

**BIOPROSPECTING OF TRIBAL KNOWLEDGE IN FOOT HILLS OF PAPANASAM - SOUTH INDIA**

N. Nirmal Kumar\*

Research Department of Botany VHN Senthikumara Nadar College (Autonomous) Virudhunagari –Tamilnadu.



\*Corresponding Author: N. Nirmal Kumar

Research Department of Botany VHN Senthikumara Nadar College (Autonomous) Virudhunagari –Tamilnadu.

Article Received on 27/09/2024

Article Revised on 17/10/2024

Article Accepted on 07/11/2024

**INTRODUCTION**

Bioprospecting is the search of useful products derived from bioresources. The useful products may be chemical compounds, genes, micro and macro organisms and other valuable products that are useful in medicinal, industrial and or agricultural and food sectors.

India has great potential for bioprospecting because it is one of the world's richest countries in biodiversity. This is due to a variety of climatic conditions prevailing on different ecological habitats from tropical, sub-tropical, temperate and alpine to desert. The country has over 45,000 species of plants and 77,000 species of animals. About 5,000 species of flowering plants belonging to 141 genera and 47 families had birth in India. About 166 species of crop plants and 320 species of wild relatives of cultivated crops are native of India. There are 62 % of amphibian species and 50 % Lizards, endemic to the country. India has a long coastline of 7, 5000 km with exclusive economic zone of 2.02 million sq. km supporting the most productive ecosystems such as mangroves, coral reefs, estuaries, lagoons and backwaters. About 70 % of global mangrove species and 50 % of the coral reef species are found in this country (Kathiresan, 2005).

India has a rich tradition in medicinal plant study and is the one of twelve mega biodiversity centres and eighteen hot spots in Eastern ghats and Western Ghats apart from being known for ancient civilization and deep-rooted in tradition, is also known for its rich diversity, both cultural as well as biological (Ravikumar et al., 2000). Totally 427 tribe's communities in India. (Kala, 2005). The state of Tamil nadu having 36 scheduled tribes. The different ethnic groups settled through out this place have their own way of life style even in using the plant resources. Tribes are mostly mingled with the forest ecosystem assisting the native societies to "live in harmony with nature" (Prasana, 2006).

The objective is to establish a database of the plants used by Kani tribes with special reference to their indigenous traditional knowledge and create awareness to the local

communities about the conservation strategies of these valuable genetic resources.

**Research site**

Tamil Nadu is the eleven largest states in India with a geographical area of 13005 sq. Kms and lies between 11° 00' to 12° 00' North latitudes and 77° 28' to 78° 50' East longitudes. One among their hotspot of Western ghats 69703 sq. Kms in geographical area and 24,333 recorded forest area. More than 4000 species also were reported (Annamalai, 2004).

The Agasthiayamalai Biosphere Reserve in south Kerala is extended to parts of Kanyakumari and Tirunelveli districts lying between 77° 5' and 77° 40'E longitudes. 8° 20' and 8° 50'N latitudes. South west monsoon from June – September, and north east monsoon in October and November bring rain to this region, and annual rain fall varies at different places from 89 cm to 625 cm. The Tamil Nadu Government is considering for inclusion of areas adjoining the mountain peak 1868 mt (Agasthyakondam) in the reserve (Map 1.), and its environs, comprising 1,701 sq.kms, was designated as the 13th biosphere reserve with the inclusion of areas of Tamil Nadu, the total area will exceed 2,500 sq.km and have many endemic heritage (MoEF, 2004) and inhabited by various ethnic groups such as Kanis, Paliyars and Thodars. Kani tribals are one of the primitive people and settled in secondary hills. There are five tribal settlements such as Tirunelveli zones of Servalar, Agasthiar Kanikudiyiruppu, Mayilar, Periyamayilar and Inchikuzhi (Hendry et al., 1982).

**METHODOLOGY**

Kani Tribal traditional medicinal practices experts having practical knowledge of plants in medicine were interviewed in five settlements of Tirunelveli district.

The ancestral traditional knowledge of Kani people including reliable hakims, physicians in five settlements (Tirunelveli zones) the native plants used for the preparation of drugs and methods of their administration along with doses were recorded, collected through questionnaire as well as informal personal interviews during field trips were carried out in the study area totaling 62 days during October 2023- December 2023.

## RESULTS AND DISCUSSION

Plants have been used as traditional medicine for several thousand years (Abu Rabia 2005). Kani is one such inhabited in Agasthiyamalai. Kani tribal are primarily a semi-romantic community one of the primitive people and settled in secondary hills and they have been originated from Kerala. They have slowly shifted to Tamil nadu and have been settled in the forest of Tirunelveli region. Tribal Botanical knowledge is a divine gift to humanity. Tribals, even today, depend on wild plants and animals for their livelihood.

The exploration of ethnomedicinal survey of medicinal utilization Kani hakims suggest that 76 species of plants distributed in 64 genera belonging to 43 families. The families of the species are arranged in chronological order. Botanical Name, Family, Vernacular Name, Habit, Description, parts used, ethnobotanical use, ethnomedicinal use, Ethnobotanical Uses, Herbal formulation, Dosage and Pictures are described. Indigenous technological knowledge is also described. Sample software screens (See below, Figure 1) and a collection of plant list (Table 1) are given. A Kani tribe settlement is typically a cluster of few families living interspersed with the forest, isolated from any public transports facility. Tribals are comprised largely illiterates, 90 % above can not read and write. Earlier they lived under rock shades and caves, which provided shelter to their people. They speak Malayalam mixed Tamil. The Kani tribe live in harmony with nature and the eco-system. They live in bamboo nets, mainly derived their food from forest produce and still maintain the hunter-gather instincts. They follow animistic religion and a practice of magic healing. Steps must be taken to preserve their identity and their various indigenous technological knowledge. Some of them are employed in hydroelectric project, private estates and forests departments. Now The Tamil nadu governments recognize them as Schedule Tribes in Tirunelveli district.

They are extremely hard working and can survive without the help of modern agricultural implements. They cultivate edible food plants jackfruits, citrus, pineapple, piper, panama, coconut, areca, *Dioscorea species*, *Manicot species* etc. They are socio-economically very poor and still most of them are the forest workers. They guide tourists and researchers. They are also engaged in seasonal collection of honey and some other forests products.

Traditional knowledge is not protected within the patent system as it stands today. The turmeric case highlights the problems faced by India in preventing bio-piracy. The recording of traditional knowledge seeks to reduce the possibility of bio-piracy, but looks to future legislation to effectively protect the rights of the people. Some important structural changes based on sound legal footing are proposed, which can be easily incorporated within the present database, and would go a long way in preventing bio-piracy and protecting the interests of the knowledge-holders (Sangeeta Udgaonkar, 2002).

## SUMMARY AND CONCLUSION

Thus, the present study helped us to understand the Tribal Botanical Knowledge of Kani tribes. The documentation is essential to preserve the Tribal Botanical Knowledge of these tribes. Further, they have to be trained and awareness should be given for the conservation of this biodiversity rich area.

The deterioration of the wild flora of this area is to be blamed on population pressure, forest fires, overgrazing, and browsing. The present population has little knowledge about the medicinal plants of the area because most of the knowledgeable, older persons have passed away and the younger ones are not as informed of traditional methods. However, as in the past, some empirical knowledge of medicinal plants among the tribes continues to be developed and transmitted orally from one generation to the next.

## REFERENCES

1. Kathiresan K, Bioresources and bioprospecting potentials: coastal mangrove ecosystems of India: National seminar on bioprospecting of bioresources. St. Xavier's College (Autonomous) Palayamkottai, 2005; 137-140.
2. Ravikumar K, Ved DK, Vijaya sankar R, and Udayan PS, 100 Red-listed medicinal plants of conservation concern in south India. FRLHT: Bangalore, 2000.
3. Kala CP, Ethnomedicinal botany of the Apatani in the Eastern Himalayan region of India. *Journal of ethnobiology and Ethnomedicine*, 2005; 1: 11.
4. Prasanna K Samal, Pitamber P Dhyani, Gender in the management of indigenous knowledge: reflection from Indian central himalaya. *Curr sci*, 2006; 91(1): 104-108.
5. MoEF, [http://www.envis.tn.nic.in/aboutus\\_enviro\\_year04.html](http://www.envis.tn.nic.in/aboutus_enviro_year04.html). 2004.
6. Annamalai R, Tamil Nadu biodiversity strategy and action plan – Forest Biodiversity. Tamil Nadu Forest Department, Government of Tamil nadu-Chennai, 2004.
7. Hendry AN, Chandraboss M, Swaminathan MS, Nair NC, Agasthiyamalai and its Environs. A potential area for Biosphere reserve. *Journal of Bombay Natural History Society*, 1982; 81: 282-90.

8. Matthew KM, The Flora of the Tamil Nadu Carnatic. The Rapinat Herbarium, St Joseph's College, Tiruchirapalli, India, 1982.
9. Gamble JS, Flora of the Presidency of Madras. Vol I-III. Bishen Singh Mahendra Pal Singh. Dehra Dun, 1993 & 1994.
10. Diane Bridson, Leonard Forman, The herbarium handbook. Royal Botanic Gardens. Kew, 1992.
11. Sangeeta Udgaon Kar, The recording of Traditional knowledge; will it prevent "bio-piracy". *Curr Sci*, 2002; 82(4): 413-419.