RESEARCH PAPER

TRADITIONAL VALUES OF INDIAN CORAL TREE – *ERYTHRINA VARIEGATA* L. IN KANNIYAKUMARI DISTRICT

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Abstract

Plants have long been the cornerstone of traditional medicinal systems around the world, offering natural remedies for a wide range of aliments. They contain various bioactive compounds that provides therapeutic benefits, including anti-inflammatory, antimicrobial, antioxidant and analgesic properties. One such traditionally valuable species is *Erythrina variegata*, commonly known as the Indian Coral Tree or Coral Tree and locally referred as *Murukku or Mullu murukku* in Tamil. This species belongs to the family Fabaceae and is distributed across the tropical and sub-tropical regions. In recent decades, the population of *Erythrina variegata* has been steadily declining due to several factors viz., the construction of mobile towers, pests, prevalence of diseases and the practice of monoculture farming. The knowledge on the traditional uses of medicinal plants including *Erythrina variegata* is vanishing day by day due to varied factors and modernization in particular. Hence an attempt to report the traditional usage of *Erythrina variegata* in Kanniyakumari District is initiated. This study highlights the importance, and also emphasizes the need to conserve and promote knowledge about the medicinal properties of the selected species before it fades from collective understanding.

Keywords: *Erythrina variegata*, Indian Coral Tree, Kanniyakumari, Traditional values.

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INTRODUCTION

Medicinal plants, the nature's wonderful treasures, have been used by humans for centuries to treat a variety of ailments, including wound infections, fevers, and other health issues. In many developing countries, traditional medicine plays a vital role in pharmaceutical sector. In India, systems like Siddha and Ayurveda rely heavily on plants and their healing properties. Today, people continue to use natural medicinal plant species to treat specific illness effectively.

Ethnobotany, the science of survival (Prance, 2007), deals with scientific investigation of people's traditional knowledge and practices about the use of plants for religious, medical and other purposes. American botanist John William Harshberger first used the term "Ethnobotany" in 1895. The names "ethno" (the study of people) and "botany" (the study of plants) were combined to form ethnobotany, a study of the interaction between humans and plants. The relationship between plants and human cultures is not limited to the use of plants for food, clothing and shelter but also includes their use for religious ceremonies, ornamentation and health care (Schultes, 1992). In ethnobotany, the use, management and perception of plants in human civilizations were also studied. This includes the use of plants for food, medicine, divination, cosmetics, dyeing, textiles, construction, tools, money, clothing, rituals, social life, and music. People and plants have long had a very significant interaction. Every part of our lives depends on plants, and without them, life would not be possible (Pandey *et al*., 2017). In its early stages, ethnobotanical research largely consisted of acontextual lists of plants with their associated preparations and uses in remote areas (Balick, 1996 and Etkin, 1988). Documentation of medicinal use of plants through ethnobotanical research facilitates not only development of drugs but also for plant conservation (Calzada and Bautista, 2020).

India occupies more medicinal plant species and accounts for almost 8% of the world's estimated biodiversity. Two biodiversity hotspots in the North-Eastern area and the Western Ghats make it one of the 12th mega biodiversity rich nations in the world. Throughout India, there are 1,532 wild edible plant species, some of which are commonly consumed in the different states (Hussain *et al*., 2022, Reddy *et al*., 2007, Singh and Mathew 2021). Tamil Nadu (8°5'N), located on the East Indian peninsula, is renowned for its biodiversity and rich old ethnic history of the Siddha System of medicine (Jaganathan, 2016). In the past, several medicinal plants have been used by the peoples of Tamil Nadu for the treatment of various ailments. But now a days, many of the traditional beneficial uses

of these plants were steadily declining due to the lack of knowledge and practice on medicinal plants. Medicinal plants and related knowledge profiles seem to be most threatened by cultural change, particularly the attractive impact of modernization and the western worldview. In fact, the oral traditions of folk healers may be more endangered than their therapeutic environments (Anyinam, 1995 and Cox *et al*., 2000). Compared with the expensive synthetic medications, which frequently have negative side effects. "Green Medicine" is safer and more reliable (Suryawanshi and Patel, 2011). This study was conducted to list out the ethnobotanical uses of the plant species *Erythrina variegata*. The plant *E. variegata* comes under the genus *Erythrina*, belonging to the family Fabaceae. The origin of the name *Erythrina* comes from the Greek word "erythros" which means red, alluding to the bright red flowers of the trees of the genus (Krukoff and Barneby, 1974). The plant is often called as Indian coral tree or Tropical coral tree or Tiger's claw. This species is distributed throughout the tropical and subtropical regions. *E. variegata* has various traditional uses. In the past, this plant was commonly used to treat a wide range of ailments, playing a crucial role in traditional medicine practices as well as uses. However, its traditional knowledge is now forgotten due to the decline in the knowledge and practice of traditional medicine. The aim of this investigation is to rediscover and revive the long-forgotten traditional medicinal practices associated with this plant, aiming to restore its valuable role in the study area.

Materials and Methods

Description of the Study area

Kanniyakumari is situated in southernmost district of Tamil Nadu state located in at the extreme southeastern edge of the Indian subcontinent. The area is blended with coastal and hills covering an area of 1684 sq.km. and is located between 8° 03' and 8° 35' N Latitude, 77° 15' and 77° 36' E Longitude. It covers a costal line of 71.5 kms stretches on the three sides. This smallest district is well-known for its enormous green expanses of rice fields, coconut groves, rubber gardens, and luxuriant forests, as well as the rare earth of the western seashore and the long valley mountain of the Western Ghat.

Ethnobotanical Data Collection

The study has been conducted throughout the Kanniyakumari district. The ethnobotanical information of the selected plant species was gathered through oral accounts and direct observation of their use by local people and traditional healers. Data was collected from various localities of Kanniyakumari District. Photographic evidences were also recorded.

Result

In this investigation, the data was gathered via surveys, interviews and through literature evidences. The data obtained through the study is listed in the table -1. The ethno-medicinal value of *E,variegata* has been documented through interviews with approximately 87 informants, including both males and females, along with data gathered from elderly individuals aged 60 and above. The results revealed that the species selected is a multipurpose plant with varied utility potentials, including its usage as medicine, food, fodder, in agriculture, and also in ceremonial rituals (Fig. 1 & Fig. 2). Results obtained further indicates that, different plant parts are being employed for a wide range of utility purposes, such as medicinal applications, food preparation and animal fodder by local residents and indigenous communities (Fig.3).

Table -1. List showing the traditional uses of *Erythrina variegata* in the study area

Sl. No.	Part used	Mode Application	Uses
1.	*E. variegata* Leaves	1. Oral (As decoction)	Relief from stomach pain
		2. Oral (In the form of halwa)	Cures menstrual pains and regulates menstrual cycle.
		3. Fodder	Improves the quality of flesh in herbivores (Cow, goat and rabbit)
		4. Entire leaves	For making steamed food stuffs (Idlis)
		5. Oral/ External	Treatment for joint pains.
		6. Young leaves Paste/ External	Applied as facial from ache and skin issues.
		7. External	Treating weakness and dizziness in children (Traditionally termed as 'Nizhal')
		8. Extracted Juice	Consumed daily to increase the rate of Child birth in pregnant

			women.
		9. Extracted Juice	Boosts milk production in breastfeeding women.
		10. Juice	Relieves constipation by softening the stool.
		11. Juice	To cure fever
		12. Juice	Increases the sperm count in males.
		13. Young Leaves	The leaves with palm jaggery when consumed for a week helps to induce menstruation in women who haven't attained maturity.
2.	*E. variegata* Bark	1. Oral	For the treatment of Eczema.
		2. Powdered and prepared into ointment	Used for the treatment of Hydrocoele.
		3. Bark (Kurunjukuzha – medicine) Oral	Given to women during post pregnancy.
		4. Oral Suspension	Flatulence & Fever
		5. Oral Suspension	Rheumatism
3.	*E. variegata* Bark & Leaves	1. Bark & Leaves	Used as green manure in agriculture to improve the soil nutrition.
4.	*E. variegata* Seed	1. External	Cure sores and heal pimples.
		2. Oral	Relieves constipation.
5.	*E. variegata* Flowers	1. Oral	Cleanses the uterus.
6.	*E. variegata* Prickle	1. External	To remove pus from infections.
7.	*E. variegata* Wood	1. Wood	Utilized for the production of matchsticks
		2. Wood	Used for making rafts
8.	*E. variegata* Entire Plant	1. As a living standard for growing *Piper nigrum* and *P. betle* 2. Fencing and shading purposes. 4. As a divine tree and holy plant (Thala Vriksha) in temples. 5. Traditionally the species is used in marriage ceremonies with a belief that it may boost strong and healthy family relationships forever. 6. Used as a living bole for the storage of hay.	

In ancient times, a myth related with *E. variegata*, explains that persons who gazed upon the flowers of the species will suffer from severe eye pain (Kannu Novu) because of its bright red petals. Instead of being valued for its positive uses, the plant has also been employed as a means of punishment. Individuals who committed transgressions (misbehaviour) were tightly tied to the trunk of *E.variegata* tree, the person bound to the tree would experience severe pain due to prolonged contact with the hard prickles. The prickled stem is also utilized for the removal of placenta from domesticated animals like cows and goats.



Fig. 1. Ethno botanical uses of *Erythrina variegata*: a & b - As live fencing, **c**- As a living standard for *Piper nigrum,* **d-f** – As a 'Thalavriksha', **g & h** – As a fodder, **i** – Utility in ceremonial rituals

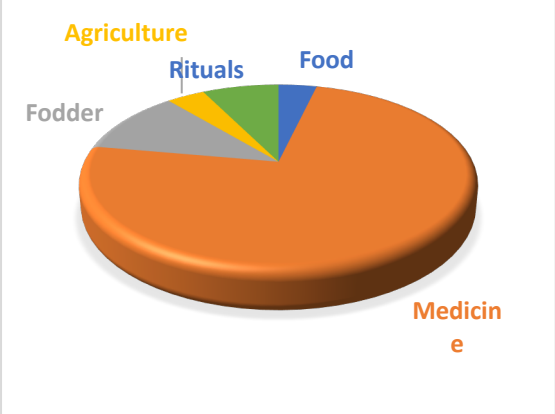


Fig. 2. Plant used in different forms

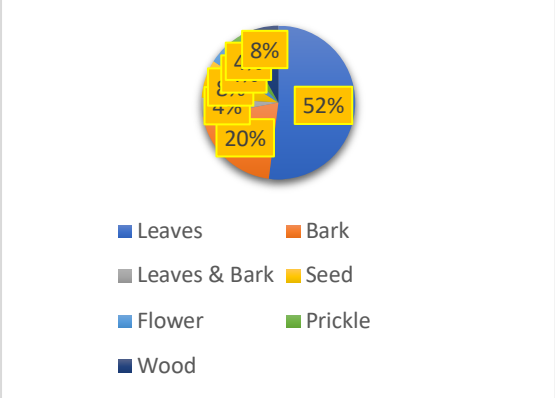


Fig. 3. Utility percentage of different plant parts of *E. variegata*

Discussion and Conclusion

The Indian coral tree, scientifically known as *Erythrina variegata*, has a wide range of uses. However, its population in Kanniyakumari district is currently on the decline due to various factors such as the proliferation of mobile towers, prevalence of pests, and monoculture practices. These factors are adversely affecting the growth and distribution of the species. As a result, an effective conservation strategy for this species in order to protect it from further decline and to ensure its survival in the study area is absolutely a necessary step. Through the study, various valuable traditional uses of the species selected was reported. The *Piper nigrum*, renowned as the "king of spices" is reported to be cultivated in both living and non-living standards, relatively in living standards especially on *E. variegata* may increase its productivity on a long-term basis (Azmil and Yau, 1993, Varughese and Ghawas, 1993, Wong and Paulus, 1993). Some of the typical living standards includes *Erythrina lithosperma* Blume ex. Miq., *Garuga pinnata* Roxb. *Gliricidia sepium* (Jacq.) Steud, and *G. maculata* (H.B. and K) Steud. *Ailanthus malabarica* DC and *Gliricidia pinnata* may also act as best living standards (Rajagopalan and Mammootty, 1996 and Mathew, *et al.,* 1996). *E. variegata* is reported to have a major significance in regulating menstrual cycle in women. Similar activity was also reported with *Zingiber officinale*, *Phyllanthus urinaria*, *Tamarindus indica* and *Phaleria macrocarpa* (Panjaitan *et al.,*2024). Also seeds of *Vigna unguiculata* (L.) Walp. is reported to utilize for relieveing menstrual cycle (Rajith, 2012). Similarly, many species possess such traditional medicinal properties. The leaves of *Dillenia indica* is reported as a relief for stomach ache (Naidu and Reddi, 2018), *Aloe vera* as a stimulant of uterine and in the treatment of eczema (Pandey and Singh, 2016), rootc of *Asparagus racemosus* and *Bombax cieba* to increase the sperm count, *Centella asiatica* and *Nymphaea nouchali* to stop excess menstruation and also to regulate menstruation (Rahman, 2007). Correspondingly, *Erythrina variegata* reported in the sacred groves of Imphal valley is believed to prevent harmful or negative energies (Devi *et al.,* 2025). Other similar reports state the usage of *Butea monosperma* (Prasad, *et al.,* 2006) as a sacred plant by Hindus and Buddhists and also used for the treatment of irregular menstrual bleeding. The wood of species *Desmodium elegans* DC. and *Indigofera heterantha* Brandis Hawansamagri were believed to attract positive energy (Kaushalya *et al.,* 2020). Likewise, *Ficus religiosa* symbolizes faith and is integral to religious and cultural practices (Jaiswa *et al.,*2025). Altogether the study authenticates that the species

E. variegata forms a close relationship with the day today life of the people of the study area encompassing significant traditional values. But due to various known and unknown reasons, currently their exist a steep decline in the population as well as the traditional values of the species in the study area reflecting its extinction from the culture in the near future. Hence, the study suggests that proper conservation strategies and awareness alarms corresponding to the species is an impending need of the hour to conserve as well as for its sustainable utility in the future.

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