IJFANS INTERNATIONAL JOURNAL OF FOOD AND NUTRITIONAL SCIENCES
ISSN PRINT 2319 1775 Online 2320 7876
 UGC CARE Listed (Group -I) Journal Volume 11, Iss 12, 2022

ETHNO–MEDICINAL STUDY OF COMMON PLANTS WITH SPECIAL REFERENCE TO GIRIDIH DIST. OF JHARKHAND,INDIA

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ABSTRACT

Ethnomedicine has always played an important role in the different ethnic groups of our society. Tribal people use their previous knowledges via their ancestors, books, or by any other medium to extract the different aspects of uses of different plants and their parts Ethnomedicinal study of common plants was done and also during authentication of plants species we noticed some endangered and vulnerable species.

An ethno-medicinal documentation and study was done from April 2022 to August 2022to evaluate the exploration and preservation of different growing plants in Giridih District of Jharkhand, India. The present paper describe some ethnomedicinal plants of Jharkhand especially from Giridih district.

KEY WORDS:

Ethno-medicinal,

Exploration,

Documentation,

Implementation,

Participatory Rural Appraisal (PRA)

Endangered,

Vulnerable,

Species

INTRODUCTION

Jharkhand ("The Land of forest") the 28th state located in eastern India created from the southern part of Bihar. Its foundation day is 15th November 2000 as on the day coincided with the birth anniversary of tribal leader Birsa Munda, the Legend Bhagwan Birsa. The state share its border with West Bengal, Chattisgarh, Uttar Pradesh, Bihar and Odhisha . It is the 15th largest state of India having 79716 sq.km.About 30% covers by recorded forest area (RFA) which is 23,605 sq. km. Jharkhand lies on the Chhota Nagpur Plateau where many rivers like Damodar, North Koel,Barakar, South Koel,Sankh and Subarnarekha passes. Climate of Jharkhand varies from Humid Subtropical in the north to tropical wet and dry in the south-east. Rainfall ranges from 1000 mm to 1500 mm. Mainly there are 5 types of soils are found in Jharkhand are: - Red Soil, Sandy Soil, Black Soil, Laterite Soil and Red Soil.

DISTRICT PROFILE - GIRIDIH

ISSN PRINT 2319 1775 Online 2320 7876
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INTRODUCTION - Giridih is one of the 24 th administrative districts of Jharkhand which is grouped in 5 divisions. My Research area is Giridih which was carved out from Hazaribagh District on 4th Dec. 1972. The district is located at24.18-degree North Latitude and 86.3-degree East Longitude and is spread over an area of 4853.56 sq. km. The district lies almost in the central part of the North Chhota Nagpur Division. Giridih district touches the boundaries of Jamui District, Nawada District, Deoghar District, Jamtara District, Dhanbad District, Bokaro District, Hazaribagh District, and Kodarma District. Parasnath Hills, the highest peak located at an average elevation of 289 metres. Climate is generally dry.

HISTORY- Giridih is a part of Hazaribagh District as well as Chhota Nagpur Plateau.

GEOGRAPHY –Giridih is broadly divided into 2 natural divisions as central plateau and lower plateau. The district comprises vast uniformly distributed forest. It has 2 main water heads- Barakar and Sakri rivers. The district is rich in mineral resources like mika and large coal fields

OBJECTIVE RESEARCH

Collection, Authentication and Identification of different plants and their parts. Enlistment of different herbs, shrubs and trees are done with the help of traditional knowledge acknowledgebythetraditional peoples. Present paper includes some threatened and endangered

ISSN PRINT 2319 1775 Online 2320 7876
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species of plants

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MATERIALS AND METHODS

STUDY AREA

My research area is Giridih which is one of the 24th district and known for its lush green colour. The present research of study is conducted in 11 randomly selected blocks of Giridih out of 4 sub – divisions and 13 blocks of Giridih, Jharkhand, viz., Ajidih, Akdoni Kalan, Bakshidih, Barhamuria, Bhandaridih, Boro, Burhiadih, Chaitadih, Chamarkho, Chunjka, Fulchi. As Giridih is spread over an area of 4853.56 sq km. The city is situated in the Chota Nagpur Plateau and divided into 2 major divisions of Central and Lower Plateau. This district is bounded by Jamui District, Nawada District, Deoghar and Jamtara District, Hazaribagh and Kodarma District. The city is located at 24.18 degree North and 86.3-degreeEast. The average elevation is 289 metres in which the highest peak of the state is Parasnath Hills and having 4477 ft above the sea level. The total geographical area is 4854sq. km which is divided into 4 subdivisions as – Giridih Subdivision, Dumri Subdivision, Bagodar Saria Subdivision, Khori Mahua Subdivision. Climate of Giridih is normal dry. The Summer season starts in the month of April and May and June is the hottest month of the year up to 42 degree Celsius. Due to the height factor the temperature reduces in the hills. Pre- Monsoon starts from the end of June and the rain increases from July to August and it rains till September. Winter is very pleasant between October to March. Giridih is rich in mineral resources where Mica is very much abundance in nature. Giridih is covered with green dense forest and natural plants all over the city. The forest has various kinds of tropical trees and plants as Sal, Bamboo, Semal, Mahua, Palas, Kusum, Kend, Bhelwa and Asian pear etc.

DATA COLLECTION

During data collection we identified the different plants and theirspecies.We also mark some endangered species of plants. Some are badly threatened and some endemic species are also found

ISSN PRINT 2319 1775 Online 2320 7876
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here. Firstly, they identified in field then some Herbarium were made by dried herbarium presses and store them for future identification and work. Some plants are identified by Hans Flora (flora key) in exist. Plants are arrangedalphabetically, correct nomenclature, family, parts used and with medicinal properties.

SAMPLING TECHNIQUES

The study is conducted by laying 128 different quadrats of 1m (134sq m sampled plots) for the enumeration of common wild medicinal plants including small trees, shrubs,herbs,and grasses in 64 different locations (Fig. 1) during April 2021 to April 2022.

RESULTS AND DISCUSSION

MEDICINAL PLANTS OF THE STUDY AREA

More than 1500 ethno-medicinal plants are found in Jharkhand (Birla and Jharkhand, 2006).

S.NO	BOTANICAL NAME	COMMON NAME	FAMILY	PARTS USED	MEDICINAL PROPERTIES
1	*Agaricus bisporus*	Goat weed	Agriaceae	Whole plant	Antimicrobial, and Anticandidal.
2	*Agave americana L.*	Chaff flower	Agavaceae	Leaves , Sap, Seeds	Antibacterial, and Anti fungal properties.
3	*Alternanthera paronychioides*	Mexican Prickly Poppy	Amaranthaceae	Leaves and Shoots	Antioxidant and Antiglucotoxic
4	*Amaranthus viridis L.*	Rosery Pea	Amaranthaceae	Leaves	Diuretic and purgative.
5	*Andrographis paniculata*	King of Bitters	Acanthaceae	Whole plant	Anticancer and antimicrobial
6	*Arisaem heterophyllum*	Dancing Crane Cobra	Araceae	Roots and Tubers.	Quickens the blood clot, relieve pain, kill intestinal parasite in human and animal, Antimicrobial , antidiarrhoeal
7	*Barleria cristata*	Porcupine Flower	Acanthaceae	Leaves	Used in toothache and anti-inflammatory.
8	*Carissa opaca*	Wild Karanda	Apocynaceae	Leaves and Roots	Antimicrobial and Antioxidant, Used in Jaundice and Hepatitis.

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9	*Carissa spinarum*	Bush Plum	Apocynaceae	Leaves and Fruits	Vermifuge and Anti-anthelmintic
10	*Chenopodium album*	White goosefoot	Amaranthaceae	Leaves, Shoot, Seeds Flower	Used in abdominal pain, Eye disorder and Throat problems
11	*Cissus quadrangularis*	Veldt grape	Vitaceae	Whole plant	Heal wound and molluscidal activity.
12	*Clerodendrum viscosum*	Glory Tree	Verbinaceae	Leaves	Strong anthelminthic, antioxidants and anti-nociceptic activities.
13	*Coccinia grandis*	Ivy Gourd	Cucurbitaceae	Whole plant	Antidiabetic, anti-inflammatory, and antimicrobial activity.
14	*Curculigo orchioides*	Golden Eye-grass	Hypoxidaceae	Tubers	Piles, Diarrhoea, Gonorrhoea, Skin disease, Impotence, Jaundice, Urinary Disorder and Leucorrhoea.
15	*Cynodon dactylon*	Bermuda grass/ Scutch Grass	Cypraceae	Leaves, Tubers	Antiparasitic, Antipyretic, Analgesic Weight control
16	*Desmodium triflorum*	Grona triflora	Fabaceae	Leaves	Antibacterial, Anticonvulsant and antioxidants.
17	*Doliuchos trilobus*	Hyacinth bean	Asparagaceae	Leaves and Bulbs.	Antiulcerous ,Antinematodal, Antitumorous and Anthelmhrities.
18	*Elaeodendron glaucum*	Ceylon Tree	Celastraceae	Roots	Snake bite
19	*Elephantopus scaber*	Elephant's Foot	Asteraceae	Whole plant	Anti-inflammatory, wound healing and Tonic.
20	*Eleusine indica*	Indian goosegrass	Poaceae	Whole plant	Influenza, Hypertension, and Urine retension.
21	*Emblica officinalis*	Indian Gooseberry	Phyllanthaceae	Fruit and Seeds	Antiscorbutic, Diuretic, Laxative, Astringent, Stomachic, Bloodpurifier, Appetizer and Ophthalmic disease.

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22	*Ficus religiosa*	Sacred Fig	Moraceae	Leaves, Bark, Fruits and Seeds	Purgative, Astringent, Laxative and Cooling effect.
23	*Flacourtia ramontchi*	Indian Plum	Salicaceae	Fruit and Gum	Used in jaundice and cholera.
24	*Helicteres isora*	Indian screw tree	Malvaceae	Root, Bark and Fruits	Astringent, Juice used in Diabetes. Used in dysentery and diarrhoea. Demulcent, Useful in gripping of bowels and flatulence of children.
25	*Holarrhena antidysentrica*	Coneru	Apocynaceae	Bark and seeds	Used in dysentery and rubbed on body in dropsy. Astringent, used in diarrhoea and vermifuge.
26	*Holoptellia integrifolia*	Jungle cork tree	Ulmaceae	Bark and Leaves	Juice applied to rheumatic swellings. Fish poison
27	*Hymenodictyon excelsum*	Huliganga	Rubiaceae	Bark	Astringent and febrifuge
28	*Lannea grandis*	Indian ash tree	Anacardiaceae	Leaves	Boiled and applied for local swelling and pain. Astringent, used as lotion in eruption, ulcer etc. Decoction used in toothache.
29	*Litsaea sebifera*	Indian laurel	Lauraceae	Bark	Used for curing pain. Strengthen to cow.
30	*Madhuca latifolia*	Indian butter tree	Sapotaceae	Bark and flower	Used in rheumatic affection, astringent and tonic. Eaten in piles, appetizer and sedative.
31	*Melia azedarach*	White Cedar	Meliaceae	Root and Seed oil	Deobstruent, resolvent, alexipharmic, anthelmintic, antilithicdiuretic and emmenagogue.
32	*Michelia champaca*	Champak	Magnoliaceae	Bark,Flower, Seeds and Fruits	Stimulant, antispasmodic, tonic, stomachic, carminative and cooling, used in dyspepsia, nausea, fever, renal diseases and in vertigo. Oil used in opthalmia, cephalagia and gout.
33	*Mimosa pudica*	Touch -me-not	Fabaceae	Roots and leaves	Decoction used in gravellish complains. Used in piles and fistula. Paste used in scorpion sting.
34	*Mucuna prurita*	Velvet bean	Fabaceae	Root	Purgative febrifuge, used in cholera and dropsy.
35	*Nyctanthes arbortristis*	Night flowering jasmine	Oleaceae	Leaves	Used in fever and rheumatism, warmdecoction in sciatica and expressed juice used as laxative, tonic and vermifuge.

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36	*Oroxylum indicum*	Indian trumpet flower	Bignoniaceae	Root, Bark, Leaves, Flower and Seeds	Astringent, diaphoretic, tonic, used in diarrhoea and rheumatism. Burnt leaves are taken as a cough treatment. Carminative and stomachic. Purgative
37	*Ougeinia oojenensis*	Sandan	Fabaceae	Bark and Gum	Febrifuge, decoction given in highly coloured urine. Used in dysentery and diarrhoea also as a fish poison.
38	*Pongamia pinnata*	Indian beech	Fabaceae	Root, Stem, Leaves and seeds.	Juice used in fistulous sores and for cleaning foul ulcers. Used in treatment of bleeding piles, worm infested ulcers, oils used in herpes, scabies and rheumatism.
39	*Pterocarpus marsupium*	Indian kino tree	Fabaceae	Bark, leaves, Wood and Gum	Astringent, externally applied in boils sores and skin diseases. Extract used in diabetes. Used in diarrhoea pyrosis and toothache.
40	*Pueraria tuberosa*	Indian Kudzu	Fabaceae	Root	Demulcent, refrigerant, emetic, tonic, lacteous and rheumatism.
41	*Rauwolfia serpentine*	Indian snakeroot	Apocynaceae	Root	Febrifuge, antidote for bites of snakes, insects, etc.
42	*Rubia cordifolia*	Indian madder	Rubiaceae	Root and Stem	Astringent alterative, obstruent, tonic used in jaundice, paralysis, urinary and menstrual troubles and inflamed chest. Used in cobra and scorpion bites.
43	*Schleichera oleosa*	Kusum Tree/Gum lac tree	Sapindaceae	Bark, Seeds and oil	Astringent, used in itching. Used to remove maggots of animal ulcers. Used for cure of itch, acne and scalp and for promote hair growth.
44	*Semecarpus anacardium*	Marking Nut Tree	Anacardiaceae	Nut, OIL and Gum	Vermifuge and applied in uterus for abortion. Used in rheumatism and leprous nodules. Used in venereal and nervous edibility.
45	*Shorea robusta*	Sal Tree	Dipterocarpaceae	Resin, leaves and Bark	Astringent, detergent, digestive, aphrodisiac and used for fumigation to purify houses. Burnt powder in linseed oil used for healing burns.
46	*Smilax macrophylla*	Common smilax	Smilacaceae	Roots	Used in bloodless dysentery, venereal diseases rheumatism and plains in lower extremities.
47	*Strychinos nuxvomica*	Poison Tree	Loganiaceae	Seed	Used in nervous, paralysis and healing wound.
48	*Solanum nigrum*	Black night shade	Solanaceae	Plant, Leaves and Berries	Juice used as hydrologic, cathartic, diuretic, alterative and in chronic enlargement of liver, blood splitting, piles, dysentery etc. Decoction used as laxative and diuretic.

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					Used in fever,diarrhoea, Eye disease and hydrophobia.
49	*Solanum xanthocarpum*	Wild Eggs Plant	Solanaceae	Plant,Root, Leaves, Buds and Flower.	Used in diuretic dropsy and gonorrhoea Expectorant, antiemetic Applied locally for pains and juice with pepper taken in rheumatism. Salt solution used for watery eyes.
50	*Soymida febrifuga*	Indian Redwood	Meliaceae	Bark	Astringent, febrifuge, tonic, used in debility, intermittent, fever, diarrhoea and dysentery.
51	*Sterculia urens*	Ghost Tree	Malvaceae	Leaves, tender branches and Gums	Used in pleuropneumonia in cattle. Used in throat affections and as substitute for tragacanth.
52	*Stereospermum suaveolens*	Trumpet Flower	Bignoniaceae	Bark and Flower	Cooling, diuretic, tonic. Used in hiccough and as aphrodisiac.
53	*Tamarindus indica*	Tamarind	Fabaceae	Leaves and Seeds	Infusion used in eye diseases. Used as tooth powder.
54	*Tectona grandis*	Teak, Sagwan	Lamiaceae	Leaves	Used in curing itch.
55	*Tephrosia purpurea*	Wild Indigo	Fabaceae	Plant and Root	Tonic, laxative, anthelmintic. Used in tympanites, dyspepsia and chronic diarrhoea fresh root bark used in colic.
56	*Terminalia tomentosa*	Indian Laurel	Combretaceae	Bark	Astringent, diuretic, cardiotonic, burnt bark used for curing itch.
57	*Terminalia arjuna*	Arjun	Combretaceae	Bark	Astringent, febrifuge, cardiotonic, used as antidote to poison.
58	*Terminalia belerica*	Bahera	Combretaceae	Fruit and Kernel	Astringent, tonic, laxative, antipyretic, purgative, used in piles, dropsy, leprosy, biliousness, dyspepsia and headache. Narcotic and vermifuge.
59	*Terminalia chebula*	Black myrobalan	Combretaceae	Fruit and Bark	Astringent, laxative, alterative, used in carious teeth and bleeding gums, etc. Diuretic and cardiotonic.
60	*Urginea indica*	Indian squill	Asparagaceae	Bulb	Expectorant, diuretic and cardiac stimulant.
61	*Vetiveria zizanioides*	Vetivergrass	Poaceae	Plant	Used in tympanites, dyspepsia and chronic diarrhoea fresh root bark used in colic.

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62	*Vitex negundo*	Chinese chaste tree	Lamiaceae	Root, Leaves and Fruits	Expectorant, febrifuge, tonic. Used in acute rheumatism. Vermifuge.
63	*Woodfordia fruiticosa*	Fire Flame Bush	Lythraceae	Flowers	Astringent, Used in dysentery, menorrhagia and liverdisorder.
64	*Zizyphus xylopyrus*	Black vitex	Rhamnaceae	Leaves	Ground and applied as poultice for cure of swelling.

Amaranthus viridis

Cynodon dactylon Ocimum sanctum

Nyctanthes arbor-tristis

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Tectona grandis

CONCLUSION

Ethno-medicinal study helps us to investigate the real knowledge of plant and their parts. During survey it make a beautiful enlistment of different herbs, shrubs and trees which make us easy to recognize. This article not only help to our botanists but also to our pharmacologists and chemists to further investigation regarding medicinal values. As plants are the real gem for our life so we should make an eye to keep all plants conserve properly as they are vulnerable medicinal properties. We need to make a proper guideline to preserve and conserve the whole forest ecosystem including flora and flora because they all are interdependent. Ex-situ and in-situ conservation must be done to enhance the availability of medicinal plants. Lastly every common person must be given a rough knowledge regarding plants utility and plant conservation.

ACKNOWLEDGEMENT:

The author is grateful to the co-operation and support of local,native,rural and endogenous peoples to share their ancient knowledge regarding plants and their parts.

REFERENCE

1. *Jain,* 1967,1986,1987 The scope of ethnobotany is expanding at a very fast rate.
2. Z. Abraham,1981. Ethnobotany of the Toda's, the Lotas, and the Trials of the Nilgiris *in S. K.Jain* (Ed), Glimpses of Indian Ethnobotany,New Delhi, Oxford and TBH Publishing Co. 308-320.
3. ***Chaudhary, etal,***1977. Ethnobotanical uses of herbaria, Bull. Bot. Survey Indian, 19:256-261.
4. *Srivastava, D.K. & Verma, S.K.*1981. An Ethnobotanical study of Santhal Pargana, Bihar Indian for .107:30-41.
5. *Sen, Patnaik S.K MR, Behera L.M.,*2015. Ethnomedicineuses plants.
6. *H. Lal and Singh* 2012: in Medicinal Plants of Jharkhand, Biodiversity of Hazaribagh dist.
7. *Tomer*, J.B. 25-27, Dec. 2002. Tribal Medicinal Plants of Jharkhand and their uses. Proc. Natl. Sem PP76-77.
8. *Topno, Mukherjee. S, Ghosh. P, T.K.1999.* Exclusive Medicinal Uses of some plants in Khunti subdivision of Chotanagpur "Damodar Basin". A most fragile part of India.
9. *Jain SP, Singh. J-Nelumbo*, 2004. Depleting Medicinal and Aromatic Plants of Jharkhand State.
10. *Gupta DS*-2016. Studies on Ethnomedicinal Plants
11. *Lal H S, Sanjay*. S-2012. Ethnomedicinal uses of Dalbergia sisso Roxb in Jharkhand.
12. *Anand K.* Medicinal Plants of Jharkhand.
13. *Prasad. K*-2015. Current Status of Medicinal Plants in the Bokaro District of Jharkhand.
14. *Murmu* DF-Tribal Health and Medicine, 2004.Plants Use among the Tribals of Jharkhand.
15. *Gouri.S, Slomy*.K-Advancein plant Science, 2009.Therapeutic values of some important medicinal plants of Jamshedpur, Jharkhand, India.

16. Bodding, P.O. (1925) Studies on Santal medicine and connected folklore. I. Santals and diseases. Mem. Asiatic Soc. Bengal 10(1): 1-132.
17. Bodding, P.O. (1927) Studies on Santal medicine and connected folklore. II. Santals medicine. Mem. Asiatic Soc. Bengal 10(2): 133-426.
18. Bondya, Sutanu Lal and Sharma, H. P. (2004) Ethnobotanical studies on plants used in diabetes (Madhumeha) under the Baharagora Block of Jharkhand. Ethnobotany 16 (1- 2):139-140.
19. Chandra, K. (1995) An Ethnobotanical study on some medicinal plants of district Palamau (Bihar). Sachitra Ayurveda (Aug.) :311-314.
20. Chandra, K. and Pandey, B.N. (1984) Some folk medicine of Singhbhum. Sachitra Ayurveda 36(4):253-257.
21. Chandra, K. and Pandey, B.N. (1985) Medicinal plants of Santal Pargana, district Dumka (Bihar) Part I. Sachitra Ayurveda 37(3): 307-314.
22. Chandra, K., Pandey, P. and Pandey, B.N. (1987) Ethnobotany of Santhal pargana district Dumka (Bihar). Bull. Medico- ethno-bot. Res. 8:134-146.
23. Chandra, K., Pandey, B.N., and Lal, V.K. (1985) Folk-lore medicinal plants of Dumka(Bihar). Ancient Science of Life 4:181-185.
24. Chaudhuri, Rai H.N. (1974). Green Medicine. Indian Mus. Bull. 9(1):35-40.
25. Chaudhuri, Rai H.N. and Pal, D.C. (1976) Poor man's medicine. Man and Life 2:126-131.
26. Chaudhuri, Rai H.N., Pal, D.C., Tarafder, C.R. and Guha, A. (1977) "Ranu"- A Tribal tablet. Vanyajati 25(2): 9-13.
27. Girach, R.D. and Aminuddin (1995) Ethnomedicinal uses of pla
28. nts among the tribals of Singhbhum district, Bihar, India. Ethnobotany 7:103-107.
29. Goel, A.K., Sahoo, A.K. and Mudgal, V. (1984) A contribution to the ethnobotany of Santal Pargana. B.S.I. Howrah. pp. 1-37.
30. Goel, A.K., Sahoo, A.K. and Mudgal, V. (1987) Medico-ethnobotany of Santal Pargana (Bihar): Stomach and gastric troubles. The Eastern Anthropologists 40(2):161-167.
31. Goel, A.K., Sahoo, A.K. and Mudgal, V. (1987) Ethnobotanical notes on some plants used for birth control in Santal Pargana, Bihar. J. econ. taxon. Bot. 11(2):493-495.
32. Goel, A.K. and Mudgal, V. (1988) A survey of medicinal plants used by the tribals of Santal Pargana (Bihar). J. econ. taxon. Bot. 12(2):329-335.
33. Guha, U. (1957) Five folk tales of the Santal. Indian Folklore 2(1): 34-40.
34. Gupta, S.P. (1963) An appraisal of chhotanagpur tribal pharmacopia. Bull. Bihar Tribal Res. Inst. 5(2): 1-18.
35. Gupta, S.P. (1981) Native medicinal uses of plants by the Asurs of Netarhat Plateau (Bihar). p.218-231. In Jain,S.K. (ed.) Glimpses of Indian Ethnobotany. Oxford and IBH, New Delhi.
36. Gupta, S.P. (1987) Study of plants during ethnobiological research among tribals.p.12-22. In Jain,S.K. (ed.) A Mannual of Ethnobotany, Scientific Publishers, Jodhpur.
37. Hembrom, P.P. (1991) Tribal medicine in Chotanagpur and Santal Parganas of Bihar, India. Ethnobotany 3:97-99.
38. Hembrom, P.P. (1994) Adivasi Oushadh (Horopathy), Pahariasewa samiti, Satia (DST, Government of India, New Delhi)-in Hindi.
39. Hembrom, P.P. (1996) Contact therapy practiced by Mundas of Chotanagpur, Bihar. Ethnobotany 8:36-39.
40. Hembrom, P.P. and Goel, A.K. (2005) Horopathy: Ethnomedicine of Mundas. Ethnobotany 17:89-95.
41. Islam, M.A. and Jha, R.K. (2003) Ethnopharmacology of tribals of Ranchi district of Jharkhand. J. econ. taxon. Bot. 27(2):300-310.

42. Jain, S. K. and Tarafder, C.R.(1970) Medicinal plant lore of the Santals (a revival of P.O. Bodding's work). Econ. Bot. 24:241-278.
43. Jain, S.P. (1989) Tribal remedies from Saranda Forest Bihar, India-I. Int. J. Crude Drug Res. 27(1):29-32.
44. Jain, S.P. (1996) Ethno-Medico-Botanical survey of Chaibasa, Singhbhum district, Bihar. J. econ. taxon. Bot. Add. Ser. 12:403-407.
45. Jain, S.P. (2003) Comparative Ethno-Medico –Botanical studies of tribes of Netarhat Plateau, Chhotanagpur and Singhbhum districts of Jharkhand, India. J. econ. taxon. Bot. 27(2): 295-299.
46. Jain, S.P., Abraham, Z. and Shah, N.C. (1990) Herbal remedies among "Ho" tribes in Bihar. p.115-122. In Jain, S.K.(ed.) Contribution to the ethnobotany of India. Scientific Publishers, Jodhpur.
47. Jain, S.P., Singh, S.C. and Puri, H.S. (1994) Medicinal plants of Netarhat, Bihar, India. Int. Jour. Pharmacog. 32(1):44-50.
48. Jaipuriar, M.K. (2003) Threatened Herbal heritage of tribal land Jharkhand. Indian Forester 129(1): 48-54.
49. Jha, P.K., Chaudhari, R.S. and Chaudhari, S.K. (1997) Studies of medicinal plants of Palamau (Bihar)-(IInd part). Biojournal 9(1-2):21-38.
50. Jha, R.R. and Verma, S.K. (1996) Ethnobotany of SauriaPaharias of Santal Pargana, Bihar –I. Medicinal Plants. Ethnobotany 8:31-35.
51. Kumar, Kaushal (1997) Pharmacognostical studies on some Ethnomedicinal plants of Santhal Parganas(Bihar). Ph.D. thesis submitted to B.H.U., Varanasi.
52. Kumar, K. and Goel, A.K. (1998) Little known Ethno-medicinal plants of Santal and Paharia tribes of Santal Pargana, Bihar, India. Ethnobotany 10:66-69.
53. Kumar, M. (1992) Ethnomedicinal studies of plants of Chotanagpur Plateau, Bihar. Int. J. Mendel 9(2-4): 137-139.
54. Kumari, M., Tirkey and Singh, M.P. (1991) Studies of tribal medicinal plants of Hazaribagh. New Botanists 18(1-2):105-107.
55. Mahato, A.K. and Mahato, Pushpa (1996) Ethnobotanical wealth of Chhotanagpur plateau –IV. Some medicinal plants against intestinal worms. J. econ. taxon. Bot. Add. Ser.12:389-391.
56. Mahato, A.K., Mahato, Pushpa and Prasad, R.(1996) Ethnobotanical wealth of Chhotanagpur plateau, India. Part –III. Somemedicinal plants used against diarrhoea by the people of Singhbhum district, Bihar. Adv. Plant Science 9(1):25-28.
57. Mahato, A.K., Ram, R.L. and Mahato, Pushpa (1992) Ethnobotanical wealth of Chhotanagpur plateau –I. Some medicinal plants used in dysentery. Geobios 11:123- 124.
58. Manna, M. K. and Samaddar, U.P. (1984) On the occurence of useful plants of Netarhat Plateau of Palamau district, Bihar. J. econ. taxon. Bot. 5(3):539-546.
59. Pal. D.C. (1980) Observation on folklore about plants used in veterinary medicine in Bengal,orissa and Bihar. Bull. bot, surv. India 22(1-4):96-99.
60. Pal, D.C. and Jain, S.K. (1998) Tribal Medicine. Naya Prakashan Calcutta.pp.317. Pal, D.C. and Srivastava, J.N. (1976) Preliminary notes on the ethnobotany of Singhbhum district, Bihar. Bull. bot, surv. India 18:247-250.
61. Pandey, B.N., Das, P.K., Jha, A.K. and Ojha, A.K. (1998) Ethnobotanical profile of South Bihar with special reference to East Singbhum, Jamshedpur. Acta Botanica 20(1):31-38.
62. Paul, S.R. (1977) Medicinal plants of Netarhat, Bihar (India). Qurt. J. Crude Drug Res. 15:79-97.
63. Prasad, A.N., Singh, B.K. and Dangi, M.K. (1998) Ethnomedicinal plants of Hazaribagh forest mine region (series-I). Int. J. Mendel 15(1-2):47-48.
64. Prasad, U.N. (1988) Survey Report on availability resources of medicinal plants in the tribal and other areas of North and South Chhotanagpur division as well as tribal area of Dumka and other areas of Gaya, Aurngabad, Nawada and Monghyr districts (Unpublished). Chapter 9:56-62.

65. Raghav, C.S., Suneja, Poonam, Bhatt, K.C., Tomar, J.B. and Malik, S.S. (2005) Exploration of medicinal and aromatic plants in tribal areas of Jharkhand and West Bengal for Chemo-ethnobotanical studies. p.147-158. In. Prabhuji, S.K. et al. (eds) Recent Advances in Medicinal Plant Research: Vision 21st Century. Satish Publication House, New Delhi.
66. Ram, R.L. and Saha, V. (1998) Ethnobotanical wealth of Ranchi district, Bihar. Part I: Herbal medicinal plants used against dysentery. Adv. Plant Sci. 11(1):249-252.
67. Rani, Sandhya and Mishra, G.D. (2002) Some medicinal plants used by the tribes of Jharkhand. Indian Med. Homoeo. Jour. 1(4):16-19.
68. Roy Choudhuri, P.C. (1963) Folklore in aid of medicine. Folklore 4(9):308-309.
69. Sahoo, A.K. and Mudgal, V. 1993. (1997) Ethnobotany of South Chotanagpur (Bihar). Bull. bot. surv. India 35(1-4):40-59.
70. Sahu, H.B., Bondya, S.L., Kumar, J. and Sharma, H.P. (2003) Studies on ethno-medicinal properties of plant barks used as drugs by the indigenous people of Ranchi district of Jharkhand. Int. J. Mendel 20(3-4):83-84.
71. Saren, A.M., Halder, A.C. and Singh, Harish (2006) Ethnomedicinal plants of Mahilong Forest Range in Ranchi District, Jharkhand. J. econ. taxon. Bot. (in Press).
72. Sarkar, P.K. and Agarwal, V.S. (1978) Notes on Pholidota imbricate Lindl. (Orchidaceae) and its local uses in Ranchi district, Bihar. Bull.bot.surv.India 20(1- 4):182-183.
73. Sharma, P.C. (1981) Folklore antifertility plant drug of Bihar. Bull. Medico- ethno- bot. Res. 2: 296-302.
74. Sharma, P.C. (1988) Some intresting medicinal folklores from Bihar. Bull. Medico- ethno- bot. Res. 9(3-4):89-95.
75. Sharma, P.C. and Sinha, G. N. (1980) Folklore medicinal plants of Ranchi district (Bihar). Nagarjun 24(1):1-3.
76. Shukla, Gyanesh and Verma, B.K.(1996) Roots- A vital plant part to cure body ailments among tribal / rural folklore of western Bihar. J. econ. taxon. Bot. Add. Ser. 12: 392- 394.
77. Singh, C.B. (2003) Forest flora in the life and economy of the tribals of Santhal Parganas, Jharkhand. Jour. Non-Timber Forest Prod. 10(1-2): 20-33.
78. Singh, L.B. and Singh, C.L. (1992) An Ethno-Medico-Botanical study of Deoghar district (Bihar). Biojournal 4(1-2):83-86.
79. Singh, L.B. and Sinha, S.K. (1991) Ethnobotany of Paharia tribe of Sahibganj District, Bihar. Environment and Ecology 9(2): 541-543.
80. Singh, L.B., Verma, A.K. and Sinha, S.S.N. (1992) Preliminary observations on the ethnomedicinal plants of Godda district (Bihar). J. econ. taxon. Bot. Add. Ser. 10:205- 208.
81. Singh, M.P. (1987) Tribal medicinal plants used in animals diseases of Chotanagpur. Indian Forester 113(11):758-759.
82. Singh, Thakur Balwant (1955) Bihar ki vanaspatiyan. SreeBaidyanath Ayurveda Bhawan Pvt. Ltd. Publication, Patana.
83. Sinha, G.N., Pandey, B.N. and Sharma (1981) Geographical distribution of ayurvedic medicinal plants in Bihar-I Haritakyedivarga. Sachitra Ayurveda 34(1): 30-33.
84. Sinha, R.K. and Nathwat, G.S. (1989) Antifertility effects of plants used by the street herbal vendors for birth control. Ancient Science of Life 9(2):66-68.
85. Sinha, R.K. and Nathwat, G.S. (1989) Medicinal plants and plant products used by the street herbal vendors in the treatment of poliomyelitis in children. Jour. Research & Education in Indian medicine 8(1):23-26.
86. Sinha, R.K. and Nathwat, G.S. (1991) Plants and plant products used in the treatment of some respiratory disorder by the street herbal vendors. Jour. of Scientific Res. in plants and medicine 10(1-4):1-5.

ISSN PRINT 2319 1775 Online 2320 7876
 UGC CARE Listed (Group -I) Journal Volume 11, Iss 12, 2022

87. Srivastawa, D.K. and Verma, S.K. (1981) An ethnobotanical study of Santal Pargana, Bihar. Indian Forester 107:30-41.
88. Srivastava, Sanjay (2006) Dependence of local people and issues in conserving local resources: Case of Dalma Wildlife Sanctury, Jharkhand. Indian forester 132(1):31-42.
89. Tarafder, C.R. (1978) Some interesting new uses of the well known plant Vitex negundo L. (Nisinda). Bull.bot. sur. India 20:176-177.
90. Tarafder, C.R. (1983a) Traditional medicinal plants used by the tribals of Ranchi and Hazaribagh districts, Bihar- plants used in stomach troubles. J. econ. taxon. Bot. 4(3):891-896.
91. Tarafder, C.R. (1983b) Ethnobotanical observation on Nisinda. Folklore 24(8):170-174.
92. Tarafder, C.R. (1983c) Ethnogynaecology in relation to plants. Part I : Plants used for antifertility and conception. J. econ. taxon. Bot. 4:483-489.
93. Tarafder, C.R. (1983d) Ethnogynaecology in relation to plants. Part II : Plants used for abortion. J. econ. taxon. Bot. 4:507-516.
94. Tarafder, C.R. (1984a) Medicinal plants traditionally used by the tribals of Ranchi and Hazaribagh districts, Bihar: Skin diseases and sores. Bull. bot. surv. India 26(3-4):149- 153. Tarafder, C.R. (1984b) Less known nine medicinal plants used by the tribals for curing gonorrhoea in Ranchi and Hazaribagh districts, Bihar. Folklore 25:47-49.
95. Tarafder, C.R. (1984c) Less known ten medicinal plants are used by the tribals of bringing taste to a sick person in Hazaribagh district, Bihar. Vanyajati 32(3):9-11.
96. Tarafder, C.R. (1984d) Ethnogynaecology in relation to plants. III. Plants used to accelerate delivery and pre and post natal care. J. econ. taxon. Bot. 5: 572-576.
97. Tarafder, C.R. (1984e) Less known twenty three medicinal plants used by the tribals for curing boils in Ranchi and Hazaribagh districts, Bihar. Vanyajati 32:14-19.
98. Tarafder, C.R. (1985) Acacia catechu Willd. Fabaceae. Indigenous and less known uses of the plants. Folklore 26(8):158-159.
99. Tarafder, C.R. (1986) Ethnobotany of Chhotanagpur. (Less known and unknown 38 medicinal plants used by the tribals). Folklore 27(6):119-125.
100. Tarafder, C.R. (1987) Some traditional knowledge about tribal healths of Hazaribagh and Ranchi districts. Folklore 28(2):37-42.
101. Tarafder, C.R. and Chaudhuri, H.N.Rai (1981) Less known medicinal uses of plants among the tribals of Hazaribagh and Ranchi districts in Bihar. p.208-217. In Jain, S.K. (ed.) Glimpses of Indian Ethnobotany. Oxford and IBH, New Delhi.
102. Topno, K.K. (1997) Plants used by tribals of Chotanagpur against diabetes. The Botanica 47:99-101. Trebedi, G.N. (1986) Ethnobotany of Chotanagpur (Bihar). Folklore 27:119-124.
103. Trebedi, G.N., Molla, H.A. and Pal, D.C. (1985) Some use of plants from the tribal areas of Chotanagpur, Bihar. Nagarjun 29:15-18.
104. Trebedi, G.N., Molla, H.A. and Pal, D.C. (1987) Some traditional knowledge about tribal health (Plants used by the tribals of Hazaribagh and Ranchi districts). Folklore 28(20:37-42.
105. Uniyal, M.R. (1995) Bihar ke Adivasi evamJariBootiyan. SreeBaidyanath Ayurveda Bhawan Pvt. Ltd. Publication, Patana.
106. Upadhyay, O.P., Kumar, K. and Tiwari, R.K. (1998) Ethnobotanical study of skin treatment uses of medicinal plants of Bihar. Pharma. Biology 36(3):162-172.
107. Verma, S.K. and Pandey, A.K. (1990) Ethnobotanical notes on certain medicinal plants used by the tribals of Lohardaga district, Bihar. J. econ. taxon. Bot. 14(2):329-333.
108. Verma, S.K., Srivastava, D.K. and A.K. Pandey (1999) Ethnobotany of Santhal Pargana. Narendra Publishing House, New Delhi.p. 1-132.
109. Vidhyarthy, Anil Kumar and Gupta, H.S. (2004) Ethnomedicinal study of some important plants of Jharkhand and their conservation. Indian Forester 130(2):149-156.