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ETHNOBOTANICAL DOCUMENTATION OF LAMIACEAE FLORA FROM KINWAT AND MAHUR REGION OF NANDED DISTRICT, MAHARASHTRA STATE (INDIA)

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ABSTRACT

An exploratory ethno-botanical survey was undertaken to retrieve peculiar information on the use of medicinal plants belonging to family Lamiaceae used for the treatment of various diseases by tribal communities of Kinwat and Mahur region of Nanded District, Maharashtra. In the present study we are giving morphological information of 20 different members belonging to family Lamiaceae with their some medicinal uses as described by local healers or vaidus from this region. The plants like *Ocimum tenuiflorum, O. gratissium, O. bascilicum, O. americanum, Lavandula bipinnata* (Roth) Kuntz, *Leonotis nepetifolia* (L.) R. Br. and *Leucas aspera* (Willd.) Link. etc. belonging to Lamiaceae are considered as important sources of medicine and drugs with many secondary metabolites and essential oils recommended for treatment of malaria, diarrhoea, bronchial asthma, dysentery, bronchitis, skin diseases, arthritis, painful eye diseases, chronic fever and eye diseases etc.

KEYWORDS: Lamiaceae family, *O. bascilicum*, Kinwat, Mahur etc.

INTRODUCTION

Out of total 150 reported species of the world in India, 68 species of *Ocimum* are found till date. Plants belonging to family Lamiaceae are very effective source of traditional and modern medicines, useful for primary health care. *Ocimum sanctum* L. commonly known as holy basil (Tulsi) is an herbaceous perennial, belongs to family Lamiaceae and is considered

as very important source of medicine and drugs with many secondary metabolites and essential oils recommended for treatment of malaria, diarrhoea, bronchial asthma, dysentery, bronchitis, skin diseases, arthritis, painful eye diseases, chronic fever and eye diseases etc.(Bohan et. al. 1994 and Bonjar 2004). Therefore, the present study is mainly focussed on the Ethnobotanical documentation of20 different members belonging to family Lamiaceaeused for the treatment of various diseases by tribal communities of Kinwat and Mahur region of Nanded District, Maharashtra.

MATERIALS AND METHODS

Ethnobotanical study

The observations are based on the basis of Ethnobotanical survey carried out fromthe region of Kinwat and Mahur region of Maharashtra. The peculiar information is obtained through interviews with Local healers, Vaidus and Experts having good knowledge of herbal drugs and medicinal plant. The information regarding the medicinal plants and its proper uses along with its local names, its useful parts, mode of preparation and administration was collected through simple basic questionnaires. By using standard scientific methodscollection of plant materials, drying, mounting of plant specimens was done. The identification and nomenclature of plants are based on Flora of Marathawada (V.N. Naik 1998). The herbarium sheets of collected plants specimens are deposited at Department of Botany, N.E.S. Science College, Nanded.

Study area: Kinwat and Mahur taluka is located in northern part of Nanded district. The Kinwat and Mahur Talukas are bounded by thick forested area of Nanded District. It consists very biodiverse and rich vegetation as compared others talukas of Nanded district. Kinwat is located at 19.63°N 78.2°E and Mahur between $19^0$49'to$19^0$83' North latitude and 77^0 91' to $77^0$55` East longitude. The main river is Penganga is main stream for constant water flow which flows from the South to North direction. The total area of land of Kinwat Taluka is 201235 Sq. Km., out of that 57256 Sq. Km. covered by forest area and Mahur Taluka is 52160 hectares of which 14397.39 hectares area covered with forest. Which are inhabitated by tribal population of aborigines like Andh, Kolam, Gond, Naikede and Pradhan.

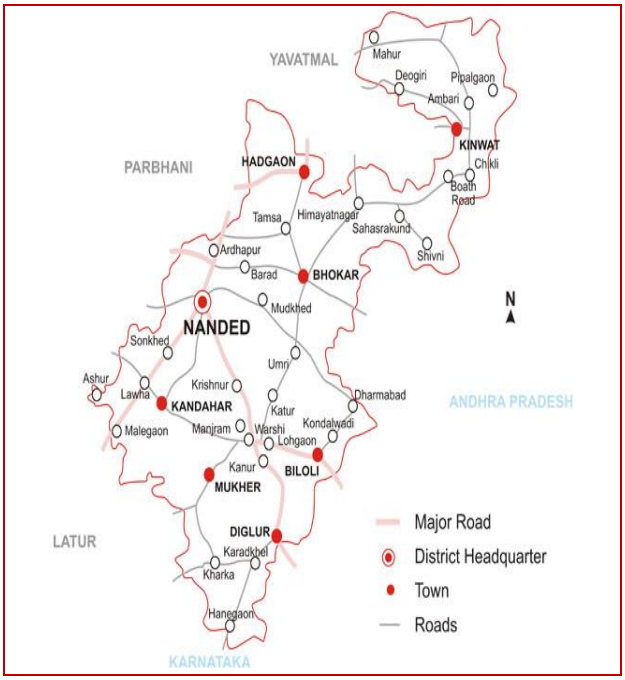

Figure 1: Study area: Nanded district Map.

Enumeration of some of important the *Ocimum* species from Family Lamiaceae

Ocimum americanum

Morphology: - It is a pubescent erects much branched herb having 15 to 60 cms high with a sub-quadrangular striate branches. Leaves are elliptical, entire or faintly toothed, glabrous and gland dotted. Flowers are white, pink or purplish in elongate racemes with more or less closely set whorls. Fruits are small, pitted, mucilaginous when wetted found in open fields and waste lands.

THERAPEUTIC USES:- Aqueous decoction of Tulsi leaves is given to patients suffering from gastric and hepatic disorders. Herbal preparations containing Ocimum have been suggested to shorten the course of illness, clinical symptoms and biochemical parameters in patients suffering from viral hepatitis. The leaf juice of *Ocimum americanum* along with Triphala is used in Ayurvedic eye drop preparations recommended for glaucoma, cataract, chronic conjunctivitis and other painful eye diseases. The juice of fresh leaves is also given to patients to treat chronic fever, dysentery, haemorrhage and dyspepsia. A decoction of Tulsi leaves is a popular remedy for cold. Tulsi leaves also check vomiting and has been as antihelmintic.

Ocimum basilicum

Morphology:- Ocimum basilicum is an annual plant found widely in the tropical, subtropical and temperate regions of the world. Grow about two feet long. Leaves are opposite, narrow at the tips. Flowers are verticillaster and they are often white, labiate (like lips) and are six in numbers, pedicel is almost sessile, calyx is five lobed, bilabiate. It reaches a mature height of 15-18 inches with white flower spikes. Dwarf Bush Basil grows in the form of a globe and normally doesn't exceed 8-10 inches in height. The leaves are small and the flavor is mild.

THERAPEUTIC USES:- Demulcent, Antiperiodics, Emmenagogue. The Leaves of *O. basilicum* are aromatic used as a expectorant. Decoction of the leaves is effective in gastric and hepatic disorders and also most useful in catarrh, bronchitis, in cough (due to heat). It is used for stomach problems it acts as diuretic, tonic. Usually leaves are brushed into paste and applied over the inflammations best treatment seeds are mucilaginous and demulcent, used, as a home remedies, urino-genital diseases, such as gonorrhoea. Oil of seeds are best in medication of syphilis, otitis and otorrhoea, whereas the fragrant oil of basil leaves and seeds (obtained after steam distillation) are used in perfumes and toiletries.

Decoction of roots is useful in malarial fever as antiperiodics leaves extract is used as eardrops in earache. The flowering tops are used to flavour foods, in dental and oral products and in fragrances. These are used frequently in soups, desserts, pickles, pizza, spaghetti sauce, egg, cheese dishes, tomato juice, dressings, confectionery, salads, meat products etc. Basil is well known as a plant of a folk medicinal value.

Ocimum gratissimum

Morphology*: Ocimum gratissimum* is an aromatic, perennial herb 1-3 m tall; stem erect, round-quadrangular, much branched, glabrous or pubescent, w:oody at the base, often with epidermis peeling in strips.

THERAPEUTIC USES:- Clove basil is an aromatic, stimulant, antispasmodic, antiseptic herb that repels insects. • Expels internal parasites and lowers fevers. The leaves and stems are used internally in the treatment of colds, especially chest colds; fevers, headache, impotence, diarrhoea, dysentery, post-partum problems, and worms in children. • Applied externally, the leaves are used to treat rheumatism and lumbago. • An essential oil obtained from the leaf has shown marked antibacterial activity.

Ocimum tenuiflorum

Morphology: Holy basil is an erect many branched having 30-60cm tall with hairy stems. Leaves are green or purple they are simple with an ovate up to 5cm (2.0in) long blade which usually has a slightly toothed margin they are strongly scented and have a desiccate phyllotaxy. The purplish flowers are placed in close whorls on elongate racemes. The two main morphotypes cultivated in India and Nepal are green leaves (Sri or Lakshmi Tulasi) and purple leaved (Krishna Tulsi).

THERAPEUTIC USES:- Used in Ayurveda for the treatment of diseases. Used as herbal tea. Used in Thai dishes also insect repellent., treat insect bites Food and medicine. Treatment of Bronchitis, Bronchial asthma, Malaria, Diarrhoea, Dysentery, Skin diseases, Arthritis, Painful eye diseases and chronic fever.

Fig. Habit of a) *O. tenuiflorum* b) *O. basilicum* c) *O. gratissimum* d) *O. americanum*

Table No. 1: List of medicinal plants of family Lamiaceae investigated for Ethnobotanical documentation from Kinwat and Mahur region of Nanded District, Maharashtra.

Sr. No	Botanical Name	Local Name	Locality	Part used	Disease
1)	*Salvia aegyptiaca*	Rangboli	Mandva	Seeds	Diarrhoea, Wounds, Gonorrhoea, Eye problems and Haemorrhoids.
2)	*Plectranthus mollis* (Aiton)Spreng.	Lal aghada	Umri	Leaves	Cardiac, Rheumatism, Snakebites, Fever and Cancer.
3)	*Plectranthus amboinicus* (Lour.) Spreng.	Karpuravalli	Kinwat	Leaves	Mosquito repellent.
4)	*Ocimum tenuifolariun* L.	Tulas	Munshi	leaves	Respiratory disorders, Earache, Malaria, Scorpion sting, Snake bite and Leprosy
5)	*Ocimum basilicum* L.	Sabja	Pawnada	leaves	Dysentery and Ear problems.
6)	*Ocimum americanum* L.	Ashta	Ran tulsi	leaves	Diarrhoea, skin diseases, Fever and Respiratory disorders.
7)	*Mentha spicata* L.	Pudina	Palaiguda	leaves	Cough and Fever.
8)	*Leucas martinicensis* (Jacq.) R.Br.	Peda tummi	Thara	leaves	Dysentery, fever, joint pains and Mosquito repellent.
9)	*Leucas cephalotes* Spreng. (Roth)	Tumba	Mungshi	Flower	Respiratory disorders
10)	Leucas biflora (Vahl) R. Br.,	Jodi burumbi	Ambadi	Leaf	White Discharge, Nose bleeding
11)	*Leucas aspera* (Willd.) Link.	Kumbha	Borwadi	Flower	Respiratory disorders and liver disorders.
12)	*Leonotis nepetifolia* (L.) R.Br.	Dipamaal	Nagzari	leaves	Fever, Cough and malarial fever
13)	*Lavandula bipinnata (*Roth*)* Kuntze	Asmani Galgota	Rajgad	Root	Bites of poisonous animals.
14)	*Hyptis suaveolens* (L.) Poit.	Rantulsi	Wajra	Leaves, flower, Root and Seeds	Cancer, Malaria, Piles and Skin infection
15)	*Coleus amboinicus Lour.*	PanachaOwa	Chandrapur	Whole plant	Respiratory and Urinary disorders.
16)	*Clerodendrum viscosum* Vent.	Khanduchaka	Chorodi	Root and Leaves	Respiratory disorders, intermittent fever, Cancer, Diabetes and Eye problems.
17)	*Clerodendrum serratum* (L.) Moon	Bharangi	Wanoda	Leaves	Respiratory disorders and Eye problems
18)	*Anisomeles malabárica* (L.) R. Br. Ex.Simg.	Bhutganja	Pandavleni	Whole Plant	Respiratory disorders, Diarrhoea, eczema,

					intermittent fever, stomach ache, dengue, anti-allergic, anti-bacterial, anti-cancer, anti-fertility, anti-carcinogenic and anti-spasmodic
19)	*Anisomeles indica* (L.) O.ktze.	Mahaibat	Kinwat	Whole Plant	Wounds, Constipation Peptic ulcer and tonic.
20)	*Anisochilus carnosus* (L.f.) Wall.	Kapurli	Ambadi	Leaves	Anti-tubercular and Respiratory disorders

RESULT AND DISCUSSION

The above collective information is the outcome of the interviews and questionnaires conducted to the Local Medicinal Practitioners, Vaidyas, Maharaj, Shepherds and Experts of various tribal communities which were having good knowledge of herbal drugs and medicinal plant of Kinwat and Mahur region of Nanded District, Maharashtra. Table no. 1 shows List of 20 medicinal plants of family Lamiaceae investigated for Ethnobotanical documentation with information about scientific and local name with their use and significance of different parts of plants including roots, stems, leafs, flowers, fruits of family Lamiaceaehas the potential to produce herbal products for the betterment of human being in health and medicine. The immense desire of these folks is to preserve such a rich heritage of traditional knowledge of medicinal plants for the welfare of further generations. India is the prosperous and prestigious land possessing the most valuable richness of herbal medicinal flora. These herbal formulations are very popular amongs the nomedic tribes in India. This flora of family Lamiaceae is known for its herbal treasure in the region of Marathawada.

Salunkhe (2020) conducted an ethno-botanical exploration in the forest areas of kinwat and Mahur region in which result showed timber yielding plants belonging to 26 families and 47 genera. Among the different Families Mimosaceae family is dominant with 09 species followed by Fabaceae and Anacardiaceae with 7 and 4 species respectively. Padwal and Jadhav (2022) investigated Phytochemical and Ethnobotanical studies of some medicinally important Ocimum sps from Kinwat and Mahur Region of Maharashtra. Jadhav and Pawar showed (2020) carried out Ethnobotanical survey for collecting information about the uses of medicinal plants belonging to family Rubiaceae from Kinwat region. Padwal and Jadhav (2020) **s**howed more or less similar type of compounds including amino acids, alkaloids, flavonoids, glycosides, phenolics and tannins in both speciesthrough HPTLC analysis of some medicinal plants. Padwal and Sable (2019) in a Ethnobotanical study Showed the

utilization of herbal plants amongs the Labhan community at the primary stage of any disease. It is significant to mention that such an ethno botanical treasure of medicinal plants may helpful to the mankind.

CONCLUSION

The present study is mainly focused on Ethnobotanical documentation of Lamiaceae flora It reveals how tribal people have sufficient ethnomedicinal knowledge of medicinal plants of family Lamiaceae in Kinwat forest range. As cultural heritage, they have passed their rituals and important knowledge regarding medicinal plants it from generations to generations and hopes it should be recorded and documented for further generations. The mankind on the planet earth will be benefitted through Ethnobotanical treasure of medicinal plants.

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REFERENCES

1. Bonjar, GHS., Nik, AK. and Aghighi, S., 2004, Journal of Biological Science, 4: 405-412.
2. Borah R, and Biswas S. P. (2018) Tulsi (*Ocimum sanctum*), excellent source of phytochemicals. *International Journal of Environment, Agriculture and Biotechnology* (IJEAB). ISSN: 2456-1878. Sept-Oct- 2018; 3(5): 1732-1738.
3. Cooke, T. 1958. *The Flora of the Presidency of Bombay*, Vols 1-3 Reprinted edition, Government of India.
4. Chopra R.N., Nayar S.L. and Chopra I.C., Glossary of Indian medicinal plants, C.S.I.R. New Delhi (1956).
5. Chopra, R. N., Chopra, I. C. and B. S. Verma., 1969. Supplement to the Glossary of Indian Medicinal Plants, Council of Scientific and Industrial Research, New Delhi.
6. Houghton P.J. and Osibogun T.M., Flowering plant used against Snakebite, *J. Ethanopharma*, 1993; 39(1): 1-29.
7. JADHAV D.M., and PAWAR G. S. (2022) ETHNOBOTANICAL DOCUMENTATION OF RUBIACEAE FLORA FROM KINWAT REGION OF MAHARASHTRA. *Journal of Emerging Technologies and Innovative Research* (*JETIR*). (ISSN-2349-5162), 9(2): 898-901.

8. Jain, S. K., 1989. (ed.) *Methods and approaches in Ethnobotany, Society of Ethnobotanists*, Luknow. Jain, S. K., 1991. Dictionary of Indian folk medicine and Ethonobotany, Deep publications, New Delhi.
9. Jain, S. K., 1996. *Ethnobiology in Human welfare*, Deep publications, New Delhi.
10. Jain, S. K., 1999. *Dictionary of Ethnoveterinary Plants of India*, Deep Publications, New Delhi.
11. Jain, S. K. and V. A. Mudgal., 1999. *A Handbook of Ethnobotany*, Bhisensingh Mahendrapal Singh, Dehradun.
12. Kapur, L. D., 2001. *Handbook of Ayurvedic Medicinal Plants*. CRC Press, London.
13. Kirtikar, K. R. and B. D. Basu., 1933. *Indian Medicinal Plants*, Vol. 1 -4 Publisher L M Basu, Allahabad.
14. Naik V N. (1998*) Flora of Marathwada, Vol. I & II*, Amrut Prakashan, Aurangabad.
15. Salunkhe, I. B. (2020)Ethnobotanical Studies on Timber Resources of Kinwat and Mahur Region from Nanded District, Maharashtra State, India. International Peer Reviewed/Refereed Multidisciplinary Journal (EIPRMJ), ISSN: 2319-5045. 2020; 9(2): 11-15.
16. Padwal S.G. and JadhavD. M. (2022) Phytochemical and Ethnobotanical studies of some medicinally important Ocimum sps from Kinwat and Mahur Region of Maharashtra.*International Journal of creative research thoughts. IJCRT*ISSN: 2320-2882. 10(2): 467-474.
17. Padwal, S. G. and Jadhav, D. M. (2020) Preliminary Phytochemical Investigation and HPTLC studies on two species of *Ocimum*. *The International journal of analytical and experimental modal analysis*. ISSN NO:0886-9367. Volume XII, Issue IV, April/2020.pp. 25-37.
18. Padwal, S. G. And Sable, N. L. (2019) The Ethnobotanical Study of Medicinal Plants used by Mathura Labhan Community in the region on Kinwat. *Journal of The Gujarat Research Society*. *ISSN: 0374-8588*, December 2019; 21(16): 1260-1265.
19. Pavithra Kumari H.G. and P. N. Narase Gowda (2019) Qualitative and Quantitative Phytochemical Analysis on Ocimum Species of Karnataka. ISSN: 2582 – 2845 *Ind. J. Pure App. Biosci*, 7(6): 192-202.
20. Prakash P. and Gupta N. (2005). Indian Journal phy. *Pharm*a, 49(2): 125-131.
21. Praseetha P. K., Shana N. Shah., M. Murugan., S. T. Gopukumar (2016). A comparative study of two selected *Ocimum* species with relevance to phytochemical, antimicrobial and molecular isolation. *J. Chem. Pharm. Res*, 8(3): 1014-1020.

22. Ramaiah Maddi, Prathi Amani, Singam Bhavitha, Tulluru Gayathri, Tummala Lohitha (2019)A review on Ocimum species: *Ocimumamericanum* L., *Ocimum basilicum* L., *Ocimum gratissimum* L.and *Ocimum tenuiflorum* L. *Int. J. Res. Ayurveda Pharm*, 10(3): 41-48. http://dx.doi.org/10.7897/2277-4343.100359.

23. Tarafdar C.R. and Jain S.K., Native plant remedies for snakebite among adivasis of central India, *Ind. Med. J*., 1968; 57(12): 307-309.

24. V.D. Ambalwad, S.G. Tugaonkar and G.M. Bhosale (2021) ETHNOBOTANICAL STUDY ON RESPIRATORY DISORDERS IN REGION OF NANDED DISTRICT, MAHARASHTRA, INDIA. *Vidyabharati International Interdisciplinary Research Journal.* ISSN 2319-4979. 13(1)*:* 167-169.