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Survey of medicinal plants in Chennimallai Hills, Erode Districts, Tamilnadu

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ABSTRACT

A survey was undertaken to highlight the efficiency of some potential medicinal plants occur in Chennimalai hills, Erode district. Intensive field surveys at Chennimalai hills have been carried out to document the promising herbaceous medicinal plants available and an inventory of 50 plants was prepared. 50 medicinal plants collected were spread over 27 families and among which 6 plants belong to monocots and one (Actinopteris dichotoma) belongs to Pteridophyte. The present investigation brought out some popular medicinal plants frequently used by the local villagers for minor ailments such as boils, cuts, wounds, diarrhoea, head-ache, jaundice, skin infection and general debility. The present study emphasizes the need to survey the locally available medicinal flora and their conservation and sustenance for future generation.

Key words: Chennimalai hills, medicinal plants, conservation

INTRODUCTION

The value of medicinal plants to the mankind is very well proven. It is estimated that 70% to 80% of the people worldwide rely chiefly on traditional health care system and largely on herbal medicines (Shanley *et al.*, 2003). India harbours about 15 percent (3,000 – 3,500) of medicinal plants, out of 20 000 medicinal plants of the world. About 90 percent of these are found growing wild in different climatic regions of the country .Scientific investigations of medicinal plants have been initiated in many parts of our country because of their contributions to health care. The tribal and rural people of various parts of India are highly depending on medicinal plant therapy for meeting their health care needs. This attracted the attention of several botanists and plant scientists who directing vigorous researches towards the discovery or rediscovery of several medicinal plants along with their medicinal remedies for various diseases.

Many traditional practitioners across the world particularly in countries like India and China with age old practices have valuable information of many lesser – known neither to unknown wild plants used by the traditional healers for treating wounds and burns. Besides the established system of Ayurvedic and Unani medicine, folk medicinal practitioners have dispensed for hundreds if not thousands of years medicinal plant preparations for treatment of a wounds (Bdeker *et al.*, 1998; Bharadwaj *et al.*, 2005). But rapid fragmentation of natural habitats is greatly narrowing the distribution of the plant and increasing the risk of losing genetic diversity (Amar jyothi, 2012). As a result the medicinal qualities of these plants remain unknown.

The objective of the present study was to conduct an ethanomedicinal survey of medicinal plants used to cure various ailments in and around Chennimalai hills, Tamil Nadu.

MATERIALS AND METHODS

Study area

The area under investigation for ethnomedicinal studies falls under Erode district, Tamil Nadu, India. It is situated on Palani range lying between 11.17˚N 77.62˚E, covering an area of 875 sq km. The elevation of the hill is about 490 meter (1082 feet). The Murgan temple is present at 320 metres above. The annual rainfall is about 98 cm per year. Climatically, the area is of dry tropical type. The summer temperature ranges between 30˚ to 42°C and winter between 25˚ to 28°C. A river named Noiyal runs behind the hill.

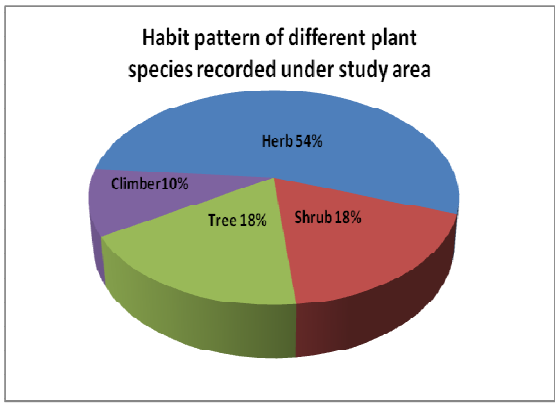
Data collection

Periodic field survey for ethanobotanical exploration was undertaken during November 2010 to February 2011 in Chennimalai hills and surrounding villages of Erode District. During the surveys personal interviews were conducted with village dwellers and other traditional healers. Each plant materials were assigned with field book number and documented as to family, botanical name, local name (Tamil), parts used and medicinal uses. Plant parts that were identified as having use in ethanobotany were collected and preserved. Plant species collected were identified with the help of flora books (Gamble, 1936; Henry *et al.*, 1987; Matthew, 1983).The identified plant specimens were then confirmed with the herbaria of Botanical survey of India, Southern Circle, Coimbatore, India. The specimens were deposited in the Herbarium of Botany Department, Vellalar Collage for women (Autonomous), Erode.

RESULTS AND DISCUSSION

Present investigation provides an ethnobotanical data of the medicinal plants used by the people of Chennimalai and nearby villages to cure various ailments. 50 plant species documented were belonging to 43 genera and 50 families, among them 6 are monocot, 44 are dicot and one Pteridophyte. The most commonly represented families were Euphorbiaceae, Amaranthaceae and Aclepiadeaceae.

Fig 1: Hasitivise analysis shows that 27 species as herbs, trees and shrubs with 9 species and 5 species of climbers



They were using these plants to cure diseases like diarrhoea, skin problems, body pain, knee problem, cough, cold, fever, asthma, kidney problem, tonic, chronic disorders, several aches, hair growth, stomach problems, ulcer, sore throat, leprosy, opthalmia, typhoid, urinary bladder and rheumatism. From this present study it is clear that the people of Chennimalai posses knowledge of medicinal plants and has to cure with their knowledge. List of plants and their family, local name parts used and their uses were tabulated (Table 1).

CONCLUSION

The results of this study will provide information on medicinal plants for possible conservation. Since most of them are herbs, they grow fast and therefore can provide a continuous supply of the medicinal products. Present report is a

result of exhaustive survey on traditional uses of plants for various ailments and it revealed that there is a wide usage of plants by village people of Chennimalai hills and its surroundings. This study will promote a practical use of botanicals and must be continued focusing on its pharmacological validation. Further detailed exploration and collection of ethnobotanical information, chemical studies and screening for medicinal properties will provide cost effective and reliable source of medicine for the welfare of humanity.

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TABLE 1-INVENTORY OF HERBAL MEDICINENS IN CHENNIMALAI HILL AREA, ERODE DISTRICT

S.No	BINOMIAL	VERNACULAR NAME	FAMILY	PLANT PARTS USED	MEDICINAL USES
1.	***Acalypha fruticosa* Forsk.**	Athaathazhai	Euphorbiaceae	Whole plant	Decoction given orally to treat invulsions, fever, cold and swelling of the scrotum. Stem and root chewed to cure toothache
2	***Acalypha indica* L.**	Kuppai meni	Euphorbiaceae	Whole plant	Plant paste ground with salt is applied externally to scabies. Leaf juice is given in cough and cold
3	***Achyranthes aspera* L.**	Nayuruvi	Amaranthaceae	Leaves and seeds	The seed powder is used in the treatment of piles. Paste of leaf is used to treat bites of poisonous insects, wasp stings and relieves pain in delivery.
4	***Aerva lanata* L.**	Sirupoolai	Amaranthaceae	Roots	Root paste is applied on the forehead to cure headache and also used as a diuretic.
5	***Albizzia amara* Boiv.**	Wunja	Mimosaceae	Fruit	The tree yields a gum used against ulcer Fruits are said to cure malaria and cough
6	***Allmania longipedunculata* Gamb.**	Kumuttikkerai	Amaranthaceae	Leaves	Leaves is used as a vegetable which is a rich source of iron.
7	***Alysicarpus rugosus* DC.**	Suddaykeeray	Fabaceae	Seeds	Seeds are used to treat dropsy, swellings, oedema, gout and generally wound healing.
8	***Indoneesiella echioides* Nees. & Sreemadh**	Gopuramthangi	Acanthaceae	Roots	Root paste is applied externally for scorpion sting.
9	***Azadirachta indica* A.Juss.**	Vembu	Meliaceae	Bark, leaves, flowers, seeds and oil	Bark and leaves are useful in leprosy, skin diseases, eczema, intermittant and malarial fevers, wounds, ulcers and diabetes.
10	***Bidens pilosa* L.**	Kothi mullu	Asteraeceae	Whole plant	It is used in diabetes, menstrual disorders , hepatitis, intestinal worms and for internal and external inflammations.
11	***Boerhaavia diffusa* Linn.**	Mukkarattai	Nyctaginaceae	Whole plant	It is useful in all types of inflammations, leucorrhoea, ophthalmia, scabies,and cardiac disorders, jaundice, anaemia, dyspepsia, constipation, cough, bronchitis and general debility.
12	***Borreria hispida* K.Sch.**	Nathai choori	Rubiaceae	Seeds	Seeds as a confection are cooling and ademulcent and are given in diarrhoea and dysentery.
13	***Cassia absus* Linn.**	Avarum	Caesalpiniaceae	Leaves	Leaf decoction is used as purgative and anathelmintic. Concentrated leaf decoction is applied to treat psoriasis and skin diseases. Leaf powder is mixed with honey and given to treat digestive problems.
14	***Chloroxylon swietenia* DC**	Vaaimaram porasu	Rutaceae	Leaves	Dried leaves of this tree are applied on wound in order to increase the healing process.
15	***Cissus quadrangularis* Linn.**	Pirantai	Vitaceae	Young stem	Young stem is crushed and eaten as appetizer.
16	***Cleome viscosa* Linn.**	Naivelai, Naikkaduku	Capparidaceae	Whole plant	Powder of leaves is mixed with honey and taken internally as cardiac stimulant, to treat fever and cardiac disorders. The seeds are anthelmintic, carminative, constipating and febrifuge and are useful in fever, diarrhoea, worm infestations and dyspepsia.
17	***Coccinia indica* W&A.**	Kovaikai	Cucurbitaceae	Whole plant	Plant extract mixed with milk induces vomiting sensation ,induce sweat glands and urinary secretion
18	***Commelina benghalensis* L.**	Aduthinna thalai	Commelinaceae	Leaves	Leaf paste is used as emollient for leprosy and the leaf juice is applied on wounds.
19	***Commelina clavata* Roxb.**	Thanneervittan	Commelinaceae	Flower	Water accumulated at the base of the bracts is collected and administered for eye pain.
20	***Corchorus trilocularis* L.**	Perathi, Talakkaippoondu or Pulichan	Tiliaceae	Whole plant	Plant macerated with water yields mucilage and used as a demulcent. Leaves are used to protect and promote liver function. Root is used to cure syphilis. Seeds are useful in fever and for cleaning bowels.
21	***Cynodon dactylon* Pers.**	Arukampillu	Poaceae	Whole plant	The plant is useful in hyperdipsia, burning sensation of wounds, skin diseases, vomiting, conjunctivitis, abortion and general debility.
22	***Cyperus rotundus***	Korai	Cyperaceae	Tubers	The tubers are useful in leprosy, skin diseases, scabies, verminosis, flatulence, colic, dysentery,

	Linn.				epilepsy, dismenorrhoea, malarial fevers, vomiting and ophthalmia.
23	***Datura metal* L.**	Umathai poo	Solanaceae	Leaves and fruits	A lotion of white corolla reduce eruptions on face and swelling of the feet
24	***Euphorbia antiquorum* L.**	Sathurakkalli	Euphorbiaceae	Whole plant	The roots are useful in otalgia, flatulence, colic, constipation, dyspepsia, wounds and ulcers. The juice is useful for rheumatism, dropsy, gout, neuropathy, deafness, cough and cutaneous diseases.
25	***Euphorbia hirta* L.**	Ammanpacharusi	Euphorbiaceae	Leaves	Leaf Paste along with buttermilk is taken orally for worms, bowel complaints, asthma, cough and gonorrhoea.
26	***Evolvulus alsinoides* L.**	Vishnukaranti	Convolvulaceae	Whole plant	Tonic prepared from whole plant is and consumed as brain tonic and sedative.
27	***Grewia tiliaefolia* Vahl.**	Unnu	Tiliaceae	Leaves	Leaves are used to cure stomach-ache, skin diseases and intestinal infection
28	***Justicia tranquebariensis* L.**	Sivanarvembu	Acanthaceae	Leaves	Decoction of leaves is used to cure eye complaints and jaundice
29	***Kyllinga triceps* Rottb.**	Vendi	Cyperaceae	Root	Decoction of roots is used to relieve thirst in fever and diabetes and oil boiled with the roots to relieve pain in skin.
30	***Leucas aspera* Spr.**	Thumbai	Lamiaceae	Whole plant	The plant is useful in epilepsy, hysteria, dyspepsia, colic, intestinal worms, fever arising from teething in children, swellings and diarrhoea.
31	***Martynia annua* L.**	Puli – Nagam	Pedaliaceae	Leaves	The leaves are used to treat epilepsy and are applied to cure tuberculosis. The leaf juice is used as a gargle to relieve sore throat.
32	***Mollugo nudicaulis* Lam.**	Parpadagam	Aizoaceae	Whole plant	Extract of the whole plant is used in cloudy vision and whooping cough.
33	***Mollugo pentaphylla* L.**	Kuttuiray	Aizoaceae	Whole plant	Whole plant used as antiseptic, stomachic, mild laxative, improve digession and stimulate liver.
34	***Orygia decumbens* Forsk.**	Aragampul	Aizoaceae	Roots	An infusion of the root is taken for biliousness and in larger quantities as an emetic for the same condition.
35	***Pedalium murex* L.**	Perunerunci	Pedaliaceae	Seeds and leaves	It is used in renal and vesical calculi, spermatorrhoea, spasmodic affections, amenorrhea, dysmenorrhoea, inflammation dyspepsia, ulcers, fever and general debility.
36	***Pergularia extensa* N.E.Br.**	Velipparuthi	Asclepiadaceae	Whole plant	The juice of leaves is useful in helminthiasis, haemorrhoids and leprosy. The plant extract is useful in uterine and menstrual disorders.
37	***Phyllanthus maderaspatensis* L.**	Mela nelli	Euphorbiaceae	Leaves and seeds	Leaf infusion is given to treat head ache. Seed paste is given as laxative, diuretic and carminative.
38	***Phyllanthus niruri* L.**	Kizhanelli	Euphorbiaceae	Whole plant	The fresh root is used for the treatment of viral hepatitis. The plant is also used as a diuretic in oedema. It is also used to increase appetite and to relieve inflammations.
39	***Polycarpaea corymbosa* Lam.**	Nila sedachi or Pallipoondu	Caryophyllaceae	Flowers and leaves	Leaf paste is given to treat jaundice and hepatic disorders and it is given as an anti-dote for snake bites. Leaf paste is applied over the boils to suppurate and inflammatory swellings. Flowers and terminal leaves are used as demulcent and astringent.
40	***Prosopis juliflora* D.C.**	Vaelikaruvai	Mimosaceae	Leaves, pods, bark and gum	The stem can be used to treat fever. Pods are used to make eyewashes. Sunburn can be treated with a decoction of the beans. The pods can be prepared as a poultice that is applied to a sore throat or as a drink that is taken for animal stings. Gum is good for stomach ailments. It can be taken for diarrhoea, stomach inflammation, system cleansing or to settle the intestines.
41	***Ricinus communis* L.**	Aamanakku	Euphorbiaceae	Seeds	Oil is used as culminatory
42	***Sesamum laciniatum* klein.**	Ellu	Pedaliaceae	Root	Diaphoretic and alternaria
43	***Solanum torvum* S.W.**	Sundai	Solanaceae	Fruits	Furits are used as carminative, diuretic, and vermifuge.
44	***Solanum pubescens* Willd.**	Kattu sundai	Solanaceae	Fruit	It is used to cure asthma
45	***Tephrosia purpurea* Pers.**	Kattukkolinchi	Fabaceae	Whole plant	The roots are useful in inflammations, skin diseases, asthma, bronchitis, chronic fever, anaemia, boils and dysmenorrhoea. The leaves are useful in dyspepsia, pectrol diseases, haemorrhoids, syphilis, gonorrhoea and bruises. The seeds are useful in skin diseases and rat poisoning.
46	***Thevitia neriifolia* juss.**	Ponnarali	Apocynaceae	Leaves	Treatment of cardiac insufficiency and therapeutically used
47	***Tinospora cordifolia* Miers.**	Amurutavalli or Cintilikkoti.	Menispermaceae	Stem	Stem is useful in burning sensation, hyperdipsia, helminthiasis, dyspepsia, flatulence, stomachalgia, intermittent fevers, chronic fevers, inflammations, gout, vomiting, cardiac debility, skin diseases,

					leprosy, anaemia, cough, asthma, general debility, jaundice, seminal weakness, uropathy and splenopathy.
48	***Tridax procumbens* L.**	Vettukayapoondu	Asteraceae	Roots	It possesses anti-bacterial and anti- fungal properties. The crushed herb is used in the form of a paste to treat skin ailments and the leaf juice is reportedly used to relieve fever. The root is used in treating head ache.
49	***Wrightia tinctoria* R.Br.**	Palai	Apocynaceae	Leaves	Leaf paste is applied on affected parts twice a day along with coconut oil and *Lawsonia inermis* cures leucoderma and is used to treat soriosis. Powder of leaves mixed with hair oil cures dandruff and a remedy for gum pain.
50	***Zizyphus jujuba* Mill.**	Elanthai	Rhamnaceae	Fruit	It is useful in poor appetite, general fatigue, loss of bowels, palpitational insomnia, night sweats and hysteria.