



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 9, Issue, 4(D), pp. 25761-25763, April, 2018

**International Journal of
Recent Scientific
Research**

DOI: 10.24327/IJRSR

Research Article

STUDIES ON BIODIVERSITY OF TREE PLANTS SPECIES OF PADMALAYA FOREST REGION OF JALGAON DISTRICT, MAHARASHTRA, INDIA

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DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0904.1925>

ARTICLE INFO

Article History:

Received 8th January, 2018
Received in revised form 21st
February, 2018
Accepted 05th March, 2018
Published online 28th April, 2018

ABSTRACT

Present study reveals about total no. of Tree Plants Species with families '35' composed of Dicots (88), and monocots (02). The genera are 74, spread over dicots (72) and monocots (02). Similarly Species are 90 out of which dicots (88) and monocots (02). The most striking feature of the study is evaluation and assessment of threat status of some important Tree Plants Species of the area to find out conservation priority. On the basis of number of tree plant species used as medicine, Dominant diseases with number of plants used, Mode of administration, Frequency of plant parts used

Key Words:

Biodiversity, Medicinal, Padmalaya, Tree plants species.

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INTRODUCTION

Conservation of natural resources and their utilization in sustainable manner is essential for survival of human race on the earth. Due to over exploitation for medicine, habitat loss, over grazing and thinning of forest tree species, environmental factors, ecological changes, biotic interference resulting in constant threat of Extinction.

Study covers the area Padmalaya forest falls in Jalgaon district of Maharashtra state, India. lies on northern part of Jalgaon district situated between 20^o-17' and 21^o-26' north latitude and 74^o-47' and 76^o-28' east longitude. It is rich in vegetation composed of humid and many semi evergreen species apart from dry deciduous ones. Topographically it can be distinguished as 1) The River Anjani & Ziri valley in the centre, 2) The high mountainous ranges on the north & 3) Barren ranges of Satmala and Ajanta ranges on the south. The study is confined to Padmalaya region only and more specific to Padmalaya forest ranges from 2016-2018. The climate is generally dry except in monsoon. Rain fall is 639.7 to 696.0 mm. The forest types of Satpuda ranges classified by Champion and Seth in 1966 are Dry Teak forest, Southern Dry mixed deciduous forest, Anjan forest & Scrub forest Studies on medicinal plants of the area are lacking except few sporadic references like R.M. Bagul and S.S. Yadav, (2003 a. & b). R.M.Bagul (2011a. & b & May 2015 a & b), P.B.

Bhamare (1998), G.P.Roy, B.K. Shukla & Bhaskar Dutta (1992), C.R Karnik (1966), Karnik C.R (1961), I. B Salunkhe (1995), S.S Yadav and S.H Patil (2001), P.V.N.Kurup (1977).

MATERIALS AND METHODS

Present study is based on the field work and literature survey from June 2016 to July 2018 through systematic planning and meticulously exploring the areas for gathering various information related to Trees plant species with medicinal uses, during outgoing all the information collected were noted in field book. Pertinent attention was paid to habit, habitat, distribution pattern, diseases for which plants used dosages and mode of administration. As far as possible correct information were confirmed by repeated queries at different places. Specimens collected during the field work are processed for herbarium as per the customary methods (S.K. Jain. and R.R Rao, 1977). Specimens thoroughly studied for correct identification with the help of standard floras Th. Cook (1958 Repr.ed.), J.D Hooker, The Flora of British, (1872-1897). & Singh, Kathikey & Laksh (2001). The identification was confirmed by authentically identified species at B.S.I. Pune. Herbarium sheets were neatly labeled and deposited in the herbarium of department of botany, A.S.C. College Chopda. Some of the plants assessed as per the guidelines of CAMP 2001 & IUCN.

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RESULTS

Table No. 1 Showing medicinally important plant groups, genera, species & families

No. of groups	Species	Genera	Families
Monocots	02	02	02
Dicots	82	65	32
Total	84	67	34

Table No.2 Showing 10 most dominant families on the basis of number of Trees species found in the study area & used as medicinal plants.

Sr. No.	Families	No. of Genera	No. of Species
1	Caesalpinaceae	06	09
2	Mimosaceae	05	08
3	Combretaceae	02	05
4	Boraginaceae	02	05
5	Fabaceae	05	05
6	Apocynaceae	03	04
7	Moraceae	01	04
8	Sterculaceae	03	03
9	Myrtaceae	03	03
10	Annonaceae	02	03

Table No. 3 Showing 10 dominant diseases with number of Trees species used for one disease.

Sr. No.	Name of Diseases	No. of plants Used as Medicine	% of Plants used Disease wise
1	Skin Disease	05	5.55
2	Stomachache	08	8.88
3	Rheumatic pain	04	4.44
4	Diarrhea	05	5.55
5	Sexual disease	05	5.55
6	Wound healing	07	7.77
7	Cough & cold	05	5.55
8	Jaundice	06	6.66
9	Leprosy & Leucoderma	05	5.55
10	Eye diseases	04	4.44
	Total	54	59.9

Table No. 4 Mode of administration of Medicines

Sr. No.	Mode of administration	No. of species used	% of Use.
1	Oral	83	92.2
2	External applications	17	18.88
3	Internal applications	52	57.77
4	Steam bath	02	2.22
5	Inhalation	04	4.44
6	Smoking	03	3.33
7	Poultice	31	34.44
	Total	192	213.28.

Table No. 5 Showing frequency of plant parts used in 116 uses of 90 Trees as medicinal plants.

Sr.No	Plant part used Trees	Total No. of species used	% of Use
1	Root/Root bark	06	6.66
2	Stem/bark	32	35.55
3	Leaf	30	33.33
4	Flowers	04	4.44
5	Fruit	27	30
6	Whole plant	1	1.11
7	Seed	10	11.11
8	Others	6	6.66
	Total	116	61.88

Table No. 6 Showing Threat status of Tree plant species

Sr.No	Threat status	No. of Species
1	Rare	02
2	Threatened	13
3	Vulnerable	53
4	Endangered	06
5	Critically endangered	06
6	Least concerned	10
	Total	90

DISCUSSION

- From the study, it can be observe that there are 90 Tree medicinal plants spread over 74 genera and 34 families.
- Study reveals that 10 most dominant families according to medicinal plants in descending order are Caesalpinaceae with 07 genera and 07 species, while Annonaceae shows 2 genera and 3 species only.
- Habit wise breakup shows that bulk of medicinal plants comes from trees.
- Frequency of plants used for Ten most dominant diseases it is found that more no. of plants used for Stomachache 08 (8.88) & least for Eye diseases like diseases i.e.04 (4.44%).
- Most of prescriptions are applied orally 83 (92.2%). 52 internally through nose, ear, and eye while the prescriptions through steam bath, inhalation and smoking is rarely used and specific to some diseases.
- Generally single plant part is used but sometimes many plant parts in combinations are for the treatment of diseases. Flowers are surprisingly used rarely, may be attributed that people have tendency to conserve the plants.
- Table No. 6 Showing Threat status of 90 Tree plant species, of which 02 are Rare,53 trees are under pressure, Thirteen are under Threat at serious levels. There is need to conserve these important trees species as wealth of Indian Biodiversity.

Acknowledgement

Author thanks to RGS&TC North Maharashtra University for Financial support. in References.

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How to cite this article:

Bagul R.M.2018, Studies on Biodiversity of tree Plants Species of Padmalaya Forest Region of Jalgaon District, Maharashtra, India. *Int J Recent Sci Res.* 9(4), pp. 25761-25763. DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0904.1925>
