ORIGINAL RESEARCH PAPER

Volume-8 | Issue-8 | August - 2019 | PRINT ISSN No. 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

BIODIVERSITY OF FLORA OF MUKUNDPUR & ETHNOBOTANICAL IMPORTANCE

Botany

Alka Singh Department Of Botany, Govt. Girls College Of Sidhi M.P.

Dr. Prof. A. P. Singh* Department Of Botany, Govt. Girls College Of Sidhi M.P. *Corresponding Author

Mukesh Singh Department Of Botany, Govt. Girls College Of Sidhi M.P.

ABSTRACT

The present paper aimed to study the Biodiversity of flora of Mukundpur & Ethnobotanical importance which is existing in Amarpatan tahsil of Satna district of Madhya Pradesh India. The study was aimed at surveying the flora and their Ethnobotanical uses. : The present work discusses conceptual and methodological tools in ethno botany as well as local perception surveys that can generate important information for community-based conservation strategies, and presents results from research undertaken within the project "Sustainability of remnants of the Mukundpur Forest in Satna district of Madhya Pradesh India and its implications for local conservation and development". We discuss the applicability of this data for management planning, focusing on examples derived from studies in the Mukundpur Forest. We discuss about the Ethnobotanical importance in Mukundpur forest rural area and figure out the biodiversity of flora and their Ethnobotanical uses in rural people life. Most Ethnobotanical surveys provide information about the main users of a given resource, the most utilized resources, the plant parts most used for a given purpose, and the most used species. Research on local perception can indicate the main factors that lead people to use a given resource as well as other variables affecting plant use. This type of data is important for establishing strategies focusing on certain groups of species or certain human social groups. The principal objective of this text is to describe the methods used to gather information about local strategies of use and management of plant resources, elucidate the nature of information that can be acquired using these methods, and discuss the possible interpretative contexts.

KEYWORDS

Biodiversity, Ethnobotanical, Flora, Conservation, Species, Satna, Mukundpur forest

INTRODUCTION

India is a land where the soil, weather, cultural, physical and social diversity change from state to state. India having 29 state ach state having its own Phytodiversity. India is the country which having abundant flora with wide range of weather, geology and habitat. In India more than 18000 flowering plants species has been identified which is the 6-7% of the plant species whole world. India is the habitat of approx 50000 plant species with a verity of spatial plant species. From ancient time plants used as a richest source of medicine. And now plants extracts and sometimes whole plants and their parts are used in manufacturing of most of the medicines by the pharmacy companies.

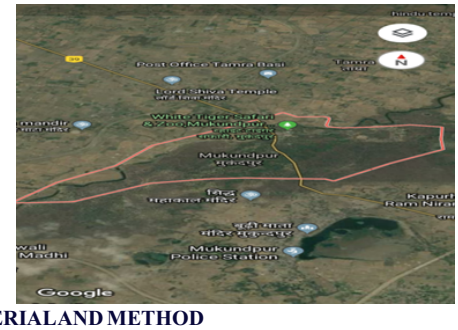
The Biodiversity is describing as a present of diversity in the plant and animal species in a different habitat. However Phytodiversity defines diversity of plants in a specific region. Phytodiversity is associated with nature, weather, soil, and habitat, human and other living species. The majorment of Phytodiversity is very difficult. It is multidimensional fictions where we cannot be ignore any single parameter which has been affecting the Phytodiversity Purvis and hector (2000). Narrate three major parameter of Phytodiversity that can be major during the majorment of Phytodiversity that is: numbers: evenness: difference

Forest is usually defined as a flora community predominantly of trees and other woody vegetation with a tree crown cover (FAO, 2001; Singh et al., 2006). Forest imparts a major role to protect the environment and economy of any country. Forests promote the economy by providing food, fiber, timber etc. while they maintain a healthy environment by sequestering the carbon and through regulation of gaseous and nutrient cycling (Rai, 2012). Forest provides very useful and important resources and its life saving things balancing the ecological balance and environmental setup. Increasing realization of the fact that forests not only provide multiple benefits to humanity but also helpful to protect the global environmental problems. In this direction, vegetation mapping from distantly sensed images may be a primary requirement for several supervision and organizing activities at the landscape level (Singh et al., 2002).

Ethno botany is the scholarly perusal of alliance that exists between people and plants. It interfaces between local people and their wooded utilize of plants around them, which is a valuable side of biological diversity conservation. Herbs are generally valued for morality as food as well as medicine. Through a long process of monitoring and defect, our forefathers were capable to pick out hundreds of feral plant in their various localities for a specific use. The information on financial front of plant use was handed down from one generation to another verbally through the word of mouth or without any published records. Ethnomedicinal plants are make use of for the treatments of diseases and disorders like dysentery, skin diseases, hypertension, boils and blisters, rheumatism and gout, arthritis, jaundice, toothache, hemorrhoids, diarrhea, , headache ,ophthalmic diseases ,bone fracture, cough, fever, insect and snake bites, worm infection, cuts and wounds, cold and catarrh, bronchitis, asthma, leprosy, piles etc. Disease is the harm of health, a situation of desultory functioning and conditions that affect the body of an organism. It is often probation as a medical state connected with distinct symptoms and signs. It may be caused by reason originating from an outer source, such as infectious disease, or it might be caused by internal dysfunctions, such as autoimmune disease.

STUDY AREA

Mukundpur territory basically comprises the present area of Mukundpur area of Satna forest division. The region has geographical area of 589.71 km2 with forest area 111.55 km2. The area exists between north latitude of 24011'35" to 24026'25" and east longitude of 8106'35" to 81022'20". The popular world white tiger safari is also existed in northern side of this region.



MATERIAL AND METHOD

The present study was done during 2018-2019. The research information was collected from the Google and Google map and also used the plant identification books. For the plant identification and know their local name and their importance in our life discussed with tribals and local peoples and forest ranger they had very helpful for the collection of useful information. Plants were collected by standard

methods. Taxonomic literature was very helpful to identified plants and their importance in medicinal way For the evaluation of biodiversity of Mukundpur field, the vegetation sampling was done for the grasses, trees, shrubs, herbs, climbers, and tubers. Stratified orderly random sampling and line Transect method was used for sampling the vegetation. Mixed red and black soil are present here and subtropical climate found here. The information gathered was based on verbally interview also with the help of structured queerest and only source material from satisfied respondent was documented. Plants samples were identified and authorized by using their endemic names as well as standard text.

RESULT AND DISCUSSION

The area of Mukundpur forest has all the stratum of vegetation ex: tree, grasses, climber, shrubs, and herbs. In the current study the 63 flora species have been established which is identified as 21 tree species (table 1), 13 shrubs species (table 2), 11 herbs (table 3), 16 grasses (table 4) and 2climers (table 5). The forests mainly comprise of miscellaneous species .The territory has rich density and diversity of some species of, *Feronia elephantum, Acacia nilotica, Delbergia sisso, Terminalia arjuna, Zizyphus mauritiana, Bambusa vulgaris.* These were encountered absolutely the location with almost every second tree help the climbers. The region exhibits mixed vegetation within some dominance except , *Feronia elephantum, Acacia nilotica, Delbergia sisso,* Dominant tree species were, *Feronia elephantum, Acacia nilotica, Delbergia sisso, Ficus benghalensis, Ficus religiosa, Mangifera indica, Syzygium cumini, Terminalia arjuna, Tamarindus indica , etc.* The shrub layer comprised of *Achyranthes aspera, Annona squamosa, Argemone Mexicana, Calotropis procera, Cassia fistula, Lantana camara, Nyctanthes arbor tristis, Solanum xanthocarpum, Zizyphus mauritiana, etc.* as its prominent constituents.

With the onset of summer, a number of flowering trees especially *Cassia fistula, Acacia nilotica, Azadiracta indica, Bauhinia variegate, Butea monosperma , Madhuka indica, and Nyctanthes arbor-tristis* can be seen as separate trees with elegant value.

The total representation at the site was revealed 59 family and 63 species. The dominanat family was poaceae with 9 species followed by fabaceae and graminae with6 and 5 species respectively.

Recent study done on the various aspect of ecological & economic importance of wild medicinal plants of Satna region which plays promising role for improving the physiological and morphological function of overall system of the body system.

The result of this is that most information on herbal remedies is handed down by senior

Members of the community (41-60 and 60-70 years of age) it also proved that Ethnomedicinal knowledge is regarded among the senior members of the families, and it is comparatively difficult to transfer the knowledge from the elderly to the younger generation.

In the studies region, many people still have trust in the herbal cure which is very important in their life of these communities. The traditional information on the properties of plants and the medicinal plants uses an important role against various diseases. Various medicinal plants and plants extracts uses to fever, antiulcer, antipyretic, anti diabetic and anti skin activity.

Medicinal plants used in this region form a rich source of indigenous information which can function for therapeutic reason.

One of the most important facts of environmental conservation is using by primitive community. Earliest period of human depends on their extensive vegetation for survival. They was know their Ethnobotanical properties and uses of their plants and also they conserve it. In the charak sahita we found very kind of Ethnobotanical uses of plants. The primitive sage used and experiment in comprehensive scale. The charak sage is written on his granth very useful information related to plants and their uses. Today's generation are distinct from this kind of information . they doesn't know the Ethnobotanical importance of plants. They only belive in science and their scientific experiments. This intimate acquaintance with plants has been verbally passed down from father to son. It is rapidly being lost with the unyielding acculturation and "westernization" of elementary societies or even the extinction of many aboriginal peoples. With increased road-building, dam construction, commercial activity, growing missionary penetration, wars, tourism and other aspects of modem existence this precious knowledge is fast disappearing, often in a single generation.

The study affirmed that herbal medicines have great potentials to cure different kinds of diseases and the indigenous rural communities in Mukundpur depend on traditional health care system. The study also declared that there was high diversity of medicinal plants and traditional information about the use, preparation and applications of these medicinal plants in Mukundpur. However, the knowledge of herbal medicine has been found among elders and this may not enhance continuity in the use of these plants if such elders are no more. The decline on the use of plants by the younger generation may successively lead to the extinction of home grown information associated with medicinal plants.

Table 1

TREES			
S.N.	BOTANICAL NAME	LOCAL NAME	FAMILY
1	*Acacia nilotica*	Babul	Fabaceae
2	*Aegle marmelos*	Bel	Rutaceae
3	*Azadiracta indica*	Neem	Meliaceae
4	*Bauhinia variegata*	kachnar	Fabaceae
5	*Butea monosperma*	Palas	Fabaceae
6	*Dalbergia sissoo*	Shisham	Fabaceae
7	*Emblica officinalis*	Awala	Euphorbiaceae
8	*Eugenia jambolana*	Jamun	Myrtaceae
9	*Ficus benghalensis*	Burgad	Moraceae
10	*Ficus religiosa*	Pipal	Moraceae
11	*Ficus glomerata*	gular	Moraceae
12	*Madhuka indica*	Mahua	Sapotaceae
13	*Mangifera indica*	Aam	Anacardiaceae
14	*Murraya koenigi*	Mithineem	Rutaceae
15	*Psidium guajava*	Amrud	Myrtaceae
16	*Saraca asoka*	Ashok	Caesalpiniaceae
17	*Syzygium cumini*	Jamun	Myrtaceae
18	*Terminalia arjuna*	Arjun	Combretaceae
19	*Terminalia chebula*	Harra	Combretaceae
20	*Tamarindus indica*	Imli	Leguminosae
21	*Tectona grandis*	Sagon	Verbenaceae

Table 2

SHRUBS			
S.N.	BOTANICAL NAME	LOCAL NAME	FAMILY
1	*Achyranthes aspera*	Chirchiri	Amaranthaceae
2	*Annona squamosa*	Sitafal	Annonaceae
3	*Argemone mexicana*	Siarkatha	Berberidaceae
4	*Calotropis procera*	Madar	Asclepidaceae
5	*Carrisa carandasl*	Karunda	Apocynaceae
6	*Cassia fistula*	Amaltas	Caesalpiniaceae
7	*Cassia tora*	Chakoda	Caesalpiniaceae
8	*Lantana camara*	Raimunia	Verbenaceae
9	*Nyctanthes arbor tristis*	Harsingar	Oleaceae
10	*Punica granatum*	Anar	lythraceae
11	*Solanum xanthocarpum*	Bhat kataya	Solanaceae
12	*Zizyphus mauritiana*	Ber	Rhamnaceae
13	*Ziziphus oenoplia*	Barari	Rhamnaceae

Table 3

HERBS			
S.N.	BOTANICAL NAME	LOCAL NAME	FAMILIY
1	*Achyranthues aspera*	Chirchiri	Amaranthaceae
2	*Amaranthous spinosus*	Cholai	Amaranthaceae
3	*Argemone maxicana*	Pili kateri	Papaveraceae
4	*Catharanthus roseus*	Sadabahar	Apocynaceae
5	*Cyperus rotundus*	Nagarmotha	Cyperaceae
6	*Datura alba*	Dhatura	Solanaceae
7	*Eragrostis cynosuroides*	Kush	Gramineae
8	*Eclipla prostrata*	bhringraj	Asteraceae
9	*Ocimum basilicum*	Tulsi	Lamiaceae
10	*Phyllanthus amarus*	Bhu amla	Euphorbiaceae
11	*Solanum nigrum*	Makoi	Solanaceae

Table 4

GRASSES			
S.N.	BOTANICAL NAME	LOCAL NAME	FAMILY
1	*Adiantum pedatum*	Bhojraj	Pteridaceae
2	*Apluda varia*	Phuli	Graminae
3	*Cenchrus ciliaris*	Fulera	Poaceae
4	*Cynodon datylon*	Doob	Poaceae
5	*Cymbopogon marthini*	Rusa	Graminae
6	*Desostachya bipinnata*	Kush	Graminae
7	*Dichanthium amulatum*	Jarga	Poaceae
8	*Eragrostes tenella*	Chirchita	Poaceae
9	*Eulaliopsis binata*	Sabai	Graminae
10	*Euphorbia hirta*	Choti dudhi	Euphorbiaceae
11	*Hetropogon contortus*	Lampa	Poaceae
12	*Impomoea reniformic*	Mushakarni	Convolvulaceae
13	*Paspalum serobiculatum*	Chapri	Poaceae
14	*Setaria virdis*	Sama	Poaceae
15	*Saccharum spontaneum*	kans	Poaceae
16	*Bambusa vulgaris*	Bans	Graminae

Table 5

CLIMBER			
S.N.	BOTANICAL NAME	LOCAL NAME	FAMILY
1	*Argyreia nervosa*	Vidhara	Convolvulaceae
2	*Tinospora cordifolia*	Giloy	Menispermaceae

ACKNOWLEDGEMENT

I take this opportunity to represent my thanks to **Dr. Prof. A. P. Singh** of girl's college of Sidhi M.P. for his precious guidance and support during the entire course of exploration. I am also thankful to **Mr. Mukesh singh** pharmacist Q.A. for providing financial help for the search and for their significant helps and support provided during the search. I intensely thankfully acknowledge to forest **ranger Ravendra singh** with forest **guard K.C. Mishra** of Satna division with their **local field staff** for entire collaborate, sincere support and respect provided during the entire field survey and rural community for providing help during study.

REFERENCES

1. Antony G. et.al., Herbs and Indigenous Knowledge of Medicinal Plants used by Saperas community of Khetawas, Jhajjar District, Haryana India, Journal of Ethno bio. And Ethno med, 6, 4 (2010)
2. Antony G. et.al., Herbs and Indigenous Knowledge of Medicinal Plants used by Saperas community of Khetawas, Jhajjar District, Haryana India, Journal of Ethno bio. And Ethno med, 6, 4 (2010
3. Bandna Kumari, Muzamil Ahmad Sheikh *, Avinash Tiwari and Sangeeta Sharma Tree diversity and carbon fraction variation in urban forests of central India with reference to Gwalior division, india Vol. 7(2), 33-41, February (2018)
4. Dubey KP, Kumud Dubey. Conservation of medicinal plants and poverty Alleviation, national conference on biodiversity, development and poverty Alleviation, 2010, 22.
5. Dwivedi, S.N. (2007). Antimicrobial herbs used among tribal and rural communities. Ethnobotany, 19 (1&2): 111-115.
6. Jain Atul Kumar IFS, Forest resource survey, working plan of Satna revised for 2008-09 to 2017-18,
7. 549 Journal of Pharmacognosy and Phytochemistry Government of Madhya Pradesh Forest Department, Chapter of Forest resource survey, 2008; 1:47-53.
8. J. A. Bamidele*, A. B. Idowu, K. O. Ademolu and A. A. aladesida biodiversity of flora and fauna associated with sawmills of Abeokuta, south-western Nigeria January 2017
9. Kala CP. Status and conservation of rare and endangered medicinal plant in the Indian trans-Himalaya. Biol. Conserv. 2000; 93:371-379.
10. Lipika Devi Bala Ravindra Singh. Faculty of Science & environment, MGCGV, Chitrakoot, Satna (M.P.), India Medicinal Importance of Sacred Plants of Chitrakoot Region Satna (M.P.), International Journal of Science and research. 2015, 4(8). (IJSR) ISSN (Online): 2319-7064.
11. Mishra R. Ecology work book, Page Professor and head of Department of Banaras Hindu University Varansi India, published by Oxford & IBH Co. 17, Park street Calcutta, 1968, 16:36-48.
12. Nautiyal, Sunil. Plant Biodiversity and its Conservation in Institute for Social and Economic change (ISEC) campus, Banglore; A case study. J Biodiversity. 2003; 2(1):9-26.
13. Prof. A.Balasubramanian biodiversity profile of India university of Mysore, March 2017
14. Panghal et al., Indigenous knowledge of medicinal plants used by Saperas community of Khetawas, JhajjarDistrict, Haryana, India Journal of Ethnobiology and Ethnomedicine 2010, 6:4.
15. R.K. Arora Diversity in Underutilized Plant Species Former Coordinator, Bioversity International Sub-Regional Office for South Asia, New Delhi an Asia-Pacific Perspective November, 2014
16. Shakya, Medicinal plants Future source of new drugs International Journal of Herbal Medicine 2016; 4(4): 59-64
17. Satya Prakash Singh Kushwaha & Subrata Nandy Species diversity and community structure in sal (Shorea robusta) forests of two different rainfall regimes in West Bengal, India February 2012
18. B.Jayaprasad et al., traditionally using antidiabetic medicinal plants in Tamil Nadu International Journal of Research in Pharmaceutical and Biosciences 2011.
19. Kalayu Mesfin et al, Ethnobotanical Study of Traditional Medicinal Plants Used by Indigenous People of Gemad District, Northern EthiopiaYear: 2013, Volume: 1, Issue: 4 First page: (32) Last page: (37)ISSN: 2320-3862
20. K. P. Dubey* and Kumud Dubey* Conservation of Medicinal Plants and Poverty Alleviation 22 , 2010 nd May
21. Tigist Wondimu et al , Ethnobotanical study of medicinal plants around 'Dheeraa' town, Arsi Zone, Ethiopia Journal of Ethnopharmacology 112 (2007) 152–161
22. Gangola S et al, India as the Heritage of Medicinal Plant and their Use Volume 4 Issue 4 - May 2017
23. Kshipra Nag* and Zia-Ul-Hasan Ecological study of medicinal wild herbs in Mayur Garden at Bhopal City, Madhya Pradesh, IndiaAdvances in Applied Science Research, 2013, 4(4):155-159
24. M. Rajadurai et al , Ethno-medicinal Plants Used by the Traditional Healers of Pachamalai Hills, Tamilnadu, IndiaEthno-Med, 3(1): 39-41 (2009)
25. Pragati Jaiswal et al, A Review on Ethnomedicinal Plants of Nimar Area in Madhya Pradesh International Journal of Pharmacognosy and Phytochemical Research 2017; 9(7); 1017-1020
26. Rakesh Singh Chauhan* Studies on Medicinal Plants Used by Tribal Communities in District Singrauli of Madhya Pradesh International Journal of Scientific and Research Publications, Volume 7, Issue 1, January 2017
27. Bhanumathi Selvaraj1*, Sakthivel Periyasa my 2 Indian medicinal plants for diabetes: text data mining the literature of different electronic databases for future therapeutics. Biomedical Research 2016; Special Issue: S430-S436
28. Lingaraj Patro Medicinal Plants of India: With special reference to Odisha. Vol-2 Issue-5 2016
29. Tamalika Chakraborty 1,2, Somidh Saha and Narendra S. Bisht 3,6Communication
30. First Report on the Ethnopharmacological Uses of Medicinal Plants by Monpa Tribe
31. Zemithang Region of Arunachal Pradesh, Eastern Himalayas, IndiaMarch 2017
32. Ravishankar, B and Shukla, V.j. Indian systems of medicine: brief profile Afr. j. trad. cam (2007) 4 (3): 319 – 337