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RESEARCH ARTICLE

ETHNOMEDICINAL STUDIES OF SOME MYRTACEAE PLANTS FROM NANDED REGION OF MAHARASTRA

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Abstract

Nanded is one of the most biodiversity rich region of Maharashtra. This area is having deciduous regions known as Kinwat, Mahur and Shitakhandi forest. The regional peoples uses many traditional medicines for the treatments of various diseases. The aim of current research is to survey and documents ethno-medicinal usages of family Myrtaceae. For this data collection many time field visits were given. All the collected data and information were confirmed using available literature. Total six plants of Myrtaceae were reported in the study. *Syzygium cumini* (Jamun), *Psidium guajava* L. (Guava), *Eucalyptus globules* (Nilgiri) are the common plants reported in survey including *Callistemon citrinus* (Bottle brush), *Syzygium aromaticum* L. (Laong), and *Syzygium jambos* L. The plants reported in the present study were found to be used by local peoples for the treatments of different ailments.

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Introduction:-

Many plants are used as traditional medicine from an ancient period. According to World Health Organization (WHO) traditional medicine has been an integral resources for health since centuries in communities around the world. Herbal medicines are used by many tribal peoples, the biodiversity heritages of herbal drugs are invaluable resources to evolve, inclusive diverse sustainable ecosystem. Ethnomedicine or herbal medicine also stand part of pharmaceutical industries. Over 40% of pharmaceutical formulation are based on natural products and land mark drugs. India has been known for higher ethnobotanical wealth and numerous medicinal plants growing in the different region[1]. The Indian system of medicine is part of our cultural heritage and have cost effective and efficient patient managements throughout the ages[2].

Myrtaceae family is one of the medicinally and economically useful one. Plants belong to this family are distributed world wide. This family is commonly known as myrtle family. It include over 5650 species occurring in some 130-150 genera, almost all species are woody, with essential oils[3]. Myrtaceous plants are abundantly found in Australia, where some Eucalyptus tree are world tallest tree of angiosperms. In India the family is represented by about 15 genera and over 170 species [4].

Many members of this family is used as food and medicine. Myrtaceae is considered as economically important throughout the world like edible fruit of Guava (*Psidium guajava*), Jamun (*Syzygium cumini*), spices such as cloves (dried flower bud of *Syzygium aromaticum*), cultivated domestically as ornamental bottle brush plants (*Callistemon*

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citrus), wild and cultivated plants of eucalyptus (*Eucalyptus globules*) and myrtle plants (*Myrtus communis*) [5]. Many fruits of the myrtaceae have a rich history of uses both as edible and traditional medicine in divergent ethnobotanical practices throughout the tropical and sub-tropical world. The fruits have been used for a wide variety of ailments including cough, diabetes, dysentery, inflammation and ringworm [6]. In Maharashtra and specially in Nanded region few members of Myrtaceae plants are found in abundance [7].

Materials and Methods:-

Study Area

Maharashtra is one of the biodiversity rich states of India. Nanded is located in the eastern part of Maharashtra state and also in the eastern region of Maharashtra which includes the Aurangabad division. It covers a total area of 10332 sq km. Geographical position of this district lies between 18° 15' to 19° 55' north latitudes and 77° 0' to 78° 25' East longitudes.

This region has a more diversity of flora and fauna due to the Godavari river which flows through the district and has different forests such as Shita-khandi, Kinwat and Mahur forest towards the eastern side.

Data Collection:-

Ethnobotanical survey was conducted at Shita-khandi, Kinwat forest and other parts of districts. Ethnobotanical survey was carried out in January 2021 to June 2022. The data collection from different parts of the district was based on direct visits, personal observation of treated people and interviews with traditional healers namely medicine men, vaidus, old age men [8]. The maximum information was collected from experienced aged rural folk, local people, traditional medicine practitioners, rural herbal medicine sellers and compared it with available literature [9]. The information collected in this study includes plant name, parts and forms of plants which are used, mode of action, mode of administration etc.

After the interviews with many folk medicine practitioners preliminary identification of plants was done in the laboratory using available floras. The herbarium specimen was prepared and photographs were taken. Plant parts such as stem, bark, root, leaves and fruits were collected, dried in shade for making its powder.

Table 1:- List of medicinal plants of Myrtaceae and its uses against different diseases.

Sr. No.	Botanical Name	Local Name	Habits	Part Used	Mode of Preparation	Route of Administration	Ethno-medicinal Use / Disease
1	<i>Psidium guajava</i> L.	Amrood	Tree	Leaves	Decoction Juice	Oral	Cholera, diarrhea, Astringents, use for bowels, ulcers, vomiting, piles. Anti-microbial, Anti-plasmodial. Bronchitis, asthma attacks, cough, pulmonary disease treated with guava teas.
				Roots	Decoction	Oral	Relieve diarrhea, dysentery, cough, stomach ache, toothaches, and indigestion. Used as astringent in ulcers and wounds.
				Bark	Powder Decoction	Oral Topical	Treatment of wounds, diarrhea, dysentery and ailments. Used in infection of skin, vaginal hemorrhage, fever and dehydration.
				Fruits	Ripen Fruit	Oral	Anti-Diabetic, Used as anti-oxidant, anti-inflammatory, hepatoprotectant, Anti-microbial, Anti-plasmodial.

2	<i>Syzygium cumini/ Eugenia jambolanum</i>	Jamun	Tree	Leaves	Juice	Oral	Dysentery, diarrhea Leaves are Astringents, tonic to the Liver, stomachic, carminative and diuretic. Used for jaundice.
				Bark	Liquor Juice	Oral	Used for sore throat, Astringents and diarrhea, used for stomachache, anthelmintic of bowels, headache, roughness loss of skin coloration
				Fruits Seed	fruits Seed Powder	Oral	Seed used for diabetes, the mature fruit used for indigestion,
3	<i>Eucalyptus globules</i>	Eucalyptus	Tree	Leaves	Paste	Topical	Antiseptic, burns, infection of upper respiration tract, rheumatism, skin diseases, leaves used in bath pain relief ointment.
				Bark	Powder	Topical	Pain relief, antibacterial, antiseptic, burns
				Oil	Oil	Oral in some syrup and Topical	Antibacterial, anti-tumor, promote oral healths, used as runny noses, cold and coughs, ingredient of cough syrups, vapor and rubs bath
4	<i>Callistemon citrinus</i>	Bottle Brush	Tree	Leaves	Decoction	Oral	Anti oxidant, Treatment of urinary Disease, genitourinary tract and menstrual cycle,
				Bark	Decoction	Oral	Used as Diuretic anti-bacterial and antifungal activity.
				Flower	Decoction	Oral	Anti-tumor activity,
5	<i>Syzygium aromaticum L.</i>	laung	Tree	Bud	Powder	Oral	Carminative used in dyspepsia, used as stimulant.
				Oil	Oil	Oral	Anti-inflammatory, analgesic, antimicrobial, anti-oxidant, Used for toothache, Constipation.

6	<i>Syzygium jambos</i> L	Golapjam	Small tree	Leaves	Paste	Topical	Boiled and used in sore eye,
				Bark	Decoction	Oral	Astringent to the bowels , used in dysentery, asthmas and fatigue.
				fruits	Fresh fruits	Oral	As tonic, seed used as astringents,

Results and Discussion:-

All the information were collected on the basis of interview of many folk peoples, tribes herbal seller and old aged medicinal experienced peoples. All the data and information checked using literature and compared with many reputed papers published in journals. Very few member of the myrtaceae family were found in Marathwada region. Most of the plants are common and cultivated in many area of district. Most common member of are Guava, Eucalyptus, Jamun and bottle brush plants reported in the district. All these plants are cultivated (Guava, Jamun), some are wild (Eucalyptus) and some are ornamental (Bottle brush). The total 6 plants of this family were found common in this region. The *Callistemon citrinus* (bottle brush) plant is invasive, cultivated in many garden for ornamental purpose for there beautiful red flowers. This plant is used in many disease treatments. Specially tribal peoples of Kinwat, Mahur, and Shita-khandi forest uses this medicinal plants against various ailments.

The guava plants is very common in this area and is cultivated largely for its fruits. Different part of guava plants such as leaves, bark, root and fruits are used as herbal medicine. Guava plants (*Psidium guajava* L) is used in the treatments of diabetes, cholera, diarrhea, as astringents, used for bowels, ulcers, vomiting, piles. It has anti-microbial, anti-plasmodial properties. Bronchitis, asthma attacks, cough, pulmonary disease treated with guava tea.

Syzygium cumini (Jamun) plant is also grow for food and medicinal purpose. Mostly jamun plant is found in wild but now a days it is cultivated for its medicinal value. Leaves, bark and fruits are used for the treatment of diabetes, sore throat, astringent and diarrhea. It has medicinal property and used for headache, stomachache, roughness loss of skin coloration. Seed are used for diabetes, the mature fruit used for indigestion. The eucalyptus tree is cultivated and occurs in wild, also Eucalyptus leaves, bark and oil used for anti-inflammanatory, pain relief, anti-tumor purpose, it is used for running noses, cold and coughs, promote oral healths and is ingredient of cough syrups, vapor and rubs bath.

Syzygium aromaticum L. (laong) very rarely found in this region, some peoples grow this plant in our garden and farms. Laong plants used in anti-microbial, carminative, in dyspepsia and as stimulant. It has analgesic, anti-inflammatory, anti-oxidant property and used for toothache. *Callistemon citrinus* (bottle brush) plant is found in urban area and planted in home garden for ornamental, its rarely occurs in forest. Most of the people don't know about medicinal use of bottle brush plants because bottle brush plants is exotic species. But on the bases of literature available bottle brush plant is used in treatment of urinary disease, anti oxidant, genitourinary tract and menstrual cycle complication, it has antifungal activity, diuretic and has anti-bacterial property also.

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