from tree trunk is used to cure boils
19	***Mimosa pudica*** L.	Mimosaceae	Leaf	Leaf juice is applied on cuts and wounds
20	***Physalis peruviana*** L. (Plate: 1-E)	Solanaceae	Leaf	Leaf decoction is used against jaundice
21	***Piper wightii*** Miq.	Piperaceae	Fruits	The decoction is made out of fruits is used against stomach-ache
22	***Plantago erosa*** Wall.	Plantaginaceae	Leaf	Leaf paste is used against varicose veins
23	***Pogostemon heyneanus*** Benth.	Lamiaceae	Whole plant	Whole plant is made in to ash and it is mixed with mustard oil, it is applied on wounds
24	***Polygonum chinense*** L.	Polygonaceae	Roots	Crushed roots are mixed with water and is given against diarrhoea
25	***Spilanthes calva*** DC.	Asteraceae	Flower	Chewing of flower buds during toothache
26	***Spondias pinnata*** (L.f.) Kurz.	Anacardiaceae	Leaf	Paste of Leaves is used in itches of ring worm
27	***Toddalia asiatica*** (L.) Lam.	Rutaceae	Leaf	Leaf decoction is used against cough and cold in children
28	***Viscum articulatum*** Burn.f.	Loranthaceae	Whole plant	Whole plant is applied over cuts and wounds
29	***Vitex negundo*** L. (Plate: 1-F)	Verbenaceae	Leaf	Leaves are used as insect repellent
30	***Woodfordia fruiticosa*** (L.) Kurz.	Lytheraceae	Flower & bark	The paste obtained from both flower and bark is given twice a day for seven days to women for preventing excessive bleeding

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