

Diversity of flowering plants of Gautala Autramghat reserved forest in Marathwada (M.S.) India

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Abstract

Present study deals with the diversity of Gautala autramghat reserved forest in Marathwada. In order to understand the present status of flowering plants of the area, a survey has been carried out about two years. The main dominant components covering the area are *Tectona grandis* L.f., *Terminalia arjuna* W. & A., *Dalbergia sissoo* Roxb. ex DC., *Zizipus mauritiana* Lamk., *Butea monosperma* (Lamk.) Taub.

Keywords: Gautala Autramghat, Marathwada, Diversity.

INTRODUCTION

Gautala autramghat reserved forests is situated on west-north direction of Aurangabad, Marathwada. It has an area about 261 sq.km. It covers 64 sq. km area of Jalgaon District and 197 sq.km. area of Aurangabad District. Its geographical position is longitude E 74^o, 55', latitude N 19^o, 54', and altitude 1904 ft. Today, forest has lost almost its characters due to biotic interference. Only few wild animals have seen occasionally in this forest, which are Panther, Wolf, Fox, Deer, Monkey, Snake, Rabbit, different birds, butterflies and many insects. Recently government has taken steps for rehabilitation of the area and fencing is completed all around.

Topographically the entire tract forms Satmala and Ajantha hill series. It has slopes in all direction. The slopes are moderate to steep. The geological formatting of deccan trap with basalt quartz and quartzite. The soil is clay in plateau and loam on slopes. The water holding capacity of the soil is remarkably high. The mean daily maximum temperature ranges from 27.5-30.5 ° C and average rainfall is 600 mm.

MATERIALS AND METHODS

The study area was visited regularly according to well scheduled plan. Collection of plants was conducted following the guidelines suggested by Santapau (1955), more frequent collection of plants was made during rainy and post rainy seasons. The specimens collected during field trips were preserved following standard method. The herbarium of dried and pressed plants was prepared according to customary method (Rao, 1977). Rare and Threatened plants were critically surveyed. The collected plants were identified in the laboratory with the help of Flora of Marathwada (Naik, 1998); Yadav and Sardesai, 2002; Almeida, 1996; Singh and

Karthikeyan; 2002; Cooke, 1967).

Diversity of Flowering Plants

Forest of Gautala autramghat is a dry deciduous forest type the most common trees are found in area are *Tectona grandis* L.f., *Terminalia arjuna* (Roxb.) Wt. & Arn., *Dalbergia sissoo* Roxb. ex DC., *Zizipus mauritiana* Lamk., *Butea monosperma* (Lamk.) Taub., *Gliricidia sepium* H.B. & K., *Azadirachta indica* L., *Acacia nilotica* (L.) Del., *Bauhinia racemosa* Lamk., *Acacia chundra* (Roxb. ex Rottl.) Willd., *Ailanthus excelsa* Roxb., *Cassia fistula* L. *Mitragyna parvifolia* (Roxb.) Korth., *Boswellia serrata* Roxb. ex Coleb. Along with tree species as undergrowth, number of shrubs, herbs, climber or twiners, grasses etc. were also surveyed; common shrubs covering the area are *Clerodendrum serratum* (L.) Moon, *Helictres isora* L., *Maytenus emarginata* (Willd.) Ding Hou., *Calotropis procera* (Ait.) R. Br., *Balanites aegyptiaca* (L.) Del., *Cassia auriculata* L., *Barlaria Longiflora* L.f., *Grewia tiliifolia* Vahl., *Annona squamosa* L., *Woodfordia fruticosa* (L.) Kurz.

Most common climbers of the forest are *Cissus woodrowii* (Staff ex Cooke), *Cocculus hirsutus* (L.) Diels., *Cryptostegia grandiflora* R.Br., *Pergularia daemia* (Forsk.) Choiv., *Argyrea cymosa* (Roxb.) Sweet, *Tinospora cordifolia* (Willd.) Miers., *Clematis heynei* M.A. Rao, *Momordica dioica* Roxb. ex Willd.

The major herbs which are dominating the area are *Alysicarpus heyneanus* Wt. & Arn., *Alysicarpus bupleurifolius* (L.) DC., *Crotalaria notonii* Wt. and Arn., *Bidens biternata* (Lour.) Merr. & Schrrf., *Boerhavia diffusai* L., *Euphorbia hirta* L., *Indigofera duthiei* Drum. ex Naik., *Justicia vahlii* Roth., *Leonotis neptefolia* (L.) R.Br *Rungia parviflora* Nees., *Tridax procumbens* L., *Cleome simplicifolia* (Camb.) Hook.f. & Thoms., *Argemone maxicana* L., *Polygala arvensis* Willd., *Sida acuta* Brum.f., *Malvastrum coromandelianum* (L.) Gark, *Tribulus terrestris* L.

Common grasses found in Gautala are *Andropogon pumilus* Roxb., *Chionachne koenigii* (Sperng.) Thw., *Chloris inflata* Link., *Cymbopogon martinii* (Roxb.) Wats., *Dichanthium caricosum* (L.) A.Camus., *Dinebra retroflexa* (Vahl.) Panz., *Eremopogon foveolatus* (Del.) Stapf., *Isachne meeboldii* C.E.C., *Iseilema prostratum* (L.) Anders, *Melanocentris jacquemontii* Jaub., *Phragmites karka* (Retz.) Trin., *Setaria verticillata* (L.) P.Beauv., *Echinochloa colonum*

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(L.) Link., *Eleusine indica* (L.) Gaertn.

Presently some plants are very common in the area but they may be threatened due to over exploration for their medicinal use few of them are *Chlorophytum tuberosum* (Roxb.) Baker, *Gloriosa superba* L., *Cissampelos pariera* L., *Curculigo orchiooides* Gaerth.,

Celastrus paniculata Willd *Tarvernaria cuneifolia* (Roth.) Arn., *Cleome gynandra* L., *Mucuna pruriens* Hook., *Momordica dioica* Roxb., *Hemidesmus indicus* R. Br., *Aristolochia indica* L., *Curcuma pseudomontana* Grah., *Dremia indica* (Roxb.) Jessop. Enumeration of plant diversity is given in table no. 01.

Table 1. Enumeration of Plant Diversity

Botanical Name	Flowering Season	Status	Local Name
Family-Ranunculaceae			
<i>Clematis heynei</i> M. A. Rao	Sept- Dec	Frequent	Morwel
Family-Annonaceae			
<i>Annona reticulata</i> L.	Sept-Oct	Occasional	Ramphal
<i>Annona squamosa</i> L.	July-Sept	Frequent	Sitaphal
Family-Menispermaceae.			
<i>Cissampelos pareira</i> L.	Sept-Oct	Rare	Pahadwel
<i>Cocculus hirsutus</i> (Linn.)Diels	Sept-Feb	Common	Wasanwel
<i>Tinospora cordifolia</i> Miers	July-Oct	Common	Gulwel
Family-Nymphaeaceae			
<i>Nymphaea nouchali</i> Burm.	Throughout	Frequent	Nilkamal
<i>Nymphaea pubescens</i> Willd.	Throughout	Frequent	Kamal
Family-Papaveraceae			
<i>Argemone mexicana</i> L.	June-April	Common	Bilayat
Family-Capparidaceae			
<i>Capparis decidua</i> (Forsk.) Pax.	July-Aug	Common	Nepati
<i>Cappari sepiaria</i> L.	Mar-July	Frequent	Waghati
<i>Maerua oblongifolia</i> (Foesk.)	Nov-May	Occasional	-----
Family-Cleomaceae			
<i>Cleome gynandra</i> L.	June-Dec	Common	Pandharitilwan
<i>Cleome monophylla</i> L.	July-Nov	Occasional	-----
<i>Cleome simplicifolia</i> Hk.f. &T.	July-Nov	Common	-----
<i>Cleome viscosa</i> L.	June-Oct	Occasional	Piwlitilwan
Family-Polygalaceae			
<i>Polygala arvensis</i> Willd.	July-Sept	Common	Dhudhi
<i>Polygala chinensis</i> L.	June-Jan	Common	Dhudhi
Family-Portulacaceae			
<i>Portulaca oleracea</i> L.	Throughout	Common	Ghol
Family-Malvaceae			
<i>Abelmoschus crinitus</i> Wall	Aug-Sept	Frequent	Ranbhendi
<i>Abutilon indicum</i> (L.) Sweet.	Oct-Feb	Occasional	Petari
<i>Abutilon glaucum</i> Cav.	Oct-Dec	Occasional	Mudra
<i>Hibiscus lobatus</i> (Murr.)	Aug-Jan	Frequent	Ranambadi
<i>Hibiscus trionum</i> L.	Sept-Dec	Frequent	-----
<i>Kydia calycina</i> Roxb.	Oct-Dec	Occasional	Warang

<i>Malvestrum coromandelium</i> L.	June-Jan	Common	-----
<i>Sida acuta</i> Burm.	Aug-Oct	Common	Atibala
<i>Sida cordata</i> (Burm. F.) Borss.	July-Jan	Common	Bala
<i>Sida cordifolia</i> L.	Aug-Nov	Common	Bala
<i>Thespesia populnea</i> (L.) Soland.	Sept-Jan	Frequent	Parosa pimpal
Family-Bombacaceae			
<i>Bombax ceiba</i> L.	Mar-June	Occasional	Katesawar
<i>Ceiba pentandra</i> (L.) Geartn.	Jan-Mar	Occasional	Pandharisawar
Family-Sterculiaceae			
<i>Helicteres isora</i> L.	Aug-Sept	Frequent	Murudsheng
Family-Tiliaceae			
<i>Corchorus aestuans</i> L.	June-Sept	Frequent	-----
<i>Corchorus capsularis</i> L.	Aug-Dec	Common	-----
<i>Corchorus fascicularis</i> Lamk.	Seot-Dec	Common	Haran khuri
<i>Corchorus tridens</i> L.	Sept-Dec	Rare	
<i>Cochorus trilocularis</i> L.	Aug-Nov	Common	-----
<i>Grewia aspera</i> Roxb.	July-Sept	Occasional	-----
<i>Grewia hirsuta</i> Vahl	July-Sept	Frequent	-----
<i>Grewia tiliifolia</i> Vahl.	July-Sept	Occasional	Dhaman
<i>Trimfetta pentandra</i> A.Rich.	July-Dec	Frequent	Chotalandga
<i>Triumfetta rotundifolia</i> Lamk.	Aug-Dec	Common	-----
Family-Linaceae			
<i>Linum mysorense</i> Heyne.	Sept-Oct	Common	Ranjawas
Family-Zygophyllaceae			
<i>Tribulus rajasthanensis</i> Bhandari.	Aug-Dec	Occasional	Sarata
<i>Tribulus terrestris</i> L.	June-Jan	Common	Gokharu
Family-Oxalidaceae			
<i>Biophytum reinwardtii</i> Busc.et Musch.	Sept-Feb	Occasional	Lajalu
<i>Biophytum sensitivum</i> DC.	Sept-Feb	Common	Lajalu
<i>Oxalis corniculata</i> L.	Dec-May	Frequent	Amboti
Family-Balsaminaceae			
<i>Impatiens balsamina</i> L.	Sept-Oct	Common	Terda
Family-Rutaceae			
<i>Aegle marmelos</i> Corr.	Sept-March	Occasional	Bel
<i>Limonia acidissima</i> L.	Mar -Sept	Occasional	Kawat
Family-Simaroubiaceae			
<i>Ailanthus excelsa</i> Roxb.	Feb-May	Frequent	Maharukh
Family-Balanitaceae			
<i>Balanites aegyptiaca</i> Planch.	Nov-March	Common	Hingan
Family-Burseraceae			
<i>Boswellia serrata</i> Roxb.ex Coleb.	Feb-April	Common	Salai

Family-Meliaceae			
<i>Azadirachta indica</i> A.Juss.	Feb-April	Common	Kadulimb
<i>Melia azadirach</i> Linn.	July-Sept	Occasional	Bakanlimb
Family-Celastraceae			
<i>Celastrus paniculata</i> Willd.	Sept-Oct	Rare	Malkanguni
<i>Maytenus emarginata</i> (Willd.) Ding.	Oct-Feb	Common	Hekal
Family-Rhamnaceae			
<i>Ventilago denticulate</i> Willd.	Nov-Jan	Frequent	Lokhandi
<i>Zizyphus mauritiana</i> Lamk.	Sept-Nov	Occasional	Bor
<i>Zizyphus nummularia</i> (Brum.f.) Wt.	Aug-Nov	Rare	Ranbor
<i>Zizyphus oenoplia</i> Mill.	Aug-Nov	Occasional	burgi
Family-Vitaceae			
<i>Cissus quadrangula</i> L., Mant.	Mar-May	Common	Kandwel
<i>Cissus woodrowii</i> (Stapf.)Sant.	June-Sept	Common	Getul
Family-Sapindaceae			
<i>Sapindus emarginatus</i> Vahl.	Oct-Nov	Frequent	Ritha
Family-Anacardiaceae			
<i>Rhus sinuata</i> Heyne ex W.&A.	June-Aug	Common	Pandhari
<i>Semecarpus anacardium</i> L.	Oct-Nov	Frequent	Bibba
Family-Moringaceae			
<i>Moringa oleifera</i> Lamk.	Jan-June	Occasional	Shewga
Family-Fabaceae			
<i>Abrus precatorius</i> L.	Aug-Sept	Common	Gunj
<i>Aeschynomene aspera</i> L	Oct-Feb	Occasional	----
<i>Alysicarpus heyneanus</i> Wt. & Am.	Oct-Feb	Common	Shevra
<i>Alysicarpus longifolius</i> W.&A.	Sept-Oct	Occasional	Shevra
<i>Alysicarpus scariosus</i> (Rottl.ex.spreng.)	July-Jan	Occasional	Shevra
<i>Alysicarpus tetragonobobus</i> edgew.	Aug-Jan	Common	Shevra
<i>Butea monosperma</i> (Lamk.)Taub.	Mar-April	Frequent	Palas
<i>Crotalaria juncea</i> Linn.	Aug-Oct	Occasional	Taag
<i>Crotalaria notonii</i> Wt.an Arn.	Sept-Dec	Common	Barbada
<i>Crotalaria orixensis</i> Roxb.	Oct-Dec	Frequent	----
<i>Dalbergia lanceolata</i> L.f.	Mar-May	Occasional	----
<i>Dalbergias sisoo</i> Roxb.	March-July	Common	Shisham
<i>Desmodium gangeticum</i> (L.) DC.	Sept-Jan	Frequent	Salwan
<i>Desmodium oojeinsis</i> (Roxb.) Ohashi.	Feb-June	Occasional	Tiwas
<i>Erythrina variegata</i> L.	Feb-June	Frequent	Pangara
<i>Indigofera cassioides</i> Rottl.	Sept-Oct	Occasional	Neel
<i>Indigofera cordifolia</i> Heyne ex Roth.	June-Jan	Common	Godhadi
<i>Indigofera duthiei</i> Drum ex Naik	Sept-Nov	Common	Barbada
<i>Indigofera glandulosa</i> willd.	July-Nov	Common	Barbada

<i>Indigofera linifolia</i> Retz.	July-Dec	Common	-----
<i>Indigofera linnaea</i> Ali.	June-Oct	Common	-----
<i>Indigofera tinctoria</i> Linn.	Aug-Dec	Occasional	Neel
<i>Indigofera trifoliata</i> L.	Aug-Oct	Common	Barbada
<i>Indigofera trita</i> Linn.f.	June-Nov	Occasional	-----
<i>Lablab purpureus</i> (L.) Sweet	Oct-Dec	Frequent	Pathadi
<i>Mucuna pruriens</i> Hook.	Aug-Nov	Occasional	Khajkohiri
<i>Rhynchosia minima</i> DC.	Sept-Jan	Common	-----
<i>Rhynchosia rothii</i> Benth.	Sept-Nov	Frequent	-----
<i>Taverniera cuneifolia</i> (Roth.) Arn.	Dec-Feb	Jethmadh	Jethmadh
<i>Tephrosia hamiltonii</i> Drumm.	Aug-Feb	Common	Unhali
<i>Tephrosia procumbens</i> Ham.	Aug-Oct	Common	Unhali
<i>Tephrosia villosa</i> (L.) Pers.	Aug-Nov	Frequent	Unhali
<i>Vigna trilobata</i> (L.) Verdc.	Aug-Dec	Common	Ranmath
<i>Zornia diphylla</i> (Retz.) Pers.	July-Dec	Common	-----
Family-Caesalpinaceae			
<i>Bauhinia variegata</i> Linn.	Oct-Jan	Frequent	Kanchan
<i>Caesalpinia pulcherrima</i> Sw.	Aug-Nov	Occasional	Shankasur
<i>Cassia absus</i> Linn.	Aug-Nov	Common	Tarota
<i>Cassia fistula</i> L.	Mar-May	Common	Bahawa
<i>Cassia siamea</i> Lamk.	Sept-Dec	Frequent	Kashid
<i>Cassia tora</i> Linn.	July-Jan	Common	Tarota
<i>Delonix regia</i> (Boj.ex.Hook.)	April-Aug	Occasional	Gulmohar
Family-Mimosaceae			
<i>Acacia catechu</i> Willd.	June-Nov	Common	Khair
<i>Acacia chundra</i> (Roxb.) Willd.	Sept-Jan	Common	Khair
<i>Acacia leucophloea</i> Willd	Aug-Jan	Common	Hiwar
<i>Acacia nilotica</i> (Linn.) Del.	Aug-Jan	Common	Babhul
<i>Albizia lebbek</i> Benth.	March-May	Frequent	Shirish
<i>Mimosa hamata</i> Willd.	June-Dec	Common	Arati
<i>Mimosa pudica</i> L.	Sept-Dec	Frequent	Lajalu
<i>Prosopis cineraria</i> (L.) Druce.	Nov-April	Occasional	Shami
<i>Prosopis juliflora</i> DC.	Oct-Dec.	Common	Wedibabul
Family-Combretaceae			
<i>Terminalia alata</i> Heyne ex Roth.	April-Nov	Frequent	Ain
<i>Terminalia arjuna</i> W.& A.	Mar-April	Frequent	Arjun sadada
<i>Terminalia bellirica</i> L.	Feb-March	Frequent	Behda
Family-Myrtaceae			
<i>Eucalyptus muculata</i> Hook.	Mar-April	Frequent	Nilgiri
<i>Syzygium cimini</i> (Linn.) Skeels.	March-May	Occasional	Jambhul
Family-Lythraceae			

<i>Lagerstroemia parviflora</i> Roxb.	Feb-April	Common	Lendhi
<i>Woodfordia fruticosa</i> Kurz.	Feb-April	Frequent	Dhaiti
Family-Cucurbitaceae			
<i>Coccinia grandis</i> (L.) Voigt	July-Dec	Common	Tondli
<i>Diplocyclos palmatus</i> (L.) Jeffrey.	Aug-Jan.	Common	Shivlingi
<i>Momordica charantia</i> L.	June-Oct	Frequent	Rankarle
<i>Momordica dioica</i> Roxb.	Aug-Oct	Occasional	Kartoli
Family-Aizoaceae			
<i>Trinthea portulacastrum</i> L.	June-Oct	Frequent	wasu
Family-Apiaceae			
<i>Pimpinella candolleana</i> Wt. & Am.	Sept-Dec	Occasional	----
Family-Rubiaceae			
<i>Haldina cordifolia</i> (Roxb.) Ridsd	June-Sept	Occasional	Haldu
<i>Hedyotis nagporensis</i> (Brace ex Haines)	Sept-Oct	Common	Paripath
<i>Mitragyna parviflora</i> Korth.	March-June	Common	Kalam
<i>Morinda citrifolia</i> L.	April-Aug	Frequent	Bartondi
<i>Spermacoce articularis</i> L.f.	Aug-Nov	Common	Madanghanti
<i>Spermacoce verticillata</i> L.	Aug-Oct	Common	Kumbha
Family-Astraceae			
<i>Acanthospermum hispidum</i> DC.	Sept-Oct	Common	Gaykatha
<i>Bidens biternata</i> (Lour.) Merr.et Sch.	July-Oct	Common	----
<i>Echinops echinatus</i> Roxb.	Nov-Mar	Common	Katechumbak
<i>Eclipta alba</i> (L.) Hassk.	Throughout	Occasional	Maka
<i>Erigeron asteroids</i> Roxb.	June-Oct	Frequent	Sonsali
<i>Tridax procumbens</i> Linn.	June Dec	Common	Dagdi
<i>Vernonia cinerea</i> (L.) Less	May-June	Common	----
<i>Zinnia elegans</i> Jacq.	Sept-Jan	Occasional	Zenia
Family-Ebenaceae			
<i>Diospyros melanoxylon</i> Roxb.	Mar-Sept	Common	Tembhumi
Family-Apocynaceae			
<i>Holarrhena pubescens</i> (Buch.)Wall.	Mar-May	Occasional	Pandrakuda
<i>Wrightia tinctoria</i> R.Br.	April-June	Common	Kalakuda
Family-Periplocaceae			
<i>Cryptostegia grandiflora</i> R. Br.	Sept-Jan	Common	Rabarwel
<i>Hemidesmus indicus</i> R. Br.	Sept-Oct	Common	Anantmul
Family-Asclepiadaceae			
<i>Calotropis gigantea</i> (L.)	Jan-June	Common	Ruchki
<i>Calotropis procera</i> (Ait.)R.Br.	Jan-June	Common	Rui
<i>Ceropegia hirsuta</i> W. & A.	Sept-Oct	Rare	Kanwel
<i>Gymnema sylvestre</i> R. Br.	Oct-Jan	Rare	Aphumari
<i>Leptadenia reticulata</i> (Retz.) Wt.&Am.	Sept-Jan	Frequent	Shinguti

<i>Pergularia daemia</i> (Forsk.) Choiv.	July-Sept	Common	Utarandwel
<i>Tylophora indica</i> (burm.) Merr.	Sept-Oct	Rare	Pitmari
Family-Gentianaceae			
<i>Canscora diffusa</i> (Vahl.) A.Schult.	Nov-Feb	Common	----
<i>Enicostema axillare</i> Bl.	June Jan	Common	Kadunai
Family-Boraginaceae			
<i>Heliotropium rariflorum</i> Stocks.	Aug-Oct	Frequent	----
<i>Heliotropium subulatum</i> (Hochst.)Vatke	July-Jan	Occasional	----
<i>Trichodesma africanum</i> (L.)	Sept-Jan	Common	Krushkanta
<i>Trichodesma amplexicaule</i> Roth.	Sept-Oct	Common	----
Family-Ehretiaceae			
<i>Cordia dichotoma</i> Forst.f.	Apri-June	Occasional	Bhokar
Family-Convulvaceae			
<i>Argyreia capitata</i> (Vahl.) Choisy	Nov-Jan	Occasional	----
<i>Argyreia cymosa</i> (Roxb.) Sweet	Oct-Mar	Common	----
<i>Argyreia strigosa</i> (Roth.) Roberty	Oct-Jan	Occasional	Sambarwel
<i>Convolvulus arvensis</i> L.	Oct-Jan	Frequent	Chandwel
<i>Cuscuta reflexa</i> Roxb.	Sept-Oct	Occasional	Amarwel
<i>Evolvulus alsinoides</i> L.	July-Feb	Common	Vishnukanta
<i>Ipomea carnea</i> Jacq.	Throughout	Common	Beshram
<i>Ipomoea eriocarpa</i> R.Br.	Oct-Feb	Common	----
<i>Ipomoea hederifolia</i> Linn.	Oct-Dec	Frequent	----
<i>Ipomoea nil</i> (L.) Roth.	Oct-Feb	Frequent	Kaladana
<i>Ipomoea obscura</i> Ker.Gawl.	Oct-Feb	Common	----
<i>Ipomoea pes-tigridis</i> L.	Oct-Feb	Frequent	----
<i>Ipomea sinica</i> Stapf.	Sept-Dec	Occasional	----
<i>Ipomea sinensis</i> (Desr.) Choisy	Sept-Jan	Common	----
<i>Rivea hypocrateriformis</i> Choisy.	Sept-Jan	Common	Fanji
Family-Solanaceae			
<i>Datura inoxia</i> Mill.	Sept-Mar	Common	Dhotra
<i>Datura metel</i> Linn.	July-Oct	Occasional	Kaladhotra
<i>Datura stramonium</i> L.	July-Oct	Common	Dhotra
<i>Physalis angulata</i> L.	Oct-feb	Frequent	Popti
<i>Physalis micrantha</i> Link.	Nov-Jan	Frequent	Popti
<i>Solanum americanum</i> Mill.	Aug-Jan	Occasional	Kamuni
<i>Solanum anguivi</i> Lamk.	Aug-Dec	Occasional	Dorli
<i>Solanum indicum</i> Linn.	Sept-Nov	Occasional	Karanda
<i>Solanum virginianum</i> L.	June-Jan	Frequent	Bhuringni
<i>Withania somnifera</i> (L.) Dunal.	Sept-Jan	Common	Dhorgunj
Family-Scrophulariaceae			
<i>Bacopa monnieri</i> (Linn.) wettst	Oct-Jan	Common	Nirbhamhi

<i>Striga gesneroides</i> (Willd.) Vatke.	Oct-Jan	Common	Talakh
<i>Verbascum chinense</i> Sant.	Sept-Feb	Common	Kutki
Family-Bignoniaceae			
<i>Dolichandrone falcata</i> (Wall.) Seem.	Dec-March	Common	Medhshingi
<i>Millingtonia hortensis</i> Linn.f.	June-Sept	Occasional	Buch
Family-Martyniaceae			
<i>Martynia annua</i> L.	Aug-Oct	Common	Waghnakhi
Family-Acanthaceae			
<i>Barleria longiflora</i> L.f.	Sept-Feb	Frequent	-----
<i>Barleria prionitis</i> Linn.	Sept-Oct	Frequent	Koranti
<i>Blepharis maderaspatensis</i> (L.) Roth	Sept-Dec	Common	Mothhadsan
<i>Blepharis repens</i> (Vahl.) Roth	Oct-Jan	Common	Hadsan
<i>Hygrophila schulli</i> (Buch-Ham) M.R.	Sept-Feb	Common	Talimkhana
<i>Justicia diffusa</i> Willd.	Aug-Nov	Common	-----
<i>Justicia japonica</i> Thumb.	Aug-Oct	Common	-----
<i>Justicia procumbens</i> L.	July-Nov	Common	-----
<i>Justicia prostrata</i> (Clarke) Gamble	Aug-Nov	Common	-----
<i>Justicia vahlii</i> Clarke.	Aug-Feb	Common	-----
<i>Lepidagathis cristata</i> Willd.	Sept-Jan	Frequent	Bhuigend
<i>Lepidagathis hamiltoniana</i> Wall.	Sept-Jan	Occasional	Bhuigend
<i>Rungia elegans</i> Dalz.	Sept-Jan	Common	-----
<i>Rungia repens</i> Nees	July-Dec	Frequent	-----
<i>Thunbergia laevis</i> Nees.	Aug-Sept	Occasional	-----
Family-Verbinaceae			
<i>Clerodendrum serratum</i> (L.) Moon.	Sept-Nov	Common	Bharangi
<i>Gmelina arborea</i> Roxb.	Mar-May	Occasional	Shiwan
<i>Lantana camara</i> L.	Throughout	Common	Ghaneri
<i>Vitex negundo</i> Linn.	Sept-Jan	Frequent	Nirgudi
<i>Tictona grandis</i> L.f.	July-Dec	Common	Sagwan
Family-Lamiaceae			
<i>Coleus barbatus</i> Benth.	Aug-Oct	Frequent	Mainmool
<i>Lavandula bipinnata</i> (Linn.) O.Ktze.	Aug-Dec	Common	Galgota
<i>Leonotis nepetifolia</i> R.Br.	Oct-Jan	Frequent	Deepmal
<i>Leucas biflora</i> R.Br.	Aug-Oct	Common	-----
<i>Leucas diffusa</i> Benth.	Sept-Nov	Common	Gumma
Family-Nyctaginaceae			
<i>Boerhavia repens</i> L.	Throughout	Common	Punamawa
<i>Boerhavia erecta</i> L.	Sept-Dec	Common	Punamawa
Family-Amaranthaceae			
<i>Achyranthus aspera</i> L.	July-Dec	Common	Aghada
<i>Alternanthera sessilis</i> (Linn.) R.Br.	Aug-Oct	Common	Chibukkata

<i>Alternanthera tenella</i> Colla.	Throughout	Common	Chibukkata
<i>Amaranthus tricolor</i> L.	Aug-Oct	Common	Tandulja
<i>Amaranthus viridis</i> L.	July-Feb	Common	Math
Family-Basellaceae			
<i>Basella rubra</i> Linn.	Dec-Feb	Occasional	Mayalu
Family-Polygonaceae			
<i>Antigonon leptopus</i> Hook. & Arn.	Oct-May	Occasional	-----
<i>Polygonum glabrum</i> Willd.	Aug-Oct	Common	-----
Family-Aristolochiaceae			
<i>Aristolochia bracteata</i> Retz.	Aug-Oct	Occasional	Kidamari
<i>Aristolochia indica</i> L.	Aug-Oct	Frequent	Sapsan
Family-Santalaceae			
<i>Santalum album</i> Linn.	Feb-April	Common	Chandan
Family-Euphorbiaceae			
<i>Acalypha indica</i> Linn.	June-Jan	Common	Khokli
<i>Acalypha lanceolata</i> Willd.	July-Jan	Common	-----
<i>Chrozophora rotleri</i> (Geis.) Juss.	Dec-June	Common	Suryavarti
<i>Croton bonplandianum</i> Baill.	Aug-Jan	Common	-----
<i>Euphorbia antiquorum</i> L.	Feb-May	Frequent	-----
<i>Euphorbia caducifolia</i> Haines.	Jan-April	Common	Sambar
<i>Euphorbia cocinia</i> Roth.	Oct-Jan	Frequent	-----
<i>Euphorbia corrigioloides</i> Boiss.	July-Oct	Occasional	-----
<i>Euphorbia hirta</i> L.	Throughout	Common	Dudhani
<i>Euphorbia indica</i> Lamk.	Throughout	Common	----
<i>Euphorbia nerifolia</i> L.	Feb-June	Common	-----
<i>Jatropha gossypifolia</i> Linn.	Nov-Feb	Common	-----
<i>Phyllanthus amarus</i> Schumach.	July-Nov	Frequent	Bhuiawli
<i>Phyllanthus emblica</i> L.	Oct-Mar	Common	Awla
<i>Phyllanthus reticulatus</i> Poir.	Throughout	Common	Datwan
Family-Ulmaceae			
<i>Holoptelia integrifolia</i> (Roxb.)Planch	Mar-May	Common	Wavli
Family-Moraceae			
<i>Ficus benghalensis</i> L.Hortt.	April-June	Common	Wad
<i>Ficus racemosa</i> L.	Feb-June	Common	Umbhar
<i>Ficus religiosa</i> L.	April-Aug	Frequent	Pimpal
Family-Zingiberaceae			
<i>Curcuma pseudomontana</i> Grah.	Sept-Oct	Occasional	Raanhalad
Family-Musaceae			
<i>Ensete superbum</i> (Roxb.)	June-Nov	Common	Rankeli
<i>Musa paradisiaca</i> L.	Throughout	Occasional	Keli
Family-Hypoxidaceae			

<i>Curculago orchioides</i> Gaertn.	June-Nov	Common	Kalimusli
Family-Agavaceae			
<i>Agave americana</i> L.	Jan-May	Common	Kektad
Family-Dioscoraceae			
<i>Dioscorea alata</i> L.	Aug-Oct	Common	Akashwel
<i>Dioscorea bulbifera</i> L.	Sept-Oct	Common	Dukkarkand
Family-Liliaceae			
<i>Aloe vera</i> (L.) Burm.	Sept-Jan	Occasional	Korphad
<i>Asparagus racemosus</i> Willd.	July-Oct	Common	Shatawari
<i>Chlorophytum laxum</i> R.Br.	June-Aug	Frequent	Safedmusli
<i>Chlorophytum tuberosum</i> Baker.	June-Aug	Common	Safedmusli
<i>Dremia indica</i> (Roxb.) Jessop	Feb-May	Frequent	Rankanda
<i>Gloriosa superba</i> L.	Sept-Oct	Occasional	Kallawi
<i>Iphigenia indica</i> (L.) A. Gray.	July-Aug	Frequent	----
<i>Iphigenia pallida</i> Baker.	July-Aug	Occasional	-----
Family-Commelinaceae			
<i>Commelina benghalensis</i> L.	Sept-Oct	Common	Kena
<i>Commelina diffusa</i> Brum.	Sept-Jan	Common	----
<i>Commelina erecta</i> L.	Sept-Oct	Frequent	-----
<i>Commelina forskalaei</i> Vahl.	Sept-Dec	Common	-----
Family-Typhaceae			
<i>Typha domingensis</i> Pers.	Oct-May	Frequent	Pankanis
Family-Lemnaceae			
<i>Lemna perpusilla</i> Torr.	Oct-March	Frequent	-----
Family-Cyperaceae			
<i>Bulbostylis barbata</i> (Rottb.) Kunth.	Aug-Oct	Common	-----
<i>Cyperus alternifolius</i> L.	Jan-April	Common	-----
<i>Cyperus alulatus</i> Kern.	Sept-Dec	Common	-----
<i>Cyperus compressus</i> L.	Sept-Oct	Common	-----
<i>Cyperus corymbosus</i> Rottb.	Sept-Oct	Common	-----
<i>Cyperus difformis</i> Linn.	Aug-Oct	Common	-----
<i>Fimbristylis bisumbellata</i> (Forsk.) Bub.	Oct-Mar	Common	-----
<i>Fimbristylis complanata</i> (Rets.) Link.	Sept-Oct	Common	-----
<i>Fimbristylis dichotoma</i> (L.) Vahl.	Sept-Oct	Common	-----
<i>Fimbristylis ferruginea</i> (L.) Vahl.	Sept-Oct	Common	-----
<i>Fimbristylis microcarya</i> F.V.	Sept-Dec	Common	-----
<i>Fimbristylis ovata</i> (Brum.f.) Kern.	Sept-Dec	-----	-----
<i>Kyllinga bulbosa</i> Beau.	Sept-Nov	Common	-----
<i>Scirpus latriformis</i> Gmel.	Oct-Feb	Common	-----
<i>Scirpus littoralis</i> Schrad.	Dec-Mar	Common	-----
<i>Scirpus roylei</i> (Nees.) Parker	Nov-Jan	Occasional	-----

<i>Scirpus senegalensis</i> (Hochst.)W.Khan	Sept-Dec	Common	-----
Family-Poaceae			
<i>Andropogon pumilus</i> Roxb.	July-Dec	Common	Lalgawat
<i>Arundinella pumila</i> (Hochst.) Steud	Aug-Nov	Common	-----
<i>Arundinella tuberculata</i> Munro.	Aug-Dec	Common	-----
<i>Brachiaria eruciformis</i> (J.E.Sm.) Grib.	Throughout	Common	Shiprut
<i>Brachiaria setigera</i> (Retz.) C.E. Hubb.	Aug-Dec	Common	-----
<i>Cenchrus ciliaris</i> L.	Nov-Feb	Occasional	-----
<i>Cenchrus setigerus</i> Vahl.	Aug-Feb	Occasional	-----
<i>Chionachne koenigii</i> (Spermg.) Thw.	Sept-Jan	Common	Katakarvel
<i>Chloris inflata</i> Link.	Aug-Jan	Common	Gondwal
<i>Chrysopogon fulvus</i> (Spreng.) Choiv.	July-Dec	-----	-----
<i>Cymbopogon martinii</i> (Roxb.) Wats.	Sept-Jan	Common	Suryagawat
<i>Cynadon dactylon</i> (L.) Pers.	Throughout	Common	Harali
<i>Dichanthium annulatum</i> (Forssk.) Stapf.	Sept-Dec	Common	-----
<i>Dichanthium caricosum</i> (L.) A.Camus.	Common	Marvel	
<i>Dichanthium kuntzeana</i> (Hack.) Jain.	July-Nov	Occasional	-----
<i>Digitaria abludens</i> (Roem.& Schu.)veld.	July-Dec	Common	-----
<i>Digitaria stricta</i> Roth ex Roem.	July-Dec	Common	-----
<i>Dinebra retroflexa</i> (Vahl.) Panz.	Throughout	Common	Lonigawat
<i>Echinochloa colonum</i> (L.) Link.	July-Feb	Common	Pankund
<i>Eleusine indica</i> (L.) Geartn.	Aug-Jan	Common	Rannachani
<i>Eremopogon foveolatus</i> (Del.) Stapf.	July-Dec	Common	Kadumarvel
<i>Eriochloa procera</i> (Retz.)	July-Feb	Common	-----
<i>Heteropogon contartus</i> (L.) P. Beau.	July-Feb	Common	Kusaligawat
<i>Heteropogon triticeus</i> (R.Br.) Stapf.	Aug-Feb	Common	Mothi kusali
<i>Imperata cylindrica</i> (L.) P. Beau.	July-Jan	Common	-----
<i>Isachne meeboldii</i> C.E.C.	Aug-Dec	Occasional	-----
<i>Ischaemum rugosum</i> Salisb.	Aug-Jan	Common	Ber
<i>Iseilema laxum</i> Hack.	July-Jan	Common	Tambit
<i>Iseilema prostratum</i> (L.) Anders.	Sept-Jan	Occasional	-----
<i>Leptochloa panicea</i> (Retz.) Ohwi.	July-Aug	Rare	-----
<i>Lophopogon tridentatus</i> Hack.	July-Nov	Common	-----
<i>Melanocenchris jacquemontii</i> Jaub.	July-Dec	Common	-----
<i>Mnethia granularis</i> (L.) Koning	July-Dec	Common	-----
<i>Ophiuros exaltatus</i> (L.) Ktze	July-Feb	Common	-----
<i>Oropetium roxburghianum</i> (Steud.)S.M.	Aug-Dec	Common	-----
<i>Paspalidium geminatum</i> (Forssk.) Stapf.	July-Feb	Common	-----
<i>Phalaris minor</i> Retz.	Throughout	Occasional	-----
<i>Phragmites karka</i> (Retz.)Trin.	Oct-Jan	Common	-----
<i>Rhynchelytrum repans</i> (Willd.) C.E.	Sept-Dec	Common	-----

<i>Setaria intermedia</i> Roem.et Schult.	July-Jan	Common	----
<i>Setaria verticillata</i> (L.) P.Beauv.	July-Jan	Common	Kutra
<i>Thelepogon elegans</i> Roth.	Aug-Jan	Common	Farodi
<i>Themeda quadrivalvis</i> (L.) O. Ktze.	Aug-Jan	Common	Gondal

DISCUSSION

All vegetation of forest is affected by biotic and abiotic factors as, cuttings of trees for fuel wood, overgrazing by cattle, over exploitation of medicinal plants, leaving behind polythene bags and plastic bottles, have resulted the deflection of many species from the area so we suggested some protective measures for regenerating the vegetative of forest. Carrying of polythene bags, paper plates and plastic bottles should not be allowed in side the forest. To built up the sufficient staff for the forest department. To ban collection of plants for any purpose. To educate the local people through awareness programme. Carrying of wet and living things or branches of trees is considered as offensive.

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