

ORIGINAL RESEARCH ARTICLE

DIVERSITY AND ETHNOMEDICINAL VALUE OF LIANAS IN EAST NIMAR OF
MADHYA PRADESH, INDIA

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ABSTRACT:

Man has surveyed remote galaxies and has stood on the surface of moon but has not so far come anywhere near to completing taxonomic of the fewer than half a million species of higher plants that grow on our planet. According to present study 65 lianas are naturalized in all parts of East Nimar belonging to families 16 and 53 genera. A family - wise analysis of all the 65 lianas is carried out. Fabaceae emerges as the largest family that contributes (14 species), followed by Cucurbitaceae and Asclepiadaceae (10 species each), Convolvulaceae shares (8 species), Vitaceae and Dioscoriaceae (4 species each). The other families, such as Liliaceae shares (3 species), Aristolochiaceae (2 species), Psittacanthaceae, Polygonaceae, Basellaceae, Cappariaceae, Sapindaceae, Celastraceae and Combretaceae (1 species each).

KEYWORDS: Diversity, Ethnomedicinal, Lianas, East Nimar

INTRODUCTION

From the advent of the human life on earth, human community has been depending on the natural resources especially the plants for their basic needs such as food, cloth, shelter and medicine. Plants and plant based medicines have been employed since dawn of civilization for prolonging life of man by combating various ailments. Ancient tribal societies around the world have learnt to utilize their neighborhood herbal wealth for curative as well as offensive purposes. Due to lack of literacy their knowledge of plants developed often at the cost of their dear life in their 'Human Laboratories' this centuries old experience could not be perfectly documented and it had rather descended from one generation to the next by oral communication. As the ethnic groups migrated from place to place in search of their livelihood, their folklore knowledge also became fragmented and traveled with them often with 'additions' and 'deletions'.

Out of 7500 ethnomedicinal plants used by Indian tribals, 65 lians species are collected from the study area. The common diseases of the tribals from this area are respiratory disorders, stomach and abdominal disorders, flatulence, diarrhoea and dysentery, malaria fever tuberculosis, skin diseases, venereal diseases, conjunctivitis. Besides, there are some diseases reported as specific to men, women or children in tribal communities. Men occasionally suffer from liver problems, possibly due to consumption of country liquor, typhoid, headache, eczema and venereal diseases. Constipation and appendicitis are not common among them because of consumption of large amount of leafy vegetable.

The common female diseases are intestinal worms, anaemia, leucorrhoea, hysteria, dysmenorrhoea (painful menstruation) etc. The abortion practice is not uncommon. The common diseases among children are blood dysentery, teething, intestinal worms, cough and cold, measles, dental caries, scabies, rickets, eye disease, amoebiasis etc. Malnutrition and diarrhoea is sometimes lethal in children of this region. Disease like conjunctivitis assumes epidemic proportion in children during the festivals associated with dancing and singing. Most of the diseases are treated by single plant species.

MATERIAL AND METHODS:

STUDY AREA:

East Nimar is situated in the South West corner of Madhya Pradesh. It lies between 21° 05' and 22° 25' N Latitude and between 75° 57' and 77° 13' E Longitude and 304 M above sea level. It is bounded by Betul, Hoshangabad and Amravati districts of Maharastra on the East, Buldhana and Amravati district on the South West and Khargone and Dewas district on the West and North. The total geographical area is 10779 sq. Km. out of which forest occupies 8307 sq. Km. It lies between the valleys of Narmada and Tapti rivers and occupies a strip of mixed hill and plain Country.

THE PEOPLE:

The aboriginal and hill tribes met within this region are the Korkus, Gonds, Nihals, Bhils, Pradhans, Pardis, Bhuiya, Orans and Bayare etc. The 1991 census records 5,08,532 Adiwasi (tribal) population. The number of Korkus is maximum (78.41%) in the district. The Gonds are second (16.01%) and Nihals are third in number (4.14%). The major tribes taken for study are Korkus, Gonds and Nihals.

Field observation on plants, the vernacular names and information, their uses were recorded in the field book. Voucher specimens were brought to laboratory and prepared according to the conventional herbarium technique [1]. All specimens were identified with the help of standard floras

[2, 3, 4]. The important plant parts like underground tubers, corms and fruits etc. were preserved in 4% formalin. The present work mainly covers the tribal villages situated at the foothills of Satpura, which inhabited by Korku, Gond and Nihal, tribes of East Nimar. The tribes are original inhabitants of this region. There are about six more tribes like Bharia, Bhil, Bhunjia, Oraen, Pradhan and Pardhi etc., who reside in this region.

Generally the medicines are prepared by crushing, boiling, shade drying. The preparation of tablets, syrups are made indigenously. Dry plant parts are usually made into powder. Local medicine men (padihar) prepare drug by decoction, infusion, mixture and paste. Tribals store either whole plant or a part of it after shade drying. Gond tribe stores plant parts making sort of garland after drying in shade.

CONCLUSION:

Korku, Gond and Nihal tribe of East Nimar use a good number of plant for material culture and economic lively hood. Present observation clearly includes that besides ethnomedicinal uses. Tribals are well aware of multifarious uses of plants in agriculture and fodder etc. The ethnomedicinal (human & veterinary) plants are used to treat wide range of discomfort of human beings and cattle. The tribals system of medicine is an elaborate and specialized one. It gives preferable to fresh drugs. Some of the drugs are exclusive treasures of Parihars, Bhopas and other medicine men, while other members of the tribes are also aware of the therapeutic properties of plants from their day to day experience. Nowadays, the useful plant resources are becoming scarce due to ruthless destruction of habitats, deforestation, climate change, global warming, industrialization, construction and pollution etc. It is necessary that the tribal knowledge and practice about plants are to be recorded before they are lost permanently.

Through native medicine still plays a significant role among the tribals, it is observed that the traditional knowledge of medicinal plants among the youths in tribal communities has been disappearing because of the ability to meet their own needs at present and for future. The pressure of ruthless exploitation without adequate regeneration measures is endangering many useful ethnomedicinal plants, plant species like *Abrus precatorius*, *Asparagus racemosus*, *Aristolochia bracteolata*., *Celastrus paniculatus*, *Ceropegia bulbosa*, *Cissus quadrangularis*, *Gloriosa superba* L., *Gymnema sylvestris*, *Hemidesmus indicus* (L.) R.Br. *Momordica dioica*, *Mucuna pruriens* and *Pueraria tuberosa* ect. among the tribals.

The plant species used exclusively by Korkus are 26 and Gond 4. Common species used by Korku, Gond and Nihal are 34 while Korku and Gond used 6 and Korku and Nihal use 6. The present study revealed that Korku is more knowledgeable about the plant wealth and their surroundings followed

by Gond and Nihal. The plants like *Ampelocissus latifolia* (Roxb.) Planch, *Aristolochia bracteolata* Lamk., *Celastrus paniculatus* Willd., *Cissus quadrangularis* L., are commonly used by all the tribal groups. This shows a cross cultural relationship between the tribal groups of this area. It can also be assumed that the indigenous knowledge about the plant wealth has come from a common origin but in course of time some knew informations and practices has found in place into the day to day plant usage of the tribal groups.

SOME SUGGETIONS:

- The tribe here developed the reuse of conservation but the exploitation of plant resources is inversely proportional to the conservation and regeneration efforts.
- The traditional knowledge and resource management practices of the indigenous people should be applied in modern development strategies. Traditional knowledge of indigenous people with modern tools of genetic engineering to get the desired results.
- Government should also provide indigenous people with suitable technology and infra structure to increase the efficiency of their resource management.
- Exhaustive study may be conducted in future to explore, identity, record and indigenous knowledge which can serve as a data bank for strategies for health care system.
- Search for alternate substitute plants should also be given immediate attention.
- Medicinal garden and Nursery should be established to maintain constant supply of material to reduce pressure an wild populations.
- Some of the noble plant species should be scrutinized for their propagation through tissue culture techniques.
- Traditional customs and religious beliefs should also be utilized in technologies for conservation of vegetation
- The indigenous knowledge of the tribal people should be promoted for the development of their economy.
- Steps should be taken for in-situ / ex-situ conservation of rare and endangered plants.
- A detailed and systematic study may be conducted in future to explore record and preserve indigenous knowledge and information which can serve as data bank for strengthening and evolution of low cost, indigenous and sustainable plant based medicine for health care system.

Table 1. List of Lians species and used in ethno-medicine:

Scientific Name	Family	Vernanacular Name	Category	Climbing Mode	Medicinal Uses
<i>Abrus precatorius</i> Linn.	Fabaceae	Ratti/Gunja/Gunchi (K and N); Jurum ti Velly (G)	WV	HC	Contraceptive,diabetes, cough, cold, colic pain, scorpion sting, sciatica and paralysis.
<i>Acacia sinuata</i> (Lour.) Merr.	Fabaceae	Kochi (K); Sitakali to Marra (G); Shikakali (N)	WV	HC	Dandruff and boils
<i>Ampelocissus latifolia</i> (Roxb.) Planch.	Vitaceae	Dokarbel/Kandvel/Nardel(K);Ran drakshi/Devdhar ta Marra(G);Popasvel(N)	WV	TC	Muscular pains, sores, bone fracture and pneumonial fever.
<i>Ampelocissus tomentosa</i> (Heyne ex Roth) Planch	Vitaceae	Dhotto(K)	WV	HC	----
<i>Antigonon leptopus</i> Hook. & Arnott	Polygonaceae	Madan-Mast ta Marra (G)	WV	TC	Aphrodisiac and in weakness.
<i>Argyreia nervosa</i> (Burm. f.) Boj.	Convolvulaceae	Vidharya Bela/Phanguda (K); Samundar ti Vely (G); Samundar Palak (N)	WV	ST	Tonic against anaemia, digestive and cardiac tonic.
<i>A. sericea</i> Dalz. & Gibson	Convolvulaceae	Kali Phang (K and N)	WV	ST	Conjunctivitis, swelling, bone fracture and irritation.
<i>A. strigosa</i> (Roth) Rober.	Convolvulaceae	Bhaisvel/Bhaislae/Meswal (K)	WV	ST	Tonic against anaemia.
<i>Aristolochia bracteolata</i> Lamk.	Aristolochiaceae	Kidamar/Gidhan/Chandbela (K, G and N)	HV	ST	Skin diseases and abortifacient.

<i>A. indica</i> L.	Aristolochiaceae	Sapsan/Kidamari/Gidhan/ Chandbela (K and N); Isharmuli ti Veli (G)	HV	ST	Antivenom and used in dyspepsia.
<i>Asparagus gracilis</i> Royle	Liliaceae	Saslyamusli (K)	WV	HC	To cure urinary problems, mental disorders and malaria.
<i>A. racemosus</i> Willd.	Liliaceae	Saslyamusli (K)	WV	HC	Sexual debility in men.
<i>Basella alba</i> L., Sp.	Basellaceae	Poi/Pasalei (K)	HV	HC	To cure general debility and anaemia.
<i>Butea superba</i> Roxb.	Fabaceae	Tunang/Raisitom (K); Palasvel (G); Belia palas (N)	WV	ST	To remove pimples and acne.
<i>Caesalpinia bonduc</i> (L.) Roxb.	Fabaceae	Sagargoti (K); Cutter ta Marra (G); Chirchirgoti (N)	WV	Str-A	To cure liver disorders.
<i>Cajanus scarabaeoides</i> (L.) du Petit.-Thouars	Fabaceae	Ban-tuar(K)	WV	ST	_____
<i>Canavalia gladiata</i> (Jacq.) DC.	Fabaceae	Ban-sem, Makhanssem(K)	WV	ST	_____
<i>Capparis zeylanica</i> L.	Capparaceae	Pachika (K); Jakhambela/Ardanda to Marra (G)	WV	Str-A	To cure rheumatic pain.
<i>Cardiospermum halicacabum</i> L.	Sapindaceae	Phatphatej/Ghanphod (K); Phutphutya/Wasanna Veli (G); Charmathari (N)	HV	HV	Hemicranias (adhasisi) and epilepsy.
<i>Cayratia trifolia</i> (L.) Domin	Vitaceae	Ambatvel (K)	WV	TC	Antidote for snakebite.
<i>Celastrus paniculatus</i> Willd.	Celastraceae	Pinguel (K); Malkangni ta Marra (G); Malkangni (N)	WV	Str-UA	To cure beri-beri in children (vit, B1 deficiency).

<i>Ceropegia bulbosa</i> Roxb.	Asclepiadaceae	Gakerkund/Gakaryakand/ Khatmarya (K)	ST	HV	General debility and bodyache.
<i>Cissampelos pareira</i> L.	Menispermaceae	Paharvel (K); Patha ti Veli (G); Patha/Venivel (N)	WV	Str-UA	To reduce high blood pressure.
<i>Cissus rependa</i> Vahl.	Vitaceae	Dekrabela(K),Pani-veli(G)	WV	RC	To cure sprain and bone fracture.
<i>Cissus quadrangularis</i> L.Mant.	Vitaceae	Hadjora (K, G and N)	WV	RC	To cure sprain and bone fracture.
<i>Citrullus colocynthis</i> L.	Cucurbitaceae	Ghorkakde (K); Tumba ti Veli (G)	HV	TC	Stomach pains and sciatica.
<i>Clitoria ternatea</i> L.	Papilionaceae	Gokarni ti Veli (G)	HV	TC	To hasten delivery during labour pains.
<i>Coccinia grandis</i> (L.) Voigt	Cucurbitaceae	Dhorkakri (K); Indravan ti Veli (G); Kundru (N)	WV	TC	To cure weakness and impotency in male
<i>Cocculus hirsutus</i> (L.) Diels	Menispermaceae	Aseen Zara/Bochan (K); Vasani ta Palla/Barmipalla/Patalgarudi/ Bosan (G); Wasanel/Pathari (N)	WV	ST	Brain tonic.
<i>Combretum albidum</i> G.	Combretaceae	Rhetbel/Retel (K)	WT	ST	To cure mental disorder, mania and insomnia.
<i>Corallocarpus epigaeus</i> (Rottl. & Willd.) Hook.	Cucurbitaceae	Mirichkand (K)	HV	TC	It is applied on swelling caused after snakebite.
<i>Cryptolepis buchanani</i> Roem. & Schult.	Asclepiadaceae	Kaovel/Kawavel/Nagbel (K)	HV	ST	Useful in insect bites and scorpion sting.
<i>Cyphostema auriculatum</i> (Roxb.) P.Singh & Shetty	Vitaceae	Jongali-ongoor,Kajorny(K)	WV	TC	Used as a tonic.
<i>Desmodium triflorum</i> (L.) DC.	Fabaceae	Kudalya (K)	HV	ST	Applied on wounds twice a day for fast healing.

<i>Dioscorea bulbifera</i> L.	Dioscoriaceae	Kalyakand/Gathalu (K); Noska ti Velli (G); Gogdu/Bayal (N)	HV	ST	To cure abdominal pains (gripe).
<i>D. hispida</i> Dennst.	Dioscoriaceae	Kulu Kand (K); Baichandi ti Velli (G); Bhuikand(N)	HV	ST	Against bite of rabid dog.
<i>D. oppositifolia</i> L.	Dioscoriaceae	Dardee (K); Jangali Shakarkand (N)	HV	ST	To cure general debility.
<i>D. pentaphylla</i> L.	Dioscoriaceae	Babra/Suarkand/Suaralu (KandN); Kantaalu ti Velli (G)	HV	ST	To relieve rheumatoid arthritis.
<i>Diplocyclos palmatus</i> (L.) Jeffrey	Cucurbitaceae	Chatargoti/Chirchirgoti (K); Shivlingi ti Velli (G); Dangari (N)	HV	TC	To cure double pneumonia and convulsions in children.
<i>Gloriosa superba</i> L.	Liliaceae	Kallavi/Karihari/Singmudya/Karkari(K and N);Kadve ti Veli (G)	HV	TC	Joint pains and rheumatism.
<i>Gymnema sylvestris</i> (Retz.) R.Br.	Asclepiadaceae	Medsinghi/Gudmar (K and N)	WV	ST	To reduce glycosuria.
<i>Hemidesmus indicus</i> (L.) R.Br.	Asclepiadaceae	Anantvel (K); Anantmul ti Veli (G); Lahan (N)	HV	ST	Applied on eczema.
<i>Holostemma ada-kodien</i> Schulte	Asclepiadaceae.	Palkhevel (K and N); Morewan ti velli (G)	WV	ST	Spermatorrhoea.
<i>Ipomoea eriocarpa</i> R.Br.	Convolvulaceae	Ratlya (K)	HV	ST	Rheumatic pains.
<i>I. pes-tigridis</i> L.	Convolvulaceae	Panchpanya (K)	HV	ST	Sores, boils and pimples.
<i>I. obscura</i> (L.) Ker-Gawl.	Convolvulaceae	Pilaibonvari (K)	HV	ST	Cold, cough and coryza.
<i>Lagenaria siceraria</i> (Mol.) Standl.	Cucurbitaceae	Tumdi/Tumba (K)	WV	ST	For stomachache, kidney stones and appendix.

<i>Luffa acutangula</i> (L.) Roxb.	Cucurbitaceae	Jungali dodka/karu dodka (K); karu turai (N)	HV	TC	Applied in leprosy
<i>Marsdenia tenacissima</i> (Roxb.) Moon	Asclepiadaceae	Dudhia-bela (K); Sansbela (G)	WV	ST	To treat jaundice.
<i>Melothria maderaspatana</i> (L.) Cogn.	Cucurbitaceae	Kakadbhutta (K)	HV	TC	Toothache.
<i>Momordica dioica</i> Roxb. ex Willd.	Cucurbitaceae	Kartola/Karotla/Kankoda/Katlya (K)	HV	TC	To check bleeding from piles.
<i>Mucuna pruriens</i> (L.) DC.	Fabaceae	Kenwanch/Kanchkuri/Kaunch (K and G)	WV	ST	To expel intestinal worms (Dose depends upon age of patient).
<i>Oxystelma esculentum</i> (L.f.) Smith	Asclepiadaceae	Dodiyari/Dudhialata (K); Hirankhuri (G)	WV	ST	Used for gargle in mouth ulcers.
<i>Passiflora foetida</i> L.	Passifloraceae	Mukkha peera ti Veli (G)	HV	TC	Insomnia and hypertension.
<i>Pergularia daemia</i> (Forssk.) Chiov.	Asclepiadaceae	Dudhi/Dudhivel/Utaranvel/Ankod i (K and N)	HV	TC	To remove grittiness from eyes.
<i>Pueraria tuberosa</i> (Roxb. ex Willd.) DC.	Fabaceae	Ghorbel/Bharda/Paharbel (K)	WH	ST	Used in constipation, bodyache and as a tonic.
<i>Rhynchosia minima</i> (L.) DC.	Fabaceae	Jangli Urad (K)	HV	TC	Abortifacient.
<i>R. rothii</i> Benth	Fabaceae	Jangli Kulthi (K)	HV	TC	Scabies.
<i>Rivea hypocrateriformis</i> (Desr.) Choisy	Convolvulaceae	Phang/Phangi/Phanvel (K and N)	WV	ST	An antidote to snakebite.
<i>R. ornata</i> Choisy in Men.	Convolvulaceae	Phang (K)	WV	ST	Used to cure piles.

<i>Teramnus labialis</i> (L.f.) Spreng.	Fabaceae	Mashani (K)	WV	ST	Stomachache, rheumatic pains and bodyache.
<i>Tinospora cordifolia</i> (Willd.) Miers	Menispermaceae	Gulvel/Gudvel (K); Karial/Usnaide veli (G); Gahutakli (N)	WV	ST	Gonorrhea, leucorrhoea, malaria and synochus.
<i>Trichosanthes anguina</i> L.	Cucurbitaceae	Karjari(K)	HV	TC	To treat jaundice.
<i>T. bracteata</i> (Lamk.) Voigt.	Cucurbitaceae	Gaulan/Kaundal (K); Gangagaulan (N)	HV	TC	Haemorrhoides and and gonorrhoea.
<i>Vinga trilobata</i> (L.) Verdc.	Fabaceae	Mungia(K)	HV	TC	Used as a diuretic.
<i>Wattakaka volubilis</i> (L.f.) Stapf	Asclepiadaceae	Nakchhikni/Ghaidudhivel/Dudhi (K and N); Bakar/Jamlasi ti Veli (G)	WV	ST	Urticaria, scabies, itching and psoriasis.

Abbreviations: ST: Stem twiner; WV: Woody vines; HV: Herbaceous vines; TC: Tendril climber; RC: Root climber; HC: Hook climber; Str-A: Stragglers-armed; Str- UA: Stragglers-unarmed and K-Korku, G-Gond and Nihal.

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