

ORIGINAL RESEARCH

Ethnobotanical plants used as curatives for skin diseases in a Cauvery river stretch, Namakkal district, Tamil Nadu, India

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ABSTRACT:

The study area covers about 15 km stretch in the perennial river bed, Cauvery which supports semi evergreen to dry deciduous type of forests. Ethnobotanical information on 24 plant species was recorded during the extensive field survey carried out in this stretch during 2012-2013. The information covers botanical names, vernacular names, family, plant parts used and the mode of usage.

Keywords:

Cauvery river basin, Medicinal plants, Traditional uses

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INTRODUCTION

Plants are proved to be more reliable for therapeutic uses. Still 70-80% of the people all over the world rely on plants for their health care (Shanley and Luz, 2003). India, the mega diversity nation, harbours about 3000-3500 (15%) medicinal plants, out of 20000 available in the world. At global level, 90% of these species are growing in various climatic areas (Farombi, 2003). Studies on medicinal plants availability, biochemical compounds, mechanism of their action etc., are being made in India since few decades intensively. In Tamil Nadu, many vegetation are being attempted for this study by many workers (Banu *et al.*, 2007; Murugesan *et al.*, 2007; Ignacimuthu *et al.*, 2008; Arunachalam *et al.*, 2009; Balakrishnan *et al.*, 2009; Ayyanar *et al.*, 2010; Maruthapandian and Mohan, 2010; Shanmugam *et al.*, 2011 and 2012).

The riparian ecosystem at Cauvery stretch in Tamil Nadu is known to harbor many medicinal plants of local uses. However, no documentation has been made in this line. Therefore, the present study was aimed to collect information on traditional uses of medicinal plants used in preparation of herbal drugs for the treatment of skin diseases by local people living in the nearby villages of Cauvery river, Namakkal District, Tamil Nadu.

STUDY AREA

The Cauvery river stretching between Nanjai Edayar and Mohanur area of Namakkal district Tamil Nadu, is situated at 11°04' L and 78°03' E. The altitude is 130.45 above MSL. The soil is mostly sandy with slightly acidic pH. The local people of nearby villages, in addition to western medicine also use herbal plants for their day to day life, as per the prescription made by healers. The present study was undertaken to document the traditional uses of medicinal plants available in this stretch which comprises grassy patches, man-made plantations and semi evergreen and dry deciduous forests.

MATERIALS AND METHODS

Survey and collection of ethnomedicinal plants used by the local people of Namakkal district (Pandamangalam, Nanjai Edayar and Mohanur) were made over a period of 12 months (2012-2013). Frequent field trips were undertaken to the study areas for collecting information regarding the medicinal plants used by them from the elderly people. Experienced healers are interrogated intensively to bring out the information about the medicinal plants in various aspects *viz.*, plant parts used, medicinal uses, mode of administration and the doses to be prescribed. The plant specimens were collected for taxonomic identification from different parts of the study area. Identification was made with the help of 'The Flora of Presidency of Madras' (Gamble, 1915- 1935) and 'The Flora of Tamil Nadu Carnatic (Mathew, 1983) and finally confirmed by comparing with the authenticated specimens in the Herbarium of Botanical Survey of India (Southern Circle) Coimbatore district, Tamil Nadu. Voucher specimens were deposited in the Herbarium of the Research Department of Botany, Kandaswami Kandar's College, Velur, Namakkal, Tamil Nadu. Indian Medicinal Plants (Kirtikar and Basu, 2012) and The Wealth of India, (2006) were referred for further information on medicinal uses.

Enumeration

In the following enumeration, the plants are arranged alphabetically as per botanical name, local name in parenthesis family name and a brief note on plant parts, mode of utilization, dosage etc.

***Aegle marmelos* (L.) Corr. Serr. (Vilvam) Family: Rutaceae.**

One fresh fruit is crushed with seeds of *Strychnos nux vomica* and *Pongamia pinnata* and boiled with coconut oil for fifteen minutes. This extract is applied on the affected parts twice a day for three days to treat scabies.

***Calotropis gigantea* (L.) R.Br. (Erukku) Family: Asclepiadaceae.** wounds.

Paste prepared from leaf powder of this species is applied externally once a day for three days to cure the lesions of eczema.

***Cassia alata* L. (Seemai agathi) Family: Caesalpinaceae.**

Ten grams of fresh leaf is applied over infected skin twice a day for fifteen days to treat ringworm infection.

***Cassia fistula* L. (Sarakonrai) Family: Caesalpinaceae.**

About five grams of the powder of flower is made into paste with lemon juice and applied externally on the skin to treat eczema and freckles.

***Celosia argentea* L. (Kolikondai) Family: Amaranthaceae.**

A paste is prepared from five grams root with water. This paste is applied externally once a day for ten days to treat wounds.

***Clerodendron inerme* (L.) Gaertn. Fruct. (Naaraseengi) Family: Verbenaceae.**

About two grams of fresh leaves is made into paste with water and applied externally on the skin once a day, for one week to treat psoriasis.

***Cocos nucifera* L. (Thennai maram) Family: Areaceae.**

A thick paste prepared from five milliliters of oil and two grams of turmeric (*Curcuma longa*) powder is applied externally twice a day for a period of three days to treat cuts and wounds.

***Commelina benghalensis* L. (Neerchedi) Family: Commelinaceae.**

Leaf paste prepared is applied once a day on the wounds for healing and to remove the poisonous spines that had struck accidentally on the body parts.

***Curcuma longa* L. (Manjal) Family: Zingiberaceae.**

A sufficient amount of dried powder of rhizome is applied externally twice a day for three days to treat

***Cynodon dactylon* L. Pers. (Arugam pull) Family: Poaceae.**

Five grams of fresh leaves is made into paste with little amount of turmeric (*Curcuma longa*) and few drops of water. This paste is applied externally twice a day for ten days to treat dermatophytosis.

***Datura innoxia* Mill. (Vellai umathai) Family: Solanaceae.**

Paste prepared from dried leaf powder with coconut oil is applied externally once a day, continuously for eight to ten days to get relief from wounds.

***Euphorbia tirucalli* L. (Elaikalli) Family: Euphorbiaceae.**

Five milliliters of milky latex is externally applied once a day for a period of two days to treat arthritis and cracked foot.

***Ficus religiosa* L. (Arasu) Family: Moraceae.**

About three grams of shade dried powder of bark is mixed with water and taken orally once a day for ten days to treat psoriasis.

***Ficus racemosa* L. (Athi) Family: Moraceae.**

A decoction is prepared from ten grams of bark powder mixed with water. This decoction is applied externally once a day for six days on the wounds.

***Lawsonia inermis* L. (Maruthaani) Family: Lythraceae.**

About fifty grams of bark powder is made into a paste with coconut oil. This paste is applied externally once a day for seven days to treat skin diseases.

***Madhuca longifolia* (Koen) Macbr. (Illuppai) Family: Sapotaceae.**

A decoction is prepared by boiling a hundred grams of stem bark and five hundred milliliters of water. This decoction is taken orally once a day, for one week to get relief from wounds and skin diseases.

***Melia dubia* Cav. (Malai vembu) Family: Meliaceae.**

The fruits are made into paste and applied externally once a day, for a period of one week as

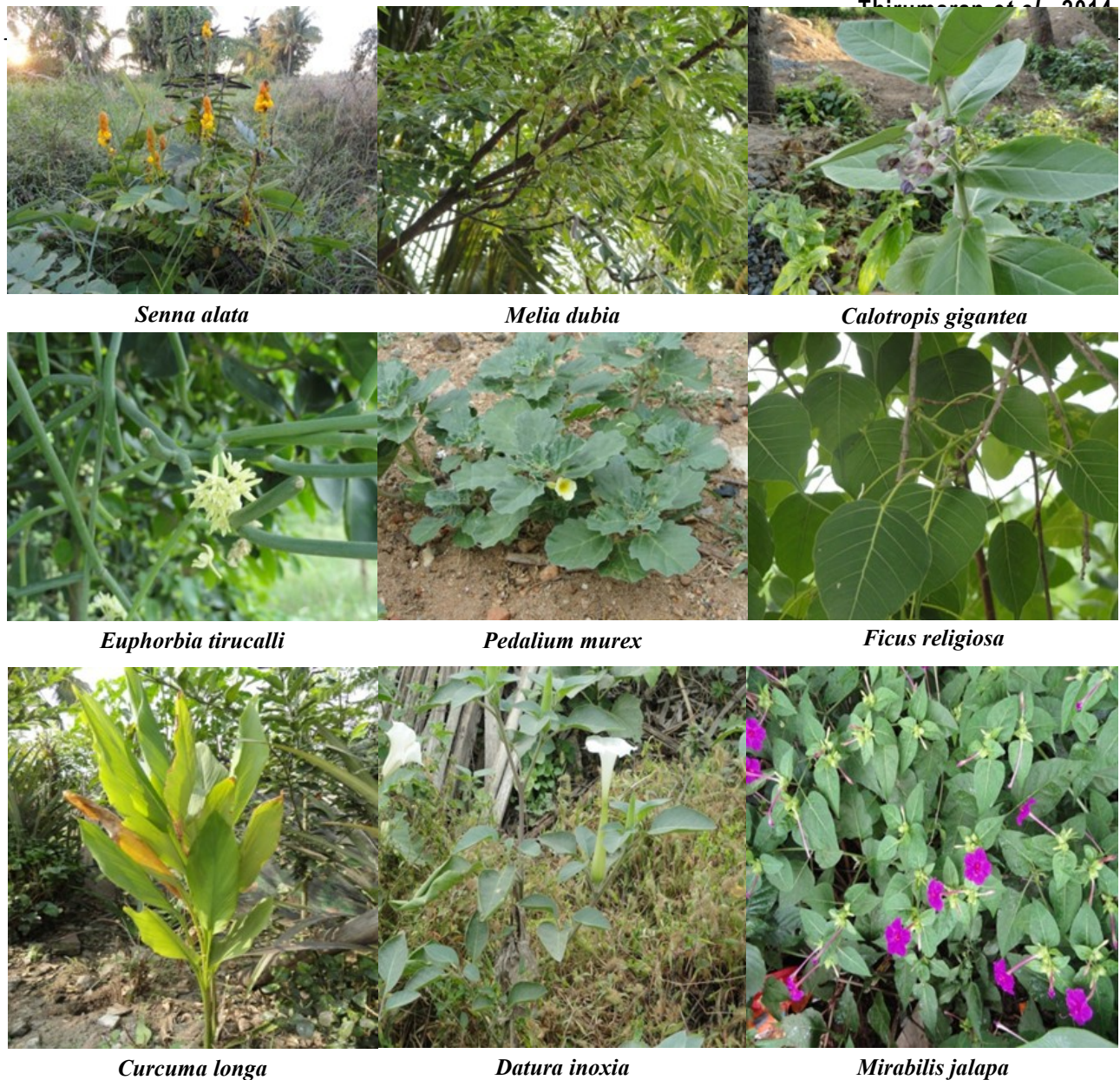


Figure 1. Some common medicinal plant species of Cauvery riparian ecosystem

ointment to get cure from skin diseases.

***Mirabilis jalapa* L. (Anthimalli) Family: Nyctaginaceae.**

About six grams of fresh leaves are made into paste with water. This paste is applied externally twice a day, for three days to treat swellings in the skin.

***Euphorbia hirta* L. (Arisi poondu) Family: Euphorbiaceae.**

The latex obtained from the leaves is applied externally once a day for three days to treat pimples in the face (*Acne vulgaris*).

***Pedalium murex* L. (Aanai nerunjil) Family: Pedaliaceae.**

Two milliliters of juice is prepared and mixed with five milliliters of water. This juice is taken orally once a day for fifteen days to treat psoriasis.

***Pongamia pinnata* (L.) Pierre. (Punga maram) Family: Fabaceae.**

Ten grams of seed powder are boiled with coconut oil and the extract is applied over the skin to treat skin diseases.

Hundred grams of bark powder are boiled with

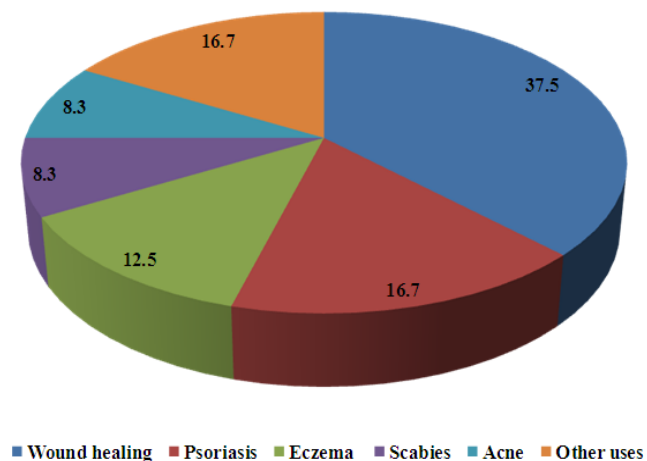


Figure 2. Pie chart describing the percent plant species used for various ailments

two hundred milliliters of coconut oil and the oil extract is applied externally once a day to treat ringworm infection, rashes, scabies, eczema and psoriasis.

***Solanum torvum* Sw. (Sundai) Family: Solanaceae.**

The paste prepared from five grams of fresh root with water is applied externally to get cure from chronic wounds.

***Thespesia populnea* (L.) Sol. Ex Correa (Poovarasu) Family: Malvaceae.**

Two grams of senescent leaves are made into paste and applied externally twice a day for one week to get cure from chronic wounds.

***Tridax procumbens* L. (Thanerpundu) Family: Asteraceae.**

Ten grams of whole plant are made into paste. This paste is applied externally twice a day for one week to treat cuts and wounds.

RESULTS AND DISCUSSION

The present study revealed that local people of Namakkal district in the nearby villages of Cauvery stretch were using 24 species of medicinally important plants belonging to 20 families. The most commonly used families were Solanaceae (2 species), Euphorbiaceae (2 species), Moraceae (2 species) and

Caesalpiniaceae (2 species). They were using these plants to treat various types of skin diseases, scabies, eczema, wounds, acne vulgaris, ringworm infection, freckles, psoriasis, cracked foot, swellings, rashes, etc.

Among different plant parts used, the leaves are most commonly prescribed. They use the plant parts in various forms, either raw or paste, powder, decoction and juice for curing various skin disorders. In the above mentioned data, 14 plants are used in the form of paste, 8 plants are used in the form of powder, decoction and juice. The latex is used as such in 2 plants. External application is also prescribed for the treatment of certain skin diseases. The investigated 24 plant species can treat/cure as many as 7 different skin diseases. About 9 plants are used for wounds healing followed by 4 plants for psoriasis, 3 plants for eczema, 2 plants for scabies, 2 plants for acne vulgaris, ringworm and healing the cracked foot.

The healers have preferred to prepare the formulations by combining several plants for their synergetic effect to heal the ailments. The medicinal plants prescribed by the healers need to be systematically screened for their phytochemicals and thus the scientific validation may help in the discovery of new drugs from these medicinal plants.

CONCLUSION

From the study it is suggested that Cauvery river stretch in Namakkal district, Tamil Nadu is a potential ecosystem of medicinal plants as it is endowed with many medicinal plants which are prescribed most commonly by the local healers for various ailments. In-depth studies are suggested all over the Cauvery river banks in Tamil Nadu to explore the medicinal plants. Phytochemical and pharmacological investigation should also be made to have the scientific validation of such valuable bioresources and confirm our traditional knowledge on medicinal plants.

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