Traditional Medicine among the Palliyars of Palani Hills, Western Ghats, India

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Abstract
From the advent of humankind, plants have been employed in traditional medicine for several thousand years. An ethnobotanical survey was undertaken to gather information from Palliyars on the use of medicinal plants in Dindigul district of Tamil Nadu. The indigenous knowledge of local traditional healers and the native plants used for the medicinal purposes were collected through questionnaire and personal interviews. A total of 48 plant species belonging to 39 families were used to treat various ailments. The information gathered from the Palliyars were arranged by ailments followed by plant botanical name as well as local names along with family, parts used, method of preparation of medicine, dosage, and ingredients were documented in study area. The phyto-ethno-restorative overview of Palni hills gives significant benchmark information of therapeutic plants in the region for future protection perspectives.

Keywords: Ethnobotany, Palliyar, Palni Hills, Western Ghats.

Introduction
From the advent of human beings, plants have been used for various ailments. During the course of evolution especially in the nomadic phase of life primitive man heavily relied on green plants for his survival and began to analyze the property of utilizing plants by experimentation and acquired distinctive helpful properties. Later he got advanced with the information on numerous helpful and hurtful plants. This advanced information has been moved starting with one age then onto the next with no composed records. This vocal data has colossal significance, which has been safeguarded steadily as special kinds of mystery. India is an emporium of medicinal plants and it is sitting on a gold mine of well-documented and well-practiced knowledge of traditional medicine. Tamil Nadu is home to 30 tribal communities among them Palliyars are pre-dravidian scheduled tribes living in forest thickets (Dahmen, 1908; Thurston, 1909). The explanation behind their reliance on therapeutic plants for the essential medical care is fundamentally because of adequacy,
simple accessibility, absence of present day medical care exercises, social inclinations and to their exceptionally century old relationship with the plants. Apart from very few studies (Ganesan et al., 2004; Mayilsamy & Rajendran, 2014) complete documentation of traditional medicine prevalent among the Palliyars of Palni hills is unavailable. Subsequently the current investigation is planned to tap the undiscovered ethnomedicinal wisdom of Palliyar tribals of Palni Hills of Western Ghats.

**Materials and Methods**

Geographically, the rocks of Palni Hills are an arcahen formation (i.e. made up of gneissic rocks). The gneissic rocks are referred to as charnockite and consist of mica, feldspar and quartz. The climate is hot and dry. The relatively cool season is December, January and part of February. During this period, there is heavy dew formation at nights and mornings are foggy. The hottest months are April-May. The rainfall regime is a tropical dissymmetric type with the bulk of rain received during the retreating monsoon period (October – December). Some rain is also received during the Southwest monsoon but the amount of rain fall is uncertain (Matthew, 1999). The vegetation of Palni Hills covers tropical thorn forests, dry deciduous forests, semi evergreen forests, evergreen forests, shola forests, riparian forests and grasslands (Matthew, 1999; Kottaimuthu 2015).

Detailed ethnobotanical surveys were conducted from 2012 to 2015 to know the ethnomedicinal wisdom existed among the Palliyars of Palani Hills. Adhering to standard strategies (Schultes, 1960; Jain 1989), escalated interviews were completed with the older folks. Later the gathered information was cross-checked and validated by rehashed inquiries with different herbalists. The plants recorded with ethnobotanical information were identified with help of “Flora of Palni Hills” (Matthew, 1999). All the collections were deposited in Saraswathi Narayanan College Herbarium, Madurai.

**Results and Discussion**

Most of the information furnished here was found to be new when compared with available literature (Arinathan et al., 2003; Muthukumarasamy et al., 2003a,b & 2004; Karuppusamy 2007; Maruthupandian et al., 2011). In the current investigation 48 medicinal plants distributed under 39 families have been recorded; of these, 21 were herbs, 11 climbers, 9 trees and 7 shrubs. Among the different plant part used by the Palliyars of Palni hills, the leaves were most commonly utilized for the treatment of various ailments followed by bark, fruit, seed, tuber and rhizome (Table 1). The most common health ailments in the study area were gastro-intestinal problems (diarrhoea, dysentery, flatulence, indigestion, stomach problem and ulcer), respiratory problems (asthma, cough and fever), diabetes and skin problems.

**Conclusion**

The present study accepts more noteworthy significance in improving our customary information about the plants utilized by the Palliyars of Palani Hills and calls for the threat assessment and conservation of ethnomedicinal plants for future posterity.

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| Table 1: List Ethnomedicinal Plants used by Palliyars in Traditional Medicine |
|-----------------------------|---------------------------------|--------------|----------|
| **Family**                  | **Binomial**                    | **Parts used**| **Uses** |
| Acanthaceae                 | *Blepharis maderaspatensis* (L.) Roth. | Leaves       | Flatulence |
| Achariaceae                 | *Hydnocarpus pentandrus* (Buch.-Ham.) Oken | Seeds       | Rheumatic pains |
| Amaranthaceae               | *Achyranthes aspera* Blume       | Leaves       | Piles     |
| Apiaceae                    | *Hydrocotyle javanica* Thunb.    | Leaves       | Jaundice  |
| Aristolochiaceae            | *Aristolochia tagala* Cham.       | Roots        | Poisonous bites |
| Asclepiadaceae              | *Gymnema elegans* Wight & Arn.   | Leaves       | Diabetes  |
| Asparagaceae                | *Asparagus racemosus* Wild.      | Roots        | Lactogouge |
| Begoniaceae                 | *Begonia malabarica* Lam.        | Leaves       | Indigestion |
| Burseraceae                 | *Canarium strictum* Roxb.        | Fruits       | Eczema    |

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| Family                | Species                                      | Part       | Condition            |
|----------------------|----------------------------------------------|------------|----------------------|
| Caesalpiniaceae      | *Bauhinia racemosa* Lam.                     | Stem bark  | Dysentery            |
| Chenopodiaceae       | *Chenopodium ambrosioides* L.                | Leaves     | Psoriasis            |
| Cleomaceae           | *Cleome viscosa* L.                         | Leaves     | Migraine             |
| Combretaceae         | *Terminalia chebula* Retz.                   | Fruits     | Gastric trouble      |
| Convolvulaceae       | *Argyreia pomacea* (Roxb.) Choisy           | Fruit      | Piles                |
| Convolvulaceae       | *Evolvulus alsinoides* L.                    | Leaves     | Fever                |
| Cucurbitaceae        | *Corallocarpus epigaeus* (Rott.) C.B. Clarke| Tuber      | Poisonous bites      |
| Ehretiaceae          | *Ehretia matthewii* Kottaim.                | Stem bark  | Dysentery            |
| Euphorbiaceae        | *Acalypha fruticosa* Forssk.                | leaves     | Stomach pain         |
| Euphorbiaceae        | *Euphorbia indica* Lam.                     | leaves     | Lactogouge           |
| Euphorbiaceae        | *Tragia bicolor* Miq.                       | Leaves     | Constipation         |
| Fabaceae             | *Abras precatorius* L.                      | seeds      | Poisonous bites      |
| Fabaceae             | *Desmodium gangeticum* L.                   | roots      | Asthma               |
| Fabaceae             | *Mucuna atropurpurea* DC                    | seeds      | Bone fracture        |
| Hypoxidaceae         | *Curculigo orchoides* Gaertn.               | Rhizome    | Infertility          |
| Lamiaceae            | *Leucas biflora* (Vahl) R.Br.               | Leaves     | Head ache; Fever     |
| Lamiaceae            | *Plectranthus barbatus* (Lour.) Spreng.     | Leaves     | Cold                 |
| Lobeliaceae          | *Lobelia heyneana* Roemer & Schultes.       | Leaves     | Psoriasis            |
| Malvaceae            | *Urena lobata* L.                           | Roots      | Stomach pain         |
| Meliaceae            | *Cippadessa baccifera* (Roth) Miq.          | Leaves     | Dysentery            |
| Menispermaceae       | *Cissampelos pariera* L.                    | Roots      | Leucorrhoea          |
| Mimosaceae           | *Mimosa pudica* L.                          | Leaves     | Psoriasis            |
| Phyllanthaceae       | *Breynia vitis-idaea* (Burm.f.) C.E.C.Fisch.| leaves     | Tooth-ache           |
| Phyllanthaceae       | *Phyllanthus amarus* Schum. & Thonn.        | leaf       | Jaundice             |
| Plumbaginaceae       | *Plumbago zeylanica* L.                     | Root       | Abortion             |
| Poaceae              | *Bambusa arundinacea* (Retz.) Willd.        | Leaves     | Bone fracture        |
| Polygalaceae         | *Polygala javana* DC.                       | Whole plant| Poisonous bites      |
| Portulacaceae        | *Portulaca quadrifida* L.                   | Whole plant| Poisonous bites      |
| Rubiaceae            | *Catunaregam spinosa* (Thunb.) Tirveng.     | Fruits     | Dandruff             |
| Family               | Plant Name                              | Part   | Condition       |
|---------------------|-----------------------------------------|--------|-----------------|
| Rutaceae            | *Glycosmis mauritiana* (Lam.) Tanaka     | Leaves | Dysentery       |
| Sapindaceae         | *Cardiospermum canescens* Wall.          | Leaves | Joint pains     |
| Scrophulariaceae    | *Sopubia delphinifolia* (L.) Don.        | Leaves | Poisonous bites |
| Solanaceae          | *Solanum anguivi* Lam.                   | Root   | Diarrhoea       |
| Sterculiaceae       | *Helicteres isora* L.                    | Fruit  | Diabetes        |
| Sterculiaceae       | *Pterospermum canescens* Roxb.           | Stem bark | Bone setting |
| Sterculiaceae       | *Waltheria indica* L.                    | Roots  | Dysentery       |
| Verbenaceae         | *Gmelina asiatica* L.                    | Fruits | Dandruff        |
| Vitaceae            | *Cissus quadrangularis* L.               | Whole plant | Indigestion |
| Zygophyllaceae      | *Tribulus terrestris* L.                 | Whole plant | Urinal problems |