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Ethnobotanical survey of Irular tribes in perumal Swamy temple Hills, Theethipalayam, Coimbatore, Tamil Nadu

Ragasudha R and Priya V

Abstract

The ethnobotanical systems and herbal medicines as therapeutic agents are of paramount importance in addressing health problems of traditional communities. The indigenous knowledge available with these people plays important role in quick and proper identification of natural resources. There is no literature available regarding the medicinal plants used by Irula tribes. The present paper highlights the use of those plants for various ailments by Irular tribe living in perumal swamy Temple Hills, Theethipalayam. A total of 25 plants species and their families has been identified and collected. Which has been recorded as data's used by them as herbal medicines to treat several common diseases such as skin diseases, dysentery, cough and cold, cuts and wounds, etc.

Keywords: Ethnobotanical survey, tribes, Swamy temple Hills

Introduction

Taxonomy is the classification of organisms in an ordered system that indicates natural relationships. It is a sub discipline of Systematic which is the study of those relationships. The word taxonomy is also used in non-biological contexts in to describe any system of classification.

In India, the rain forests were distributed in the past mainly in the Western Ghats of the north-west region and the foot hills of the north east region. Much of these forests have already been destroyed and put to other land uses. India, exhaustive ethno botanical communities because the floral diversity and rich endemic taxa of our country are of significance for richness of ethno medicine. During the last four decade, a large number of plants used in indigenous practices have been discovered through ethno botanical studies in India. In recent years some workers like palanisamy *et al.*, Balasubramanian *et al.*, amasavalli, Nikkitha *et al.*, Kathikeyani *et al.*, and Senthilkumar *et al.*, have reported various medicinal plants used by Irular tribal in Coimbatore district.

Taxonomy is the study to gather acquaintance of various kinds' plant in earth and its systematic groupings. The flora of earth is very large so that is not possible to bring together knowledge without arranging them systematically.

The plant taxonomist to point out the identification, nomenclature and classification of plants in order to study and scientific manner. The taxonomic knowledge high significance to the branches of like science like molecular biology, morphology, geography, embryology, ecology, genetics, evolution, palynology, microscopic morphology, history, anatomy, chemistry, physiology, cytology, phylogeny and paleo botany.

The medicinal plants are associated with their indigenous knowledge of medicine requires protection. The vegetation of Coimbatore Theethipalayam forest is dry deciduous and semi evergreen thick forest. This region is blushed with rich and fascination, holds a large number of curious, botanically interesting, exquisite, economically important, rare, threatened and endemic plant. The soil type is loamy and black soil. These tribal families are depended on forest resources for food, firewood, herbal medicines, timber, fodder, etc.

India blessed with high biological diversity, is one of the 12 mega diverse countries and lodges two of the eight hottest hotspot of global biodiversity. Indigenous groups offer intuitive traditional plant-based knowledge on healthcare depending on locally available resources. This traditional treasure of knowledge hoarded for centuries largely by trial and error methods have been passed to subsequent generation orally.

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The large part of such information is passed orally from one generation to another. Because, now it is desirable to collect and much needs to document such information for proper scientific evaluation. Hence, the present research was made an attempt, to explore the floristic diversity and expose the tribal knowledge of unknown society.

This is the first account on a floristic diversity of Theethipalayam Hills of Coimbatore District of Tamil Nadu, till now there is no literature available. So, recording the details of various woody plants used by the Irulas tribal and local inhabitants of Theethipalayam Hills, Coimbatore, and Tamil Nadu. The Irulas tribal still derives their daily need from various plants growing, around them.

Materials and Methods

Study Area

The study area Theethipalayam perumal swamy temple hills located nearly 20 km away from Coimbatore town of Coimbatore district in Thondamuthur Block, Tamil Nadu, which covers an area about 3.5 acres. The study area is located in southern part of Coimbatore. Field surveys were made to explore the floristic composition and ethnobotanical study. It is located 14 KM towards west from District headquarters Coimbatore.

Theethipalayam Local Language is Tamil and English. Theethipalayam Village Total population is 8629 and number of houses are 2386. Female Population is 50.2%. Village total literacy rate is 73.3% whereas Female Literacy rate is 33.7%.

Field Survey

The field visit was conducted during June 2018 to March 2019. Various plants were identified on basis floral characters. More information was collected from local people, Environmentalists and care takers of sacred grove. Based upon the Ethnobotanical information and medicinal properties the part of the plant was collected.

The botanical identities of some plant have been

Confirmed with Botanical survey of India, southern circle, Coimbatore and also with Flora of presidency of Madras (Gamble and Fischer).

Methods

Twigs with good flowers are collected for specimen. The portion of the specimen should have to contain clear phyllotaxy and the branching system. At the time of collection, it is usually not possible to identify many specimens in the field.

After specimen collection, a filled record is noted in small pocket sized notebook with details like as date of collection, location (name of place or distance from definite point), collection number, and name of the specimen and description of the floral parts that may change after drying are noted down. The most usual method is to press each specimen as it is collected. Specimens are kept gently within newspaper. Collection numbers have also to be written in the newspapers. Parts of the flowers are much carefully spread without overlapping in original shape. Unnecessary overlapping leaves and other parts must be avoided.

Large leaf if palmately compound split in half length wise and one half is discarded. If pinnately compound, a branch is only kept. A few leaves may be turned over to show lower and upper view. If there is bulgy rhizome, needs to cut or dissect longitudinally by knife, so that moisture evaporates through there. The specimens are repressed in the evening in the camp. The blotters are changed, if they are moistened.



Fig 1: Perumal swamy temple hills, Map



Fig 2: Perumal swamy temple hills



Fig 3: Perumal Swamy temple hills, Front Side

Mounting is the process by which process by which a specimen is attached to a herbarium sheet and label affixed at the lower right corner.

Specimen is mounted on sheets of standard size herbarium paper (29×43cm). Small paper envelopes called fragment packets are attached to the sheet to hold seed, extra flowers or any part of the specimen.

Precaution should be taken to protect herbarium specimens from damage by insect pests. The most destructive insects are herbarium beetle, cigarette beetle, booklice and silverfish. Insect repellants such quantities in herbarium cabinet. Although dangerous and hazardous to health, mercuric chloride is believed to be valuable because it provides long term protection against insect attack. Besides the insect pest, the moulds and mildew are constant threat to material stored in damp condition or in areas high humidity. Commonly, pesticide is prepared by mixing 150mg mercuric chloride with 200ml formaldehyde and 1 liter of spirit.

The alternatives like as Naphthalene and Lauryl Penta Chloro Phenate (LPCP) are believed to have fungicidal properties; however, Thymol is quite effective as fungicide.

Herbarium label is an important and essential part of

permanent plant specimen. The size and shape of label may vary slightly but will usually to be rectangular and 10×15cm (4×inch) in range.

The best position for the main label is generally thought to be the bottom right; this makes the label easier to read when kept in genus covers which open on the right hand side. Ideally a space should be left above the label to allow for the future attachment of determination slips. Generally herbarium label should contains the following information like Heading (name of the institution in which the specimens originated/ deposited), scientific names (Genus and specific epithet with author citation), family, locality, range (latitude and longitude), Habit, Date of collection, Name of collector(s) and remark.

Results and Discussion

The present study was conducted in Theethipalayam perumal swamy Temple hills, Coimbatore district, Tamil Nadu. There were 100 species was identified. The plant listed above were distributed as shrubs (3%), herbs (11%) and climbers (4%),

grass (3%). Most of the plants present in the groves are medicinal. All the plants reported in the sacred grove were di cotyledons.



Fig 4: Plant Collection for Study Area



Fig 5: Perumal Swamy temple hills, Back Side

Floristic composition of the sacred grove has been recorded in this study. Plants were enumerated with botanical names, family, habit and local names. Ethno medicinal uses of plants have been documented and tabulated.

Different parts of the plants such as leaves, roots, bark, fruits, seeds and sometimes the whole plants are used for different medicinal purposes. Sacred grove takes major effort to recognize and conserve biodiversity traditionally.

Tables 1: Ethnobotanical Plants from Perumal Swamy hill tracks

S. No	Botanical Name	Family	Habit	Medicinal uses
1	<i>Abutilon indicum</i> (L.) Sweet	Malvaceae	Herb	Laxative, anti-inflammatory, ant-diabetic, cleaning woods.
2	<i>Euphorbia heterophylla</i> L.	Euphorbiaceae	A small annual herb	Skin problems, fungal diseases, and abscesses.
3	<i>Jatropha gossypifolia</i> L.	Euphorbiaceae	Shrub or small tree	Anti-inflammatory, anti-diarrheal, healing.
4	<i>Celosia argentea</i> L.	Amaranthaceae	Herb	Diarrhoea, wounds and shin eruption, antidote for snakebites.
5	<i>Acanthospermum hispidum</i> DC.	Asteraceae	Herb	Antibacterial and antifungal, skin ailments, fever.
6	<i>Gomphrena globosa</i> L.	Amaranthaceae	An annual erect herb	Kidney problems, jaundice.
7	<i>Barleria buxifolia</i> L.	Acanthaceae	Shrub	Diabetes and respiratory diseases, anemia, toothache and cough.
8	<i>Aristolochia indica</i> L.	Aristolochiaceae	Climber	Cough, inflammation and biliousness.
9	<i>Clitoria ternatea</i> L.	Fabaceae	A twining herb	Anti-Stress, anxiolytic, antidepressant, anticonvulsant.
10	<i>Dichrostachys cinerea</i> Wight et Arn.	Fabaceae	Shrub or small tree	Dysentery, headaches, toothaches.
11	<i>Lantana camara</i> L.	Verbenaceae	Small perennial shrub	Skin itches, leprosy, rabies, chicken pox, measles, asthma and ulcer.
12	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	Annual and perennial climber	Skin itching, headache, cough and cold.
13	<i>Dodonaea viscosa</i> Jacq.	Sapindaceae	Large shrub	Toothache, wounds, skin rashes.
14	<i>Catharanthus roseus</i> (L.) G. Don	Apocynaceae	Ornamental herb	Muscle pain relief, wasp stings and depression.
15	<i>Coccinia grandis</i> (L.) Voigt	Cucurbitaceae	Climber	Reduce high blood pressure and abscesses.
16	<i>Mukia maderaspatana</i> (L.) M. Roem	Cucurbitaceae	Climber	Antidiabetic.
17	<i>Polycarpaea corymbosa</i> (L.) Lam	Caryophyllaceae	Annual or perennial herb	Antimicrobial, cough and cold.
18	<i>Commelina benghalensis</i> L.	Commelinaceae	Herb	Laxative, eye ailments, throat and burns.
19	<i>Cynodon plectostachyus</i> (K. Schum)	Poaceae	Perennial grass	Laxative, coolant, expectorant, carminative.

20	<i>Cenchrus pedicellatus</i> (Trin.)	Poaceae	Annual grass	Laxative, coolant, cough and cold.
21	<i>Melinis repens</i> (Willd.) Zizka	Poaceae	Perennial grass	Fever, cough and cold.
22	<i>Tribulus terrestris</i> L.	Zygophyllaceae	A small herb	Urinary tract healthy and reduce swelling.
23	<i>Turnera ulmifolia</i> L.	Passifloraceae	Perennial herb	Gastrointestinal problems, colds and flu, and circulatory problems.
24	<i>Ziziphus mauritiana</i> Lam.	Rhamnaceae	Shrub or small tree	Anticancer, antidote, expectorant, pectoral, refrigerant.
25	<i>Ziziphus jujuba</i> Mill.	Rhamnaceae	A small tree	Muscular strength and weight, ulcer and as sedative.

Result and Discussion

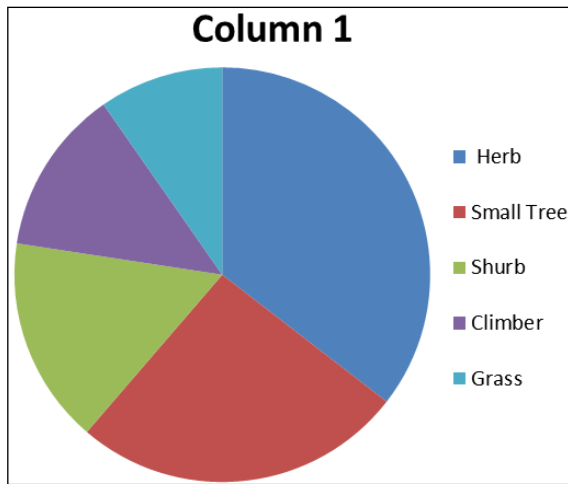


Fig 6: Medicinal plant species in Perumal Swamy hill

The present study was conducted in Theethipalayam perumal swamy Temple hills, Coimbatore district, Tamil Nadu. There were 100 species was identified. The plant listed above was distributed as shrubs (3%), herbs (11%) and climbers (4%), grass (3%). Most of the plants present in the groves are medicinal. All the plants reported in the sacred grove were di cotyledons.

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Different parts of the plants such as leaves, roots, bark, fruits, seeds and sometimes the whole plants are used for different medicinal purposes. Sacred grove takes major effort to recognize and conserve biodiversity traditionally.

Conclusion

People living in villages and other remote areas depend completely on forest resources, for maintaining their day to day needs like medicine, food, fuel and household things. The present study explored about the floristic and ethnobotanical analysis of Perumal Swamy Temple hills.

The study revealed that traditional medicines were still in common use by the traditional user communities of Perumal Swamy Temple hills and accurate knowledge of the plants and their medicinal properties were known by only a few individuals in this community.

Hence, a need for detailed investigation of ethnobotanical knowledge held by each community is required before such valuable knowledge vanishes. Thus, our work would be useful in preventing the loss of ethno medicinal traditions of Perumal Swamy Temple hill inhabitants.

Acknowledgement: There is no literature available regarding the Medicinal plants used by Irula tribes.

The present paper highlights the use of those plants for various ailments by Irular tribe living in Perumal swamy temple Hills, Theethipalayam.

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