ORIGINAL RESEARCH PAPER
Volume-6 | Issue-9 | September-2017 | ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 78.46
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

FLORA OF HAZARIBAG Vol.-1, JHARKHAND, INDIA

Botany

Sarita kumari
Department of Botany, Vinoba Bhave University, Hazaribag-825301, Jharkhand India &
C. R. Magesh, CNH, National Museum of Natural History, New Delhi

ABSTRACT

The Present contribution is a review work on vegetation of Vinoba Bhave University, Hazaribag, Jharkhand State. This area are under dense forest cover, with high biodiversity. Vinoba Bhave University was established in the year 1992 after the bifurcation of Ranchi University as a teaching-cum- affiliating university. It's headquarter is Hazaribag, the division headquarter of North Chotanagpur Division of the Jharkhand State. It is situated at a distance of 100 K. M. from Ranchi. Vinoba Bhave University is imparting post- graduate and research in various subject. The vegetation of Jharkhand Is Tropical Moist Deciduous forest having many plants of economic importance. Till date more than 1800 angiospermic plants have been reported all of which have been enlisted here. In which some are endangered also.

KEYWORDS

INTRODUCTION

Biodiversity means the variability among living organisms from all sources, including inter alia(among some thing), terrestrial, marine and other aquatic ecosystems and ecological complexes of which they are part of this include diversity within species, between species and of ecosystem. Species content of lands in an area is known as flora. Hazaribagh is rich in diversity of flora and fauna. Human life is intricately linked with the species of plants for food, clothes, building, medicines, oxygen and recreation etc. Therefore, human has taken interest in plants since dawn of civilization. The first collection and studies of plants of Jharkhand can be traced back to the year 1848-1851 when J.D. Hooker and T. Thomson collected a large number of plants from different part of India. The outcome of their work was published as"Flora indica"(1855) which was later elaborated and revised in the name of *"The flora of British india"*(1972- 1897) in seven volumes by J.D.Hooker. Campbell had collected over 30 year in Chota Nagpur for his note worthy works.

Bentham & Hooker(1862-1883) system of plant classification has been followed as regard the sequence of families. However, at place Hutchinson (1968) and cornquist classification have been followed for further splitting up of the families. Thompson(1951), Bressers (1955), Sanyal (1957), Ara (1960), Jha (1965), Paul (1967), Ghosh (1971), Majumdar and Biswas (1971), Mehr Homji (1971), Mishra (1972) ,Jain(1973), Verma (1988), Das (1996), Srivastava (2002), Ray (2007) have also contributed towards different aspects of flora of Jharkhand.

S.No.	FAMILY	BOTANICAL NAME	LOCAL NAME	USES
1	Annonaceae	*Polyalthia longifolia*	Ashok[Mast tree]	Bats feed on ripening fruits at night. The wood is used for drums. It is a popular avenue tree because of its graceful appearance and dense shade. The Mast tree is also held sacred and is planted near temples.
2	Rutaceae	*Murraya koenigii*	Kadipatta	Leaves are used as anti-diabetic.
3	Meliaceae	*Azadirachia indica*	Neem	Leaves are used to keep insects out of clothes, books etc. A gum which exudes from bark is used medicinally as a stimulant. The seeds give an oil used by the poorer classes for burning and as antiseptic dressing for ulcers and in skin diseases. Internally the oil is an anthelmintic. The residue of oil are used as manure and useful in keeping white ants away from plants in the ground.
4	Meliaceae	*Melia azadiracta*	Bakain	Mainly used as ornamental plant. The fruit is said to be poisonous and is used to some extent medicinally as is also the inner bark. The stones of the fruits are used for necklaces and rosaries.
5	Meliaceae	*Toona ciliate*	Toona	Timber yielding tree. It is used for furniture, cigar boxes, tea-chests etc. It is popular avenue tree in North India.
6	Meliaceae	*Swetenia mahagoni*	Mahogani	Timber yielding plant.It is also used for fuel.
7	Rhamnaceae	*Zizyphus xylopyra*	Ber	The bark also produces an edible gum. The fruit rind yields oil that is popular as a fragrance for hair; it also produces a dye used to colour silks and calico.
8	Anacardiaceae	*Mangifera indica*	Aam	The fruits are delicious. Timber is soft, rough- grained and not durable. It is used for packing cases and similar purposes. Making natural hair dye. Pickles and morabba are made from green fruits.
10	Anacardiaceae	*Semicarpus anacardium*	Bhelwa	The ripe fruits are used internally and are considered digestive, nervine and usful in dyspensia, skin diseases and nervous debility.
12	Moringanaceae	*Moringa olerifera*	Munga	The leaves, flowers and young fruits are eaten as a vegetable. The seeds yield an oil similar to ben oil, the product of an African species of Moringa. The wood is spongy, perishable and useless.
13	Fabaceae	*Dalbergia sissoo*	Shisham	It is timber valuable timber tree after teak.It is hard, heavy, brown in colour with darker streaks. It is also used for spokes of wheels, carts, boats.Prevent skin diseases. It help in kidney disorder. It help in increases blood.
14	Fabaceae	*Dalbergia latiffolia*	Satsar	It is very much valued as timber plant.
15	Papilionaceae	*Derris indica*	Karanj	The twigs are very bitter and used as tooth brush. Oil from the seed is used for burning and for cure of skin diseases.
16	Caesalpiniaceae	*Bauhinia purpurea*	Kachnar	The chief use of this tree is for ornamental. The bark can be used for dyeing and tanning. The flowers are used in curries or pickles and the bark is sometimes used for fibre.

17	Caesalpiniaceae	*Cassia fistula*	Amaltas	It is ornamental tree. The timber is hard and durable. The bark is used for tanning.The timber is used for house posts, agricultural implements and tool handles. The pulp is an ingredient of spiced Indian tobacco.
18	Caesalpiniaceae	*Saraca asoka*	Ashoka	The seeds are chewed as a substitute for betel nut. Timber is used for house building and ploughs. Buddha was born under an Ashoka tree, hence it is sacred to Buddhists. The pounded flowers mixed in water are used in dysentery. A decoction of its bark is used in uterine affections. It providing thick shade.
19	Caesalpiniaceae	*Tamarindus indica*	Imli	The pulp from the pods is used for seasonal curries, chutneys and ice –cream..Pulp is pressed, preserved and sold by weight in markets.Leaves and flowers are also edible. It is valuable timber and fuel, it was major fuel for producer- gas {gasogen} units that powered Indian trucks during Word War 2.
20	Caesalpiniaceae	*Delonix regia*	Gulmohar	It is an ornamental trees, throughout the warmer parts of India and in all tropical countries. One of the most beautiful trees when in full bloom.
21	Caesalpiniaceae	*Peltophorum pterocarpum*	Copperpod	It is an ornamental trees. Planted in road- side trees and also in gardens fpr its showy flowers and handsome foliage. The timber is used for making cabinets.
22	Caesalpiniaceae	*Poinciana pulcherima L.*	Krishna chura	It is ornamental trees. The flower is used as remedy in cases of intestinal worms. The leaves have a purgative action and also abortifacient.
23	Caesalpiniaceae	*Poinciana pulcherima L.*	Radha chura	It is ornamental trees. The flower is used as remedy in cases of intestinal worms. The leaves have a purgative action and also abortifacient.
24	Mimosaceae	*Acacia auriculiformis*	Australion babul	Its wood is good for making paper, furniture, and tools. Leaves and pods are good fodder.
25	Combretaceae	*Terminalia arjuna*	Arjun	An excellent shade tree and often planted on road sides. The bark is used in native medicine as a tonic and astringent. It is also used for tanning for which purpose the outer bark is best. It is carefully removed no injury is done to the tree. Leaves are fed to silkworms. The wood is used in building and in boats.
26	Myrtaceae	*Syzygium cumini*	Jamun	It is used for shade- tree in parks. The wood is hard and durable and used as fuel and for making agricultural implements. The bark is astringent and is used in the form of decoction for mouth wash and gargle. Fresh bark juice mixed with goat's milk is used to cure the diarrohoea of children. Leaves are used as fodder. Its fruit is also used in the preparation of wine and vinegar.
27	Myrtaceae	*Callistemon lenceolata*	Bottle brush	It is ornamental tree.
28	Myrtaceae	*Zizyphus cumini*	Ber	The timber is hard and touch and is used for agricultural implements. Its fruit are eaten by local people and are useful in dysentery.
29	Myrtaceae	*Eugenia jambolana*	Bara jamun	The fruit is rather astringent. The bark and seed are used medicinally. The main uses of the jaman are for shade and fruit. The timber is used for various purposes in villages being specially suitable for use under water.
30	Myrtaceae	*Psidium guajava*	Amrood	Fruits edible and a rich source of vitamin C. Bark and leaves used for tanning.
31				
32	Lythraceae	*Lagerstromia speciosa*	Jarul	It is an ornamental tree. It used for boat building and furniture.
33	Cornaceae	*Alangium lamarckii*	Dhela	The bark and root are used in jaundice, the seed for the cure of boils. The fruit is eaten.
34	Rubiaceae	*Anthocephalus cheninsis*	Kadam	Its pseudocarp is eaten. The acidic but pleasantly flavoured fruit is relished by monkeys., bats and birds which also help in disseminating its minute seeds. The tree is associated with Lord Krishna and is sacred to the Hindus. The flowers are offered in temples. It is valued for matchwood and plywood.
35	Apocynaceae	*Thevitia peruviana*	Pili kaner	It is used in cardiac diseases. It is offered to the Lord. Children eat the pulp of ripe fruit.
36	Apocynaceae	*Alstonia scholaris*	Chhatim	The soft white wood is used for tea chests, packing cases and match splints. It is very beautiful ornamental tree. The bark of this tree is source of a remedy against malaria, toothache and snake bite. The bark is also used in fever and in skin disease.
37	Bignoniaceae	*Jaccaranda mimosifolia*	Jacaranda	It is an ornamental plant. It is a timber tree.
38	Sapotaceae	*Madhuca longifolia*	Mahua	Flowers eaten raw or cooked and a wine is distilled from them. Oil extracted from the seed is used for cooking, for manufacture of soap and to adulterate ghee. Wood used for carts and furniture. The scented, sweetish, fleshy flowers have an irresistible attraction for bears, deer and fruit and nector-eating birds.
39	Verbenaceae	*Tectona grandis*	Sagwan[Teak]	The timber uses are well known. The hard knots which develop on trunck and prized for making tobacco pipes. It is widely used for making decks of ships and rightly called ship tree.
40	Santalaceae	*Putranjiva roxburghii*	Pitunia	The stones of the fruits are strung into rosaries and placed round the neck of children to keep them n good health.
41	Moraceae	*Ficus bengalensis*	Bargad	The leaves are fodder for elephants and camels. The leaves are made into plates. The leaves are used as fodder for goats, buffaloes, camels and elephants The banyan is sacred to the Hindus. It is used for shade.
42	Moraceae	*Ficus religiosa*	Pipal	The papal is used almost entirely as a shade tree. Being sacred to Hindus. In the forest it is lopped for feeding goats, buffaloes, elephants and camels.
43	Moraceae	*Artocarpus integrifolia*	Kathal	Fruits aromatic sweet and fleshy and is eaten raw. The pulp and the seeds are also cooked. The fruit is relished by elephants.

MATERIAL & METHODS

Various excursion trip were arranged to collect, identify the dicotyledonous trees of Bokaro district. On return from excursion all the collection were carefully checked poison in saturated solution of mercuric chloride in rectified spirit and pressed subsequently. Efforts were made to identify the plants from fresh materials with the help of different floras. Those which could not be identified were preserved for furture study. However, match these specimen with their authentic specimen at the Central National herbarium ' Sibpur, Howrah' .Special efforts were made to note the flowering and fruiting time for most of the trees. The dried specimen where mounted on thick 42x28 cm herbarium sheet. The specimen were mounted on the sheet with the help of synthetic resin adhesive(Fevicol) as well as with threads. All such specimen were properly labeled.

The data recorded include field number, locality, habit, habitats, associations and frequency(By visual estimation) as well as colour of flowers and fruits, scent, local name and uses, character of bark and other features which could not be studied from the preserved specimens.

RESULT AND DISCUSSION

Collection of specimens i.e. flower from large trees is a different work. During the last few centuries destruction of plants has been made due to several causes. Hence, conservation of what remain in the flora assume great importance and top priority. One cannot conserve what he does not know. Keeping this dictum in mind, in order to conserve we should know what we have today and what need to be protected. Therefore the present work aim at this objective and have observred 22 families 40 genera and 49 species of caesalpiniaceae family. All the member of this family is mostly found in every place in Bokaro District.

REFERENCES

1. Anderson, T. 1863. On the Flora of Bihar and the mountains of Parasnath with a list of species collected by Messrs Hooker, et. Al. J. Asiat.Soc. Bengal 32: 187-218.
2. Ara Jamal 1960. A cursoly ecological survey of the Flora and Fauna of Hazaribag National park (Bihar). J.Bombay. Nat. Hist. Soc. 57: 326-328 .
3. Ball, V. 1867. On the jungle products used as articles of food by the inhabitants of the districts of Manbhum & Hazaribagh. J. Asiat. Soc. Bengal 36:73-82.
4. Ball, V. 1887 Notes on Principal jungle fruits used as articles of food by the natives of district of Maunbhoom and Hazaribag. J. Asiat. Soc. 11-43.
5. Campbell, Rev. Dr. A. 1886. The Descriptive catalogue of economic products of Chutianagpur.
6. Chakraborty, T. & M. A. 1995. Gangopadhyay. The genus Glochidion (Euphorbiaceae) in the Indian subcontinent. J. Econ. Tax. Bot.19: 173-234.
7. Das, N. N. 1996. Floristic and Ethnobotanical studies of Dumka Distt.(Bihar) Ph.D Thesis, T.M. Bhagalpur University, Bhagalpur.
8. Das Sanayake, M. D. and F.r. 1980-1986. Fosberg.eds. A Revised Handbook to the Flora of Ceylon, Oxford & IBH Publishing CO., Pvt. LTD., New Delhi
9. Ghosh, T. K. 1971. studies on the Flora of Ranchi District Part I & II Ph.D. Thesis. Ranchi University, Ranchi.
10. Haines, H.H. 1910. Forest Flora of C'hotanagpur. Bisen Singh Mahendra Pal Singh, Debradun Publication (Reprint, 1961)- 634+XXXVII.
11. Hooker, J.D. and Thompson, T. 1855. Flora Indica, l.Reeve & Co. Ltd. Kant, London. lain, S .K.(1973). Medicinal Plants among Adibasis In India. BulL BA. Stir India 15 (1 &2): 85- 91.
12. Maheshwari, J.K. and Paul, S.R. 1975. The Exotic flora of Ranchi —J.Bomb Nat Hist. Soc. 70 (l):438-446
13. Majurndar, N.C. and Biswas, S.N. 1971. An account of the vegetation of Chaibasa-Singhbhum District in South Bihar. Buff Bot. Soc. Bengal. 25 : 43-51.
14. Mishra, K.K. 1972. A contribution to our knowledge of the Angiospermic flora of the Parasnath Hills. J.Bihar. B.A. Soc. 1:48-53.
15. Paul, S.R. 1967 Floristic and Phytogeography of the Netarhat Plateau, Bihar: Ph.D. Thesis. Bihar university, Muzaffarpur.
16. Ray, K. 2007. Wild life Heritage of Jharkhand. Gautam Printing works, Dhanbad. Sahu S.C. 1986. Ethnobotany and Medico- Botanical studies on some important plants of Santhal Pragana and Chotanagpur. Ph.D. Thesis, RanchiUniversity,Ranchi.
17. Sanyal, A. 1957. Additional notes on the Botany of Bihar and Orissa and its supplement by Dr. Herbert Mooney md. For. 83 : 230-23 5.
18. Singh, A.K. 1987. Studies on the Angiospermnic Flora of Giridih District. Ph.D. Thesis, M.U. Bodh- Gaya.
19. Singh, Pushpa 1996- Studies on the Flora of old Chotanagpur Division. Ph.D. Thesis Bihar University, Muzaffarpur.
20. Srivastava, D.K. 1986. Floristic and Ethnobotanical Studies of Santhal Pragana(Dicot yledon) Ph.D. Thesis. Vinoba Bhave University, Hazaribag.
21. Thompson, 1917. Botany of the Hazaribag district- Published in the gazetieer. Verma, M. 1988, Studies on Angiospermic flora of .Kauleshwari Hills (Hazari bag) and adjoining place Ph.D. Thesis. Magadh University, Bodh Gaya.