



**SURVEY OF SOME LESS COMMON FODDER USAGE OF NATIVE
ETHNOFLORA IN PATHARDI TALUKA OF AHMEDNAGAR
DISTRICT (M.S.), INDIA**

***Salave Ashok Punjaji**

Department of Botany, Shri Dnyaneshwar Mahavidyalaya, Newasa, Ahmednagar-414603.

Article Received on
13 April 2018,
Revised on 03 May 2018,
Accepted on 23 May 2018
DOI: 10.20959/wjpps20186-11713

***Corresponding Author**

Dr. Salave Ashok Punjaji

Department of Botany, Shri
Dnyaneshwar
Mahavidyalaya, Newasa,
Ahmednagar-414603.

ABSTRACT

The present communication reveals information on some uncommon fodder uses of native ethnoflora in Pathardi jurisdiction of the Ahmednagar district from Maharashtra; India. An extensive field visits were arranged in the study areas to document the information from the native inhabitants through verbal communications in an informal ways during the period from pre-monsoon 2015 to post-monsoon 2016. The present communication illustrated a brief account of 27 plant species belonging to 25 genera from 18 angiosperms families used for fulfillment of specific kind of fodder requirements, have been documented in Pathardi jurisdiction /areas from Ahmednagar district

(M.S.) India. Almost all of the preparation/formulations are administered orally either in the fresh or dried form. Of these, uses of two plant species found unknown or less known to India.

KEYWORDS: Fodder, Pathardi, pet animals, fodder, ethnoflora.

INTRODUCTION

In India, milk production grew steadily in the 1980s and 1990s. The pace of growth has since accelerated following recent high rates of income growth and urbanization Livestock sector provides livelihood support to millions of Indian rural, aboriginal and tribal people. Development and growth of livestock are conditioned by the availability of fodder from arable land and forest. The nutritive value of fodder has a significant role on milk productivity of livestock. According to Planning Commission of India, there is a large gap exists between requirement and availability of fodder in the country. The deficiency in fodder

is more conspicuous in arid and semi-arid regions. As per Planning Commission of India, there is shortage of dry fodder by about 23.46 percent, green fodder by about 62.76 percent and concentrates by 30.00 percent.^[1] This deficiency of fodder is due to numerous inter-dependents and as a result of so many exogenous factors. Owing to severe shortages of fodder, livestock in the country suffers major problem of underfeeding. Ensuring an adequate supply of adequate quantity and superior quality of fodder at reasonable rate to the livestock is one of the major problem facing today before country.

About the study area

Pathardi is a famous, pleasant and mountainous hilly taluka place occurring in Ahmednagar district. It is situated 305 Km (i.e. 251 miles) away from Mumbai, 173Km (i.e. 102 miles) away from Pune, 51Km (i.e. 28 miles) away from Ahmednagar and 100Km (i.e. 63 miles) away from Aurangabad. It is surrounded by the sparsely covered scrub and deciduous forests vegetation. The area under the study, is famous for diverse ethno-flora.

India. It covers an area of 214.10km² (i.e. 468.8 miles²) and lies at an altitude of 394-413 meters from MSL (Mean Sea Level) and is located in between 19°17'40"N-19°33'43"N latitude and 75°18'50"E-75° 59'57"E longitude. The area under the study is occupied by forest area of 64.26 km² with 42.5% mixed-deciduous forests with an average rainfall of about 595 mm (2004) and temperature range of 38°C to 39°C^[2]. So far the study concerned, area under the study is unexplored up to today.

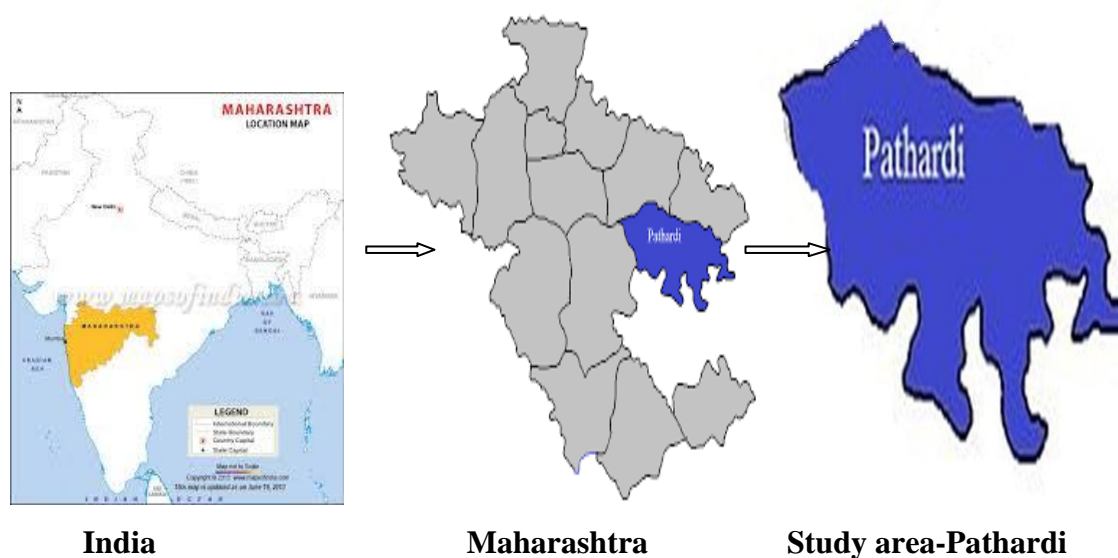


Figure 1: Study area: Pathardi.

Review of literature

Recent interest in ethno-medicinal explorations has increased due to the work of.^[3,11]

METHODOLOGY

The voucher specimens were prepared, tagged and confirmed by referring the standard floras.^[16,20] They were preserved as per plan suggested^[21] in the Department of Botany, Shri Dnyaneshwar Mahavidyalaya, Newasa for future study a structured and semi-structured interviews^[12] were arranged in the study area season wise during the period from pre-monsoon 2015 to post-monsoon 2016 to collect the information regarding fodder uses of the native ethno-flora by the local inhabitants. The plant specimens were collected and identified by their local names, with the help of local traditional healers and medicine men as per guidelines.^[13,15] The ethno-medicinal information was confirmed orally through help from the local traditional healers and medicine men via verbal and informal interviews.

RESULT/ENUMERATION

The taxa enumerated here are arranged alphabetically according to their scientific/botanical name, family (in parenthesis), common name, occurrence followed by plant part used and mode of fodder use Unknown or less known fodder uses are marked with an asterisk (*) sign.

S.N.	Scientific/ Botanical name	Common name	Occurrence	Habit	Plant part used	Mode of fodder use
1	<i>Acacia leucophloea</i> (Roxb.) Willd. (Mimosaceae)	Hiwar	Common	Tree	Leaf and fruits	Green leaves and pods are given as an ideal fodder to goats and sheep for increasing lactation quality and duration.
2	<i>Acanthospermum hispidum</i> (Roxb.) Willd. (Asteraceae)	Landga	Common	Herb	Leaf	Green and healthy leaves are fed to goats and sheep as fodder for improving lactation duration.
3	<i>Albizia lebbek</i> (L.) Benth. (Mimosaceae)	Shirish	Common	Tree	Leaf	Fresh and healthy leaves are used as fodder for cattle and buffaloes.
4	<i>Alysicarpus longifolius</i> (Rottl. Ex Spr) Wt. & Arn. (Papillinaeae)	Shevara	Common	Herb	Leaf and shoots	Fresh and healthy leaves, tender shoots of the plant are used as fodder for goats and sheep.
5	<i>Bauhinia perpurea</i> L. (Caesalpinaceae)	Rakta-kanchan	An exotic Ornamental	Shrub	Leaf and fruit	*Green pods and leaves of the plant are used as fodder for goats and sheep.
6	<i>Bauhinia</i>	Dev-Aapata	Rare	Tree	Leaf and fruit	Tender leaves are used

	<i>racemosa</i> Lam. (Caesalpinaceae)					as fodder for sheep, goats, cattle, buffaloes and horses.
7	<i>Celosia argentea</i> L. (Amaranthaceae)	Kombda	Common	Herb	Leaf and shoot	Green leaves and young shoots are used as fodder for goats and sheep for increasing the lactation period and milk quality.
8	<i>Coccinea grandis</i> (L.) Voight. (Cucurbitaceae)	Tondali	Cultivated crop plant	Climber	Leaf	Green leaves of the plant are used as fodder for goats and sheep.
9	<i>Combretum albidum</i> G. Don. (Combretaceae)	Madwel	Rare	Shrub	Fruit	All aerial plant parts of the plant are used as an ideal fodder for sheep and goats to improve milk quality and duration.
10	<i>Convolvulus arvensis</i> L. (Convolvulaceae)	Chandvel	Common	Herb	Leaf and shoot	Leaves and young shoots are fed to goats and sheep as an ideal fodder for increasing lactation period.
11	<i>Cordia dichotoma</i> Forst. F. (Boraginaceae)	Bhokar	Common	Tree	Leaf, shoots and fruits	Green leaves, fruits and tender shoots are used as fodder for cattle, sheep and buffaloes.
12	<i>Dichrostachys cinerea</i> Wt. & Arn. var. <i>indica</i> Brenon. & Brummit. (Mimosaceae)	Yeltur	Common	Shrub	Leaf and fruit	Green leaves and pods are used as fodder for goats and sheep.
13	<i>Ipomoea aquatica</i> Forsk. (Convolvulaceae)	Nalichi Bhaji	Common	Shrub	Leaf and shoot	Fresh leaves are fed to cattle, oxen and buffaloes as an energetic fodder.
14	<i>Ipomoea obscura</i> (L.) Ker-Gawl. (Convolvulaceae)	Piwali Pungli	Common	Herb	Leaf and shoot	Whole plant is used fodder for sheep and goats.
15	<i>Mentha spicata</i> L. (Lamiaceae)	Pudina	CultivatedCrop plant	Herb	Leaf and shoot	Green leaves and tender shoots (stem) are used as fodder for increasing weight.
16	<i>Mitragyna parvifolia</i> (Roth.) Korth. (Rubiaceae)	Kalamb	Rare	Tree	Leaf	Fresh leaves are used as fodder for cattle.
17	<i>Mucuna pruriens</i> (L.) DC. (Papilionaceae)	Koyarivel	Rare	Herb	Leaf, shoots and fruits	Green leaves shoots and pods are fed as a fodder to cattle for increasing milk and muscular strength.
18	<i>Pergularia daemia</i> (Forssk.) Chiov. (Asclepiadaceae)	Utarand vel	Rare	Shrub	leaf	Green leaves are fed to goats and sheep as fodder for improving muscular strength.
19	<i>Portulaca oleracea</i> L. (Portulacaceae)	Ghol-bhaji	Common	Herb	leaf and shoot	Green leaves and stem twigs are used as fodder for cattle for healthy growth.

20	<i>Rhus mysurensis</i> G. Don. (Anacardiaceae)	Aamoni	Rare	Shrub	leaf and shoot	Green leaves and tender shoot with certain amount of groundnut (<i>Arachis hypogea</i>) cake are fed to cattle and pet animals as fodder for improving muscular strength.
21	<i>Securinega leucopyros</i> (Willd.) Muell-Arg. (Euphorbiaceae).	Pithwani	Common	Herb	Leaf and shoot	*Green leaves and tender shoots are used as fodder for goats and sheep to increase milk quality.
22	<i>Syzygium cumini</i> (L.) Skeels. (Myrtaceae)	Jambhul	Common	Tree	leaf and fruits	Green leaves and young fruits are used as fodder for cattle for healthy growth.
23	<i>Terminalia crenulata</i> Roth. (Combretaceae)	Asan	Rare	Tree	leaf and shoot	Young leaves and tender shoots are fed to goats and sheep as fodder for increasing lactation.
24	<i>Tribulus terrestris</i> L. (Zygophyllaceae)	Sarata	Common	Herb	leaf and shoot	Young leaves and tender shoots are soaked in luke warm water overnight and fed to pet animals.
25	<i>Vernonia cinerea</i> (L.) Less. (Asteraceae)	Shahadevi	Common	Herb	Seed	Cake made from seeds and groundnut (<i>Arachis hypogea</i>) seed fed to pet animals as an energetic fodder.
26	<i>Wattakaka volubilis</i> (L.f.) Stapf. (Asclepiadaceae)	Harandodi	Rare	Shrub	Leaf	Young leaves are used as an ideal fodder for sheep and goat's to increase lactation quality and duration.
27	<i>Woodfordia fruticosa</i> (L.) Kurz. (Lythraceae)	Dhayati	Common	Herb	Leaf	Fresh leaves are fed to sheep and goats as an ideal fodder for increasing milk quantity

DISCUSSION

From above study (Table:2), it is found that leaves in seven plants (25.92%) which is followed with Leaves and fruit in five plants each (18.52%), Leaves and shoots in thirteen plants (48.15%) and fruit and seed in one plant each (3.70%). found to have unique role in fulfillment of fodder demand.

Table 2: Plant part used against name and number of plant species with their percentage.

S.N	Plant part used	Name of plant species	No of plants	% of part used
i.	Leaf	<i>Woodfordia fruticosa</i> , <i>Wattakaka volubilis</i> , <i>Pergularia daemia</i> , <i>Mitragyna parvifolia</i> , <i>Coccinea grandis</i> , <i>Albizzia lebbeck</i> , <i>Acanthospermum hispidum</i> .	07	25.92
ii.	Leaf and fruit	<i>Syzygium cumini</i> , <i>Dichrostachys cinerea</i> , <i>Bauhinia racemosa</i> , <i>Bauhinia perporea</i> , <i>Acacia leucophloea</i> .	05	18.52
iii.	Leaf and shoot	<i>Securinega leucopyros</i> (Willd.)Muell-Arg., <i>Tribulus terrestris</i> L., <i>Terminalia crenulata</i> Roth., <i>Rhus mysurensis</i> G. Don., <i>Portulaca oleracea</i> L., <i>Mentha spicata</i> L, <i>Ipomoea obscura</i> , <i>Ipomoea aquatica</i> , <i>Cordia dichotoma</i> Forst., <i>Convolvulus arvensis</i> , <i>Celosia argentea</i> , <i>Alysicarpus longifolius</i> , <i>Mucuna pruriens</i> .	13	48.15
iv.	Fruit	<i>Combretum albidum</i> .	01	3.70
v.	Seed	<i>Vernonia cinerea</i> .	01	3.70

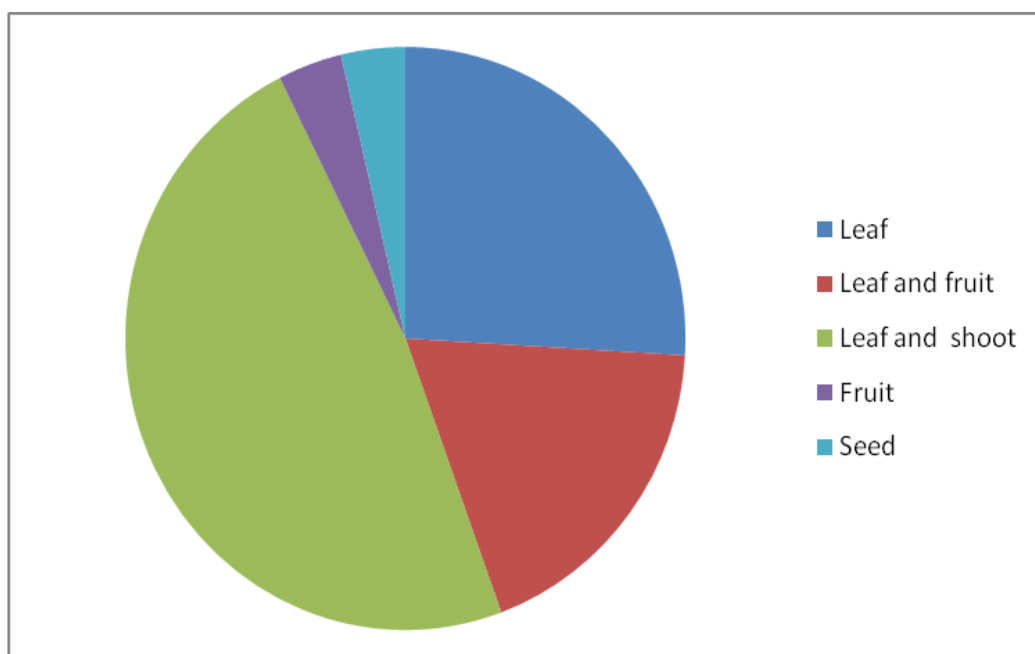


Chart 1: Diagrammatic representation showing Number of plants used in number of plant species.

CONCLUSION

The area under the study is bestowed with a great ethno-floristic diversity. It denotes the wisdom of the local inhabitants including the traditional healers and medicine men in regards to traditional ethnobotanical knowledge.^[16] It has an immense scope and wide potential for research in the ethnobotanical science. To collect, document, conserve and evaluate this valuable information, collective efforts are needed from the ethno-botanists, tribal and

aboriginal populace before its disappearance. As an ethnobotanist, it's our prime duty, to protect, preserve and spread the such indigenous traditional knowledge through various media and overcome the problems of biotic and abiotic interference.^[17] and deforestation. To conserve such knowledge, urgent need of collaborative research work on local, rural and tribal level through participation activities by semi-government and government authorities is essential. This will create general awareness and curiosity among them in regards to conservation of the native ethno-flora.

The central and the state government authorities should encourage the ethno-botanists in exploration of the hidden ethnobotanical wealth.^[18] in these areas. This will help in elevating the export of herbal medicine and growing the trade and economy of the country by increasing herbal trade with the major countries around the world.^[19] This will also improve the health and quality of life of this entire nation.

ACKNOWLEDGEMENT

Author's thanks are due to the help rendered by the notified and de-notified rural, tribal and non-tribal populace from the study area due to their immense help and co-operation during the study and field work. Thanks are also due to the authorities of Forest division of Ahmednagar for immense co-operation and permission for collection of plant parts for herbarium specimen preparation and identification of unknown plant species of fodder significance.

REFERENCES

1. Shah V.D., Makwana M. N And Shirma S. (2011). Economics of production, processing and marketing of fodder crops In Gujarat, Research Study No.144.
2. Report of the Working group on Animal Husbandry and Dairying for the 11th Five Year Plan (2007-2012), Government of India, Planning Commission.
3. Basic Animal Husbandry Statistics-2010, Department of Animal Husbandry, Dairying and Fisheries, Krishi Bhavan, New Delhi, Government of India.
4. Handbook of Agriculture, Indian Council of Agricultural Research Pusa, New Delhi-110012.
5. Pratap S Birthal, P Parthasarathy Rao "Technology Options for Sustainable Livestock Production in India" National Centre for Agricultural Economics and Policy Research, New Delhi 110 012.

6. N.G. Hegde, Livestock Development for Sustainable Livelihood of Small Farmers Souvenir of the 39th Annual General Meeting and 48th National Symposium on “Energising Rural India – A Challenge to Livestock Industry. Compound Livestock.
7. Feed Manufacturers Association of India (CLFMA), Manesar, Haryana. August 26, 2006.
8. Gayake¹, D.N., Awasarkar U.D. and Sharma P.P. (2013). Indigenous Traditional Medicinal Plant Resources from Ahmednagar District, Maharashtra, India. Asian Journal of Biomedical and Pharmaceutical Sci., 3(22): 1-5.
9. Jain, S.K.(1967). Ethnobotany: Its scope and study in India. *J. Museum Bull.*, 2(I): 39-43.
10. Jain SK, Rao RR (1967). *A handbook of field and herbarium methods*, Today and Tomorrow Printers and Publishers, New Delhi, 33-58.
11. Jain, S.K. and Mudgal V.A.(1999). *A Handbook of Ethnobotany*, Bishen Singh Mahendra Pal Singh, Dehradun, 58-63.
12. Jain, S.K.(1989). Methods and approaches in Ethnobotany, Society of Ethnobotanists, C.D.R.I., Lucknow, 127-31.
13. Almeida, M.R.(1996). *Flora of Maharashtra*. Blatter Herbarium, St. Xavier’s College, Mumbai, 369p.
14. Cooke, T.(1958). The Flora of the Presidency of Bombay, Vols 1 & II, Repr. edr, Government of India, 357.
15. Pradhan, S.G. and Singh N.P.(1999). *Flora of Ahmednagar District.(M.S.)*, Bishen Singh Mahendra Pal Singh. Dehradun, 339.
16. Singh, N.P., Lakshinarshimhan P. and Prassanna P.V.(2001). Flora of Maharashtra State Vol. II, Bot. Surv. India, Calcutta, India.
17. Singh, N.P. and Kartikeyan S. (2002). Flora of Maharashtra State, Vol II., Bot. Surv. India, Calcutta. 329p.
18. Schulte, R.E.(1968). The role of Ethnobotanists in search for new medicinal plants. *J. Lloydia*, 25(4): 257-66.
19. Jain S.K. Ethnobotany. (1967): Its scope and study in India. *J. Museum Bull.*, 2(I): 39-43.