

# Aromatic Medicinal Plant Resources of Shivamogga District, Karnataka

Nafeesa Begum<sup>1</sup> and Kiran B.R<sup>2</sup>

<sup>1</sup>Department of Botany, Sahyadri Science College,  
Shivamogga-577203, Karnataka, India

<sup>2</sup>Department of Environmental Science, DDE,  
Kuvempu University, Shankaraghatta, Karnataka, India

## Abstract

The present study deals with the documentation of aromatic plant resources in Shivamogga district of Karnataka. The peoples of this area have a very good knowledge about the usage of these plants. Elder peoples of this area have common knowledge and easy cure for many common ailments and prepare different types of medicines from different plant parts. India is rich in medicinal and aromatic plants and play an important role in the country's agricultural sector due to quantitative and qualitative advantages. These plants can help small-scale farmers to strengthen their livelihoods and capacity to build successful and sustainable activities. A total of 40 aromatic plant species belonging to 33 genera and distributed over 22 families were recorded in the present study area.

**Keywords:** Aromatic plant diversity, Medicinal value, Shivamogga district, Traditional Knowledge.

## 1. Introduction

The knowledge of medicinal plants has been accumulated in the course of many centuries based on different medicinal systems such as Ayurveda, Unani and Siddha. In India it is reported that traditional healers use 2500 plant species and 100 species of plants serve as regular sources of medicine (Pei, 2001). In recent years, there has been a tremendous range of interest in the medicinal plants especially those used in traditional systems of medicines. Drugs obtained from plant are believed to be much safer and exhibit a remarkable efficacy in the treatment of various ailments (Siddiqui, et.al. 1995). The folk medicinal traditions play a reflecting and prominent role in human and environment interaction (Chopra and Nayar,1956). It is estimated that 70 to 80% of the people

worldwide rely chiefly on traditional health care system and largely on herbal medicines (Farnsworth et.al. 1985, 1991, Shengii 2002, Shanley and Luz, 2003; Hiremath et al.,2010).

About 1000 years ago healers in the Aztec and Maya Indian cultures of Mexico and Central America were experimenting with natural curing substances and exploited at least 132 medicinal herbs for the treatment of specific ailments (Evans, 2004; Berdan, 2005; Ashish Kumar and Jnanesha , 2016).

## 2. Essential Oils

Essential oils are isolated from Aromatic plant materials by various distillation process. Whereas, other volatile isolates are obtained by solvent extraction. Aromatic plants contain odorous, volatile, hydrophobic and highly concentrated compounds called essential oils. These are obtained from several organs of the plant such as flowers, buds, seeds, leaves, twigs, bark, wood, fruits and roots (Brenes & Roura, 2010; Ashish Kumar and Jnanesha , 2016). The essential oils are complicated mixtures of secondary metabolites consisting of low-boiling-point phenylpropenes and terpenes (Greathead, 2003 ; Ashish Kumar and Jnanesha , 2016). Essential oils are used for consumer goods viz., detergents, soaps, toilet products, cosmetics, pharmaceuticals, perfumes, confectionery food products, soft drinks, beverages and insecticides.

## 3. Materials and Methods

The present study is an attempt to know the diversity of aromatic plants in Shivamogga district (Figure 1) of Karnataka. Periodic field survey were carried out during July 2017 to December 2017. Standard

methods were followed for the collection of plant materials and preservation of plant species. Voucher specimens were collected, identified, by referring standard flora (Hooker,1884; Gamble ,1936; and Saldhana,1984).

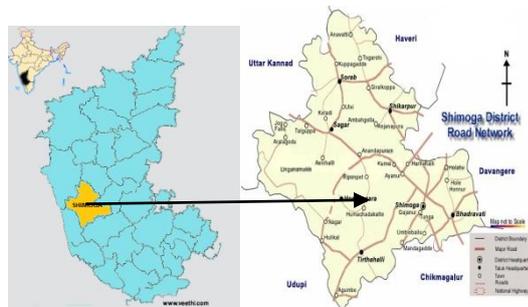


Figure.1 :Study area map (Source: www.veethi.com; en.wikipedia.org)

## 4. Results and Discussion

In this study, a total of 40 aromatic plant species belongs to 33 genera comprising of 22 families were recorded in Shivamogga District, Karnataka. Checklist of aromatic plants is shown in Table 1. They had been cross checked by literature previously reported for usage. Figure 2 depicts the percentage occurrence of these plants in each family.

The traditional knowledge about utilization of local plant species is vital in alternate healthcare system as well as for the self sustenance of local population. High costs coupled with numerous side effects of synthetic drugs are forcing people to depend on the locally available herbal medicine for their healthcare needs. Methods of medical treatment used by knowledgeable elder people and local herbal healers in Shivamogga taluk were totally traditional, very effective and acquired through their ancestors orally. It is high time that these herbal species are scientifically evaluated and conserved for the well being of mankind. These traditional herbal formulations need further pharmacological investigations to prove their efficacy and also develop new drugs for the effective treatment of chronic diseases (Shivanna & Rajakumar,2010).

Green plants synthesis and preserve a variety of biochemical products, many of which are extractable and used as chemical feed stocks or as raw material for various scientific investigations. Many secondary metabolites of plant are commercially important and find use in a number of pharmaceutical compounds. However, a sustained supply of the source material often becomes difficult due to the factors like

environmental changes, cultural practices, diverse geographical distribution, labour cost, selection of the superior plant stock and over exploitation by pharmaceutical industry (Ashish Kumar and Jnanesha , 2016).

Table-1:List of plants of Medicinal aromatic plants in Shivamogga district

Sl. No	Scientific name	Family
1.	<i>Abutilon indicum</i>	Malvaceae
2.	<i>Achyranthus aspera</i>	Amaranthaceae
3.	<i>Aegle marmelos</i>	Rutaceae
4.	<i>Bacopa monnieri</i>	Plantaginaceae
5.	<i>Cymbopogon citratus</i>	Poaceae
6.	<i>Citrus limonum</i>	Rutaceae
7.	<i>Centella asiatica</i>	Apiaceae
8.	<i>Coriandrum sativum</i>	Apiaceae
9.	<i>Capsicum annuum</i>	Solanaceae
10.	<i>Cinnamomum camphora</i>	Lauraceae
11.	<i>Cinnamomum cassia</i>	Lauraceae
12.	<i>Cinnamomum zeylanicum</i>	Lauraceae
13.	<i>Cassia fistula</i>	Caesalpinaceae
14.	<i>Citrus aurantifolia</i>	Rutaceae
15.	<i>Curcuma longa</i>	Zingiberaceae
16.	<i>Eucalyptus globulus</i>	Myrtaceae
17.	<i>Elettaria cardamomum</i>	Zingiberaceae
18.	<i>Eclipta alba</i>	Asteraceae
19.	<i>Ficus racemosa</i>	Moraceae
20.	<i>Ficus religiosa</i>	Moraceae
21.	<i>Jasminum multiflorum</i>	Oleaceae
22.	<i>Lawsonia inermis</i>	Lythraceae
23.	<i>Mentha piperita</i>	Lamiaceae
24.	<i>Ocimum basilicum</i>	Lamiaceae
25.	<i>Ocimum sanctum</i>	Lamiaceae
26.	<i>Piper longum</i>	Piperaceae
27.	<i>Piper nigrum</i>	Piperaceae
28.	<i>Solanum nigrum</i>	Solanaceae
29.	<i>Solanum indicum</i>	Solanaceae
30.	<i>Syzygium aromaticum</i>	Myrtaceae
31.	<i>Santalum album</i>	Santalaceae
32.	<i>Tinospora cordifolia</i>	Menispermaceae
33.	<i>Tagetes erecta</i>	Asteraceae
34.	<i>Tamarindus indica</i>	Caesalpinaceae
35.	<i>Trigonella foenum</i>	Fabaceae
36.	<i>Vitex negundo</i>	Lamiaceae
37.	<i>Vanilla sp.</i>	Orchidaceae
38.	<i>Withania somnifera</i>	Solanaceae
39.	<i>Zingiber officinale</i>	Zingiberaceae
40.	<i>Ziziphus jujuba</i>	Rhamnaceae

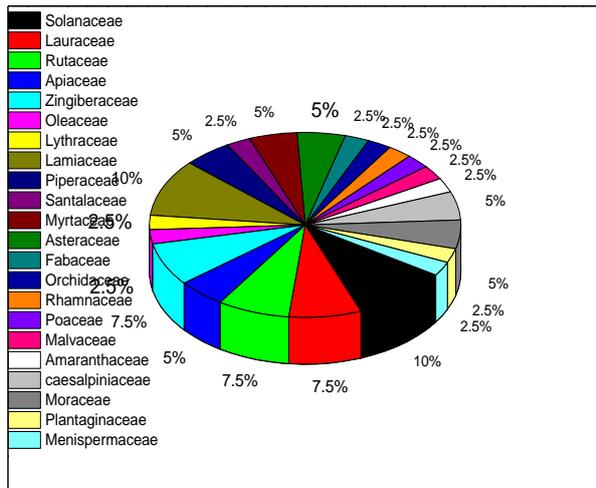


Figure 2 Percentage distribution of Aromatic Medicinal plants in each family of Shivamogga district, Karnataka

## 5. Conclusions

In this study, we have documented the list of aromatic medicinal plants in the Shivamogga district of Karnataka. This study can serve as baseline information on the medicinal plants prosperity of this area. Further study will throw more light about the vast wealth of ethnobotanical information. Further pharmacological and clinical studies on these plants will provide effective natural medicines for various treatment and it will also be useful to determine in the bio-prospecting potential of these plants. The conservation status of aromatic plant species in trade should also be studied. This clearly opens up a huge challenge for conservationist, policy makers, researchers, industry and farmers to manage one of the most important natural resources, medicinal and aromatic plants judiciously.

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