



REGULAR ARTICLE

ETHNOBOTANICAL SURVEY OF CHITTERI HILLS OF EASTERN GHATS IN DHARMAPURI DISTRICT-TAMILNADU

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ABSTRACT

Flora and fauna diversities are two facts components of biodiversity which covers the variety and variability of species. A survey was conducted to study the rare plants of chitteri hills, Tamil Nadu, India. 96 Plants Belonging to 48 Family, 90 Genus and 96 species were Documented Plants totally were under thorough investigation. Of these monocots are represented by 7 species belonging to 7 genera and 4 families, while dicot contributed by 87 species belonging to 82 genera and 39 families, Ferns 2 families and 2 genera, Fungi 1 family and 1 Genera. Plant species were recorded and identified during the survey. The results show that the habitat of plants belongs to herbs, shrubs and tree species. But, we have observed only minimum tree species. Of these monocots are represented by 7 species belonging to 7 genera and 4 families, while dicots contributed by 87 species belonging to 82 genera and 39 families, Ferns 2 families and 2 genera, Fungi 1 family and 1 Genera. The study depicts that Chitteri Hills have different variety of plants distributed all over the mountain.

INTRODUCTION

Around 420,000 flowering plants were identified all over the world [1]. Out of these numbers, some of them are not given a specific name. Thousands of plants are being used as medicinal ingredients [2]. India is one among the important countries which utilizes the traditional knowledge in medicinal plants since time immemorial [3]. Western Ghats in India is one of the very important world's plant biodiversity regions. The plant diversity of India is well documented [4]. Medicinal and therapeutic important plants and also traditionally used plants were also identified and well documented from most parts of India [5].

Vegetation varies considerably with altitude and therefore shown altitudinal zonation. The present investigation gives an account on plant resources available in Chitteri hills in Dharmapuri district reserve and recorded of plants were also analyzed.

MATERIALS AND METHODS

Study area

The survey was conducted in Chitteri Hills of Eastern Ghats in Dharmapuri District of Tamilnadu, India (plate 1).

Field trips ranging from 3 d to a week were made to the study area every month, throughout the year of study. A survey was conducted in the study area to gather information regarding medicinal properties, their uses and

local names

People with plant acquaintance representing different age groups from the age 17 to 90 were selected as resource persons. The age group and number of persons contacted.

Data collection

Data were mainly collected from resource persons, rarely from others. They were recorded on field notebooks. The information was verified with dictionary of folk medicine and ethno botany texts and standard journals, flora.

Plant collection

The medicinal plants used by the tribes were collected as voucher specimens following the normal herbarium techniques of plant collection. Specimens were identified by referring floras such as

1. Flora of Presidency of Madras.
2. Mathew's The flora of the Tamil Nadu, Carnatic

Photographs were taken to describe the nature of the study area, and the plants and plant groups which they dominated plants in plant diversity.

Presentation of data

Data obtained from the field such as scientific name, local name of the plant and description of the plants are provided in the observations. Observations are discussed in depth and detail in a separate chapter.

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LOCATION OF CHITTERI



Plate 1: Study area

RESULTS AND DISCUSSION

96 Plants belonging to 48 families, 90 genera and 96 species were documented totally were under thorough investigation (table 1 and 2).

Of these monocots are represented by 7 species belonging to 7 genera and 4 families, while dicots contributed by 87 species belonging to 82 genera and 39 families, Ferns 2 families and 2 genera, Fungi 1 family and 1 Genera. (table 4). Families with maximum number of species include Rubiaceae with 7 species followed by Acanthaceae (6), Fabaceae (5), Asteraceae (5), Verbenaceae(4), and Lamiaceae(3), Solanaceae (3), Asclepiadaceae (3), Sapindaceae(3), Loranthaceae (3), Poaceae (3), and Dioscoriaceae, Rhamnaceae, Apiaceae, Ulmaceae, Menuspermaceae, Apocyanaceae, Convolvulaceae, Capparidaceae and Rutaceae (2 species each), Euphorbiaceae, Passifloraceae, Pteridaceae, pedaliaceae, Rhamnaceae, Malvaceae, Erythroxlaceae, Icacinaceae, Hemoniticeae, Ranunculaceae, Celastraceae, Mimosaceae, Amarilladaceae, Lythraceae, Asparagaceae, Crassulaceae, Dipterocarpaceae, Cucurbitaceae, Proteaceae, Malphiaceae, Talinaceae, Combretaceae, Burseraceae, Polygonaceae, Pedaliaceae, Smilaceae, woodsiaecae and Ganodermataceae (1 species each). (fig. 2).

The most frequently utilized plant habit percentages were Trees (25%), followed by the Shurb (22%), Herb (40%), and Climber (13%) in Survey of Chitteri hills (table 3, fig. 1).

Table 1: Ethnobotanical plant species in chitteri hills, Dharmapuri District, Tamilnadu, India

S. No.	Family	Plant name	Habit
1	Euphorbiaceae	<i>Mallotus philipensis</i>	Tree
2	Rubiaceae	<i>Richardia cabra</i>	Perninal Herb
3	Lamiaceae	<i>Galeopsis tetrahit</i>	Herb
4	Solanaceae	<i>Solanum vidaceum</i>	Bhush/Shrub
5	Passifloraceae	<i>Passiflora subpeltata</i>	Vine
6	Fabaceae	<i>Cassia fistula</i>	Tree
7	Rubiaceae	<i>Coffea canephora</i>	Bush
8	Pteridaceae	<i>Adinatum pedatnm</i>	Fern
9	Asteraceae	<i>Acmella radicans</i>	Herb
10	Malvaceae	<i>Urena lobata</i>	Herb
11	Rubiaceae	<i>Ixora Brachiata</i>	Tree
12	Fabaceae	<i>Rhynchosia rufescens</i>	Shrub
13	Acanthaceae	<i>Justicia betonica</i>	Shrub
14	Erythro Xylaceae	<i>Erythroxyllum macrophyllum</i>	Small Tree
15	Solanaceae	<i>Solanum eranthimum</i>	Shrub
16	Asteraceae	<i>Centratherum punctatum</i>	Bush Perennial
17	Fabaceae	<i>Desmodium rhytidophyllum</i>	Herb
18	Fabaceae	<i>Oxalis corniculata</i>	Creepers
19	Dioscoreaceae	<i>Dioscorea oppositifolia</i>	Monocot Climber
20	Icacinaceae	<i>Cassinopsis ilicifolia</i>	Shrub
21	Hemioniticeae	<i>Hemionites arifolia</i>	Fern(heart shaped)
22	Rhamnaceae	<i>Scutia myrtina</i>	Climber
23	Asclepiadaceae	<i>Asclepias curassavica</i>	Herb
24	Acanaceae	<i>Andrograpis elongata</i>	Herb
25	Apiaceae	<i>Centella asiatica</i>	Creepers
26	Dioscoreaceae	<i>Dioscorea villosa</i>	Twiner
27	Ranunculaceae	<i>Clematis vitalba</i>	Shrub
28	Asteraceae	<i>Seneico vulgaris</i>	Herb
29	Acanthaceae	<i>Hygrophila auriculata</i>	Herb
30	Celastraceae	<i>Cassine gluca</i>	Tree
31	Asclepiadaceae	<i>Secamone emeticu</i>	Twiner
32	Ulmaceae	<i>Gironniera celtidifolia</i>	Tree
33	Mimosaceae	<i>Indoptadenia oudhensis</i>	Tree
34	Amaryllidaceae	<i>Curculigo orchioides</i>	Herb
35	Rubiaceae	<i>Canthium dicoceum</i>	Tree
36	Lythraceae	<i>Rotala densiflora</i>	Herb
37	Sapiandaceae	<i>Ganoplyllum falcatum</i>	Tree
38	Asparagaceae	<i>Asparagus racemosa</i>	Herb
39	Crassulaceae	<i>Bryopyllum daigremontianum</i>	Herb

40	Sapiandaceae	<i>Filicium decipiens</i>	Tree
41	Dipterocarpaceae	<i>Hopea parviflora</i>	Tree
42	Cucurbitaceae	<i>Diplocyclos palmatus</i>	Vine
43	Menispermaceae	<i>Cucylea peltata</i>	Twinning Shrub
44	Solanaceae	<i>Solanum seaforthianum</i>	Vine
45	Verbenaceae	<i>Gmelina arborea</i>	Tree
46	Loranthaceae	<i>Phonadendrom leucarpnm</i>	Epiphyte
47	Verbenaceae	<i>Gmelina asiatica</i>	Bush Or Shrub
48	Acanthaceae	<i>Blepharis maderaspatensis</i>	Creepers
49	Verbenaceae	<i>Clerodendrum inerme</i>	Shrub
50	Lamiaceae	<i>Leucas ciliata</i>	Herb
51	Asteraceae	<i>Crassocephalum crepidroides</i>	Annual Herb
52	Ulmaceae	<i>Holoptelea integrifolia</i>	Tree
53	Loranthaceae	<i>Dendrophthoe glabrescens</i>	Parasite
54	Verbenaceae	<i>Clerodendrum clinense</i>	Shrub
55	Proteaceae	<i>Grevillae robusta</i>	Tree
56	Acanthaceae	<i>Justicia adhatoda</i>	Shrub
57	Malpighiaceae	<i>Galphimia glauca</i>	Herb
58	Apocynaceae	<i>Creptolepis buchananii</i>	Climber
59	Talinaceae	<i>Talinum fruticosum</i>	Succulent Shrub
60	Poaceae	<i>Bambusa bambos</i>	Climber
61	Combretaceae	<i>Terminalia bellirica</i>	Tree
62	Poaceae	<i>Penuisetum polystachion</i>	Grass
63	Moraceae	<i>Ficus racemosa</i>	Tree
64	Poaceae	<i>Bambusa bambos</i>	Climber
65	Burseraceae	<i>Commiphora caudate</i>	Tree
66	Capparidaceae	<i>Capparis divaricata</i>	Bushy Shrub
67	Phyllanthaceae	<i>Cleistanthus collinus</i>	Tree
68	Fabaceae	<i>Mucuna pruriens</i>	Annual Climber
69	Capparidaceae	<i>Cadaba fruticosa</i>	Shrub
70	Asteraceae	<i>Synedrella nodiflora</i>	Herb
71	Convolvulaceae	<i>Ipomoea coccinea</i>	Twisting Climber
72	Tiliaceae	<i>Triumfetta semitriloba</i>	Herb
73	Rutaceae	<i>Chloroxylon swietenia</i>	Tree
74	Sapiandaceae	<i>Schleichera oleosa</i>	Tree
75	Polygonaceae	<i>Antigonon leptopus</i>	Creepers
76	Rubiaceae	<i>Tarenna asiatica</i>	Tree
77	Pedaliaceae	<i>Petalium murex</i>	Herb
78	Asteraceae	<i>Kelinia grandiflora</i>	Herb
79	Menispermaceae	<i>Tinospora cardifolia</i>	Vine
80	Rubiaceae	<i>Pavetta indica</i>	Shrub
81	Lamiaceae	<i>Orthosiphon aristaus</i>	Herb
82	Convolvulaceae	<i>Ipomoea pes carpa</i>	Creepers
83	Rutaceae	<i>Todalia asiatica</i>	Bush
84	Asclepiadaceae	<i>Wattakaka volublis</i>	Twinners
85	Rhamanaceae	<i>Ziziphus oenoplia</i>	Tree
86	Legumenaceae	<i>Adenantha pavonia</i>	Tree
87	Loranthaceae	<i>Cassytha filiformis</i>	Vine
88	Rubiaceae	<i>Borreria latifolia</i>	Herb
89	Smilacaceae	<i>Smilax perfoliata</i>	Climber
90	Woodsiaceae(Fern)	<i>Mattuccia struthiopteris</i>	Herb
91	Ganodermataceae (Fungi)	<i>Ganoderma applanatum</i>	Fruit Body
92	Apiaceae	<i>Centella asiatica</i>	Creepers
93	Poaceae	<i>Microstegium vimineum</i>	Creeping Grass
94	Acanthaceae	<i>Thunbergia fragrans</i>	Twinners
95	Acanthaceae	<i>Hoverdenia speciosa</i>	Tree
96	Malphigiaceae	<i>Hiptage bengalensis</i>	Lian

Table 2: Family consolidation

S. No.	Family	No. of species
1	Rubiaceae	07 Species
2	Ephorbiaceae	01 Specie
3	Lamiaceae	03 Species
4	Solanaceae	03 Species
5	Passifloraceae	01 Specie
6	Fabaceae	05 Species

7	Pteridaceae	01 Specie
8	Asteraceae	05 Species
9	Malvaceae	01 Specie
10	Fabaceae	05 Species
11	Acanthaceae	06 Species
12	Erythro Xylaceae	01 Specie
13	Dioscoreaceae	02 Species
14	Icacinaceae	01 Specie
15	Hemioniticeae	01 Specie
16	Rhamanaceae	02 Species
17	Asclepiadaceae	03 Species
18	Apiaceae	02 Species
19	Dioscoreaceae	02 Species
20	Ranunculaceae	01 Specie
21	Celastraceae	01 Specie
22	Ulmaceae	02 Species
23	Mimosaceae	01 Specie
24	Amaryllidaceae	01 Specie
25	Lythraceae	01 Specie
26	Sapiandaceae	03 Species
27	Asparagaceae	01 Specie
28	Crassulaceae	01 Specie
29	Dipterocarpaceae	01 Specie
30	Cucurbitaceae	01 Specie
31	Menispermaceae	02 Species
32	Verbenaceae	04 Species
33	Loranthaceae	03 Species
34	Proteaceae	01 Specie
35	Malpighiaceae	01 Specie
36	Apocynaceae	02 Species
37	Talinaceae	01 Specie
38	Poaceae	04 Species
39	Combretaceae	01 Specie
40	Burseraceae	01 Specie
41	Capparidaceae	02 Species
42	Convolvulaceae	02 Species
43	Rutaceae	02 Species
44	Polygonaceae	01 Specie
45	Pedaliaceae	01 Specie
46	Smilacaceae	01 Specie
47	Woodsiaceae(Fern)	01 Specie
48	Ganodermataceae (Fungi)	01 Specie

Table 3: The most frequently utilized plant habit percentage

S. No.	Types of plants	Total numbers of plants
1.	Trees	24
2.	Herbs	25
3.	Shurbs	19
4.	Climber	20
5.	Fruitbody	1
6.	Grass	1
7.	Parasite	1
8.	Epiphyte	1
9.	Fern	2

Table 4: Classification percentage

S. No.	Plant types	Percentage
1.	Monocot	7
2.	Dicot	86
3.	Fern	2
4.	Fungi	1

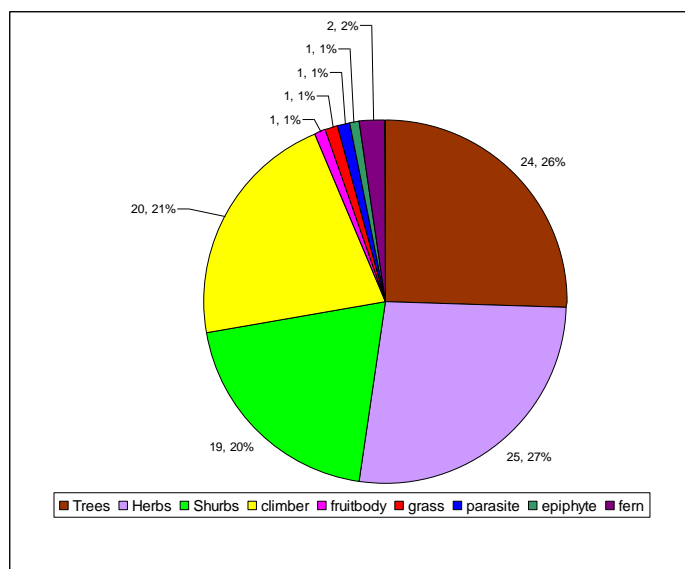


Fig. 1: The most frequently utilized plant habit percentage

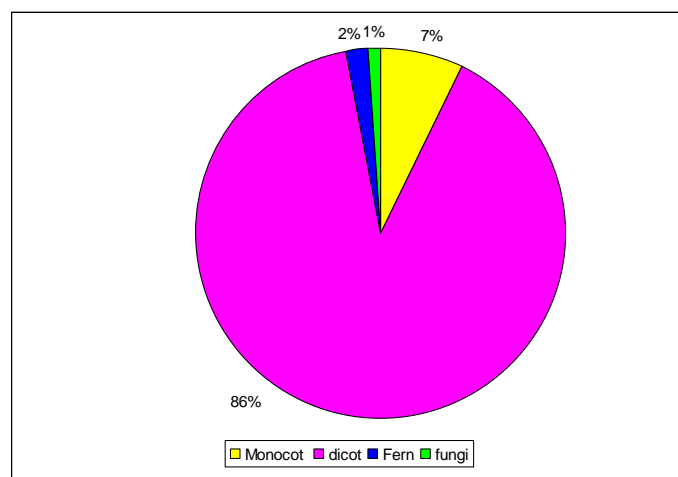


Fig. 2: Classification percentage

The recorded plants were systematically arranged under each category along with the information such as their botanical name, family, and habits. It was observed that the tribes of the study area fulfill their food requirements. Tribal people are familiar with plants of their surrounding area and knew that what to eat and how to separate harmful substances from the edible part of plants. Most of the eatables are purely from forest origin and few of them derived from cultivation.

This study will serve as a data base on Eastern Ghats plant species and will be helpful for the researchers and conservation aspects. Conservation of rare, endangered and endemic species is necessary for preservation of species diversity. Currently forests of these hills are also prone to the fragmentation of forest into patches. Fragmentation process shows effect on species, especially on unique, rare and endemic, threatening their survival and resulting in the extinction of species [6, 7]. Apart from interferences forest loss also occurs because of natural causes like soil erosion and displacement of organic matter due to high tides and much more by hazards like tsunami

[8]. Continuous field studies that updates the data base to know the status of species and conservation policies and programmers' to certain extent may help in understanding and protecting the unique ecosystem of these areas.

CONCLUSION

The study depicts that Chitteri Hills have different variety of plants distributed all over the mountain. Even medicine and food also, Therefore, documentation of traditional and well verse plant data knowledge is the only way to preserve the knowledge base conserve the plant resources endemic to this area.

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