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Research article

RARE AND THREATENED PLANTS OF NIMAR REGION, MADHYA PRADESH

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ABSTRACT: Nimar region is located in south western part of Madhya Pradesh covering four districts namely West Nimar (Khargone), East Nimar (Khandwa), Burhanpur and Barwani. Plant survey was in the Nimar region from 2008-2013 in order to assess the current status of threatened plants in Nimar region of Madhya Pradesh. Present study reports 94 RET plants distributing in 45 Families of which 25 are Vulnerable, 40 are endangered, 18 are critically endangered, and 11 are near threatened. Main reasons responsible for shrinking of the population are over grazing, plugging old grassland, clearing of forest for agriculture, megaprojects and eruption of plants for fire wood, felling of trees for leaf collection, Pollution, and failure of Pollination. This situation may further deteriorate if appropriate conservation techniques would not be applied.

Key words: Nimar region, Biodiversity, Threatened plants, Conservation, RET plants

INTRODUCTION

Nimar region is situated in the south western part of Madhya Pradesh and lie between 21^0 -05'N Latitude and 74^0–25' to76^0-14'E Longitude. Nimar includes four districts of Madhya Pradesh namely West Nimar (Khargone), East Nimar (Khandwa), Burhanpur and Barwani (Fig-1). Nimar region has a very rich floral diversity and a treasure of valuable natural resources. Topographically Nimar region is situated centrally in Northern part with covered with Vindhyan scabs and in Southern part with Satpura hill ranges [13]. The Satpura in East Nimar bifurcates into two parallel ridges on either side of Tapti Valley. The northern part of Satpura extends up to eastern part of Harsud and more or less along the boundary between Khandwa and Burhanpur. The hill ranges of Asirgarh hill extend up to Western Ghats in the west. Kalibith hill ranges cover extremely in eastern part of Nimar region. The regions Bhikangawoan, Khetia, Bistan, Khargone, and Sendhwa Tehsil are a part of Satpura hill ranges. Satpura Plateau covers two third parts of South Western part of Nimar. Major part of Barwah, Khargone and Khandwa occurs in Narmada Valley. Narmada and Tapti are main rivers of Nimar region flowing between Satpura and Vindhyan. Main tributaries of Narmada and Tapti are Kunda, Chhota Taba, Machak, Abna, Chhoti Taba, Nandey Jharkhal, and Veda. Narmada provides a favuorable ground for the varied ecological habitats with overlapping vegetation pattern and different floral elements. The whole area occupied by black cotton soil. In general the area is arid and dry. In winter season temperature ranges from 9^0 - 27^0C and in summer 35^0 – 48^0 C. Nimar region falls under tropical dry deciduous forest [2].

MATERIALS AND METHODS

A Systematic Plant survey and collection were carried out in different season from 2008 to 2013 by well planned schedule. All habitats from various ecological niches of the study area were surveyed carefully. Plant collection was carried out by standard method [7]. Plant specimen were identified with the help of Flora of Madhya Pradesh[14], Flora of Bihar and Orissa [5], Flora of Madras [4], Flora of Gujarat [11], Flora of Marathwara [8], Flora of Indian Desert [1], Flora of the upper gangetic plain and of the adjacent Siwalik and sub-Himalayan tracts [3], Flora of Bilaspur district [10], Flora of North-East Rajasthan [12] and available literature.

Study area

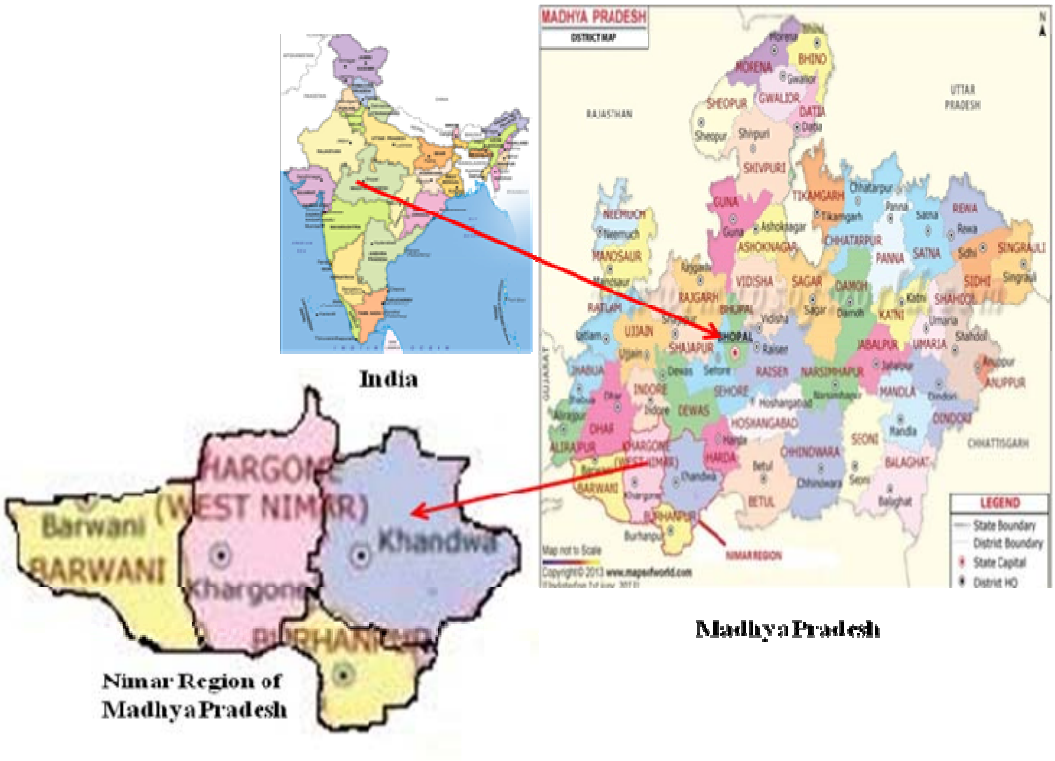


Fig 1: Maps of Nimar region

Field observation and Field data were noted down in field diary. Collected specimen were kept in between fold of blotting papers, and dried by pressing in field press. Dried plant specimens were preserved by dipping the whole specimens in 2 % saturated solution of Mercuric chloride and absolute alcohol. Lower plants were preserved in FAA and Museum specimens were prepared. Orchids were preserved in spirit .Dry and preserved plants are mounted on herbarium sheets by adhesive glue and fevicols. Some plant specimens have been identified from BSI, Central Circle Allahabad, herbarium of Shivaji University, Kolhapur, Maharashtra, and herbarium of H S Gour University Sagar. Following sites have been visited and surveyed during plant collection

Khargone: Balwada,Barud,Bhagwanpura,Bijagarh,Bistan,Bistan,Jhirnia,Julwania,Katkut,Kelai,Khalghat,Maheshawar, Maheshawar,Mandleshawar,Pipaljopha,Raibidpura,Segaoan,Sirwel**.**
Barwani: Anjad,Bawangaja,Bawangaja, Burapani, Khirkia,Nagalwadi, Rajpur,Sendhwa, Thikari,
Burhanpur: Asirgarh, Nepanagar,
Khandwa: Omkareshawar, Harsud, Kalibith, Pandhana, Chandgarh.

RESULTS AND DISCUSSION

Many plant species are facing threats for their existence due to anthropogenic influences and other reasons. According to the International Union of Conservation of Nature [6], out of 17000 species of higher plants near 1256 species in India are threatened. In Madhya Pradesh 90 plant species considered as threatened [9]. Present investigation observed 94 threatened plant species belonging to 45 families which are threatened due to different reasons (Table-1). Some plant specimens were reported only from study area and percentage occurrences of these species is very low in surrounding six states (Table-2) .These plant species should be conserved in priority basis. In Nimar region 18 species have been found critically Endangered (CR), 40 are Endangered (EN), 25 are Vulnerable (Vu) and 11 are Near Threatened (NT).Once upon a time this region was known for its Teak Forest abundance with mixed luxuriant flora. Now forest is totally disturbed and fragile. In-situ conservation, Ex-situ conservation strategies have been suggested.

Table-1: Rare and threatened plants in Nimar region of M.P.

Botanical name	Family	Var.name	Locality	Status	Reason	Cons. Str.
Acampe praemorsa (Roxb.) Bla. & Mcm.	Orchidaceae	Banda	Kalibith	CR	L	ESC PTC
Acorus calamus L.	Acoraceae	Bach	Nepanagar	CR	T	ISC
Adansonia digitata L.	Malvaceae	Khurasani emli	Segawoan	Vu	C	ESC
Aerides multiflorum Roxb.	Orchidaceae	Banda	Kalibith	EN	L	ESC PTC
Alangium salvifolum	Alangiaceae	Ankola	Sirvel	EN	Hm	ISC
Andrographis paniculata(Bru.f.)Wal.ex.Nes.	Acanthaceae	Apmarg	Aashapur	Vu	Hm	ISC
Aristolochia bracteolata Lam.	Aristolochiaceae	Kidamar/Esamul	Bistan	Vu	L/OV	ESC BG/N
Asparagus racemosus Willd.	Asparagaceae	Satawari	Bijagarh	Vu	T	ISC
Avena sterilis L.ssp. Ludoviciana (Dur.) Gil. & Mag.	Poaceae	Jai	Barud	EN	L	ESC,TC/CUL
Baliospermum solanifolium (Brum.) Sur.	Euphorbiaceae	Danti	Omkareshwar	Vu	L	ISC
Boerhavia diffusa L.	Nyctaginaceae	Punarnav	Khargone	Vu	Hm	ISC
Boswellia serrata Roxb.	Burseraceae	Salai	Nepanagar	EN	OV	ISC
Buchanania cochinchinensis (Lour.)Alm.	Anacardiaceae	Chirongi	Khandwa	Vu	Hf	ISC
Butea superba Roxb.	Papilinaceae	Palasbel	Nepanagar	EN	L	ISC
Cadaba fruticosa L.	Capparaceae	Khargone	Khargone	NT	L / C	ISC
Corallocarpus epigeus (Rottl.) Hk.	Cucurbitaceae	Merchikand	Balwada	EN	Hm/L	ISC
Centella asiatica (L.) Urban	Apiaceae	Brahami	Balwada	EN	Hm	ISC
Ceropegia bulbosa Roxb.	Asclepidaceae	kapari kand	Nagalwadi	CR	Hm/OV	ISC
Ceropegia hirsuta Wight & Arnott.	Asclepidaceae	Bosia kand	Bijagarh	EN	Tp/OV	ISC
Chlorophytum arundinaceum Baker.	Liliaceae	Musali	Asirgarh	EN	T	ISC
Citrullus colocynthis (L.) Schard.	Cucurbitaceae	Indrayan	Sendawa	Vu	I/OV	ISC
Rotheca serrata (L.) Stea. & Mabb.	Verbenaceae	Bhrangi	Badwah	Vu	C / OV	ISC
Cloeme burmanii W.& A.	Cleomaceae	Choti tilawani	Segawoan	EN	C	ISC
Commiphora wightii (Arn.) Bhan.	Burseraceae	Gugal	Oon	EN	C	ESC,CUL/BG
Cordia macleodii(Griff.)Hook.F.Thom.	Boraginaceae	Daiwas	Bistan	EN	D	ESC BG
Cheilocostus speciosus (J.koen.)C. D. Specht.	Costaceae	Kavkand	Kalibith	EN	Hm	ISC
Crateva religiosa G.Forst.	Capparaceae	Waiwaran	Khargone	NT	C	ISC
Crinum latifolium L.	Amarayllidaceae	Madhoparnika	Nepanagar	Vu	Hm	ISC
Croton tiglium L.	Euphorbiaceae	Jamalgota	Pipaljhopha	EN	Hm	ISC
Ctenolepis garcinii	Cucurbitaceae	Ankh phorni	Khandwa	NT	L	ISC
Curculigo orchioides Gaertn.	Hypoxidaceae	Kalimusali	Bijagarh	Vu	T	ISC
Curcuma angustifolia Roxb	Zingiberaceae	Thikur	Balwada	Vu	T	ISC
Cymbopogone martinii (Roxb.) Wats.	Poaceae	Roshaghass	Balwada	Vu	T	ESC CUL
Dalbergia latifolia Roxb.	Fabaceae	Shisam	Barwah	NT	T	ISC
Tadehagi triquetrum (L.)Hashi.	Papilinaceae	Laptiyo	Bhagwanpura	EN	L	ISC
Diplocyclos palmata(L)Jeffrey	Cucurbitaceae	Ban kakadi	Sendhwa	NT	Hm	ISC
Embelia basaal (Rome & Schult.) A.DC	Myrsinaceae	Baberung	Pipaljhopha	EN	L	ISC

Ensete superbum (Roxb.)Cheesm	Musaceae	Jangli kela	Pipaljhopha	CR	C/L	ISC
Erythrina suberosa Roxb.	Papilinaceae	Pangar	Barwah	EN	L	ISC
Eulophia dabia (D.Don.)Hoch.	Orchidaceae	Salam misri	Nepanagar	CR	Hm/OV	ISC
Firmiana colorata (Roxb.) R.Br.	Malvaceae	Pisiyo	Nagwadi	CR	C	ISC
Flemingia macrophylla (Willd.)Merr.	Papilinaceae	Makri	Bijagarh	EN	C	ISC
Gardenia gummifera L.	Rubiaceae	Bandarladdu	Omkareshwar	Vu	L	ISC
Geodorum densiflorum (Lam.) Schl.	Orchidaceae	Salammishri	Bawanganja	CR	T	ISC PTC
Gloriosa superba L.	Colchicaceae	Kalihari	Sendhawa	EN	T/ OV	ISC
Grewia tenax (Forsk.) Fiori	Malvaceae	Gudgangda	Bistan	Vu	Hf	ISC
Gymnema sylvestre(R.)R.Br.Ex.Sch.	Apocynaceae	Gudbel	Aashapur	EN	Hm	ISC
Habenaria digitata Lindl.	Orchidaceae	Vanpyazi	Kalibith	CR	L	ESC PTC
Habenaria fercifera	Orchidaceae	Devsundo	Kalibith	CR	Hm	ESC
Habenaria marginata Coleb.	Orchidaceae	Janglikando	Kalibith	CR	Hm	ESC
Nauclea cordifolia Roxb.	Rubiaceae	Haldu	Kalibith	EN	L	ISC
Hardwickia binata Roxb.	Leguminaceae	Anjan	Segawoan	Vu	T	ISC
Helicteres isora L.	Malvaceae	MarodPhalli	Omkareshwar	Vu	T	ISC
Hemidesmus indicus (L.) R.Br.	Apocynaceae	Anantmul	Pipaljhopha	Vu	OV	ISC
Impatiens dasysperma Wight.	Balsaminaceae	Balsam	Asirgarh	CR	L /C	ISC
Jasminum sambac (L.) Aiton.	Oleaceae	Janglimogra	Kalibith	EN	D	ISC
Kydia calycina Roxb.	Malvaceae	Barang	Aashapur	Vu	L	ISC
Lagenaria leucantha (Duch.) Rus.	Cucurbitaceae	Jangli Louki	Sangvi	EN	I	ESC TC
Leea macrophylla Roxb. ex. Hornem.	Vitaceae	Hatikan	Kalibith	CR	I	ISC CUL
Mallotus philippensis (Lam.) Muell.-Arg.	Euphorbiaceae	Rohani/Sindur	Asirgarh	EN	L	ISC
Millettia extensa (Benth) Baker	Leguminosae	Agyo/Antamala	Balwada	Vu	Hm/I	ISC
Moringa concanensis Nimmo.	Moringaceae	Sahjad	Bijagarh	NT	C	ISC
Oroxylum indicum (L.) Venten	Bignoniaceae	Arlu	Aashapur	CR	Hm	ISC
Oryza rufipogon Griff	Poaceae	JangliChawal	Sendhawa	CR	L	ISC,Tc/CAP
Desmodium Ougenia oogeinse (Roxb.)H.Oha.	Papilinaceae	Tinsa	Sirvel	NT	T	ISC
Phragmites karka (Retz.) Trin.ex. Stud.	Poaceae	Narkul	Pipaljhopha	Vu	T	ISC
Plumbago zeylanica L.	Plumbaginaceae	Chitrak	Omkareshwar	EN	Hm	ISC CUL
Polycarpaea corymbosa (L.)Lamk.	Caryophyllaceae	Dhouli Phuli	Barud	NT	L	ISC
Pterocarpus marsupium Roxb.	Papilinaceae	Bijasal	Kalibith	EN	OV	ISC
Pueraria tuberosa (Rox.ex.Wil.)DC	Papilinaceae	Bidari Kand	Bijagarh	CR	OV	ISC
Rauvolfia tetraphylla(L.) Benth ex. Kurz.	Apocynaceae	Sarpa Ghandha	Nagchun	EN	L	ISC
Rhynchostylis retusa (L.) Blume	Orchidaceae	Kophuli	Kalibith	EN	C	ESC PTC
Samecarpus anacardium L.	Anacardiaceae	Bhelwa	Bhagwanpura	NT	C	ISC
Sarcostemma acidum (L.) R.Br.	Apocynaceae	Somlata	Omkareshwar	EN	T	ISC
Sauromatum guttatum Schott.	Araceae	Suran	Bijagarh	Vu	T/Hm.	ISC
Schleichera olesa L.	Sapindaceae	Kusum	Balwada	EN	OV	ISC
Scilla hyacinathina	Liliaceae	Jangali Kando	Katkut	CR	C/OV	ISC

Soymida febrifuga (Roxb.)A. Juss.	Meliaceae	Rohani	Nepanagar	EN	OV	ISC
Acmelia paniculata (Wall. Ex DC) R. K. Jai.	Asteraceae	Akalkara	Jhirnia	NT	I/OV	ISC
Spondias pinnata L.	Anacardiaceae	Khatumbada	Barud	EN	L	ISC
Stereospermum chelonoides (L.F.) DC	Bignoniaceae	Padar	Pipaljhopha	CR	Hm	ISC
Strychnos potatorum L.	Loganiaceae	Kaya	Niwali	EN	L	ISC
Tacca leontopetaloides (L.) kuntze.	Dioscoreaceae	Diva	Nepanagar	EN	L	ISC
Tinospora sinensis (Lour.)Merr.	Menispermaceae	Gudbel	Bijagarh	Vu	Hm	ESC CUL
Toona hexandra (Wall.ex.Rxob.) Roem.	Meliaceae	Tooniyo	Katkut	EN	T	ISC
Trichosanthes cucumerina L.	Cucurbitaceae	Padwal	Bhikangawoan	Vu	Hm	ISC
Ceratosanthes palmata (L.) Urb.	Cucurbitaceae	Kudaliyo	Nagalwadi	Vu	Hm	ISC
Uraria picta (Jacq.) Devs.ex.DC	Papilinaceae	Pithawan	Nagchun	EN	C	ISC
Drimia indica (Roxb.) Jess.	Asparagaceae	Jangli kando	Asirgarh	EN	L	ISC
Vanda tessellata (Roxb.) Hook.	Orchidaceae	Rasna	Kalibith	NT	L	ESC PTC
Vanda testacea (Lindl.) Rchb.	Orchidaceae	Banda	Pipaljhopha	CR	L	ESC PTC
Viscum articulatum Brum .f.	Santalaceae	HaddiJod	Pipaljhopha	EN	D	ISC
Zeuxine strateumatica (L.) Schlechter	Orchidaceae	Dhouli Jad	Nepanagar	EN	T	ISC
Zingiber roseum (Roxb.) Roscoe	Zingiberaceae	Jangli Adrak	Bijagarh	EN	T	ISC

Abbreviation: ISC=In-situ conservation, TC=Traditional conservation, CUL=cultivation, ESC=Ex-situ conservation, PTC= Plant tissue culture, BG=Botanical garden, N=Nursery, CAP=Cultivation and agriculture production, Hf=Harvested for food, C=Climate, Hm=Harvest for medicine, I=Human interference, L=Loss of habitat, Ov=Over exploitation, T=Trade, Tp=Trade for parts, D=Deforestation, Cons. Str. = Conservation strategy, **CR=** critically Endangered, **EN** = Endangered, Vu = Vulnerable**, NT=** Near Threatened**.**

Table-2 Occurrence of threatened plants in different district of M. P. and surrounding states

Botanical Name	**Occurrence in surrounding states in addition to study area**						**Percentage occurrence in Surrounding state**	**occurrence in different district of MP**
	1	**2**	**3**	**4**	**5**	**6**		
Acampe pramosa(Roxb.)Bla.& Mcm.	-	-	-	-	+	-	16.6	2
Acorus calamus L.	+	-	-	-	+	+	33.3	1
Aerides multiflorum Roxb.	+	-	-	+	+	+	66.6	6
Avena sterilis ssp. ludoviciana (Dur.) Gil.& Mag.	-	-	-	-	+	-	16.6	1
Andrographis paniculata(Bru.f.)Wal ex. Nes.	+	-	-	+	+	+	66.6	12
Aristolochia bracteata Lam.	+	+	+	+	+	-	83.3	2
Alangium salvifolum	+	+	-	-	+	+	66.6	3
Adansonia digitata L.	-	+	-	+	+	-	50	3
Asparagus racemosus Willd.	+	+	+	+	+	+	100	50
Butea superba Roxb.	+	+	-	+	+	+	83	7
Baliospermum solanifolium (Brum.) Sur.	+	+	-	+	+	+	83	12
Boerhavia diffusa L.	+	+	+	+	+	+	100	7
Buchanania cochinchinensis (Lour.)Alm.	-	+	-	+	+	+	66.6	14
Boswellia serrata Roxb.	+	+	+	+	+	+	100	4
Cadaba fruticosa	+	+	+	-	+	-	66	1
Croton tiglium L.	+	-	-	+	+	-	50	1
Rotheca serrata (L.)Stean& Mabb.	+	+	-	+	+	+	83	8

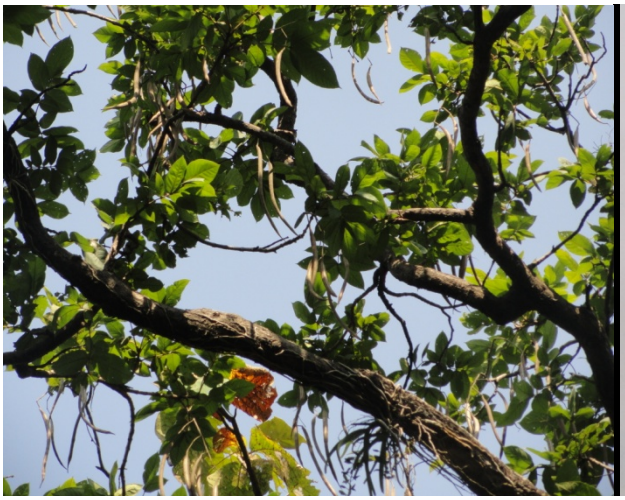
Centella asiatica (L.) Urban	+	+	+	+	-	-	66	5
Ceropegia bulbosa Roxb.	-	+	+	+	+	+	83	1
Ceropogia hirsuta Wight & Arnott.	+	-	-	-	+	-	33	2
Cordia macleodii(Griff.)Hook.F.Thom.	+	+	-	+	+	+	83	3
Citrullus colocynthis (L.) Schard.	+	+	+	+	-	-	66	1
Cloeme burmanii W.&A.	-	+	-	-	-	-	16.6	4
Crateva religiosa G.Forst.	-	+	-	-	+	-	33	1
Corallocarpus epigeus (Roltb.)Hk	+	-	-	+	+	-	33	1
Cymbopogone martinii (Roxb.) Wats.	+	+	+	-	+	+	83	5
Curculigo orchioides Gaertn.	-	+	-	+	+	+	66	8
Cheilocostus speciosus (J.koening.) C.D.Specht.	+	-	-	+	+	+	66.6	7
Crinum latifolium L.	+	-	+	+	+	+	83	2
Ctenolepis garcinii	-	+	-	-	+	+	50	1
Commiphora wightii (Arn.) Bhan.	-	+	+	+	+	-	66	2
Chlorophytum arundinaceum Baker.	-	-	-	-	+	+	33	5
Curcuma angustifolia Roxb	+	+	_	+	+	+	83	4
Diplocyclos palmatus(L)Jeffrey	+	+	-	-	+	+	66	3
Dalbergia latifolia Roxb.	+	+	-	+	+	+	83	8
Tadehagi triquetrum (L.)Hasi	+	-	-	+	+	+	66	1
Erythrina suberosa Roxb.	+	-	-	+	+	+	66	9
Embelia basaal (Rome & Schult.) A.DC	-	-	-	+	+	+	50	8
Ensete superbum	-	+	+	-	+	+	33	2
Eulophia dabia (D.Don.) Hochr.	-	-	-	+	+	+	50	1
Firmiana colorata (Roxb.) R.Br.	-	-	-	-	+	+	33	2
Flemingia macrophylla (Willd.)Merr.	-	-	-	+	+	+	50	8
Gardenia gummifera L.	-	-	-	+	+	+	50	3
Gloriosa superba L.	+	+	-	+	+	+	83	8
Grewia tenax (Forsk.) Fiori	-	+	+	+	+	-	66	1
Gymnema sylvestre(R.)R.Br.Ex.Sch.	+	+	-	+	+	+	83.6	2
Geodorum densiflorum (Lam.) Schl.	-	-	-	-	+	+	33	1
Hardwickia binata Roxb.	+	+	-	-	+	+	66	5
Helicteres isora L.	+	+	+	+	+	+	100	9
Nauclea cordifolia Roxb.	+	-	-	-	+	+	50	12
Habenaria digitata Lindl.	+	+	-	+	+	+	83	2
Habenaria fercifera	-	+	-	+	+	-	50	2
Habenaria marginata Coleb.	+	+	-	+	+	+	83	4
Hemidesmus indicus (L.) R.Br.	+	+	-	+	+	+	83	2
Impatiens dasysperma Wight.	-	-	-	-	+	-	16	1
Jasminum sambac (L.) Aiton.	-	-	-	+	+	-	33	1
Kydia calycina Roxb.	+	+	-	+	+	+	83	15
Leea macrophylla Roxb. ex. Hornem.	+	-	-	+	+	+	66	2
Lagenaria leucantha (Duch) Rusby	-	+	-	+	-	-	33	1
Moringa concanensis Nimmo.	+	+	+	+	+	-	83	2
Mallotus philippensis (Lam.) Muell.-Arg.	+	-	+	-	+	+	33	9
Millettia extensa (Benth) Baker	+	+	-	+	+	+	83	13
Oryza rufipogon Griff	-	+	-	-	+	+	50	4
Desmodium oogeinsis (Roxb.)H.Oha.	-	-	-	-	+	+	16	12
Oroxylum indicum (L.) Venten	+	+	-	+	+	+	83	1
Phragmites karka (Retz.) Trin.ex. Stud.	-	+	+	-	+	+	50	3
Pueraria tuberosa (Rox.ex.Wil.)DC	+	+	-	+	+	+	83	6
Pterocarpus marsupium Roxb.	+	+	-	+	+	+	83	15
Plumbago zeylanica L.	+	+	-	+	+	+	83	11

Polycarpaea corymbosa (L.)Lamk.	+	+	+	+	+	+	100	6
Rauvolfia tetraphylla(L.) Benth ex. Kurz.	-	+	-	-	+	+	50	1
Rhynchostylis retusa (L.) Blume	+	-	-	+	-	-	33	3
Stereospermum chelonoides (L.F.) DC	+	+	-	+	+	+	83	4
Sauromatum guttatum Schott.	+	-	-	-	+	+	83	2
Sarcostemma acidum (L.) R.Br.	-	+	+	-	+	+	66	1
Samecarpus anacardium L.	+	+	-	+	+	+	83	9
Schleichera olesa L.	-	+	-	+	+	+	66	7
Soymida febrifuga (Roxb.)A. Juss.	+	+	-	+	+	+	83	1
Scilla hyacinathina	-	+	+	+	+	+	83	3
Spondias pinnata L.	+	+	-	-	+	-	50	2
Acmelia paniculata (Wall ex DC) R.K.Jai.	+	+	-	+	+	+	83.3	3
Strychnos potatorum L.	-	+	-	+	+	+	66	2
Tinospora cordifolia(Willd)Miers	+	+	+	-	+	+	83	5
Trichosanthes cucumerina L.	+	+	-	+	+	+	83	6
Ceratosanthes palmate(L.) Urb.	+	+	+	+	+	+	100	6
Tacca leontopetaloides (L.) kuntze.	-	+	-	-	+	+	50	4
Toonahexandra (Wall.ex.Rxob.) Roem.	-	-	-	+	+	+	50	1
Drimia indica (Roxb.) Jess.	-	-	-	-	+	+	33	2
Uraria picta (Jacq.) Devs.ex.DC	+	+	-	+	+	+	83	10
Viscum articulatum Brum .f.	+	+	-	-	+	+	66	11
Vanda tessellata (Roxb.) Hook.	-	+	-	-	+	+	50	13
Vanda testacea (Lindl.) Rchb.	-	+	-	-	+	+	50	1
Zingiber roseum (Roxb.) Roscoe	-	-	-	-	+	+	33	1
Zeuxine strateumatica (L.) Schlechter	+	-	-	-	+	-	33	7

Abbreviation: 1) Maharashtra **2)** Gujarat **3)** Rajasthan **4)** Uppar gangetic plain (Uttar Pradesh) **5)** Madhya Pradesh **6)** Chhattisgarh

Nimar region boast of good species richness. There is an urgent need to conserve the RET plants which have been only reported from Nimar region but not found in other district of MP and surrounding states. Enormous data gathered during plant exploration will be helpful for planning conservation of RET plants and sustainable management of phyto resources. Govt. should ban the unauthorized person to collect the RET plants from the area. Lucrative scheme should be launched for tribals or local people for regeneration and plantation of these RET plants in their natural habitats. Following suggestions have been proposed to conserve the rich biodiversity of Nimar region.

1. GIS locations of the all threatened and noteworthy plants should be enumarked and conserve them on their natural habitats.
2. Propagation of Orchid through plant tissue culture technique and multiply them in the natural habitats.
3. Reintroduction of forest tree like Anjan (*Hardwickia bipinnata*), Salai (*Boswellia serrata*), Sindur (Mallotus *phillipensis*), *Firmania colorata*, *Stereospermum chelionodies*, Haldu (*Haldinia cordifoilia*) has been suggested.
4. Guidelines should be prepared for local Vaidhyas, Ojhas, Badwa for developing herbal garden compulsorily and grow RET medicinal plants in herbal garden.
5. Collection of assessed threatened medicinal plants should be banned from forest. Cultivation of these plants can fulfill the demand of local trader.
6. Kalibith (Khandwa), Bijagarh (Khargone), Peepaljhopha (Khargone), and Nagalwadi (Barwani) harbour rich diversity of plant. Most of the threatened plants are restricted to these areas. These unique and rich plant diversity should be protected.

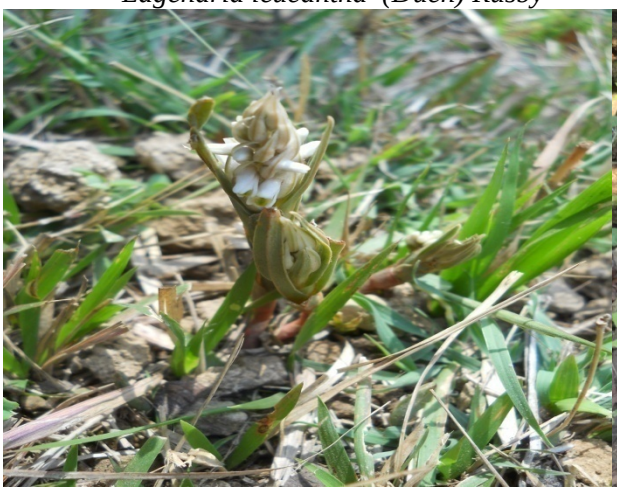


Stereospermum chelonoides (L.F.) DC

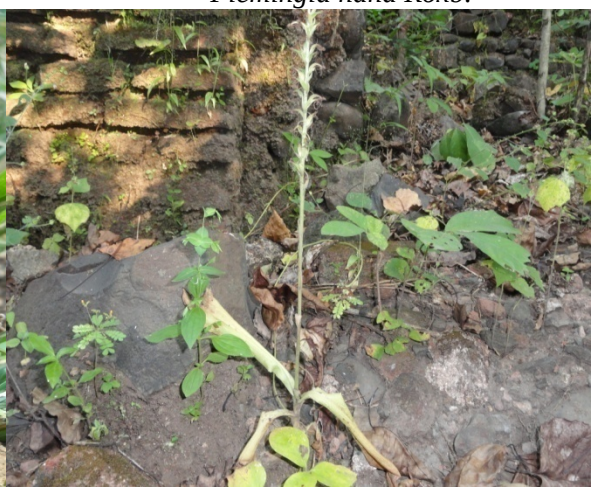
Geodorum densiflorum (Lam.) Schl.

Lagenaria leucantha (Duch) Rusby

Flemingia nana Roxb.



Zeuxine strateumatica (L.) Schl.



Habenaria fercifera Lind.

Plate-1: some threatened plants of Nimar region

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