ASIAN JOURNAL OF PHARMACEUTICAL AND CLINICAL RESEARCH

INNOVARE ACADEMIC SCIENCES
Knowledge to Innovation

Vol 11, Issue 10, 2018

Online - 2455-3891
Print - 0974-2441

Research Article

DIVERSITY OF MEDICINAL PLANTS IN ERATTI HILL, THAMARAIKARAI BEAT OF BARGUR RESERVE FOREST, WESTERN GHATS IN ERODE DISTRICT, TAMILNADU, INDIA

VIJAYASHALINI P*, ABIRAMI P

PG and Research Department of Botany, Vellalar College for Women, Erode, Tamil Nadu, India. Email: vijayashalinip@gmail.com

Received: 27 July 2018, Revised and Accepted: 24 July 2018

ABSTRACT

Objective: This study was planned to document the medicinal plants in Eratti hill.

Methods: The medicinal plants were collected during their flowering period from July to September. Voucher specimens of all medicinally valuable plants were collected, poisoned, dried, and mounted with voucher number following the conventional methods.

Results: Survey of medicinal plants wealth of Eratti hill, Bargur reserve forest, Western Ghats of Tamil Nadu, India, was carried out during 2016–2018. 295 medicinal plant species belonging to 66 families were documented. Of these, the highest number of species belongs to the families were Asteraceae, Acanthaceae, Euphorbiaceae, Fabaceae, Convolvulaceae, Solanaceae, Amaranthaceae, Lamiaceae, Asclepiadaceae, Malvaceae, Mimosaceae, and Apocynaceae. Herbs held the dominant position followed by shrubs, trees, climbers, and epiphytes. The medicinal plants were used to treat various ailments such as skin diseases, rheumatoid arthritis, asthma, fever, colic pain, biliousness, wounds eczema, cardiac disorders, and eye diseases used by the Solagars, Lingayats, and Malayali tribals in the hill.

Conclusion: Medicinal plants in Eratti hill play a significant role in primary health care of the ethnic people. This study provides knowledge about herbal treatment of the ethnic people and subsequent pharmacognostical and pharmacological investigations should be made to confirm their mode of preparations.

Keywords: Eratti hill, Medicinal plants, Data collection, Therapeutic uses.

 DOI: http://dx.doi.org/10.22159/ajpcr.2018.v11i10.27905

INTRODUCTION

Plants play an important role in traditional medicine, and according to the World Health Organization (WHO), about 65–80% of the world's population in developing countries depends essentially on plants for their primary health care due to poverty and lack of access to modern medicine [1]. The knowledge of the medicinal plants has been accumulated in the course of many centuries based on different medical systems such as Ayurveda, Unani, and Siddha [2]. India is about 8% of the estimated biodiversity of the world with around 12,600 species. It is one of the 12 mega biodiversities with two hotspots in the Western Ghats and North-Eastern region [3,4]. It has the rich heritage of using medicinal plants in folklore practices [5]. The traditional people have knowledge of medicinal uses of plants growing around them and used for the treatment of common diseases [6]. The traditional healers of Asia use about 2500 plant species and 100 species of plants serve as regular source of medicine [7]. The knowledge about medicinal plants has been passed orally without any written documents from one generation to other [8]. Ethnomedicinal studies are a suitable source of information regarding useful medicinal plants that can be targeted for domestication and management [9]. These studies are major importance and enhancing the traditional knowledge about medicinal plants. The use of ethnobotanical information in medicinal plant research has gained considerable attention in segment of the scientific community [10], and several active compounds have been discovered from plants on the basis of ethnobotanical information and used directly as patented drugs [11]. Hence, the present study aimed to survey the diversity of medicinal plants and their remedial practices among Lingayats, Solagars, and Malayali tribals of Thamaraikarai beat of Bargur reserve forest, Western Ghats of Erode district. The aboriginal community is familiar with the very intricate rules for collecting plants for use as medicine, such as the time of collection, parts to be collected and care in the conservation and management aspects of medicinal plants. Despite the fact that the area is environmentally degraded, moderate number of medicinal plants categorized in diverse genera and families were recorded. This demonstrates the taxonomic diversity of medicinal plants grown in the Eratti hill as well as the immense knowledge associated with the plants. During the survey, it was also learned that the traditional knowledge regarding medicinal plants and the knowledge is passed down from generation to generation only by means of verbal communication. Therefore, it is necessary to popularize the identity and utility of the medicinal plants.

METHODS

Study area

Eratti hill of Thamaraikarai beat of Bargur reserve forest is located in the North East of Erode district in Tamil Nadu, India, and the hill is about 70 km away from Erode. It comes under the part of Western Ghats. The total area of Thamaraikarai beat is about 3066.55 hectares and the Eratti hill is about 600 hectares. The latitude is 11°45.963' N, the longitude is 077°33.58' E, and the altitude is 1054 m above mean sea level. The mean temperature of the hill is around 25°C in the winter, and in summer, it is 32°C and the annual rainfall of this hill ranges from 400 mm to 750 mm. The people of the Eratti hill and the surroundings are Lingayats, Solagars, Malayalis, Gounders, and Padayachi. Solagars, Lingayats, and Malayalis are ethnic people inhabiting the hill around 400 years. The main food of the ethnic people is ragi, maize, saamai, and bajra, and the other people used rice as their main food. The main occupation of the people is agriculture and cattle rearing. The people speak Tamil and Kannada. The Eratti hill is surrounded by Thevar malai, Bejilety, Oosi malai, Solaganai, Bodha malai, Kuttaiyur, Onnakarai, Sundappur, Thamratti, Periyasengulam, Sinna sengulam, Koil natham, and Velampatti. A temporary waterfall occurs at the top of the hill and flows in the adjacent areas. There is a dam called Varattupallam at the foothill. The photography of the study area and map was showed in Plate 1a-f.

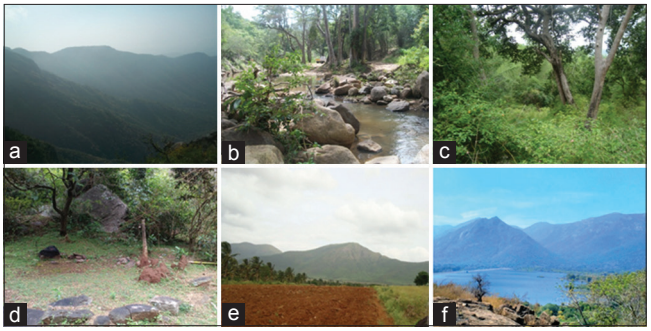


Plate 1: (a) Panoramic view of Eratti hill, (b) A stream of Eratti forest. (c) A dense forest. (d) Unbuilt Sivan temple in forest. (e) Cultivation land of tribals. (f) Varattupallam dam at the foothill

Data collection

The medicinal plants were collected during their flowering period (July–November). Voucher specimens of all medicinally valuable plants were collected, poisoned, dried, and mounted with voucher number following the conventional methods [12] and deposited at the Department of Botany Herbarium, Vellalar College for Women, Erode, Tamil Nadu. Photographs of few plants were also taken to supplement the herbarium.

Identification

Identification of medicinal plants was done using Flora of the Presidency of Madras, Gamble and Fischer [13] and the flora of the Tamil Nadu Carnatic, Matthew [14-18]. Flora of Tamil Nadu series [19-21] was used at best for nomenclature. The plants were enumerated following the natural system of classification of Bentham and Hooker

Table 1: The list of some medicinally important plants in Eratti hill

S. No.	Botanical name/family	Vernacular name/ common name	Parts used	Therapeutic uses
1.	*Clematis gouriana* Roxb. Ranunculaceae	-	Whole plant and leaves paste	Whole plant juice - cold, headache, wound healing. Leaf extract applied externally for eczema, boils, and itches, leaf paste applied to scabies, cuts, and wounds
2.	*Annona reticulata* L. Annonaceae	Ramchita	Fruit, leaves, whole plant	To treat dysentery, epilepsy, cardiac problem, constipation, hemorrhage, bacterial infection, fever, ulcer and the plants have anti-inflammatory, antipyretic, anthelmintic, cytotoxic effects, analgesic and wound healing properties
3.	*Cissampelos pareira* L. Menispermaceae	Malai mattiri	Roots, leaves	The roots astringent, anthelminthic, carminative, stomachin, digestive, anti-inflammatory, pungent. Diuretic, febrifuge, expectorant, galactagogue, diuretic, febrifuge, expectorant, galactagogue, and bitter tonic. It is used in dyspepsia, indigestion, flatulence, abdominal pains, diarrhea, dysentery, blood disorders, cardiac disorders, edema, leprosy, sensation, cough, coryza, asthma, bronchitis, cystitis, dysuria, and lactation disorders
4.	*Nymphaea stellata* Willd. Nymphaeaceae	Alli	Whole plant	Whole plant - liver disorders in Ayurveda. Leaves, roots, and flowers - diabetes, antifertility, heart troubles, dysentery, eruptive fevers, indigestion and as a cardiotonic, emollient, diuretic, narcotics, stimulant, and aphrodisiac
5.	*Argemone mexicana* L. Papaveraceae	Brammathandu	Leaves, roots, and whole plant	Leaves - malarial fever, ulcers, and skin problems. Root - chronic skin diseases. Plant juice - jaundice and skin problems. Latex - cataract, reddening, and itching in the eyes
6.	*Cleome monophylla* L. Cleomaceae	Ellukku sakkalathi and Naai kaduku	Whole plant	Anti-HIV activity
7.	*Cleome felina* L.f. Cleomaceae	Cuvarnaciri Taivelai	Whole plant	Anticancer, anti-inflammatory, antimicrobial activities
8.	*Capparis divaricata* Lam. Capparidaceae	Thoratti	Whole plant, roots, and leaves	Whole plant - blood purifier stomachic, tonic, and appetizer Root powder - inflammation, muscles diseases, and snakebites
9.	*Capparis grandis* L.f. Capparidaceae		Whole plant	Inflammations, skin, renal, and central nervous disorders
10.	*Ionidium suffruticosum* Ging. Violaceae	Orithal thamarai	Whole plant, roots, and leaves	Whole plant - tonic, demulcent and diuretic, strangury and to treat dysentery, vomiting, asthma, and cough Root - diuretic, gonorrhea, and urinary affections Dried powdered leaves-asthma

(Contd...)

Table 1: (*Continued)*

S. No.	Botanical name/family	Vernacular name/ common name	Parts used	Therapeutic uses
11.	*Polygala javana* DC. Polygalaceae	-	Whole plant	Asthma
12.	*Shorea roxburghii* G.Don. Dipterocarpaceae	Talari	Resins	Headache and chest pain in children
13.	*Malvastrum coromandelianum* Garcke. Malvaceae	-	Whole plant	Whole plant - dysentery, stomach pain, and wounds
14.	*Sida acuta* Burm. Malvaceae	Ariva-mooku keerai	Whole plant, leaves	Plant decoction - fever, dysentery, digestive disorders, and wounds Leaves - headache, ulcers, and throats
15.	*Pavonia odorata* Willd. Malvaceae	Peramutti	Root powder	Skin disorders
16.	*Pavonia zeylanica* Cav. Malvaceae	Sevagan	Leaves paste	Applied externally once a day for 3 days to cure swellings
17.	*Hibiscus syriacus* L. Malvaceae	-	Whole plant	Inflammation, cough, cold, skin diseases, and urinary tract diseases
18.	*Helicteres isora* L. Sterculiaceae	Valampuri	Leaf, fruit, and seed decoctions	Leaves - skin diseases Fruit - diarrhea, asthma, and cough Seed decoction - abdominal diseases
19.	*Melhania incana* Heyne Sterculiaceae	-	Whole plant	Fever, cold, and cough
20.	*Grewia tiliaefolia* Vahl. Tiliaceae	Palisamaram	Stem and root bark decoctions	Stem bark decoction - to improve the hair growth and will reduce pittham Root bark decoction - bone fracture of animals and possesses analgesic and anti-inflammatory activities
21.	*Triumfetta pentandra* A.Rich. Tiliaceae	Kapodam	Roots	Root extract is mixed with sugar candy and one cup of this mixture is taken during early morning for 6 days to increase sperm count
22.	*Erythroxylum monogynum* Roxb. Erythroxylaceae	Devadara	Leaves	Malaria, jaundice, and kill intestinal worms
23.	Oxalis latifolia Kunth. Oxalidaceae	Tenpaku	Leaves	To cure acidity
24.	*Toddalia asiatica* Lam. Rutaceae	Kaatu milagu	Leaves, fruit, root	Leaves - rheumatism, lung diseases stomach ache, and snakebites, fruit - cough and malaria Roots to treat influenza and indigestion
25.	*Chloroxylon swietenia* DC. Rutaceae	Porasu	Whole plant and stem bark	Anemia, cough, rheumatism, and jaundice
26.	*Murraya exotica* L. Rutaceae	Kaatu kariveppilai	Leaf extract	Diarrhea and inflammations
27.	*Ailanthus malabarica* DC. Simaroubaceae	Peru	Whole plant and stem	Whole plant - dyspepsia, bronchitis, ophthalmic, and snakebite Dried stem bark - dysentery and diarrhea
28.	*Cipadessa baccifera* Miq. Meliaceae	Pullip panchedi	Leaf juice and paste	Hand and leg pains Leaf paste - applied externally to cure piles.
29.	*Maytenus heyneana* (Roth) D.C.S.Raju. and Babu. Celastraceae	-	Whole plant	Antitumor activity
30.	*Zizyphus nummularia* W. and A. Rhamnaceae	Sooraipalam	Leaves and fruits	The leaves - skin problems and scabies Dried fruits - astringent
31.	*Ziziphus glabrata* W. Rhamnaceae	Kaatu elanthai	Flowers	Menorrhagia
32.	*Cayratia pedata* Juss. Vitaceae	Kaatupirantai	Aerial parts and leaves	Asthma, coughs, bronchitis, and joint pain Leaves - antiarthritis activity
33.	*Cardiospermum canescens* Wall. Sapindaceae	Kaatu mudakkathn	Whole plant	Dysentery and rheumatoid arthritis
34.	*Filicium decipiens* Thw. Sapindaceae	Ningal	Barks	Bark decoction - body pain and headache
35.	*Dodonaea angustifolia* L.f. Sapindaceae	Virali	Leaves and barks	Leaves and barks are grounded and applied for bone displacement and muscular stiffness
36	*Buchanania lanzan* Spr. Anacardiaceae	Charam	Whole plant and stem bark paste	The whole plant - taken orally for diarrhea Stem bark paste - antidote for snakebite
37.	*Odina wodier* Roxb. Anacardiaceae	Otti	Whole plant	The plants possess anti-inflammatory activities
38.	*Crotalaria calycina* Schr. Fabaceae	-	Whole plant	Wounds, convulsions, venereal sores, cholera, hematuria, dysentery, and syphilis
39.	*Crotalaria verrucosa* L. Fabaceae	Sangunithi	Leaves	The leaves - emetic, expectorant, biliousness, dyspepsia, heart complaints, fever, and mouth diseases

(Cond...)

Table 1: (*Continued)*

S. No.	Botanical name/family	Vernacular name/ common name	Parts used	Therapeutic uses
40.	*Crotalaria pallida* Aiton Fabaceae	Kilukillupai chedi	Whole plant, roots, and leaf extracts	Urinary problem, fever, prevents skin infections, and eczema Roots - cure painful swelling of joint Leaf extracts act as vermifuge
41.	*Indigofera enneaphylla* L. Fabaceae	Seppu nerunji	Whole plant	Wound healing properties
42.	*Desmodium gangeticum* DC. Fabaceae	Pulladi	Root	Roots - digestive, laxative, diuretic, anti-inflammatory, and anticatarrhal activity and to treat cough, diarrhea, biliousness, emetic, piles, asthma, rheumatism, arthritis, and post-delivery problems
43.	*Butea monosperma* (Lam.) Taub. Fabaceae	Kinchugam or parasu	Leaves and seeds	Leaves - insects bites Seeds have purgative, diuretic, and anthelmintic
44.	*Pterocarpus santalinus* L.f. Fabaceae	Sivappu santhanam	Wood oil and paste	Wood oil - spider bite Wood paste - removes warts
45.	*Cassia hirsuta* L. Caesalpiniaceae	-	Leaf decoction, paste, and root	Cure kidney stone and the leaf paste - applied externally to cure skin problems Roots - rheumatic pain
46.	*Acacia modesta* Wall. Mimosaceae	-	Whole plant	Leukorrhea, back pain, and sexual debility
47.	*Acacia nilotica* L. Mimosaceae	Karuvelam	Leaves, fruits, seeds, stem bark, gum, and roots.	Anticancer, antipyretic, antiasthmatic, antidiabetic, antiplasmodial, and antifungal activities
48.	*Pterolobium indicum* A.Rich. Mimosaceae	Indumullu	Young leaves	Diarrhea, jaundice, skin infections, piles, ulcers, constipation, wound healing, and coughs
49.	*Rubus ellipticus* Sm. Rosaceae	Mullippazham.	Roots and leaves	Stomach disorders
50.	*Drosera spatulata* Labill. Droseraceae	Alugini cedi	Whole plant	Asthma, lung diseases, and ulcers
51.	*Anogeissus latifolia* (Roxb. ex DC.) Wall. ex Guill. & Perr. Combretaceae	Vel-naga-maram	Stem bark infusion	Stem bark infusion
52.	*Syzigium aromaticum* (L) Merr. and Perry. Myrtaceae	Kirambu	Whole plant	Anti-inflammatory and analgesic properties
53.	*Ammannia baccifera* L. Lythraceae	Kalluruvi	Leaves and whole plant	Plant extracts possess antibacterial properties. Used as laxative, stomachic, strangury, cure biliousness (stomach problems), ulcers, and rheumatic pain
54.	*Passiflora edulis* Sims Passifloraceae	-	Leaves	To control blood pressure
55.	*Bryonia laciniosa* L. Cucurbitaceae	Sivalingi	Whole plant	Used as an antibacterial, antifungal, anti-inflammatory, cytotoxic, analgesic, and antipyretic agent
56.	*Citrullus colocynthis* Schrad. Cucurbitaceae	Varikura mathai	Whole plant	Plant possesses antioxidant, antidiabetic, anti-inflammatory, antimicrobial, gastrointestinal, anticancerm, and analgesic properties
57.	*Centella asiatica* Urb. Apiaceae	Vallarai	Leaves and stem	It improves the memory power and blood circulations, stimulates the hair growth, tissue strengthens, reducing arthritis, and wound healing
58.	*Canthium dicoccum* (Gaertn.) Merr. Rubiaceae	Nanjul	Whole plant	The plants possess antimicrobial, antitumor, and antioxidant properties
59.	*Mitragyna parvifolia* Korth. Rubiaceae	Neer kadambu	Stem bark paste	To relief rheumatic pain
60.	*Richardia scabra* L. Rubiaceae	-	Whole plant	Skin diseases, urinary tract infections, asthma, emetic, and dermatitis
61.	*Rubia cordifolia* L. Rubiaceae	Manjitti	Roots	Bronchitis, kidney stones, dysentery, blood pressure, and rheumatism
62.	*Vernonia cinerea* Less. Asteraceae	Neichattipoo	Whole plant, leaf, and stem bark paste	Whole plant - inflammation, arthritis, flatulence Leaves - tonsillitis, conjunctivitis, leukoderma Stem bark paste - to treat piles
63.	*Vicoa indica* DC. Asteraceae	Mookuthi poo	Leaf decoction	Gastric troubles
64.	*Siegesbeckia orientalis* L. Asteraceae	Kathambam	Plant juice, decoction, and root paste	Plant juice - applied for externally to treat wounds and parasitic infections Plant decoction - rheumatoid arthritis Root paste - wounds

(Contd...)

Table 1: (*Continued)*

S. No.	Botanical name/family	Vernacular name/ common name	Parts used	Therapeutic uses
65.	*Senecio vulgaris* L. Asteraceae	-	Whole plant	Antiscorbutic, diaphoretic, anthelmintic, purgative, and diuretic
66.	*Plumbago zeylanica* L. Plumbaginaceae	Chithira moolam	Whole plant	Diabetes skin wounds, rashes
67.	*Rauvolfia tetraphylla* L. Apocynaceae	Pampukaalaachchedi	Roots	To cure mental disorders and high blood pressure
68.	*Vallaris solanacea* O. Kze. Apocynaceae	-	Whole plant paste	Wounds, ringworm, skin diseases, and eczema. The plant has anticancer, antimicrobial, analgesic, and anti-inflammatory activities
69.	*Gomphocarpus physocarpus* E.Mey Apocynaceae	-	Latex	To treat wounds
70.	*Oxystelma esculentum* R.Br. Asclepiadaceae	Anaitta vitakkoti	Whole plant, leaves, and fruits	Ulcer, itches, and sore throats Crushed leaves - jaundice and fruits - body pain and cold
71.	*Sarcostemma brevistigma* W. and A. Asclepiadaceae	Kodikalli	Whole plant	To cure emetic Plants possess antimicrobial activities
72.	*Wattakka volubilis* (L. fil.) Stapf. Asclepiadaceae	Kurincha	Whole plant and roots	Piles, tumors, leukoderma, asthma, eye diseases, cold Roots are used as an expectorant
73.	*Exacum pedunculatum* L. Gentianaceae	Kanapoondu	Whole plant	Antimicrobial activities and to treat stomach ache and fever
74.	*Anagallis arvensis* L. Gentianaceae	-	Dried plant powder	Leprosy, gout, and hydrophobia
75.	*Cordia oblique* Wild. Boraginaceae	Naruvili	Fruit	Cough, the disease of chest, and chronic fever
76.	*Rivea hypocrateriformis* Choisy. Convolvulaceae	Musuttai	Whole plant	Antioxidant property
77.	*Ipomoea obscura* K.Gawl. Convolvulaceae	Chirutali	Leaf paste	Ulcers, swellings, and hemorrhoids
78.	*Ipomoea pes-tigridis* L. Convolvulaceae	Pulichovadi	Whole plant	To treat headaches, swelling, pain, and snakebites
79.	*Evolvulus nummularius* L. Convolvulaceae	Elikkathu illai	Leaves	Purify blood and improve memory power
80.	*Solanum surattense* Burm.f. Solanaceae	Kandan kathiri	Whole plant	Skin diseases, cough, bronchitis, anorexia, and urinary tract disorders
81.	*Physalis pruinosa* L. Solanaceae	Milagu thakkali	Whole plant	Asthma, microbial infections, and liver diseases
82.	*Datura discolor* Bernh. Solanaceae	Karu oomathai	Leaves	Leaves - pain, asthma, and bone setting Seeds are antispasmodic, hypnotic, and narcotic
83.	*Scoparia dulcis* L. Scrophulariaceae	Kallurukki	Grounded leaves	Piles
84.	*Thunbergia fragrans* Roxb. Acanthaceae	Indra pushpam	Root decoctions	Used as a health tonic Plants have an antioxidant, hepatoprotective, anthelmintic, and antibacterial activities
85.	*Ruellia tuberosa* L. Acanthaceae	Kiranthi nayagam	Root	Kidney stones and whooping coughs
86.	*Andrographis echioides* Nees. Acanthaceae	Koopuram tangi	Leaf juice	To promote hair growth
87.	*Rhinacanthus nasutus* (L.) Kurz. Acanthaceae	Nagamalli	Whole plant	Blood pressure, allergy, skin diseases, and inflammation, prevent cancer, and diabetes
88.	*Peristrophe paniculata* (Forssk.) R.k. Acanthaceae	Nagananda	Whole plant	Tuberculosis
89.	*Gmelina asiatica* L. Verbenaceae	Mulkumizh	Grounded leaves extract	Fever
90.	*Ocimum gratissimum* L. Lamiaceae	Ramthulasi	Whole plant	Rheumatism and cough
91.	*Coleus barbatus* Benth. Lamiaceae	Kattu valli	Whole plant	Bronchitis, asthma, cold, cough, and sore throat
92.	*Anisochilus carnosus* Wall. Lamiaceae	Kanakavalli cedi	Grounded and boiled leaves and root piece	Applied externally to cure skin itches Root piece is chewed to cure cold
93.	*Anisomeles indica* O. Kze. Lamiaceae	Sirumiratti	Whole plant	Rheumatism, cold, fever, skin sores, and abdominal pain
94.	*Scutellaria violacea* Heyne Lamiaceae	Novu pacchilai	Whole plant	Chronic, fatigue, skin diseases, and urinary infection
95.	*Leucas longifolia* Hk. f. Lamiaceae	Kaatu thumbai	Whole plant	Antimicrobial activity
96.	*Allmania longepedunculata* Gamble n. Comb. Amaranthaceae	Kumutti	Whole plant	Cough, malaria, and hair fall
97.	*Pupalia lappacea* Moq. Amaranthaceae	-	Whole plant	Antioxidant, wound healing, and antibacterial activities

(Contd...)

Table 1: (*Continued)*

S. No.	Botanical name/family	Vernacular name/ common name	Parts used	Therapeutic uses
98.	*Alternanthera tenella* Colla. Amaranthaceae	Ottara mull	Whole plant	Anti-inflammatory activities
99.	*Chenopodium ambrosioides* L. Chenopodiaceae	Sakkaravarthi keerai	Whole plant decoction	Stomach pain, cough, asthma, fever, and headache
100.	*Persicaria chinensis* (L.) Polygonaceae	-	Whole plant	The infusion of the plant is to treat eye diseases and eczema of the ear
101.	*Polygonum persicaria* (L.) Small. Polygonaceae	-	Whole plant	Skin diseases and vaginal diseases Plant possesses antifungal properties
102.	*Aristolochia bracteata* Retz. Aristolochiaceae	Aadutheendaappaalai	Whole plant and leaf paste	Whole plant - snakebite and rheumatism Leaves paste - applied externally for treat wounds and cuts
103.	*Aristolochia indica* L. Aristolochiaceae	Isvaramuli	Root paste	Given orally to treat snake poison The root paste with *Calotropis gigantea* leaves is externally applied for dog bite
104.	*Neolitsea scrobiculata* Gamble Lauraceae	-	Whole plant	Antimicrobial activities
105.	*Helixanthera parasitica* Lour. Loranthaceae	-	Whole plant	Antioxidant and antimetastatic effect
106.	*Santalum album* L. Santalaceae	Santhana maram	Wood oil	Skin disorder, facial warts, and pimples used as refrigerant
107.	*Osyris wightiana* Wall. Santalaceae	Vella santhanam	Bark infusion	Given to women after delivery to stop bleeding
108.	*Euphorbia antiquorum* L. Euphorbiaceae	Sathurakalli	Latex and stem juice	The latex applied externally to treat boils, wounds, rheumatism, and toothache. Stem juice - earache
109.	*Synadenium grantii* Hook.f. Euphorbiaceae	-	Whole plant	Neoplastic and gastric disorders. Plants have antiulcer and antitumor activity
110.	*Phyllanthus maderaspatensis* L. Euphorbiaceae	Arunelli	Leaves	Cough, strangury, and sweating, seeds are laxative, diuretic, and diaphoretic properties
111.	*Phyllanthus emblica* L. Euphorbiaceae	Malai nelli	Whole plant	Jaundice, inflammation, and diarrhea
112.	*Phyllanthus virgatus* G.Forst. Euphorbiaceae	Naduvanelli	Whole plant	Skin itches, gonorrhea, measles, venereal diseases, and jaundice
113.	*Glochidion zeylanicum* A. Juss. Euphorbiaceae	-	Whole plant	The plants have anticancer activity
114	*Mallotus philippinensis* M. Arg. Euphorbiaceae	Kunkuma maram	Whole plant	Antifilarial, anti-inflammatory and immunoregulatory, antioxidant, antiradical, hepatoprotective, and purgative activities
115.	*Acalypha fruticosa* Forsk. Euphorbiaceae	Sinni	Whole plant	Dyspepsia, skin disorders, wounds, and poisonous bites
116.	*Acalypha paniculata* Wall. Euphorbiaceae	Kozipoondu	Whole plant	Antioxidant properties
117.	*Tragia involucrata* L. Euphorbiaceae	Kaanjori	Roots and leaves	Itching skin, bronchitis Leaves - jaundice
118.	*Jatropha curcas* L. Euphorbiaceae	Kaatukottai	Leaves and seeds	Leaves - rheumatism and tumor Seeds - the oil is to treat skin diseases and rashes
119.	*Jatropha glandulifera* Roxb. Euphorbiaceae	Vellai kattukottai	Whole plant oil and latex	Plant oil - antiparalytic and antirheumatic properties Latex applied externally for warts and tumor
120.	*Trema orientalis* Bl. Ulmaceae	Ambaratthi	Root decoction and stem bark	Root decoction - hematuria, diarrhea, and epilepsy Stem bark - muscular pains
121.	*Artocarpus heterophyllus* Lam. Moraceae	palamaram	Seed, leaves, latex, roots, and woods	Seeds - relieve biliousness, aphrodisiac Leaves - ulcers Latex - promotes healing of abscesses, snakebites, and glandular swelling Root - skin diseases Woods have sedative property
122.	*Alpinia galanga* Sw. Zingiberaceae	Aruttai	Whole plant	Sore throat and hoarseness of the voice, bad odor mouth, indigestion, and inflammations
123.	*Curculigo orchioides* Gaertn. Amaryllidaceae	Nilapanai kilangu	Rootstocks	Skin diseases, asthma, bronchitis, jaundice, diarrhea, dyspepsia, colic, vomiting, the dried rhizome used as a tonic in the treatment of decline in physical strength, sexual weakness, leukorrhea, and menstrual disorders

(Contd...)

Table 1: (*Continued)*

S. No.	Botanical name/family	Vernacular name/ common name	Parts used	Therapeutic uses
124.	*Dioscorea bulbifera* L. Dioscoreaceae	Kaatu seerakavalli	Whole plant	Ulcers, boils, wounds, sores, diabetes, dysentery, and cancer
125.	*Asparagus racemosus* Wild. Liliaceae	Thaneervittan kilangu	Roots	Galactagogue, diuretic, laxative, and antidiarrhetic properties
126.	*Gloriosa superba* L. Liliaceae	Senkanthal	Whole plant and leaves	Chronic ulcers, colic pain, gonorrhea, and pile Leaves - asthma
127.	*Sansevieria roxburghiana* Schult. f. Liliaceae	Marul	Whole plant	Cold, rheumatism, expectorant, and ear pain The plants possess antimicrobial and antioxidant properties
128.	*Furcraea foetida* (L.) Haw. Liliaceae	Kattralai	Leaf paste	Useful in preparing shampoos
129.	*Scilla indica* Bak. Liliaceae	Kozhi vengayam	Whole plant	Diuretic, deostruent, emetic, emmenagogue, expectorant, cathartic, and anticancer agent
130.	*Spirodela polyrhiza* (L.) Schleid. Araceae	C.N - duck weed	Whole plant	To treat inflammation, chronic rheumatism, and rashes in skin, swellings, and eczema
131.	*Kyllinga nemoralis* (J.R.Forst. and G.Forst.) Dandy ex Hutch. and Dalziel. Cyperaceae	Vellutha neerpaasi	Whole plant	Antioxidant and antibacterial activities
132.	*Vetiveria zizanioides* Nash. Poaceae	Vettiver	Roots	Used as a refrigerant
133.	*Actiniopteris radiata* (J. Koenig ex Sw.) Link. Actiniopteridaceae	Visirivalai	Whole plant	Plant extract - to control blood pressure, tuberculosis Dried plant - cough
134.	*Hemionitis arifolia* (Burm. f.) T. Moore. Pteridaceae	Ithaya illai	Whole plant	Juice of plant - cure burns and the plants possess hypoglycemic and antidiabetic activities
135.	*Pteris tremula* R.Br. Pteridaceae		Whole plant	Stomach disorders, poisonous bites, rheumatism, asthma, fever, and diabetes
136.	*Adiantum caudatum* L. Adiantaceae	Anai chuvadi	Whole plant	Plant possesses analgesic, antinociceptive, anti-implantation, and antimicrobial activities. To treat diabetics, coughs, fever, migraine, and skin diseases
137.	*Adiantum lunulatum* Burm. fil. Adiantaceae	Seruppadai	Whole plant	Cough, diarrhea, burns, and hoarseness
138.	Targionia hypophylla L. Targioniaceae	-	Whole plant	Antibacterial properties

with binomial, local name, description of the plant, and uses. A survey of literature was made to find out the active principles of drug plants identified [22-24].

RESULTS

The present survey at Eratti hill Bargur range of reserve forest has documented a total of 289 angiospermic plants belonging to 66 families, six pteridophytic plants belonging to three families, one bryophyte thallus, and one type of foliose lichen. Of these 289 angiospermic plants, 273 dicotyledons and 16 monocotyledonous plants, from the dicotyledons 107 species were polypetalae plants, 126 were gamopetalae plants, and 56 were monochlamydeae plants, these were used to treat various ailments such as diabetes, eczema, fever, cold, cough, toothache, rheumatoid arthritis, liver disorders, cardiac disorders, microbial infections, headache, and blood pressure. The family-wise analysis showed that the families Asteraceae, Acanthaceae, and Euphorbiaceae held the dominant position by representing more number of species (17 species each), followed by Fabaceae (14 species), Convolvulaceae (13 species), Solanaceae (12 species), Amaranthaceae (11 species), Lamiaceae (11 species), Asclepiadaceae (9 species), Malvaceae (9 species), Mimosaceae (8 species), Apocynaceae (8 species), Capparidaceae (6 species), Tiliaceae, Sapindaceae, Caesalpiniaceae, Gentiaceae, Boraginaceae, Verbenaceae (5 species each), Liliaceae (4 species each), Rhamnaceae, Pedaliaceae, Loranthaceae (3 species each), Sterculiaceae, Vitaceae, Combretaceae, Myrtaceae, Passifloraceae (3 species each), Oxalidaceae, Simaroubaceae, Meliaceae, Anacardiaceae, Rosaceae, Aizoaceae, Chenopodiaceae, Aristolochiaceae, Santalaceae, Moraceae, Polygonaceae, and Dioscoreaceae (2 species each) and the remaining families such as Ranunculaceae, Annonaceae, Menispermaceae, Nymphaeaceae, Papaveraceae, Violaceae, Polygalaceae, Portulacaceae, Dipterocarpaceae, Zygophyllaceae, Celastraceae, Droseraceae, Lythraceae, Onagraceae, Apiaceae, Caprifoliaceae, Plumbaginaceae, Myrsinaceae, Ebenaceae, Loganiaceae, Nyctaginaceae, Lauraceae, Ulmaceae, Orchidaceae, Zingiberaceae, Amaryllidaceae, Palmaceae, and Araceae were represented by a single species each. From the survey in the study, area represented the herbs were held the dominant position followed by the shrubs, trees and climber, four parasitic plants, and one epiphytic plant were reported (Table 1).

DISCUSSION

The observation of the present study at Eratti hill showed that traditional medicine plays an important role in the life of tribal communities. The medicinal plants used as a therapeutic agent of a paramount importance in addressing health problems of traditional communities and third world countries as well as industrialized societies [25]. Habit wise analysis represents the dominance of herbs followed by shrubs, trees, and climbers. These diverse habits indicate the richness of all habits. One epiphytic plant and four parasitic plants were reported. This is in line with the findings of Venkataswamy *et al.* [26], in Malasar tribals, Coimbatore district, (2010) and Arunachalam and Parimelazhgan [27], in Kadambur hills (2011). This study found that though whole and different parts of the medicinal plants were used as medicine, the most commonly used plant part was leaves. This is in agreement with the earlier findings of Ranganathan *et al.* [28], Bose *et al*. [29], Alagesaboopathi [30], Gritto *et al*. [31], and Sathyaraj *et al*. [32]. The family-wise analysis represents that the family Asteraceae, Acanthaceae, and Euphorbiaceae held the dominant position by exhibiting more number of species (17 species each). This is followed by Fabaceae (14 species) and Convolvulaceae (13 species). This is in consonance with the findings of Senthilkumar *et al.* [33], in Malayali tribes, Yercaud hills (2013).

Western Ghats is one of the plant biodiversity hotspots of India. Agumbe region of Western Ghats is known for rich plant diversity and traditional medicinal practices. Raveesha and Nagabhushan [34] documented ethnomedicinal practices followed in this region to treat fungal infections and their scientific validation *in vitro*.

Vidyasagar and Pooja [35] selected the work deals with the studies on ethnomedicinal plants used by Rajgond Tribes of Haladkeri village in Bidar district, Karnataka, India. A total of 60 ethnomedicinal plants belonging to 37 families were recorded during the survey. The leaves were mostly used parts, followed by fruit, root, bark, flower, stem, and latex. These plants are being used to treat various ailments such as injuries, wounds, mouth ulcers, fever, diarrhea, ulcers, swelling, snakebite skin care, toothache, asthma, cough and cold diabetes, and cancer.

CONCLUSION

Medicinal plants in Eratti hill play a significant role in primary health care of the ethnic people. In the present study, 295 plants were documented and among these 289 plants were angiospermic plants, 6 were pteridophytic plants, one bryophytic thallus, and one type of foliose lichen. The plant species were used as a remedy for certain ailments. This study provides knowledge about herbal treatment of the ethnic people and subsequent pharmacognostical and pharmacological investigations should be made to confirm their mode of preparations.

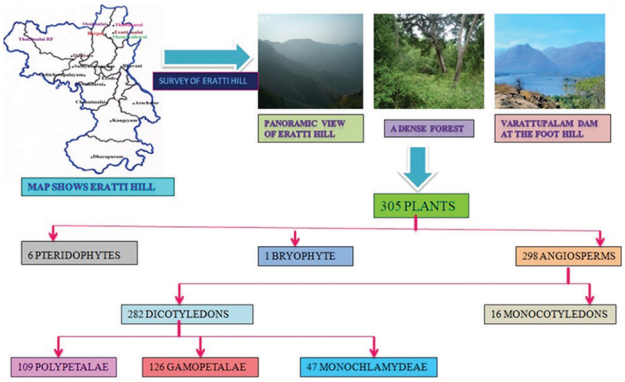
AUTHOR'S CONTRIBUTIONS

Vijayashalini, P. carried out the study and was the charge of overall performance and planning. Abirami, P. has suggested the study and supervised the research work.

CONFLICTS OF INTEREST

The authors acknowledge that there are no conflicts of interest concerning this article publication.

GRAPHICAL ABSTRACT



REFERENCES

1. Calixto JB. Twenty five years of research on medicinal plants in Latin America: A personal review. J Ethnopharmacol 2005;100:131-4.
2. Bopana N, Saxena S. *Asparagus racemosus*–ethnopharmacological evaluation and conservation needs. J Ethnopharmacol 2007;110:115.
3. Amuthavalluvan V. Ethno medicinal practices and traditional healing system of Kattunayakan in Tamilnadu: An anthropological study. Int Mult Res J 2011;1:47-51.
4. Shanmugam S, Rajendran K, Suresh K. Traditional uses of medicinal plants among the rural people in Sivagangai district of Tamil Nadu, Southern India. Asian Pac J Trop Biomed 2012;5:429-34.
5. Purusothaman KG, Arun P, Jayarani JJ, Kumari RV. Screening of four Indian medicinal plants for *in vitro* antimycobacterial activity. Bioscan 2010;5:101-3.
6. Shiragave PD. Survey of medicinal plants used by local people of Gadhinglaj tahsil of Maharashtra. J Global Biosci 2015;4:1795-803.
7. Sheng-Ji P. Ethnobotanical approaches of traditional medicine studies: Some experiences from Asia. Pharm Biol 2001;39 Suppl 1:74-9.
8. Samy PR, Ignachimuthu S. Antibacterial activity of some folklore medicinal plant used by tribals in Western Ghats of India. J Ethnopharmacol 2000;69:63-71.
9. Kunwar RM, Duwadee NP. Ecology and economy of NTFP's in Nepal: A case study from Dolpa and Jumla districts, Nepal. Botanica Orientalis 2003;3:89-97.
10. Heinrich M. Ethnobotany and its role in drug development. Phytother Res 2000;14:479-88.
11. Carney JR, Krenisky JM, Williamson RT, Luo J, Carlson TJ, Hsu VL, *et al.* Maprouneacin, a new daphnane diterpenoid with potent antihyperglycemic activity from maprounea africana. J Nat Prod 1999;62:345-7.
12. Jain SK, Rao RR. Hand Book of Field and Herbarium Methods. New Delhi: Today and Tomorrow Publishers; 1977.
13. Gamble JS, Fischer CE. The Flora of the Presidency of Madras. Vol. I, II and III. London: Adlard and Son Ltd.; 1915-1936.
14. Matthew KM. Materials for a Flora of the Tamil Nadu Carnatic. Vol. I. Tamil Nadu: Diocesan Press; 1981.
15. Matthew KM. Illustrations on the Flora of the Tamil Nadu Carnatic. Vol. II. Tamil Nadu: Diocesan Press; 1982.
16. Matthew KM. The Flora of the Tamil Nadu Carnatic. Vol- III. Part- I, II & III. Thiruchirapalli, India: The Rapinet herbarium, ST.Joseph's College; 1983.
17. Matthew KM. Further Illustrations on The Flora of the Tamil Nadu Carnatic. Vol. IV. New Delhi: Oxford and IBH Publishing Co.Pvt.Ltd.; 1988.
18. Matthew KM. An Excursion Flora of Central Tamil Nadu, India. New Delhi: Oxford and IBH Publishing Co.Pvt.Ltd; 1991.
19. Nair NC, Henry AN. Flora of Tamil Nadu, India. Ser. I, Anaysis. Vol. I. Coimbatore: Botanical survey of India; 1983.
20. Henry AN, Chitra V, Balakrishnan NP. Flora of Tamil Nadu, India. Ser. I, Analysis. Vol. III. Coimbatore: Botanical survey of India; 1989.
21. Henry AN, Kumari GR, Chitra V. Flora of Tamil Nadu, India. Ser. I, Analysis. Vol. II. Coimbatore: Botanical survey of India; 1987.
22. Chopra RN, Nayar SL, Chopra IC. Glossary of Indian Medicinal Plants. New Delhi: CSIR; 1956.
23. Jain SK. Dictionary of Indian Folk Medicines and Ethno Botany. New Delhi: Deep publications; 1991.
24. Asolkar LV, Kakkar KK, Chakre OJ Second Supplement to Glossary of Indian Medicinal Plants with Active Principle. Part. I (A-K). New Delhi: CSIR; 1992.
25. Cano JH, Volpato GJ. Herbal mixtures in the traditional medicine of eastern Cuba. J Ethnopharmcol 2004;90:293-316.
26. Venkataswamy R, Mubarack HM, Doss A, Ravi TK, Sukumar M. Ethnobotanical study of medicinal plants used by Malasar tribals in Coimbatore district of Tamil Nadu (South India). Asian J Exp Biol Sci 2010;1:387-92.
27. Arunachalam K, Parimelazhagan T. Ethnomedicinal observations among Hooralis tribes in Kadambur hills (Kal Kadambur) Erode District, Tamil Nadu. Glo J Pharma 2011;5:117-21.
28. Ranganathan R, Vijayalakshmi R, Parameswari P. Ethnomedicinal survey of Jawadhu hills in Tamil Nadu. Asian J Pharm Clin Res 2012;5:45-9.
29. Boss NM, Aron S, Mehalingam P. An ethnobotanical study of medicinal plants used by Paliyars aboriginal community in Virudhunagar District, Tamil Nadu, India. I. J Trad Know 2014;13:613-8.
30. Alagesaboopathi C. Medicinal plants used for the treatment of liver diseases by Malayali tribes in Shervaroy hills, Salem District, Tamil Nadu, India. World J Pharm Res 2015;4:816-28.
31. Gritto MJ, Nanadagopalan V, Doss V. Ethnobotanical survey of medicinal plants used by Traditional healers in Shobanapuram Village of Pachamalaihill, TamilNadu. Adv Appl Sci Res 2015;6:157-64.
32. Sathyaraj R, Sarvalingam AA, Balachandran A, Reddy RK. Diversity of ethnomedicinal plants in Bodamalai hills, Eastern Ghats, Namakkal District, Tamil Nadu. J Plant Sci 2015;3:77-84.
33. Senthilkumar K, Aravindhan V, Rajendran A. Ethnobotanical survey of medicinal plants used by Malayali tribes in Yercaud hills of Eastern Ghats, India. J Nat Remedies 2013;13:118-32.
34. Nagabhushan RK. Ethnobotanical survey and scientific validation of medicinal plants used in the treatment of fungal infections in Agumbe Region of Western Ghats, India. Int J Pharm Pharm Sci 2015;7:273-7.
35. Vidyasagar GM, Pooja S. Ethnomedicinal plants used by Rajgond tribes of Haladkeri Village in Bidar District, Karnataka, India. Int J Pharm Pharm Sci 2015;7:216-20.