

ETHNOMEDICINAL STUDIES ON RIVER STRETCH CAUVERY BASIN OF NANJAI EDAYAR AND KUCHIPALAYAM, NAMAKKAL DISTRICT, TAMIL NADU

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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 types of forests. Ethnomedicinal information on 26 plant species was recorded during the extensive field survey carried out in this stretch during 2011-2013. The information covers botanical names, vernacular names, family, plant parts used and the mode of usage.

Key words: Cauvery river basin; Medicinal plants; Traditional uses.

1. INTRODUCTION

Ethnobotanical studies carried out by various workers have recorded that the tribal communities of India use about 7500 species of plants for a variety of medicinal purposes (Anonymous, 1994). In India, about 2500 plant species belonging to more than 1000 genera are used by traditional herbal healers and about 500 plant species are used by 159 different pharmaceutical companies (Chandel *et al.*, 1996; Vibhuti *et al.*, 2009). The large bulk of traditional knowledge of ethnic and rural people of India is handed down to generation through word of mouth and is extensively used for the treatment of common diseases and conditions (Ekka *et al.*, 2007). Primitive and village people of Namakkal district have been using several plants for combating disease from centuries and are found wide acceptance in traditional medicinal use. By the proper identification and documentation of such plants which are used in local treatment can help in developing easily available materials for the treatment of various diseases as well as raising the health standards of the village people.

2. Study area

The Cauvery river stretch between Nanjai edayar and Kuchipalayam areas of Namakkal district Tamilnadu 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 public living in the adjoining villages in addition to western medicine also using herbal medicines for their day to day life. The present study was undertaken to document the traditional uses of medicinal plants available between Nanjai edayar and Kuchipalayam villages of Cauvery river basin in Tamilnadu. Grasslands, man-made plantation and semi-

evergreen to dry deciduous types of forests are the common vegetations in this belt.

2. MATERIALS AND METHODS

The present study work was carried out in the study areas described during the period of 2011-2013. The forest areas and other vegetation were sampled for species identification near the villages viz., Kuchippalayam, Velur, Nanjai edayar, Sengappalli and Palappatti.

A field survey was done in these villages for the plant based traditional medicinal practices and their uses. It consists of information interviewing of the villager's through the prepared questionnaire, who generally depend upon forests for their food and health and other needs of day to day life.

The identified and collected plant samples were arranged and documented according to their binomial. The traditional and the modern processing techniques of the medicinal plant species are enquired and briefed well. The total respondents were 4-6 in numbers per village. The species of medical importance were identified with the help of 'The Flora of Presidency of Madras' (Gamble, 1915-1935), The Flora of Tamilnadu Carnatic (Mathew 1983) and Indian Medicinal Plants (Kirtikar & Basu, 2003). Voucher specimens of the plants collected during the study were deposited in the Herbarium of the Department of Botany, Kandaswami Kandar's College, Velur, Namakkal, Tamilnadu.

3. RESULTS AND DISCUSSION

According to a report of World Health Organization, over $\frac{3}{4}$ of world population relies on the use of traditional medicine of plant origin (Rai *et al.*, 2000). The traditional medicine has a long history and wide acceptability. Therefore,

documentation of information on indigenous knowledge and practices will help in conserving the traditional knowledge (Gani, 2003). The present enumeration shows the occurrence of 26 plant species of 25 genera belonging to 21 families (Table. 1). The study provides comprehensive information on the indigenous uses and traditional practices of the plants used in household remedies. All the 26 species documented were known to have intense use for the local public in the study villages. Species like *Abrus precatorius*, *Dendrophthoe falcata* and *Heliotropium indicum* are being used for wound healing purposes. Interestingly the species, *Catharanthus roseus* is used for its anticancer property. Similarly the species, *Gymnema sylvestre* is used for the treatment of diabetics and *Zizyphus jujuba* is used for the treatment of jaundice. The species, *Ocimum scantum* is having mosquitosidal property. The two species, *Cassia tora* and *Terminalia catappa* are prescribed for skin diseases and the species, *Cassia occidentalis* is used for the treatment of eye problems.

The study revealed that the Cauvery stretch between the Nanjai edayar and Kuchipalayam contains the vegetation rich in medicinal species which indicates the potentiality of this region in terms of traditional medicinal flora wealth. Therefore, sustainable utilization and effective conservation are supported to utilize and protect the species.

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Table 1: List of medicinal plants and their uses by villager's of Nanjai edayar and kuchipalayam villages of Cauvery basin.

Botanical name	Local name	Family	Parts used	Ethnomedicinal uses
<i>Abrus precatorius</i> L.	Gundumani	Fabaceae	Leaves, Roots, Seeds	*Fresh or dry leaes are ground and the infusion mixed with water is given orally once a day for three for menorrhoea.* Leaves of the white seed variety mixed with garlic, ground and the paste is given thrice a days for treating leucorrhoea. *The roots are also used to cure leucoderma, itching and wounds. *Seeds are poisonous, used by the locals to avoid pregnancy.
<i>Acalypha indica</i> L.	Kuppaimeni	Euphorbiaceae	Leaves	*Fresh leaves mixed with black pepper, garlic and long pepper, ground in water and the infusion given orally 3-6 times a day for the treatment of post-natal body pains.
<i>Aegle marmelos</i> L.	Vilvam	Rutaceae	Fruits	*The fruit is used in chronic diarrhoea and dysentery and said to at as a tonic for heart and brain.
<i>Annona squamosa</i> L.	Seethapazham	Annonaceae	Bark, Leaves, Roots, Fruits	*The bark is used in diarrhoea. *The root is employed in depression and spinal diseases, in asthma and fever. *The cursed leaves are reported to be applied to the nostrils in hysteria and fits. *The fruit possesses astringent, cooling, anti-scorbutic, and febrifugal properties. *Fruits is a source of vitamin C.
<i>Alternanthera sessilis</i> (L.) DC.	Ponnaankanni	Amaranthaceae	Herb	*The herb is used as a galactagogue, cholagogue, abortifacient and febrifuge. It is also used as a indigestion. *The whole plant is bitter, sweet, cooling and constipating. It is used to treat burning sensation, diarrhoea, leprosy, skin diseases, night blindness, dyspepsia and fever.
<i>Aloe vera</i> (L.) Burm.f.	Katarezhai	Liliaceae	Leaves and Roots	*Leaf pulp used to treat liver disorders, rheumatism, skin disorders, Vanishing cream, emollient, intestinal worms. *The leaf-gel has demand in cosmetic industry abroad and is also used to treat radiation burns.
<i>Azadirachta indica</i> A. Juss.	Vembu	Meliaceae	Bark, Leaves, seeds	*Neem oil has been found to slow down the growth of HIV-virus which causes AIDS. *The emulsified oil is used to control rust on beans and powdery mildew on many ornamental plants. *A handful of leaves, crushed and flattened, will make an excellent poultice for boils and sores; its action is stimulant and antiseptic.
<i>Bacopa monnieri</i> (L.) Pennel	Brahmi	Scrophulariaceae	Entire plant	*The entire plant constitutes the well-known drug Brahmi. It is used in the indigenous systems of medicine for the treatment of asthma, hoarseness, insanity, epilepsy, and as a potent nerve tonic, cardi tonic and diuretic. It is also used as a laxative, in several skin diseases and in bronchitis.

<i>Calophyllum inophyllum</i> L.	Punnai	Clusiaceae	Bark, Leaves, seeds	*A paste of the kernels is applied to relieve painful joints. *The refined oil is intramuscularly injected to alleviate pain in leprosy.*The oil cures scabies and other coetaneous diseases. *The pounded bark is applied in orchitis and its juice is taken as purgative. *The leaves are employed for inhalation in migraine and vertigo.
<i>Calotropis gigantea</i> (L.) R.Br	Erukku	Asclepiadaceae	Bark	*The root bark constitutes the drug. The powdered root bark gives relief in diarrhoea and dysentery. It is also given in cough and asthma, and as a febrifuge.
<i>Cardiospermum halicacabum</i> L.	Mudakkattran	Sapindaceae	Entire plant	*The herb is diuretic, stomachic and rubefacient. It is used in rheumatism, lumbago, nervous diseases, as a demulcent in orchitis and dropsy. *The root is mucilaginous and considered effective in didymitis and early stages of hydrocele, and is used in asthma and colic.
<i>Cassia occidentalis</i> L.	Nattam-takarai	Caesalpiniaceae	Entire plant	*All parts of the plant possess purgative, tonic, febrifugal, expectorant and diuretic properties. *The plant is used to cure sore eyes, haematuria, rheumatism, typhoid, asthma and disorders of hemoglobin. *The herb forms an ingredient of the patented indigenous herbal drug "Liv-52", which shows marked effect in the early cases of hepatic cirrhosis having ciatorrhoea.
<i>Cassia tora</i> L.	Senavu	Caesalpiniaceae	Leaves ,Roots	*Both leaves and seeds constitute a valuable remedy in skin diseases, chiefly for ringworm and itch. *The weed is used in various Gold Coast medicines, chiefly as a purgative. *The root is not an antidote to either snake-venom or scorpion-venom.
<i>Catharanthus roseus</i> (L.) G.Don.	Sudukattu mallikai	Apocynaceae	Entire plant	*The roots, which form the drug, contain more than 80 alkaloids of which Indole-Indoline dimers are pharmacologically very important. *Vinca alkaloids received great attention due to anticancer potential. Vincristine and Vinblastine are used as anticancer drugs especially for curing leukemia (blood cancer).
<i>Ceiba pentandra</i> (L.) Gaertn.	Ilavam	Bombacaceae	Fruits, Roots	*The roots are stimulant, tonic, diuretic, emetic and antispasmodic; they have hypoglycemic effect and are useful in diabetes, dysentery and gonorrhoea. *The unripe pods are astringent and demulcent, useful in vertigo and migraine. *The gum is given in bowel complaints and gonorrhoea.
<i>Datura innoxia</i> Mill.	Umathai	Solanaceae	Seeds	*As anesthetic in surgery and child birth, in ophthalmology and prevention of motion sickness.
<i>Dendrophthoe falcata</i> (L.f.) Etting	Pulluruvi	Loranthaceae	Bark	*The bark is astringent and narcotic, and is used for wounds and menstrual troubles and also as a remedy for asthma and mania. *The

				plant is cooling, aphrodisiac and diuretic and is useful in pulmonary tuberculosis, asthma, menstrual disorders, swellings, wounds and ulcers.
<i>Euphorbia hirta</i> L.	Amam patchaiarisi	Euphorbiaceae	Entire plant	*The entire plant, collected is flowering and fruiting stage and dried, constitutes the drug. It is useful in removing worms in children, in bowel complaints, asthma and cough. *It promotes formation and flow of milk in Woman; it is also useful in gonorrhoea and other urinogenitary complaints. The roots of the plant stop vomiting.
<i>Gloriosa superba</i> L.	Kanthal malar	Liliaceae	Seeds, Roots	*The tubers are regarded as tonic, somatic and antheimintic when taken in doses of 5-10 grains; in larger, doses they are intensely poisonous. Root tubers and seeds rich source of colchicine. *Colchicine is used in the treatment of cancer.
<i>Gymnema sylvestre</i> (Retz.) R.Br. Ex Schult.	Ciru kurinjan	Asclepiadaceae	Leaves, Roots	*The leaves used for treating diabetes. The plant is stomachic, stimulant, laxative and diuretic. The roots are emetic and expectorant.
<i>Heliotropium indicum</i> L.	Nakkipoo	Boraginaceae	Leaves	*The leaf juice is used as an application to wounds, sores, boils, gum-boils and to repel pimples on the face; boiled with castor oil it is applied to bites of scorpions, insects and reptiles. It is also employed locally in the kind of ophthalmic in which the tarsus is inflamed or excoriated.
<i>Mangifera indica</i> L.	Mampazham	Anacardiaceae	Leaves, Fruits	*Decoction of the leaves is used in fever, diarrhoea and toothache. *The dried mango peel can be used as a fuel for biogas plants. *The bio gas plant effluents are then used as a substitute for conventional fish feed.
<i>Ocimum sanctum</i> L.	Tulasi	Lamiaceae	Leaves, Seeds, Roots	*The plants drive away mosquitoes. It is useful in avarity of diseases. *Leaves ground with water are applied on bed boils. *Powder of the root rubbed slightly on a scorpion bite will give relief from pain. It basil root is taken, 1gm weight, at eve, increases the vital fluid and will bestow retentive virtue. Nerve weakness may be cured by it.
<i>Pergularia daemia</i> L.	Vealipparutthi	Asclepiadaceae	Entire plant	*The juice from the tender vegetative parts is used to cure toothache by the village people of Namakkal district.
<i>Terminalia catappa</i> L.	Kadookkai	Combretaceae	Leaves	*Leaf juice of young leaves is used to prepare an ointment for skin diseases.
<i>Zizypus jujuba</i> L.	Elandai	Rhamanaceae	Bark, Roots	The fruits juice has cooling effect, and its syrup is used to cure jaundice and other abdominal diseases. Bark is used for Teeth diseases and flu.