

## **Plants used as Medicine by Paliyar Tribes of Shenbagathope in Virudhunagar District of Tamilnadu, India**

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### **Abstract**

The traditional medicinal uses of 58 angiospermic plant species belonging to 54 genera of 31 families for various diseases and ailments like wounds, cuts, stomach pain, diabetes, fever, cold, poisonous bites etc., by the Paliyar tribes of Shenbagathope in Virudhunagar district of Tamilnadu, India, are mentioned. Generally, fresh part of the plant is used for the preparation of medicine. When fresh plant parts are not available, dried parts are also used. Attention should be made on proper exploitation and utilization of these ethnomedicinally important plant species.

**Key words:** Medicinal uses, Paliyar tribes, Shenbagathope, Virudhunagar district of Tamilnadu.

### **INTRODUCTION**

Ethnobotanical study is immense importance with medical science. Now it was well established branch of science with much attention. Globally, about 85% of the traditional medicines used for primary health care are derived from plants. Traditional medicine and ethnobotanical information play an important role in scientific research, particularly when the literature and field work data have been properly evaluated [1]. India is one of the twelve mega-biodiversity countries of the World having rich vegetation with a wide variety of plants with medicinal value. In many countries, scientific investigations of medicinal plants have been initiated because of their contribution to healthcare. Herbal medicines have good values in treating many diseases including infectious diseases, hypertension, etc. That they can save lives of many, particularly in the developing countries, is

undisputable [2]. Rural people not only depend on wild plants as sources of food, medicine, fodder and fuel, but have also developed methods of resource management, which may be fundamental to the conservation of some of the world's important habitats [3].

Earlier studies showed that nearly one third of about 15000 higher plants species are used by tribals [4]. India possesses a total of 427 tribal communities. Recently various ethnobotanical studies have been reported to expose the knowledge from the various tribals of Tamilnadu [5–9]. Each and every tribal uses certain plants as medicine. Documenting the indigenous knowledge through ethnobotanical studies is important for the conservation of biological resources as well as their sustainable utilization. It is also necessary to collect the information about the knowledge of traditional medicines, preserved in tribal and rural communities of various parts of India in general and Tamilnadu in particular before it is permanently lost. In such a way, the present study denoted that plants used as medicine by paliyars in Shenbagathope, Virudhunagar district, Tamilnadu.

## **MATERIALS AND METHODS**

### **Description of the study area**

Shenbagathope is located in the Srivilliputtur taluk, Virudhunagar District of Tamilnadu, India. The area is lies approximately within between 11<sup>0</sup> 00' N longitude and 77<sup>0</sup> 28' E latitude. The altitude of the study area varies from 100 to 2010m above mean sea level (M.S.L). The temperature ranges from 20<sup>o</sup> C to 37<sup>o</sup> C. April, May and June are the hottest months of the year. The mean of annual rainfall recorded in the study site were 812 mm. The bulk of the rainfall is received during the months of October, November and December.

The indigenous people of study are called Paliyar / Paliyan. They are found in the hilly regions of Madurai, Dindigul, Tirunelveli and Virudhunagar districts. Generally paliyars are illiterate and they speak Tamil (Mother tongue of Tamilnadu). Paliyars when compared to various tribal communities in Tamilnadu constitute relatively a small group [10].

### **Methodology**

Ethnobotanical data were collected according to the methodology suggested by Jain [11]. The ethno botanical data (local name, parts used and their uses) were collected through interviews and discussions with paliyars, those who are having traditional knowledge in

medicinal plants. Flora of Tamilnadu Carnatic [12] and An Excursion flora of Central Tamilnadu [13] were used to ascertain the nomenclature.

## ENUMERATION

In the following enumeration the species are arranged alphabetically by botanical name followed by local name, family and medicinal uses.

1. *Acalypha indica* L. – **Kuppaimeni** – **Euphorbiaceae**

Entire plant is used in bronchitis. Decoction of the herb is used as a cure for tooth and ear ache. Paste of leaves applied on burns.

2. *Achyranthus aspera* L. – **Nayuruvi** – **Amaranthaceae**

Decoction of herb is useful in cough; also used for skin eruptions and snake bite. Herb paste with *Piper longum* (Thippili) is used to cure effects of bite of mad dog.

3. *Aerva lanata* (L.) Juss. – **Kooraipoo** – **Amaranthaceae**

Dried leaves and flowers are smoked during asthma.

4. *Albizia amara* (Roxb.) **boivin ssp amara** – **Usil** – **Mimosaceae**

Paste of leaves and seeds is applied for eye troubles.

5. *Albizia lebeck* (L.) Benth – **Vaagai** – **Mimosaceae**

Aqueous extract of bark used against conception in women. Bark and seeds are given in piles and diarrhoea.

6. *Alysicarpus vaginalis* (L.) DC. – **Koozhaanjudi** – **Fabaceae**

Root juice with milk is used for fever.

7. *Aristolochia indica* L. – Perumarundhu – Aristolochiaceae

Herb is used to neutralize the snake poison. Paste is used to heal wounds. Combination with pepper and ginger, plant is used to cure fever in children.

8. *Artocarpus heterophyllus* Lam. – Palaa – Moraceae

Root paste is used for head – ache. Ash of leaves is useful in ulcers. Ripe fruit is demulcent, cooling and laxative.

9. *Asystasia gangetica* (L.) T. Ander. – Medday keerai – Acanthaceae

Juice of plant administered to children for swellings and rheumatism.

10. *Barleria cristata* L. – Shemmuli – Acanthaceae

Root is used for cough. Leaves are used for inflammations.

11. *Bidens pilosa* L. – Manjalpoo keerai – Asteraceae

Flowers are used in diarrhoea. Juice of leaves is used for eye and ear troubles. Herb paste is applied for skin troubles.

12. *Biophytum sensitivum* (L.) DC. – Chinna puliaarai – Oxalidaceae

Ash of plant with lime juice is used for stomachache.

13. *Blepharis maderaspatensis* (L.) Roth. – Karattukkodi – Acanthaceae

Leaf juice is used in throat troubles and asthma.

14. *Caesalpinia bonduc* (L.) Roxb. – Kalachikkaai – Caesalpinaceae

Seed powder is applied to promote digestive power; also used in diabetes and leprosy. Seed kernel powder is extensively used for intestinal worms. Seed oil is used for ear trouble.

Decoction of root with honey is used for fever.

15. *Canavalia ensiformis* DC. var *mollis* (Wight & Arn.) Baker – Vellai thambattai – Fabaceae

Young pods are eaten with diet for asthma.

16. *Cardiospermum halicacabum* L. – Mudakkathaan – Sapindaceae

Plant juice is used for ear – ache. Powder of leaves is used externally for healing wounds. Root is occasionally used for rheumatism

17. *Carissa carandas* L. – Kalaakkaai – Apocynaceae

Decoction of leaves is given for fever.

18. *Cissus quadangularis* L. – Pirandai – Vitaceae

Powdered root is a specific in the treatment of fractured bones. Paste of shoot is applied for burns and wounds.

19. *Clitoria ternatea* L. – Kaakkarattaan – Fabaceae

Leaf extract is used in snake bite. Plant is used to cause abortion.

20. *Corchorus tridens* L. – Yennaichedi – Tiliaceae

Leaves are consumed along with the diet to cure fever and cough.

21. *Crossandra infundibuliformis* (L.) Nees – Manjalkanagaambaram – Acanthaceae

Flowers are grained with pepper and the paste is applied for wounds.

22. *Crotons bonplandianus* Ballion – Milagaaipoondu – Euphorbiaceae

Leaf paste along with turmeric is applied for skin eruptions.

23. ***Dodonea viscosa* L.f – Viraali – Sapindaceae**

Leaf paste is applied for burns and wounds

24. ***Ecbolium ligustrinum* (Vahl) Vollesn – Nilambarai – Acanthaceae**

Decoction of leaves is given for fever. Root is used in rheumatism.

25. ***Eragrostis aspera* (Jacq.) Nees – Pottalpull – Poaceae**

Grains are eaten for asthma.

26. ***Flueggea virosa* (Willd.) Baillon – Irupeelai – Euphorbiaceae**

Leaf juice is used against intestinal worms. Root juice is used in dysentery.

27. ***Gmelina arborea* Roxb. – Perungumizh – Verbenaceae**

Paste of leaves is used for head – ache relief. Dried and powdered fruit is used to improve the growth of hair.

28. ***Gmelina asiatica* L. – Kumizh – Verbenaceae**

Leaves are used in fever and rheumatism.

29. ***Hemidesmus indicus* (L.) R.Br. – Nannaari – Asclepiadaceae**

Entire plant is used for fever and leprosy; also used for scorpion sting.

30. ***Hibiscus cannabinus* L. – Kaasini – Malvaceae**

Juice of flowers with sugar and pepper, is used for fever.

31. ***Hibiscus micranthus* L.f. – Sirusembaruthi – Malvaceae**

Root paste is applied to cure head – ache.

32. *Icnocarpus frutescense* (L.) R. Br. – Paravalli – Salvadoraceae

Decoction of leaves and stalks is used for fever.

33. *Ilysanthus oppositifolia* Urban – Vaagapushpam – Scrophulariaceae

Entire herb is used in fever.

34. *Indoneesiella echioides* (L.) Sreemadh. – Koburandhaangi – Acanthaceae

Leaf paste is applied to cure head – ache.

35. *Jatropha curcas* L. – Kaattaamanakku – Euphorbiaceae

Paste of leaves is applied on breasts to increase secretion of milk. Decoction of leaves is useful in stomach – ache and cough. Fresh stems are used as toothbrush. Seed powder is used to promote hair growth.

36. *Kyllinga monocephala* Rottb. – Mallikkorai – Cyperaceae

Decoction of rhizome is used for fever and cough.

37. *Lantana camera* L. – Unnichedi – Verbenaceae

Decoction of plant is given for malaria and rheumatism.

38. *Leucas aspera* (Willd.) Link – Thumbai – Lamiaceae

Juice of leaves is applied in skin eruptions. Flowers are used in cold.

39. *Mangifera indica* L. – Maa – Anacardiaceae

Flowers are used in dysentery. Dried flowers are given for diarrhoea. Unripe fruits are given for

throat troubles.

40. *Mallotus philippensis* (Lam) Muell. Arg. – Kurangumanjanathi – Euphorbiaceae

Fruit powder with milk or curd is used to remove worms from the intestine of children.

41. *Melia azedarach* L. – Malaivembu – Meliaceae

Leaf paste with turmeric is used to healing wounds. Leaf paste is applied for small pox. Seed oil is used for dandruff and hair growth.

42. *Mollugo cerviana* L. – Parpaadagam – Aizoaceae

Root is boiled in oil and is used for rheumatism.

43. *Mucuna Pruriens* (L.) DC. – Vaseekaramoolam. – Fabaceae

A decoction of plant is given in dysentery and fever. Seed extract is used for scorpion sting.

44. *Mukia maderaspatana* (L.) M. Roemer – Musumusukkai – Cucurbitaceae

Decoction of root is used to relief of tooth – ache. Fruit is used in cough.

45. *Pavetta indica* L. – Paavattai – Rubiaceae

Root decoctions used for urinary diseases. Decoction of leaves used as a lotion for ulcerated nose.

46. *Pavonia zeylanica* (L.) Cav. – Sithaamutti – Malvaceae

Root paste with rice water is used in dysentery. Plant extract is used for vomiting and fever.

47. *Peristrophe paniculata* (Forss.) Brum. – Millgaainangai – Acanthaceae

Entire plant is used for fever.

48. *Plumbago zeylanica* L. – Kodiveli – Plumbaginaceae



Root is used in diarrhoea and skin diseases. Root, made into paste with milk and salt is applied for leprosy.

49. ***Prosopis spicigera* L. – Vanni – Mimosaceae**

Powder of ripened pods is used to improve the digestive power.

50. ***Stachytarpheta indica* auct. non . (L.) Vahl – Seemainaayuruvi – Verbenaceae**

Leaf paste is applied for skin troubles. Decoction of leaves is used for ulceration of the nose. Entire herb is used against intestinal worms.

51. ***Synedrella nodiflora* (L.) Gaert. – Kaattukkolai – Asteraceae**

Leaves are used in rheumatism.

52. ***Tamarindus indica* L. – Puli – Caesalpiaceae**

Flower paste is applied externally for eye troubles. Leaf paste is applied for inflammation.

53. ***Terminalia arjuna* (DC.) Wight & Arn. – Marudhu – Combretaceae**

Roasted seeds used in diarrhoea and fever. Seed powder with oil is used for skin diseases. Decoction of leaves is given for diarrhoea.

54. ***Terminalia catappa* L. – Vaadhaam – Combretaceae**

Leaves are used in rheumatism. Leaf juice is used for cutaneous affection. Bark is used in dysentery

55. ***Tribulus terrestris* L. – Nerunji – Zygophyllaceae**

Fruit tonic is used as a pain killer.

56. ***Vernonia cinerea* (L.) Less – Mookkuthipoondu – Asteraceae**

Juice of plant is given to children for piles. Decoction of root is given for diarrhoea.

**57. *Vitex negundo* L. – Nochi – Verbenaceae**

Plant is used to cure fever and ulcers. Leaf paste is applied to skin diseases and burns. Powdered root is used for dysentery. Smoking of dried leaves is used for head – ache relief. Flowers are used in fever.

**58. *Ziziphus jujuba* (L.) Gaert. non Mill. – Elandhai – Rhamnaceae**

Decoction of root is used in fever. Powdered root is applied to wounds. Leaves are used for diarrhoea. Kernals are used to stop vomiting.

## **RESULTS AND DISCUSSION**

The present investigation has revealed that 58 angiospermic plant species belonging to 54 genera of 31 families were used by Paliyar tribes in their traditional. Modes of treatment of diseases and various ailments like wounds, cuts, stomach pain, diabetes, fever etc. Paliyar tribal practitioners use specific plant parts and specific dosages for the treatment of ailments. The plant products are consumed raw or in the form of a decoction, juice extract, as infusion for oral treatment and as burnt product, ointments or raw paste when applied externally. The parts of the plant mostly used for medicinal purposes are leaves, root, stem, fruits, the complete aerial parts, the whole plant, barks (root and stem) and flowers in decreasing order. People use more than one plant either separately or mixed together. They mix several plants as ingredients to cure diseases immediately. Generally, fresh part of the plant is used for the preparation of medicine. When fresh plant parts are not available, dried parts are also used. It is interesting to note that such a way of life, particularly with respect to healthcare practices has hardly undergone any change even in the present day.

## **CONCLUSION**

This study shows that knowledge and usage of herbal medicine for the treatment of various ailments among Paliyar tribes. They use forest plants, weeds, fruit plants, vegetables, ornamental plants and much other as traditional medicine. The results of the present study provide evidence that

medicinal plants continue to play an important role in the healthcare system of paliyars tribal community. Although many of these species are known as medicinal plants, others are mainly used for non-medicinal purposes such as preparing agricultural implements. *Acalypha indica*, *Aristolochia indica*, *Caesalpinia bonduc*, *Jatropha curcas* and *Vitex negundo* are the leading species used as remedies against a variety of complaints like bronchitis, snake poison, wounds, burns, fever, tooth and ear ache, leprosy, dysentery, skin diseases etc.,

Generally, the people of the study area still have a strong belief in the efficacy and success of herbal medicine. Thus as Palekar<sup>14</sup> (1993) mentioned that the tribal has convinced us that traditional medicine is of contemporary relevance and it can help rural and tribal communities in India to achieve self reliance in their primary health care needs.

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## REFERENCES

1. Awadh, A., N. Ali, K. Al – rahwi1 & U. Lindequist (2004). Some medicinal plants used in Yemeni herbal medicine to treat Malaria. *African J. Trad., Compl. Alter. Med.* **1**: 72 – 76.
2. Patrick, O. E. (2002). Herbal Medicines: Challenges (Editorial). *Trop. J. Pharm. Res.* **1**: 53 – 54.
3. Gemedo – Dalle, T., B. L. Maass & J. Isselstein (2005). Plant biodiversity and Ethnobotany of *Borana pastoralists* in Southern Oromia, Ethiopia. *Econ. Bot.* **59**: 43 – 65.
4. Alagesaboopathi, C., P. Dwarakan & S. Balu (1999). Plants used as medicine by tribals of Shevaroy hills, Tamilnadu. *J. Eco. Tax. Bot.* **23(2)**: 391 – 393.
5. Eluvakkal, T. (1991). *Ethnobotanical studies of Paliyans of Sirumalai Hills, Sathuragiri Hills and Kumily Hills*. M. Phil., dissertation. Thiagarajar College (Autonomous), Madurai.

6. Ganesan, S. & L. Kesavan (2003). Ethnomedicinal Plants used by the ethnic group Valaiyans of Vellimalai hills (Reserved forest), Tamil Nadu, India. *J. Econ. Tax. Bot.* **27(3)**: 754 – 760.
7. Venkatesan, G. (2004). *Ethnobotanical studies on Thottianaickans of Semmalai Hills (Reserved Forest)*. M. Phil. Dissertation. Thiagarajar College (Autonomous), Madurai.
8. Sandhya, B., S. Thomas, W. Isabel & R. Shenbagarathai (2006). Ethnomedicinal plants used by the Valaiyan community of Piranmalai hills (Reserved forest), Tamil Nadu, India – A pilot study. *African J. Trad., Compl. Alter. Med.* **3**: 101 – 114.
9. Shanmugam, S. (2008). *Flora of Angiosperms and Ethnobotanical Studies on Paliyar tribes of Pachalur in Dindigul District of Tamilnadu, India*. M. Phil. Dissertation. Thiagarajar College (Autonomous), Madurai.
10. Sankarasivaraman, K. (2000). *Ethnobotanical Wealth of Paliyar Tribe in Tamilnadu*. Ph. D. Thesis, Manomanium Sundaranar University, Tirunelveli.
11. Jain, S. K. (1964). The role of botanist in folklore research. *Folklore*. **5**: 145 – 150.
12. Matthew, K. M. (1983 – 1986). *Flora of Tamil Nadu Carnatic*. Rapinat Herbarium, St. Joseph's College, Tiruchirapalli.
13. Matthew, K. M. (1991). *An Excursion flora of Central Tamilnadu, India*. Oxford and IBH Publishing Co., New Delhi.
14. Palekar, R. P. (1993). Ethnomedicinal traditions of Tahkur tribals of Karjat, Maharastra *Anc. Sci. life.* **12(3 – 4)**: 388 – 393.