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Ethnobotanical and Ethnomedicinal Studies of Salher and Mulher Forest from District Nashik (Maharashtra)

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ABSTRACT

Herbs are an integral part of variety of cultures in India and have been used over centuries. The aim of this study is to document the Ethnobotanical plants from Salher and Mulher and its adjoining areas and to collect information regarding various uses of plants. The area is near to famous Dang forest of Gujarat. It is a representative area from Western Ghats of Maharashtra. The forest area comprises a rich biosphere ranging from thick evergreen forest to heavily eroded barren hills. The survey was conducted during the period July 2017 to October 2018. Information was gathered from native tribes of this region namely Bhil, Kokana and Mahadeo koli. These tribes use herbal medicine as a primary mode of health care. A total 33 species belonging to 31 genera and 28 families have been documented in this study. The medicinal plants used by Bhil and Kokana are listed with botanical name, family, local name and their ethnomedical uses. It was observed that the documented ethnomedicinal plants were mostly used to cure skin diseases, stomach disorders, jaundice, poison bites, impotency etc. The tribal people use different modes of administration of drugs like kadhas (decoction), bhasmas (ash), paste, poultice, powder, infusion etc. The knowledge about these practices has been handed over from one generation to other but it now faces the danger of getting lost with passing years. So, it is necessary to identify and document these species for their conservation and sustainable utilization. These studies will also provide new material for workers in the field of Phytochemistry and Pharmacology.

Key words: Ethnobotanical, Herbal drug, Salher and Mulher

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INTRODUCTION

Ethnobotany is the scientific study of relationship that exists between people and plants. Ethnobotanists aim to document, describe and explain the complex relationship between culture and uses of plants.

The study of ethnic uses of plant species is very important to modern medicine. Ethnobotany is a rapidly growing science, attracting people with widely varying academic background and interest. In India the ethnobotanical studies were carried out by many workers such as Vartak and Gadgil (1980), Manilal (1989), Jain *et.al* (1989) and Jagdale (1994) have explored the flora, ecology and vegetation of Maharashtra. Biodiversity among plants plays a vital role in fulfilling human needs such as food, fodder, dwellings, fuels, medicine, veterinary medicine, religious ceremonies and for sacred purposes. Conservation of biodiversity leads to conservation of ecological, genetical and species diversity of the plants and animals which in turn provide life support to man in various forms such as food, medicine, educational, cultural and scientific activities. Habitats are endangered by human activities, so there is urgent need to study and conserve the biodiversity. Many rare, endangered and endemic species of India are distributed in this region.

METHODOLOGY:-

The present investigations were carried out from Salher and Mulher forest from District Nashik, Maharashtra. Salher and Mulher forest is a representative area from the Western Ghats of Maharashtra. The Western Ghats comprises a rich biosphere ranging from thick evergreen forest to heavily eroded barren hills. Various studies have been carried out because of the rich vegetation cover is still high and diverse. Nayar M.P. *et.al* (1987, 1988, 1980) worked on Red Data Book of Indian Plants, Gaikwad *et.al* (2014) Enlisted Endemic Flowering Plants of Northern Western Ghats of India, Kamble *et.al.*(2016) worked on New Record on Endemic and critically Endangered Mycorrhizal plant. Nashik district is located between latitude 20^{0}50 ' and

longitudes 75°35' and extend over the area of 15,537 sq. km. It is bounded on the northwest by the Dang and Surat district of Gujarat state on the north by Dhule district, on the east by Jalgaon and Aurangabad district, on the south by Ahmednagar and south-west by Thane district of Maharashtra state. The survey was conducted from July 2017 to October 2018 from native tribes of this region mainly Bhil, Kokana, Mahadeo koli.

To collect the data of Ethnobotanical plants frequent visits were arranged in different seasons (monsoon, winter and summer). Information was collected from tribal people conducting oral interviews of Vaidu, Bhagat and elderly village people who have knowledge of therapeutic uses of indigenous plants and mostly use them in treating various ailments. The documented species were identified by referring various Floras, Keys and Monographs such as Flora of Maharashtra by Almeida (1996-2009), Singh *et.al* (2000), Flora of Nashik District by P. Lakshminarasimhan and B.D. Sharma.

ENUMERATION OF PLANTS:-

1) Amorphophallus commutatus (Schott) Engl. (Araceae) - Mogari Kand

Ethnobotanical Uses:

1) Tuber paste applied to the person's body that is suffered from 'Daitis'.

2) Leaves are used as vegetable.

3) Tuber is boiled and used as vegetable.

2) Argereia nervosa (Burm.f.) Bojer.(Convolvulaceae) - Samudrashoka

Ethnobotanical Uses:

1) Decoction made from tuber and given in irregular menstrual cycle.

2) Tuber is warmed and gently applied on swelling and inflammation in thighs.

3) Asparagus africanus Lam. (Liliaceae) - Asavel

Ethnobotanical Uses:

1) The roots are boiled, mix with milk and given to women after child birth to improve lactation.

2) The leaves are applied on scalp to promote hair growth.

3) Leaves, roots soaked in water and given to treat mental disturbance.

4) Balanities roxburghii Planch. (Balannitaceae) - Hinganbet

Ethnobotanical Uses:

1) Root infusion given twice a day to treat leucoderma.

2) Fruit powder is given twice a day in cough, cold and fevers.

3) Seed oil applied on burns and wounds.

5) Bombax ceiba L. (Bombacaceae) – Kate Savar

Ethnobotanical Uses:

1) Decoction of gum is prepared along with sugar and given as tonic.

2) Wood is used to make plank and tied on fractured hand or leg.

3) Gum boiled in water and given to treat diarrhea and dysentery.

4) Gum with roots of *Mimosa pudica* and filaments of lotus taken in equal parts and boiled together in water and given with Goat milk to treat dysentery of adults.

6) Boswellia serrata Triana & Planch. (Burseraceae) - Salai

Ethnobotanical Uses:

1) Bark paste applied on affected joints and weight bearing joints such as knees, feet and spine.

2) Stem bark made into paste and applied for back pain.

3) Gum, resin combined with coconut oil and applied on swellings.

4) Gum and resin with coconut oil applied to treat boils and ringworm.

5) Wood is used for fuel and as furniture.

6) Decoction of resin given to drink to inhibit the tumor growth.

7) Butea monosperma (Lam.) Taub. (Fabaceae) - Palas

Ethnobotanical Uses:

1) Root is soaked in water and squash to make "Chaura" that is used to tie on Ox horns on the occasion of "Bail Pola."

2) The paste of steamed flowers applied on stomach to treat paining in urination and unclear urine.

3) Flowers are used to make natural colour at the time of holi festival.

4) Leaves are used for making plates, cups, topali and for thatching roofs.

5) Leaves are used to make Ghongadi with Bamboo strips.

6) Decoction is prepared from seeds and used to treat sunstroke.

8) Celastrus paniculatus Willd. (Celastraceae) - Malkanguni

Ethnobotanical Uses:

1) Decoction of root powder is given to treat tumor.

2) Seed oil is prepared and applied on joint pains and rheumatism.

9) Ceropegia mahabalie Hemadri & M.Y. Ansari (Asclepediaceae) - Kandilphul

Ethnobotanical Uses:

1) Tuber is eaten raw for night blindness.

2) Tuber is known as tonic for good health.

10) Cyphostema auriculatum (Roxb.) P. Singh & B.V. Shetty (Vitaceae) – Kali vel

Ethnobotanical Uses:

1) Bark decoction is given as an antidote for snake bite.

2) Bark infusion with honey applied twice a day in burns and boils.

11) Cheilanthus farinosa (Forssk). Kaulf. (Cheilanthaceae) - Morjiva

Ethnobotanical Uses:

1) Whole plant decoction given once a day in chest pain.

2) Roots are boiled in water by adding pinch of salt and given twice a day to treat stomachache.

3) Root paste applied to reduce itchy inflammation of the skin.

12) Chlorophytum borivilianum Santapau & R.R.Fern. (Liliaceae) – Safed Musali

Ethnobotanical Uses:

1) Infusion of fresh root given a day in weakness.

2) Root decoction along with turmeric given twice a day in rheumatism.

3) Root powder along with barley used to make capsules and given twice a day before food for 3 months to improve sexual health of males.

13) Curcilago orchiodes Gaertn. (Hypoxidaceae) - Kali Musali

Ethnobotanical Uses:

1) Root powder is given with milk in white discharge in menstrual cycle.

2) Root paste applied on injuries and septics.

14) Curcuma neigherrensis Wight. (Zingiberaceae) - Jangli Halad

Ethnobotanical Uses:

1) Rhizome is used to make 'Tavit'.

2) Leaves are eaten raw to cure fever in small childrens.

3) Rhizome powder mixed in water and given orally in fever.

15) Diopyrous montana Roxb. (Ebenaceae) - Pali / Khudal

Ethnobotanical Uses:

1) Fruits and leaves are crushed and poured in ponds and lakes for stufyfying fishesh.

2) Fruit paste applied externally to treat boils.

16) Dioscorea bulbifera L. (Dioscoreaceae) - Jaicha-mor

Ethnobotanical Uses:

1) Tubers are cooked and eaten.

2) Inflorescence is used as vegetable and sold in local markets.

17) Ensete superbum Roxb. (Musaceae) - Jangli Keli

Ethnobotanical Uses:

1) Juice is obtained from fruit cone and given orally to reduced heat from body.

2) Fruit juice given orally to treat kidney stone

18) Erythrina variegata L. (Fabaceae) - Pangara

Ethnobotanical Uses:

1) Leaves boiled in water with coconut and made into paste to massage for joint pains.

2) Wood is used for hut construction.

3) Inner bark is made warm over fire and kept on joints to reduce arthritis.

4) Seeds are boiled in water and given as an antidote in snake bite.

5) Flower decoction given twice a day to relieve chest pain.

19) Ficus exasperata Vahl. (Moraceae) - Bhui – umbar

Ethnobotanical Uses:

1) Fruit decoction is given to treat sterility in women.

2) Wood ash or charcoal is applied on lesions caused by leprosy and on wounds.

20) Hardwickia binata Roxb. (Caesalpinaceae) - Anjan

Ethnobotanical Uses:

1) Leaves are used as fodder for cows and buffaloes that improves lactation and milk quality.

2) Wood is used as fuel.

3) Wood used for making agricultural implements like cart wheels, ploughs.

4) Resin used for dressing the sores of domestic animals.

21) Helicteris isora L. (Sterculiaceae) – Murudsheng

Ethnobotanical Uses:

1) Pod extract is given as a tonic to small babies and weak children.

2) Paste of pods given to children's twice a day to cure stomachache.

3) Pod extract given twice a day to small children's in dysentery.

4) Juice is extracted from root bark and given in stomach disorders.

5) Seed powder mixed in castor oil and applied in ulcers in the ear.

22) Heracleum grande L. (Apiaceae) - Bafali

Ethnobotanical Uses:

1) Root powder is mixed in Bajara floor and given in cough and cold.

2) Root infusion is taken once a day for 2-3 days during stomachache and gas problems.

3) Tablets are prepared from fruits with Bajara flour and given in many diseases.

23) Kedrostis rostrata (Rottl.) Cong. (Cucurbitaceae) - Mirchi kand

Ethnobotanical Uses:

1) Tuber is given to eat as an antidote in snake bite.

2) Tuber boiled in water and given to treat stomachache.

24) Lannea coromandelica (Houtt.) Merr. (Anacardiaceae) - Modhal

Ethnobotanical Uses:

1) Gum is diluted in water and given orally in menstrual complaint.

2) Leaf juice is given early in the morning and evening before meal for 4-5 days in piles.

25) Mallotus phillipensis (Lam.) (Euphorbiaceae) - Lokhandi

Ethnobotanical Uses:

1) Fruit powder is mixed with sesame oil and used to treat skin disease like eczema and wounds.

2) Seed powder along with honey or water is given to expell intestinal worms.

26) Meyna laxiflora Robuns. (Rubiaceae) - Aaval

Ethnobotanical Uses:

1) The illed person lost their food taste so to improve food taste, fruits are eaten.

2) Leaves are chewed to treat abdominal swelling.

3) Ripe fruits are eaten and pickled.

27) Pimpinella heyneana (DC.) Benth (Apiaceae) - Dongar Jira

Ethnobotanical Uses:

1) Roots are given to chew to cure cough, cold and sore throat.

2) Roots are crushed mixed in Bajara flour and given to cure unknown diseases.

28) Terminalia arjuna (Roxb.) Wight & Arm (Combretaceae) – Sadada

Ethnobotanical Uses:

1) Timber is used in making furniture and construction.

2) Bark powder given with milk by adding sugar in fractures.

3) Bark decoction along with Guggul, Ginger, Turmeric, Aloe vera juice, Garlic given once a day in heart attack for 3 months.

4) Gum is used as tonic.

29) Terminalia bellerica (Gaertn.) Roxb. (Combretaceae)- Behada

Ethnobotanical Uses:

1) Fruits with fruits of *Syzygium cumini* are powdered and decoction is given in diabetes and acidity.

2) Bark extract applied externally at the site of scorpion sting.

3) Fruits are used in preperation of churna with *Terminalia chubula* and *Terminalia arjuna*.

30) Terminalia chebula Retz.(Combretaceae) - Hirada

Ethnobotanical Uses:

1) Fruits powder is kept on cavities in toothache.

2) Unripe fruit juice applied on wound and injuries.

3) Fruits are chewed in cough.

4) Fruit decoction along with fruits of *Terminallia arjuna*, leaves of *Ocimum sanctum*, fruits of *Aegle marmelos* given once a day for the treatment of heart ailments and to increase cardiac outflow.

31) Trichosanthus tricuspidata Lour. (Cucurbitaceae) - Kaudal

Ethnobotanical Uses:

1) Seed powder mixed in water and given once a day for five days after menses as contraceptive.

2) Leaf juice is rubbed over the whole body in remittent fever.

32) Woodfordia fruiticosa (L.) Kurz. (Lythraceae) - Dhayati

Ethnobotanical Uses:

1) Root extract with roots of *Helicteris isora* is given as an antidote in snake bite.

2) Flowers used as a dye.

33) Wrightia tinctoria (Roxb.) R.Br. (Apocynaceae) - Kala-Kuda

Ethnobotanical Uses:

1) Bark is rubbed in small childrens urine and paste is applied on legs to cure rheumatism.

2) Bark extract with *Helicteris isora* fruits given twice a day in dysentery and stomach pain.

3) Bark extract used to treat infectious diseases of skin in domestic grazing animals such as cattle, sheep.

RESULT AND DISCUSSION

In these study area of Salher and Mulher Forest about 33 species play a key role in welfare of mankind in respect to food, fodder, medicine and shelter. The present attempt revealed that 33 species belonging to 31 genera of 28 families are used for different purposes. Amongst the plants located in the study area *Celastrus paniculatus* used in cancer treatment, *Terminallia arjuna* to improve heart function. *Ceroprgia mahaballie* for good health, *Helicteris isora* and *Bombax ceiba* is given as a tonic in weakness to small children, *Cyphostema auriculatum* as an antidote for snake bite, *Butea monosperma* to treat paining in urination, *Terminallia bellerica* in acidity and scorpion sting, *Kedrostris rostrata* for snake bite, *Trichosanthus tricuspidata* as a contraceptive, *Heracleum grande* in cough, cold, stomache ache.

The present study area of Salher and Mulher has good Ethnobotanical potential for medicinal plants. The traditional folk medicines of the world have brought to light some of these rare wonder herbs which make big promise to salvage the mankind from some of the deadly human diseases.The knowledge about these practices has been transmitted from generation to generation, but it is being lost due to lack of interest of younger generation and due to over exploitation.Therefore there is immediate need to conserve the important species by using modern techniques like micro propagation, *In-situ*, and *Ex-situ* conservation.

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