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ACHANAKMAR-AMARKANTAK BIOSPHERE RESERVE

TROPICAL FOREST RESEARCH INSTITUTE
(Indian Council of Forestry Research & Education)
P.O. RFRC, Mandla Road, Jabalpur -482021
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Cover Photo: Kapildhara at Amarkantak. Photo by Dr. K.C.Joshi

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PREFACE

Government of India identified areas rich in biodiversity by declaring them as "Biosphere Reserve". Achanakmar – Amarkantak Biosphere Reserve (BR) is the 14th Biosphere Reserve declared by Ministry of Environment and Forests, Govt. of India, New Delhi, vide the notification no. 9/16/99CS/BR dated 30th March 2005. The core region of the BR falls in Chhattisgarh whereas the buffer and transition zones fall both in Chhattisgarh and Madhya Pradesh. It is very rich in many species of flora and fauna due to its moist as well as dry tropical deciduous type of vegetation. Being representative examples of natural and minimally disturbed landscapes with endemism, genetic richness and typical ideal sites for monitoring changes in physical and biological components of biosphere, it attracts academician, scientists, and forest managers to gather scientific information for its sustainable development.

For effective co-ordination, monitoring, management and exchange of scientific information between biosphere reserve, managers and R & D institutes in India as well as outside the country, the Ministry of Environment and Forests, Government of India established six coordination centers throughout India. Tropical Forest Research Institute, Jabalpur is one of the centers responsible for providing scientific information to managers of Achanakmar-Amarkantak Biosphere Reserve, Chhattisgarh. The present Biosphere Reserve Information Series –I is dealing with current status flora , thrust areas, research needs and recommendations of the workshop recently held at the Institute on 30th April, 2007.This will help the forest managers of Achanakmar- Amarkantak Biosphere Reserve to up date the information existing in management plan. This series will also be beneficial to the academicians, scientists working in the universities and research institutes to formulate useful projects on the thrust areas and research needs of Achanakmar- Amarkantak BR and submit them to the Ministry of Environment and Forests (MOEF), Government of India for financial assistance. The format for the same has been given at the end of this part of the series (Annexure 1). Project Investigators are advised to send the proposals directly to the MOEF, New Delhi. The format is also available on website. A copy of the proposal should also be sent to Tropical Forest Research Institute, Jabalpur to pursue the processing of the proposal.

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Editors

1. Introduction

Achanakmar-Amarkantak Biosphere Reserve is named after Achanakmar forest village and Amarkantak, a holy place from where the Narmada, Johilla and Sone rivers emerge. Achanakmar-Amarkantak Biosphere Reserve was declared as Biosphere Reserve (BR) by Government of India vide notification no. 9/16/99 CS/BR dated 30th March 2005. It lies between lat. 22^0 15' to 20^0 58' N & long. 81^0 25'N to 82^0 5'E and is spread from Maikal hill ranges to the junction of Vindhyan and Satpura hill ranges in a triangular shape. Bilaspur and Marwahi forest divisions of the Chhattisgarh state, Dindori and Anuppur forest divisions of Madhya Pradesh state surround the core zone of BR. The total geographical area of BR is 3835.51 sq. km. The core area of the BR is 551.55 sq. km., falls in Chhattisgarh state. It is surrounded by buffer and transition zone area of 3283.96 sq. km., out of which 2058.98 sq. km. falls in Bilaspur and Marwahi forest divisions of Chhattisgarh and 1,224.98 sq. km in Dindori and Anuppur forest divisions of Madhya Pradesh.

Achanakmar-Amarkantak Biosphere Reserve (BR) is about 60 km far from it`s headquarter at Bilaspur. It is well connected by road from Pendra road railway station, Bilaspur and Raipur of Chhattisgarh and Dindori, Shahdol of Madhya Pradesh.

Its topography is varied from rice fields in Bilaspur and Anuppur district, and wheat fields in Dindori district to the hills of Maikal ranges of Satpura. The topography, in combination with perennial streams and valleys has created micro-climatic conditions in the area to provide diverse environmental conditions, encouraging luxuriant growth for several species of thallophytes, bryophytes, pteriodophytes (ferns), gymnosperms, angiosperms and many species of wild fauna of economic importance.

The geology of the area is unique, varied from schists and gneisses with granite intrusion rocks, sand stones, shales, limestone, basaltic lava and bauxite. The soils of the Achanakmar - Amarkantak BR vary in composition and texture from sandy to loamy-clays, generally light brown to brownish yellow in colour. An olive green clay zone up to 5 mm sometimes exists at some places where marshy conditions develop due to poor seepage in these areas. Red soils (due to presence of iron oxide), which is porous and fertile, also occur in some places. Deposits of alluvial soils are also seen on the banks of numerous streams in the tract. The black cotton soil exists in many areas of Achanakmar - Amarkantak BR.

The BR has typical monsoon climate with three distinctly defined seasons and a short post rainy season. The summer season begins from April and lasts up to the middle of June. The rains commence from middle of June and continue till the end of the September. Post rainy season remains during the month of October. The winter or cold season begins from November and lasts up to March. The mean daily maximum temperature ranges from 24^0 to 39^0 C and mean daily minimum temperature ranges from 10^0 to 25^0 C depending upon season. A few showers of rain generally occur in every season throughout the year. The average rainfall is 1322 mm to 1624.3 mm. The relative humidity is fairly high due to thick vegetation of sal forest at higher elevations and frequent showers of rain are between June-October. The rainfall decreases to the lowest of 12.98 mm in the month of December. Frost between December-January is often observed to damage *Anogeissus latifolia, Diospyros melanoxylon, Kydia calycina, Lagerstroemia parviflora, Litsea glutinosa, Ougenia oojeinensis, Terminalia tomentosa,* etc. in Achanakmar and Lamni forest ranges in core zone and *Buchnania lanzan, Emblica officinalis, Shorea robusta,* etc. at Khandoli in buffer zone.

Achanakmar - Amarkantak BR is blessed with many seasonal monsoon dependent and permanent streams, rivers like the Narmada, the Johilla and the Sone, many rivulets and two dams. Not many efforts have been made to increase infiltration into soil, control excess runoff and to manage and utilize runoff for useful purposes. Old Khudia dam situated in the south-western boundary on Maniary river in the core zone and Malhaniya dam built on Malhaniya river in the buffer zone are the main constituents of the water bodies. These dams are very useful for men and wild animals living in BR particularly during summers when the seasonal *nallah*s and streams dry up. The water bodies comprise of 33.61 sq. km. areas. The average annual rainfall is about 1624.3 mm distributed on an average over 71 to 118 rainy days in a year, providing ample scope for the watershed management.

The BR constitutes a total of 238 revenue and forest villages inhabited by tribe within Chhattisgarh areas. Of these, 22 villages having a population of 7709 persons are located in core zone and the remainings are situated in buffer and transition zones of the BR. The major occupation of the inhabitants is agriculture besides collection of medicinal plants and other non - wood forest products. They are also engaged sometime as labours by the forest department. The major tribes residing in BR are Baiga, Kol, Kanwar, Pradhan and Gond.

The core, buffer and transition zones of the BR are divided into following eleven ranges:

A. Core zone:

1. Lamni Range: A part of Lamni range i.e. 203.769 sq. km. is situated in the core zone. It is rich in floristic composition. There are about 38 species of flora of multipurpose use. The density of trees varies from 750 trees / ha to nearly 1527 trees / ha. The regeneration is very high.

2. Achanakmar Range: An area of 169.133 sq. km. is under this range. There are nearly 52 species known. The compartment wise density of trees varies from 1334 trees / ha to 1764 trees / ha. It may have only 180 trees / ha in plateau. The ground vegetation consists of shrubs and tree seedlings. It has up to 511987 shrubs and tree seedlings per ha in plateau. Some of them have medicinal values also.

3. Game Range: It consists of 178.65 sq. km. area and lies on the western side of Achanakmar range. It is also very rich in floristic composition. There are nearly 1266 trees / ha. The main species are *Shorea robusta, Cleistanthus collinus, Diospyros melanoxylon, Terminalia tomentosa*, etc.

B. Buffer and transition zones:

1. Lormi Range: It has an area of 242.134 sq. km. There are 44 species in this range. *Cleistanthus collinus* and *Shorea robusta* are the dominant species. The density of the trees is about 1912 trees / ha.

2. Kota Range: There are about 51 species of plants in forest areas of the plains of this range besides teak plantations in some plots. The density of trees is 934 trees / ha in plateau to 1912 trees / ha in plain. The regeneration is better in plains having the highest number of herbs, shrubs, and trees of multipurpose uses.

3. Khudia Range: The number of species varies from 40 to 47 in this range. The density of trees varies from 282 to 853 trees / ha.

4. Belgehana Range: There are a maximum of 41 species in this range. The density of trees varies from 782 trees / ha in plateau to 1051 trees / ha in plains. The density of seedlings / saplings is high in plains. The ground vegetation is also rich.

5. Khodri Range: Most of the area in this range is occupied by plateau. There is a maximum of 26 species of the flora. The density of the trees varies from 602 trees / ha in plains to 1201 trees / ha in plateau.

6. Marwahi Range: The range has a maximum of 22 species. The density of the trees is nearly the same as that in Khodri and Gorela ranges.

7. Gorela Range: The range has a maximum of 22 species. The density of trees varies from 588 trees / ha in plateau to 1159 trees / ha in plains. The ground vegetation is very rich.

8. Lamni Range (General): It has an area of 111.298 sq. km. The area is very much similar to Lamni core zone in floristic composition. The density of the trees was recorded as nearly 750 trees / ha. The regeneration is profuse.

2. Objectives of Achanakmar- Amarkantak Biosphere Reserve:

Like other Biosphere Reserves of the country, Achanakmar-Amarkantak BR have the following objectives:

1. To conserve biodiversity of flora and fauna within natural ecosystem.
2. To safeguard genetic diversity of the species.
3. To ensure sustainable use of the natural resources.
4. To provide logistic support to the people, including scientists and academicians, to undertake research activities and share knowledge generated on conservation and exchange of information at national and global levels.
5. To educate and provide training to local inhabitants for their sustainable socioeconomic upliftment.

3. Current Information:

I. Floral resources

To achieve the objectives of the Achanakmar- Amarkantak Biosphere Reserve, the first step is to know the floral diversity within natural ecosystem. The forest vegetation in the BR is “Tropical Deciduous type” and is classified into “Northern Tropical Moist Deciduous” and “Southern Dry Mixed Deciduous” forests. Northern Tropical Moist Deciduous type, which occurs mainly in the core area and a few ranges of buffer zone, predominates over the southern dry mixed deciduous forests around the periphery of the BR. The BR is very rich in term of flora

and microbial diversity. It has more than 125 species of thallophytes, 15 species of bryophytes, 27 species of ferns, 16 species of gymnosperms and more than 1182 species of angiosperms. They yield timber, spices, food and ayurvedic medicines. In Northern Tropical Moist Deciduous Forests, sal is the dominant species occurring in hilly tracts and low level areas of Lamni, Game, Marwahi and Achanakmar ranges as well as in the valley in Khudia range. Sal and its associates like *saja, bija, dhaora, kasai, lendia,* etc. and many species of shrubs, climbers and herbs exist in this type. The dry mixed deciduous forest consists of dry sal with associates in the top storey like *saja, bija, dhaora, kusum, kasai, lendia, jamun, mahua, aonla*, *achar, baranga, amla, bel, garari, kari, khamer, salai, tendu, tilwan,* and a few other thorny species in the middle storey, *banrahar, chhind, dhawai, harsingar*, *kurdai*, and *kalabansa* in the undergrowth; *chhira, kusum, bhurbhusi,* and *mushel* as grasses and *mahul,* etc. as common climbers.

The species belonging to various groups of flora existing in different ranges of Achanakmar - Amarkantak BR, their status as common "C" and rare as "R" their habit/ habitat or uses and the authority reported them have been given in the table. The species threatened have been categorized as per IUCN Categories and Criteria 2001 version 3.1.

i. List of flora documented:

The group wise list of various species reported from BR by different specialists/ authorities are summarized as here under:

a. Thallophytes: The thallophytes are grouped into algae, fungi and lichens. In all, 7 species of algae, 81 species of fungi and 37 species of lichens are reported from the BR. Most of them are common. No information is available on species of algae reported from the BR. However, 81 species of fungi existing in soil, parasitic on plants or edible or medicinal are known from different localities of BR. The soil fungus, *Chaetomium globosum* Kunze & Schm., which is recorded from Lamni forest range, is known to recover the loss of soil nutrients including minerals and maintain the soil fertility by decomposing the dead organic matter. The lichen *Caloplaca amarkantakana* Joshi,Y. & Upreti, recorded from Amarkantak, is endemic to the BR.

Table: 1 The thallophyte flora reported from Achanakmar – Amarkantak Biosphere Reserve

S. N.	Name of species	Distribution	Habit/ habitat	Status	Reference
	Algae				
1.	*Batrachospermum* sp.	-	-	C	Tiwari *et al.,*1995
2.	*Coleochaete* sp.	-	-	C	Tiwari *et al.,*1995
3.	*Chara* sp.	-	-	C	Tiwari *et al.,*1995
4.	*Ulothrix* sp.	Chhaparwa	River	C	Tiwari *et al.,*1995
5.	*Volvox* sp.	Chhaparwa	River	C	Tiwari *et al.,*1995
6.	*Voucheria* sp.	-	-	C	Tiwari *et al.,*1995
7.	*Zygnema* sp.	Amarkantak	Pond soil surface	C	Tiwari *et al.,*1995
	Fungi				
1.	*Absidia butleri* Lendner	Amarkantak	Soil fungus	C	Shettyi,1957
2.	*Absidia corymbifera* (Cohn.)	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
3.	*Absidia ramosa* (Lindl.) Lendner	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
4.	*Absidia spinosa* Lendner	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.,* 1991
5.	*Acaulospora delicata*	Amarkantak	VAM Fungus	C	Jamaluddin and Chandra, 1997
6.	*Acaulospora longula*	Amarkantak	VAM Fungus	C	Jamaluddin and Chandra, 1997
7.	*Acaulospora scrobiculata* Trappe	Amarkantak	VAM Fungus	C	Jamaluddin and Chandra, 1997
8.	*Acremonium* sp.	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
9.	*Acrophyllophora* sp.	Lamni	Soil fungus	C	Chakraborty *et al.,* 1991
10.	*Alternaria alternata* (Fr.) Keissler	Amarkantak, Lamni	Parasitic	C	Jamaluddin *et al*., 1993
11.	*Alternaria humicola* Oudemans	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
12.	*Alternaria tenuissima* (Nees ex Fr.)	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
13.	*Alternaria* sp.	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
14.	*Aspergillus candidus* Link.	Lamni	Soil fungus	C	Chakraborty *et al.,* 1991
15.	*Aspergillus fischeri* Wehmer	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
16.	*Aspergillus flavipes*	Achanakmar	Soil fungus	C	Chakraborty *et al.,*

	(Bain & Sart.)Thom.				1991
17.	*Aspergillus flavus* Link.	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
18.	*Aspergillus fumigatus* Fres.	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
19.	*A. nidulans* (Eidam.) Wingate	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
20.	*Aspergillus niger* Van Tiegh.	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
21.	*Aspergillus oryzae* (Ahlburg) Cohn.	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
22.	*Aspergillus ochraceus* Withelm.	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
23.	*Aspergillus terreus* Thom.	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
24.	*Aspergillus versicolor* (Vuill) Tiraboschi	Amarkantak	Soil fungus	C	Shettyi, 1957
25.	*Botryotis* sp.	Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
26.	*Cephaliophora tropica* Thaxt.	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
27.	*Cercospora pinidensiflorae* Horiet Nambu	Amadoh, Amarkantak	Parasitic	C	Jamaluddin *et al*., 1990
28.	*Cercosporidium helicteri* Soni *et al*.	Amarkantak	Parasitic	C	Soni *et al*.,1984
29.	*Chaetomium globosum* Kunze & Schm.	Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
30.	*Chaetomium gracile* Udagawa	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
31.	*Chrysosporium keratinophilum* (Fres) Carmichael	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
32.	*Chrysosporium tropicum* Carmichael	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
33.	*Circinella muscae* (Sorok.) Berl.& de Toni.	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
34.	*Cladosporium acaciae* Panwar	Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
35.	*Cladosporium herbarum* (Pers.) Link.	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
36.	*Cladosporium werneckii* Parreirs Horta	Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
37.	*Cunnighamella Echinulata* Thaxt.	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
38.	*Curvularia lunata* (Walker) Bedd.	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.*, 1991

39.	*Cytospora* sp.	Amarkantak	Parasitic	C	Dadwal & Jamauddin, 1991
40.	*Fusarium chlamydosporium* Wollenw. & Reink.	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
41.	*Fusarium compactum* (Wollenw.) W. Gordon	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
42.	*Fusarium flocciferum*	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
43.	*Fusarium oxysporum* Schlecht.	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
44.	*Fusarium solani* (Mart.) App. & Wollenw.	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
45.	*Fusarium* sp.	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
46.	*Geotrichum candidun* Link ex Pers.	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
47.	*Gigaspora marginata* (Becker) Hall.	Amarkantak	Soil fungus	C	Jamaluddin and Chandra, 1997
48.	*Glomus aggregatum* Schenk. & Smith	Amarkantak	Soil fungus	C	Jamaluddin and Chandra, 1997
49.	*Glomus intraradics* Schenk. & Smith	Amarkantak	Soil fungus	C	Jamaluddin and Chandra, 1997
50.	*Humicola grisea* Traaen.	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
51.	*Humicola indica* Haware & Singh	Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
52.	*Leptosphaerulina trifolii* (Rost.) Petr.	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
53.	*Macrophomina phaseolina* (Maubl.) Ashby	Amarkantak	Parasitic	C	Dadwal & Jamaluddin 1991
54.	*Metarhizium anisopliae* (Metschnikoff) Sorokin.	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
55.	*Mucor pusillus* Lindt.	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
56.	*Mycelia sterilia*	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
57.	*Neocosmospora* sp.	Lamni	Soil fungus	C	Chakraborty *et al.*, 1991
58.	*Paecilomyces fusisporus* Saksena	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
59.	*Penicillium citrinum* Thom.	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
60.	*Penicillium javanicum* Van Beyma	Achanakmar	Soil fungus	C	Chakraborty *et al.*, 1991
61.	*Pestalotiopsis* sp.	Amarkantak	Parasitic	C	Dadwal & Jamaluddin 1991

62.	*Phoma glomerata* (Corda) Wr. & Hochapfel	Amarkantak	Parasitic	C	Dadwal & Jamaluddin 1991
63.	*Phoma medicaginis* Malbr. & Roum.	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
64.	*Phoma* sp.	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
65.	*Phoma sorghina* (Sacc) Boerema	Achanakmar, Amarkantak	Parasitic, Soil fungus	C	Chakraborty *et al*., 1991; Dadwal & Jamaluddin,1991
66.	*Pythium aphanidermatum* (Eds.) Fitz.	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
67.	*Pythium* sp.	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
68.	*Rhizopus nigricans* Ehrenb.	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al,* 1991
69.	*Rhizopus stolonifer* (Ehrenb. ex Fr.)Lind.	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.,* 1991
70.	*Scutellospora* sp.	Amarkantak	Soil fungus	C	Jamaluddin & Chandra, 1997
71.	*Scleroderma bovista* Fr. (Syn. *S. texense*)	Amarkantak	Edible	C	Harsh *et al.,* 1989
72.	*Scopulariopsis* sp.	Lamni	Soil fungus	C	Chakraborty *et al.,* 1991
73.	*Sepedonium maheswa - rianum* Mukerji	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
74.	*Septofusidium* sp.	Lamni	Soil fungus	C	Chakraborty *et al.,* 1991
75.	*Sporotrichum sp.*	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
76.	*Sytalidium* sp.	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
77.	*Termitomyces albuminosa* (Berk) Heim	Amarkantak	Edible	C	Harsh *et al*., 1989
78.	*Thielavia terricola* (Gilman & Abbott) Emmons	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.,* 1991
79.	*Trichoderma viride* Pers. ex Fr.	Achanakmar, Lamni	Soil fungus	C	Chakraborty *et al.,* 1991
80.	*Verticillium* sp.	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991
81.	*Volutella lini* Mukerji, Tewari & Rai	Achanakmar	Soil fungus	C	Chakraborty *et al.,* 1991

Lichens

	Fam: Arthoniaceae				
1.	*Arthothelium aborme* (Ach.) Muell. – Arg.	Achanakmar	Grows on bark	C	Nayaka, *et al*.,2007
2.	*Arthothelium pycnocorpoid*	Achanakmar	Grows on	C	Nayaka *et al*.,2007

	Muell. –Arg.		Bark		
3.	*Arthonia recedens* Stirton	Chhaparwa-Nala	Grows on bark	C	Nayaka *et al*.,2007
4.	*Cryptothecia lunulata* (Zahlbr.)makh. & Patw.	Throughout BR	Grows on Bark and rock	C	Nayaka *et al*.,2007
	Fam: Baidiaceae				
5.	*Bacidia alutacea* (Krempelh.) Zahlbr.	Near Chhaparwa	Grows on Bark	C	Nayaka *et al*.,2007
6.	*Bacidia rubella* (Hoffm.) Massal	Gabighat	Grows on bark	C	Nayaka *et al*.,2007
	Fam: Collemataceae				
7.	*Collema ryssoleum* (Tuck.) A. Schneider	Gabighat	Grows on rock	C	Nayaka *et al*.,2007
	Fam: Crysothricaceae				
8.	*Chrysothrix chlorina* (Ach.) Laundon.	Chhaparwa	Grows on bark	C	Nayaka *et al*.,2007
	Fam: Ectolechiaceae				
9.	*Schadonia indica* Upreti & Nayaka	Amarkantak	-	C	Upreti *et al*.,2007
	Fam: Graphidaceae				
10.	*Graphina panhalensis* Pat. & Kulkarni	Throughout BR	Grows on bark	C	Nayaka *et al*.,2007
11.	*Graphina platycarpa* (Eschw.) Zahlbr.	Between Chhaparwa and Keonchi	Grows on bark	C	Nayaka *et al*.,2007
	Fam: Haematomaceae				
12.	*Haematoma puniceum* (Sm. ex Ach.) Massal.	Chhaparwa and Keonchi	Grows on bark/rock	C	Nayaka *et al*.,2007
	Fam: Lecanoraceae				
13.	*Lecanora sp.*	Achanakmar	Grows on bark	C	Nayaka *et al*.,2007
14.	*Lecanora imshaugii* Brodo	Chhaparwa and Keonchi	Grows on rock	C	Nayaka *et al*.,2007
15.	*Lecanora perplexa* Brodo	Chhaparwa, Gabighat, Achanakmar, Keonchi	Grows on bark	C	Nayaka *et al*.,2007
16.	*Lecanora subimmersa* (Fee) Vainio	Near Chhaparwa	Grows on rock	C	Nayaka *et al*.,2007
	Fam: Lecidiaceae				
17.	*Lecidea platycarpa*	Amarkantak	-	C	Tiwari *et al.,*1995
	Fam: Letrouitiaceae				
18.	*Letrouitia transgressa* (Malme) Haf. & Bellem	Throughout the BR area	Grows on bark	C	Nayaka *et al*.,2007

	Fam: Parmeliaceae				
19.	*Parmelia flavicens*	Amarkantak	On bark & rock,Edible	C	Tiwari *et al.,*1995
	Fam: Peltulaceae				
20.	*Peltula euploca* (Ach.) Poelt.	Gabighat	Grows on rock	C	Nayaka *et al*.,2007
	Fam: Pertusariaceae				
21.	*Pertusaria acuta* Muell.- Arg.	Chhaparwa and Achanakmar	Grows on bark	C	Nayaka *et al*.,2007
22.	*Pertusaria himalayensis* Awasthi & Srivastava	Achanakmar, Keonchi and Chhaparwa	Grows on bark	C	Nayaka *et al*.,2007
23.	*Pertusaria subdepressa* Muell. – Arg.	Chhaparwa, Keonchi, Kota	Grows on Bark & rock	C	Nayaka *et al*.,2007
	Fam: Physciaceae				
24.	*Buellia almorensis* S. Singh & Awasthi	Throughout the BR	Grows on bark	C	Nayaka *et al*.,2007
25.	*Buellia curtisii* (Tuck.) Imsh.	Achanakmar, Keonchi and Chhaparwa	Grows on bark	C	Nayaka *et al*.,2007
26.	*Pyxine cocoes* (Swartz.) Nyl.	Achanakmar, Keonchi and Chhaparwa	-	C	Nayaka *et al*.,2007
	Fam: Pilocarpaceae				
27.	*Fellhanera semicarpi* (Vainio)Vezda	Kabir Chabutra, Near Chhaparwa	Grows on leaves	C	Upreti *et al*.,2007; Nayaka *et al*.,2007
	Fam: Pyrenulaceae				
28.	*Pyrenula fuscoolivacea* Vainio	Keonchi and Chhaparwa	Grows on bark	C	Nayaka *et al*.,2007
29.	*Pyrenula subglabriscula* Vainio	Achanakmar	Grows on bark	C	Nayaka *et al*.,2007
	Fam:Teloschistaceae				
30.	*Caloplaca amarkantakana* Joshi,Y.& Upreti	Amarkantak	-	End-emic	Upreti *et al*.,2007
	Fam: Trapeliaceae				
31.	*Trapeliopsis* sp.	Chhaparwa	Grows on rock	C	Nayaka *et al*.,2007
32.	*Lepraria* sp.	Keonchi & Chhaparwa	Grows on bark, rock	C	Nayaka *et al*.,2007
33.	*Lepraria lobificans* Nyl.	Gabighat, Achanakmar	Grows on Bark, rock	C	Nayaka *et al*.,2007
	Fam:Usneaceae				
34.	*Usnea* sp.	Amarkantak	Grows on	C	Tiwari *et al.,*1995

			Bark, Medicinal		
Fam: Verrucariaceae					
35.	*Endocarpon nanum* A. Singh & Upreti	Gabighat	Grows on Rock	C	Nayaka *et al*.,2007
36.	*Endocarpon subrosettum* A. Singh & Upreti	Gabighat	Grows on rock	C	Nayaka *et al*.,2007
37.	*Staurothele clopima* (Wahlenb.) Th. Fr.	Chhaparwa; Gabighat	Grows on Rock	C	Nayaka *et al*.,2007

b. Bryophytes: The bryophytes are multicellular species like liverworts and mosses. They grow on rocks, soil and even on bark of standing trees preferably in shady places. Following 16 species of broyophytes are reported from the BR (Table 2).

Table: 2. The bryophyte flora reported from Achanakmar – Amarkantak Biosphere Reserve.

S.N.	Name of species	Distribution	Uses	Status	Reference
Cl.:Hepaticopsida: Fam: Porellaceae					
1.	*Porella* sp.	-	-	C	Tiwari *et al.*, 1995
Cl.:Hepaticopsida: Fam: Ricciaceae					
2.	*Riccia billardieri*	Throughout BR	-	C	Tiwari *et al.*, 1995
3.	*Riccia gangetica* Ahmad	Amarkantak	-	C	Tiwari *et al.*, 1995
4.	*Riccia sp.*	Amarkantak	-	C	Tiwari *et al.*, 1995
Cl.:Hepaticopsida: Fam: Marchantiaceae					
5.	*Marchantia nepalensis*	-	-	C	Tiwari *et al.*, 1995
6.	*Marchantia sp.*	-	-	C	Tiwari *et al.*, 1995
Cl.:Hepaticopsida: Fam: Targioniaceae					
7.	*Cyathodium sp.*	-	-	C	Tiwari *et al.*, 1995
8.	*Targionia sp.*	-	-	C	Tiwari *et al.*, 1995
Cl.:Hepaticopsida: Fam: Fossombroniaceae					
9.	*Fossombronia himalayensis*	-	-	C	Tiwari *et al.*, 1995
Cl.:Hepaticopsida: Fam: Riccardiaceae					
10.	*Riccardia sp.*	-	-	C	Tiwari *et al.*, 1995

	Cl.:Hepaticopsida: Fam:Anthocerotaceae				
11.	*Anthoceros erectus*	-	-	C	Tiwari *et al.,* 1995
12.	*Anthoceros sp.*	-	-	C	Tiwari *et al.,* 1995
13.	*Notothylus indicus*	-		C	Tiwari *et al.,* 1995
14.	*Notothylus sp.*	-	-	C	Tiwari *et al.,* 1995
	Cl.:Bryopsida: Fam: Funariaceae				
15.	*Funaria hygrometrica* Hedw.	Kabirchabutra	-	C	Tiwari *et al.,* 1995
	Cl.: Bryopsida: Fam: Polytrichaceae				
16.	*Polytrichum sp.*	-	-	C	Tiwari *et al.,* 1995

c. Pteridophytes: Out of nearly 102 species of ferns existing in Madhya Pradesh and Chhattisgarh, 27 species alone are reported from Amarkantak, lamni and Kota ranges of BR. Most of them are common to rare excepting *Adiantum capillus veneris* L., which is reported from Amarkantak, Amadoh, Lamni and categorized as endangered (EN). The distribution of the species, their uses and status are given in the following table 3:

Table: 3. Different species of ferns reported from Achanakmar Amarkantak BR.

S. N.	Name of species	Distribution	Uses	Status	Reference
	Fam.: Adiantaceae				
1.	Hansraj, *Adiantum capillus - veneris* L.	Amarkantak, Amadoh, Lamni	M	EN	Prasad & Pandey,1987; Pandey *et al*.,1991; Saini,2005; Verma *et al*., 1993
2.	Kalijhant, *Adiantum philippense* L. (Syn. *A. lunulatum* Burm.)	Achanakmar	M	C	Chaubey *et al.*, 2001; Saxena, 1970; Verma *et al*., 1993
	Fam.: Aspidiaceae (Polypodiaceae)				
3.	*Dryopteris cochleata* (D.Don.)	Amadoh, Amarkantak	M	C	Panigrahi & Murti, 1989; Saxena, 1970; Tiwari *et al.*

					1995; Verma *et al*.,1993
4.	*Dryopteris sparsa* (D.Don.)	-	-	C	Tiwari *et al*. 1995; Verma *et al*.,1993
5.	*Tectaria polymorpha* (Wall.ex Hook) Copel.	Kapildhara	-	C	Saxena, 1970; Tiwari *et al*. 1995; Verma *et al.,*1993
	Fam.: Aspleniaceae				
6.	*Asplenium cheilosorum* Kunze ex Mett.	Amarkantak	-	C	Saini, 2005; Saxena, 1970; Tiwari *et al*., 1995; Verma *et al*.,1993
	Fam.: Athyriaceae				
7.	*Athyrium falcatum* Bedd.	Amarkantak	-	C / R	Panigrahi, & Murti,1989; Saini, 2005; Saxena, 1970; Tiwari *et al*. 1995;Verma *et al*.,1993
	Fam.: Blechnaceae				
8.	Haththzori, *Blechnum orientale* L.	Amarkantak	M	C	Saini, 2005; Saxena, 1970; Tiwari *et al*. 1995; Verma *et al*.,1993
	Fam.: Cheilanthaceae				
9.	Silver- Fern, *Cheilanthes farinosa* (Forsk.) Kaulf. [Syn. *Aleuritopteris farinosa* (Forske)]	Amarkantak, Chada	M	C	Panigrahi & Murti, 1989; Saini, 2005; Saxena, 1970; Verma *et al.*, 1993
	Fam.:Equisetaceae				
10.	Horse tail, *Equisetum diffusum* D.Don.	Amarkantak	M	C	Saini, 2005; Panigrahi & Murti,1989; Verma *et al.,* 1993
11.	*Equisetum ramossimum* Desf. subsp. *debile* (Roxb. & Vauch.) Hauke	Amarkantak	-	C	Saxena, 1970; Singh & Dixit, 2005; Tiwari *et al*., 1995

	Fam: Isoetaceae				
12.	*Isoetes bilaspurensis* Panigrahi	Pasan; Amritdhara	-	Endemic	Panigrahi & Murti,1989; Singh & Dixit, 2005
13.	*Isoetes coromandelina* L.f.	Near Kota	-	C	Panigrahi & Murti, 1989; Singh & Dixit, 2005
	Fam.: Lygodiaceae				
14.	*Lygodium flexuosum* (L.) Sw.	Amadoh, Lamni	F, M	EN	Chaubey *et al.*, 2001; Prasad & Pandey,1987; Saini,2005; Verma *et al*., 1993
	Fam.: Marsileaceae				
15.	Aquatic fern, *Marsilea minuta* L.	-	F, M	C	Panigrahi & Murti,1989; Tiwari *et al.* 1995; Verma *et al*.,1993
	Fam.:Ophioglossaceae				
16.	*Ophioglossum reticulatum* L.	Amarkantak	F	C, R in sal forest	Panigrahi & Murti,1989; Saini, 2005; Saxena, 1970; Tiwari *et al.* 1995;Verma *et al.*,1993
	Fam.:Osmundaceae				
17.	*Osmunda* sp.	-	M	C	Tiwari *et al.* 1995; Verma *et al*.,1993
	Fam.:Parkeriaceae				
18.	*Ceratopteris thalictroides* (L.)Ad.Brongn. (Syn. *C. siliquosa* Copeland)	Amarkantak	F	C	Panigrahi Murti,1989; Saxena,1970; Tiwari *et al.* 1995; Verma *et al*.,1993
	Fam.: Polypodiaceae				
19.	*Microsorium membranaceum* (D.Don.)	Amarkantak	-	R	Saini, 2005; Saxena, 1970; Tiwari *et al.*

					1995; Verma *et al*.,1993
20.	*Leptochilus decurrens* Blume [Syn. *Paraleptochilus decurrens* (Bl.Copil)]	Amarkantak	-	C / R	Panigrahi & Murti, 1989; Saini, 2005; Saxena, 1970; Verma *et al.,* 1993
	Fam.: Pteridaceae				
21.	*Pteris quadriaurita* Retz.	Amarkantak, Kabir	-	C	Panigrahi & Murti,1989; Saini, 2005; Saxena, 1970; Tiwari *et al.* 1995; Verma *et al*.,1993
	Fam.: Selaginellaceae				
	Selaginella bryopteris (L.) Baker	Amarkantak	-	C	Panigrahi & Murti,1989; Sing & Dixit, 2005
23.	*Selaginella ciliaris* (Retz.) Spring	Amarkantak, Kapildhara	-	C	Panigrahi & Murti, 1989; Singh & Dixit, 2005; Saini, 2005; Saxena, 1970; Tiwari *et al.*1995; Verma *et al.,* 1993
24.	*Selaginella indica* (Milde) Trayon (Syn. *S. longipila* Hieron)	Amarkantak	-	R	Verma *et al.,* 1993; Singh & Dixit, 2005
25.	*Selaginella repanda* (Desv. et Poir.) Spring	Amarkantak	-	C	Panigrahi & Murti, 1989; Singh & Dixit, 2005
	Fam.:Thelypteridaceae				
26.	*Christella parasitica* (L.) [Syn. *Cyclosorus parasiticus* (L.)]	-	M	C	Tiwari *et al*., 1995; Saxena, 1970; Verma *et al*., 1993
27.	*Pronephrium nudatum* (Roxb. Ex Griffith) Holttum [Syn. *Abcopteris multilineatum* (Wall. Ex Hk) Ching]	Kabir	-	C	Panigrahi & Murti, 1989; Saxena, 1970; Verma *et al*., 1993

* F= Food, M= Medicinal, - =Not known; ** C= Common, EN= Endangered; R= Rare

d. Gymnosperms: Saxena (1970) has reported only two species of gymnosperms namely *Pinus roxburghii* Sarg. and *Thuja orientalis* L. from Amarkantak during his survey. Later on, Madhya Pradesh State Forest Research Institute, Jabalpur planted many species for experimental purposes. The species planted as well as existing before plantations at Amarkantak and Lamni are as hereunder.

Table: 4. Different species of conifers planted in Achanakmar – Amarkantak BR.

S.N.	Name of species	Distribution	Uses*	Status	Reference
1.	*Araucaria bidwillii* Hook.	Amarkantak	T	Planted	Tiwari *et al.,* 1995
2.	*Cedrus deodara* (Roxb.) G.Don	Amarkantak	T	Planted	Tiwari *et al.,* 1995
3.	*Juniperus* sp.	Amarkantak	T	Planted	Tiwari *et al.,* 1995
4.	*Pinus caribaea* Morelet	Amarkantak	T	Planted But no fruiting	Prasad & Danayak,1992; Tiwari *et al.,* 1995
5.	*Pinus elliotti* Engelm.	Amarkantak	T	Planted	Prasad & Danayak, 1992; Tiwari *et al.,* 1995
6.	*Pinus gregaii* Engelm.	Amarkantak,	T	Planted	Tiwari *et al.,* 1995
7.	*Pinus kesiya* Royle ex Gord.	Amarkantak,	T	Planted	Prasad & Danayak, 1992; Singh *et al*., 2001; Tiwari *et al.,* 1995
8.	*Pinus montezumae* Shaw	Amarkantak,	T	Planted	Tiwari *et al.,* 1995
9.	*Pinus oocarpa* Schiede	Amarkantak,	T	Planted	Prasad & Danayak,1992; Tiwari *et al.,*1995
10.	*Pinus patula* Schlecht. & Cham.	Amarkantak,	T	Planted	Prasad & Danayak,1992;

					Singh *et al*., 2001; Tiwari *et al.,*1995
11.	*Pinus ponderosa* Laws.	Amarkantak,	T	Planted	Tiwari *et al.,* 1995
12.	*Pinus pseudostrobus* Lindl.	Amarkantak,	T	Planted	Prasad & Danayak,1992; Tiwari *et al.,* 1995
13.	*Pinus roxburghii* Sarg.	Amarkantak, Lamni	T	Planted	Prasad & Danayak,1992; Saxena, 1970; Singh *et al*.,2001; Tiwari *et al.,*1995
14.	*Pinus serotina* Michx.	Amarkantak,	T	Planted	Tiwari *et al.,* 1995
15.	*Taxodium* sp.	Amarkantak,	T	Planted	Tiwari *et al.,* 1995
16.	*Thuja orientalis* L.	Amarkantak	Ornamental	Planted	Saxena, 1970; Tiwari *et al.,*1995

* T= Timber

e. Angiosperms: The angiosperms are flowering plants having seeds protected within fruits. They are divided into two classes called dicotyledoneae (having two cotyledons) and monocotyledoneae (having one cotyledon).

Dicot Plants: In all, 794 dicotyledonous angiosperms have been reported from Achanakmar-Amarkantak BR by various authors. The synonyms of the species, their distribution in BR, uses, status are detailed in the following table 5.

Table: 5 Different species of dicotyledonous flora reported from Achanakmar – Amarkantak Biosphere Reserve

S. N.	Name of Species	Distribution in BR	Uses*	Status**	References
Fam: Acanthaceae					
1.	*Adhatoda zeylanica* Medic. (syn. *A. vasica* Nees)	Amarkantak	M, Ms, O	C	Mudgal *et al.,*1997; Murti & Panigrahi,1999; Saxena,1970; Tiwari *et al.,*1995

2.	*Andrographis paniculata* (Burm.f.) Wall. ex Nees	Achanakmar, Lamni	M	VU	Mudgal *et al.,*1997; Murti & Panigrahi,1999; Prasad & Pandey, 1993; Tiwari *et al.,* 1995; Ved *et al*., 2003
3.	*Barleria cristata* L.	Amarkantak, Khondra	M	C	Mudgal *et al.,*1997; Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,* 1995
4.	*Barleria gibsoni* Dalzell	Keonchi, Khuria	M	C	Tiwari *et al.,* 1995
5.	*Barleria prionitis* L.	Khondra	M	C	Mudgal *et al.,*1997; Murti & Panigrahi, 1999
6.	*Barleria strigosa* Willd.	Amarkantak	-	C / R	Mudgal *et al.,*1997; Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,* 1995
7.	*Blepharis maderas-patensis* (L.) Heyne ex Roth	Katghora, Keonchi	-	C	Mudgal *et al.,*1997; Murti & Panigrahi,1999; Tiwari *et al.,*1995
8.	*Blepharis repens* (Vahl) Roth	Kota	-	R	Mudgal *et al.,*1997; Murti & Panigrahi, 1999
9.	*Carvia callosa* (Nees) Bremek. (syn. S*trobilanthes callosa* Nees)	Amarkantak	F	C	Mudgal *et al.,*1997; Saxena, 1970; Tiwari *et al.,* 1995
10.	*Dicliptera verticiliata* (Forssk.) C. Christensen	Khuria	-	C	Mudgal *et al.,*1997; Murti & Panigrahi, 1999
11.	*Dipteracanthus beddomei* (C.B.Cl.) Sant.	Amarkantak, Keonchi	Ms	R	Saxena, 1970; Tiwari *et al.,*1995
12.	*Dipteracanthus prostratus* (Poir.) Nees	Lamni, Pali	M	C	Mudgal *et al.,*1997; Murti & Panigrahi, 1999
13.	*Dipteracanthus suffruticosus* (Roxb.) Voigt	Pasan, Pasarkhet	-	C	Mudgal *et al.,*1997; Murti & Panigrahi, 1999
14.	*Dyschoriste nagchana* (Nees) Bennet (syn *Dyschoriste erecta* (Burm.f.) O.Ktze.)	Amarkantak, Khuria	F, M	R	Mudgal *et al.,*1997; Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,* 1995
15.	*Eranthemum purpurascens* Wight ex Nees	Achanakmar, Amarkantak, Khondra, Kabirchabutra, Lamni	M	C	Mudgal *et al.,*1997; Murti & Panigrahi,1999; Saxena,1970; Tiwari *et al.,*1995

16.	*Gendarussa vulgaris* Nees	Lainga	M	Cultiv-ated	Mudgal *et al.,*1997; Murti & Panigrahi, 1999
17.	*Hemigraphis latebrosa* (Heine ex Roth) Nees	Achanakmar, Amarkantak, Kabirchabutra, Katghora	-	R	Mudgal *et al.,*1997; Murti & Panigrahi,1999; Saxena, 1970
18.	*Hygrophila auriculata* (Schum.) Heine (syn. *Asteracantha longifolia* (L.) Nees)	Achanakmar, Amarkantak, Katghora, Keonchi, Lamni	-	R	Mudgal *et al.,*1997; Saxena, 1970; Tiwari *et al.,* 1995
19.	*Hygrophila balsamica* (L.f.) Raf.		-	R	Mudgal *et al.,*1997; Tiwari *et al.,* 1995
20.	*Hygrophila incana* Nees	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,* 1995
21.	*Hygrophila polysperma* T. And.	Amarkantak	-	C	Mudgal *et al.,*1997; Murti & Panigrahi,1999; Saxena,1970; Tiwari *et al.,*1995
22.	*Hygrophila schulli* (Schum & Heiner.) M.R. & S.M. Almeida	Achanakmar, Katghora, Keonchi, Lamni	-	C	Murti & Panigrahi, 1999
23.	*Indoneesiella echioides* (L.) Sreem.	Katghora, Madai	-	C	Mudgal *et al.,*1997; Murti & Panigrahi, 1999
24.	*Justicia betonica* L.	Amarkantak, Keonchi, Khuria	M	C	Mudgal *et al.,*1997; Panigrahi & Murti,1989; Saxena,1970; Tiwari *et al.,* 1995
25.	*Justicia diffusa* Willd.		F	C	Tiwari *et al.,* 1995
26.	*Justicia quinqueangularis* Koen. ex Roxb.	Amarkantak	-	C	Mudgal *et al.,*1997; Saxena, 1970; Tiwari *et al.,* 1995
27.	*Justicia simplex* D. Don	Amarkantak, Khudia, Lamni, Sarasdol	-	C	Mudgal *et al.,*1997; Chaubey *et al*., 2003; Saxena, 1970
28.	*Lepidagathis cristata* Willd.	Katghora	-	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Tiwari *et al.,* 1995
29.	*Lepidagathis hamiltoniana* Wall ex Nees	Achanakmar	M	C	Murti & Panigrahi 1999
30.	*Lepidagathis incurva* Buch.-Ham. ex D.Don	Amarkantak, Lamni	M	C	Mudgal *et al.,*1997; Saxena, 1970; Murti & Panigrahi 1999; Tiwari *et al.,* 1995

31.	*Lepidagathis purpuricaulis* Nees	Kabirchabutra	M	R	Mudgal *et al.,*1997; Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,* 1995
32.	*Lepidagathis trinervis* Wall ex Nees	Katghora	M	C	Mudgal *et al.,*1997; Murti & Panigrahi, 1999
33.	*Nelsonia canescens* (Lam.) Spreng.	Amarkantak, Kabirchabutra, Katghora, Khondra	F, Ms	C / R	Mudgal *et al.,*1997; Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,* 1995
34.	*Perilepta auriculata* (Nees) Bremek. (syn. *Perilepta edgeworthiana* (Nees) Bremek. ; *Strobilanthes edgeworthiana* Nees)	Amarkantak, Palmi	O, M	C	Mudgal *et al.,*1997; Saxena, 1970; Tiwari *et al.,* 1995
35.	*Peristrophe paniculata* (Forssk.) Brummit	Palmi	-	C	Mudgal *et al.,*1997; Murti & Panigrahi, 1999
36.	*Petalidium barlerioides* (Roth) Nees	Amarkantak, Khondra	-	R	Mudgal *et al.,*1997; Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,* 1995
37.	*Ruellia tuberosa* L.	-	M	R	Saxena, 1970; Tiwari *et al.,* 1995
38.	*Rungia pectinata* (L.) Nees	Amarkantak	M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
39.	*Rungia repens* (L.) Nees	Kabirchabutra, Katghora, Keonchi, Korbi	M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Tiwari *et al.,* 1995
40.	*Thunbergia fragrans* Roxb.	Achanakmar, Amarkantak, Kabirchabutra	Ms	R	Mudgal *et al.,*1997; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Amaranthaceae					
41.	*Achyranthus aspera* L.	Amarkantak, Chada, Kabirchabutra, Khudia Lamni, Sarasdol	F, M, Ms	C	Chaubey *et al.*, 2003; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
42.	*Achyranthus bidentata* Bl.	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,* 1995
43.	*Aerva lanata* (L.) Juss.	Belghana, Kalidongri	M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
44.	*Aerva monsonia* (L.f.) Mart.		M	C	Murti & Panigrahi 1999

45.	*Aerva sanguinolenta* (L.) Bl.	Achanakmar, Amarkantak, Kabirchabutra, Lamni	M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
46.	*Allmania nodiflora* (L.) R.Br. ex Wt.	Pasan, Pasarkhet	-	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999
47.	*Alternanthera pungens* Kunth	Amarkantak	-	R	Mudgal *et al.,*1997; Saxena, 1970; Tiwari *et al.,* 1995
48.	*Alternanthera sessilis* (L.) R.Br. ex DC.	Amarkantak	F, M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
49.	*Amaranthus caudatus* L.	Amarkantak, Kabirchabutra	-	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
50.	*Amaranthus hybridus* L. ssp. *incurvatus* (Gren. & Godr.) Brenan var. *paniculatus* (L.) Mansf.	Amarkantak	F	C	Mudgal *et al.,*1997; Saxena, 1970; Tiwari *et al.,* 1995
51.	*Amaranthus spinosus* L.	Achanakmar, Amarkantak, Kabirchabutra	-	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena,1970; Tiwari *et al.,* 1995
52.	*Amaranthus tricolor* L.	Amarkantak, Belghana, Lamni, Pasan, Pasarkhet	F	R	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena,1970; Tiwari *et al.,* 1995
53.	*Amaranthus viridis* L. (syn. *Amaranthus gracilis* Desf.)	Pasarkhet	F, M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Tiwari *et al.,* 1995
54.	*Celosia argentea* L.	Achanakmar, Amarkantak, Khootaghat	F, M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
55.	*Gomphrena celosioides* Mart.	Amarkantak, Khuria, Marwahi	F, M	R	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Anacardiaceae					
56.	*Anacardium occidentale* L.		F, D, O, T	Cultiv-ated	Tiwari *et al.,* 1995; Verma *et al*., 1993
57.	*Buchanania lanzan* Spreng.	Amarkantak, Katghora, Khudia, Lamni,	F, M, Ms, O, T	C, NT	Chaubey *et al.*, 2003; Mudgal *et al.,*1997; Panigrahi & Murti,1989; Prasad & Pandey, 1987;

		Pasan, Sarasdol			Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003; Verma *et al*., 1993
58.	*Lannea coromandelica* (Houtt.) Merr. (syn. *Lannea grandis* (Dennst.) Engl.)	Amarkantak, Katghora, Khuria, Lamni, Sarasdol	D, T	C	Chaubey *et al.*, 2003; Panigrahi & Murti, 1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma et al., 1993
59.	*Mangifera indica* L.	Amarkantak, Kabirchabutra, Khondra, Lamni	M, F	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1993; Saxena, 1970; Tiwari *et al.,* 1995
60.	*Semecarpus anacardium* L.f.	Achanakmar, Katghora, Lamni, Marwahi, Pasankhet	F, Fb, M, T	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Tiwari *et al.,*1995 ; Verma *et al*., 1993
61.	*Spondias pinnata* (L.f.) Kurz	Khondra,	F, M, T	R	Panigrahi & Murti,1989; Verma *et al*., 1993
Fam: Annonaceae					
62.	*Annona squamosa* L.	Amarkantak, Marwahi	F,O	Plan-ted	Panigrahi & Murti 1989, Prasad *et al,* 1988; Tiwari *et al.*,1995; Verma *et al.,*1993
63.	*Miliusa tomentosa* (Roxb.) J. Sinclair. (syn. *Saccopetalum tomentosum* (Roxb.) Hook.f. & Thoms.)	Khudia, Lamni, Sarasdol	Ms, F	C	Chaubey *et al.*,2003 ; Panigrahi & Murti,1989; Verma *et al.,*1993
64.	*Miliusa velutinum* (Dunal) Hook.f. & Thoms.	Pali	M, F, Ms	C	Panigrahi & Murti,1989; Verma *et al.,*1993
65.	*Polyalthia longifolia* (Sonner.) Thw.	-	T	C	Tiwari *et al*.,1995; Verma *et al.,*1993
Fam: Apiaceae					
66.	*Bupleurum ramosissimum* W. & A. var. *wightii* (P. K. Mukh.) Bennet (syn. *Bupleurum wightii* Mukh.; *Bupleurum mucronatum* W. & A.)	Amarkantak	M	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,*1995; Verma *et al*., 1993
67.	*Centella asiatica* (L.) Urban	Amarkantak, Kabirchabutra, Lamni	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993

68.	*Hydrocotyle sibthorpioides* Lam.	Amarkantak	M	R	Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
69.	*Oenanthe javanica* (Bl.) DC. (syn. *Oenanthe stolonifera* DC.)	Amarkantak	F, O	R	Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
70.	*Peucedanum dhana* Buch-Ham. var. *dalzellii* C.B.Cl.	Amarkantak	M	C	Khanna *et al*., 2001; Tiwari *et al.,* 1995
71.	*Peucedanum nagpurense* Prain	Achanakmar, Amarkantak	M	VU	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003; Verma *et al.,*1993
72.	*Pimpinella bracteata* Haines	Amarkantak	M	C	Tiwari *et al.,* 1995; Saxena, 1970
73.	*Pimpinella diversifolia* DC.	-	-	-	Tiwari *et al.,* 1995; Verma *et al*., 1993
74.	*Pimpinella heyneana* (DC.) Benth.	Amarkantak	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
75.	*Pimpinella wallichiana* (Hoeck.) Gandhi (syn. *Pimpinella monoica* Dalz.)	Amarkantak	F, M	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
76.	*Trachyspermum stictocarpum* (C.B.Cl.) Wolff	-	F, M	C	Tiwari *et al.,* 1995
Fam: Apocynaceae					
77.	*Carissa carandas* L.	Kabirchabutra, Pasan, Semra	F, M, Ms	Cultiva-ted,	Mudgal *et al*., 1997; Panigrahi & Murti, 1989
78.	*Carissa opaca* Stapf ex Haines (syn. *Carissa spinarum* L.)	Amarkantak, Kabirchabutra, Lamni, Marwahi, Pasan	F, M, Ms	C	Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995
79.	*Catharanthus pusilus* (Murr.) G. Don	Pasarkhet, Siang	M	C	Verma *et al*., 2001; Panigrahi & Murti, 1989
80.	*Catharanthus roseus* (L.) G. Don	Amarkantak	M	Planted	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
81.	*Holarrhena pubescens* (Buch.-Ham.) Wallich. *ex* G. Don (syn. *Holarrhena antidysenterica* Wall.)	Amarkantak, Korbi, Khudia, Pasan,	M, T	C / R	Chaubey *et al.*, 2003; Mudgal *et al*., 1997; Panigrahi & Murti, 1981 Saxena,1970; Tiwari *et al.,* 1995

82.	*Ichnocarpus frutescens* (L.) R.Br.	Khondra, Khuria, Sarasdol	M, Ms	C	Chaubey *et al*., 2003; Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Mudgal *et al*., 1997
83.	*Nerium indicum* Mill. (syn. *Nerium odorum* Sol.)	Amarkantak, Kabirchabutra	M, O	Planted	Chaubey *et al*., 2003; Mudgal, *et al*., 1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
84.	*Plumeria rubra* L.	-	M, T	C	Mudgal *et al*., 1997; Tiwari *et al.,* 1995
85.	*Rauvolfia serpentina* (L.) Benth. *ex* Kurz	Amarkantak	M	CR	Tiwari *et al.,* 1995; Ved *et al*., 2003
86.	*Tabernaemontana divaricata* (L.) R. Br.	Amarkantak		Planted	Saxena, 1970; Tiwari *et al., 1*995
87.	*Thevetia peruviana* (Pers.) K.Schum.	Amarkantak, Marwahi	M	Planted	Mudgal *et al*., 1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Aristolochiaceae					
88.	*Aristolochia bracteolata* Lam.		M	C	Tiwari *et al.,* 1995
Asclepiadaceae					
89.	*Calotropis gigantea* (L.) R.Br.	Khondra, Lamni	Fb, O	C	Mudgal *et al*., 1997; Panigrahi & Murti,1989; Tiwari *et al.,* 1995
90.	*Calotropis procera* (Ait.) R.Br.	Amarkantak, Palmi	Fb, M	C / R	Mudgal *et al*., 1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
91.	*Ceropegia hirsuta* Wight & Arn.	Amarkantak,	M	R	Saxena, 1970; Tiwari *et al.,*1995
92.	*Cryptolepis buchnanii* R.& S.	Amarkantak, Kabirchabutra, Marwahi, Pasan	Fb, M	R	Mudgal *et al*., 1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
93.	*Gymnema sylvestre* (Retz.) R. Br. *ex* Schult.	Marwahi, Pasan	M, Ms	VU	Mudgal *et al*., 1997; Panigrahi & Murti,1989; Ved *et al*., 2003
94.	*Hemidesmus indicus* (L.) Schult.	Amarkantak, Keonchi, Khudia, Lamni	M	C	Chaubey *et al*., 2003; Mudgal, *et al*., 1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
95.	*Leptadenia reticulata* (Retz.) Wight & Arn.	Pasan, Pendra	M	C	Mudgal *et al*., 1997; Panigrahi & Murti, 1989

96.	*Marsdenia tenacissima* (Roxb.) Moon.	Khuria	Fb	C	Mudgal *et al*., 1997; Panigrahi & Murti,1989; Tiwari *et al.,* 1995
97.	*Pergularia daemia* (Forssk.) Choiv.	-	F, M	C	Mudgal *et al*., 1997; Panigrahi & Murti,1989; Tiwari *et al.,* 1995
98.	*Tylophora rotundifolia* Buch. - Ham. ex Wight	Pasarkhet	M	C	Mudgal *et al*., 1997; Panigrahi & Murti, 1989
99.	*Wattakaka volubilis* (L.f.) Stapf		M	C	Mudgal *et al*., 1997; Tiwari *et al.,* 1995
Fam: Asteraceae					
100.	*Acanthospermum hispidum* DC.	Amarkantak, Katghora, Pasan	M, O	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
101.	*Adenostemma angustifolium* Arn. (syn. *A. viscosum* Forst.)	-	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
102.	*Adenostemma lavenia* (L.) O. Ktze.	Amarkantak, Kabirchabutra	M	R	Panigrahi & Murti,1989 Tiwari *et al.,* 1995
103.	*Ageratum conyzoides* L.	Chada, Kabirchabutra, Katghora, Khondra, Khudia, Sarasdol	M, O	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
104.	*Ageratum houstonianum* Mill.	Amarkantak	O	C	Saxena, 1970; Tiwari *et al.,*1995
105.	*Amberboa ramosa* (Roxb.) Jafri	Aurapani	M	C	Panigrahi & Murti, 1989
106.	*Anaphalis sp.*	-	M	-	Tiwari *et al.,* 1995
107.	*Artemisia parviflora* Buch.-Ham. *ex* Roxb.	Amarkantak	M	R	Saxena, 1970
108.	*Bidens biternata* (Lour.) Merr. & Sheriff (syn. *Bidens pilosa* L.)	Amarkantak, Pendra	F, M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
109.	*Blainvillea acmella* (L.) Philipson	Amarkantak, Katghora	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
110.	*Blumea bifoliata* DC.	Amarkantak, Parasi	O	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993

111.	*Blumea eriantha* DC.	Achanakmar	O	R	Panigrahi & Murti,1989; Verma *et al*., 1993
112.	*Blumea fistulosa* (Roxb.) Kurz	Chauradadar, Kabirchabutra, Pasan, Semra	O	C	Panigrahi & Murti,1989; Verma, *et al*., 1993
113.	*Blumea lacera* (Burm.f.) DC.	Amarkantak	M, O	R	Saxena, 1970; Tiwari *et al.,* 1995
114.	*Blumea laciniata* (Roxb.) DC.	Amarkantak, Kabirchabutra, Keonchi, Pendra	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
115.	*Blumea membranacea* DC. var. *jacquemontii* (Hook.f.) Randeria	Chauradadar, Kabirchabutra	-	C	Panigrahi & Murti,1989; Verma *et al*., 1993
116.	*Blumea mollis* (D.Don) Merr.	Lamni, Keonchi, Pendra	-	C	Panigrahi & Murti,1989; Verma *et al*., 1993
117.	*Blumea oxydonta* DC.	Amarkantak, Kabirchabutra, Katghora, Keonchi	-	C / R	Saxena,1970; Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*., 1993
118.	*Blumea virens* DC.	Amarkantak,	-	-	Saxena,1970
119.	*Blumea flava* (DC.) Gagnep.	Amarkantak, Lafa, Madai, Pasan	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.* 1995; Verma *et al*., 1993
120.	*Caesulia axillaris* Roxb.	-	-	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995
121.	*Carthamus tinctorius* L.	Khondra	O	Cultiv-ated	Khanna *et al*., 2001; Panigrahi & Murti, 1989
122.	*Centipeda minima* (L.) A. Br. & Aschers.	Amarkantak, Kudmura, Marwahi	M, O	C	Saxena, 1970; Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al*., 1993
123.	*Centrantherum anthelmin-ticum* (Willd.) O. Ktze.	Amarkantak, Pasarkhet	M, O	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
124.	*Chrysanthellum americanum* (L.) Vatke	-	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
125.	*Chrysanthemum indicum* L.	Amarkantak	-	Planted	Khanna *et al*., 2001; Panigrahi & Murti,1989; Saxena, 1970;

126.	*Conyza bonariensis* (L.) Cronquist (syn. *Erigeron bonariensis* L.)	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
127.	*Conyza canadensis* (L.) Cronquist	Amarkantak	-	R	Saxena, 1970
128.	*Conyza japonica* Less.	Amarkantak	-	R	Saxena, 1970; Verma *et al*., 1993
129.	*Conyza leucantha* (D. Don) Ludlow & Raven	Kabirchabutra, Lamni	-	C	Panigrahi & Murti,1989; Verma, *et al*., 1993
130.	*Conyza stricta* Willd.	Amarkantak	-	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
131.	*Conyza viscidula* Wall	Amarkantak, Kabirchabutra, Lamni	-	R	Saxena, 1970; Tiwari *et al.,* 1995
132.	*Cosmos bipinnatus* Cav.	Amarkantak	O	C	Saxena, 1970; Tiwari *et al.,* 1995
133.	*Cosmos sulphureus* Cav.	Amarkantak, Kabirchabutra, Khondra, Pasan	Ms	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
134.	*Crassocephalum crepidioides* (Benth.) S. Moore	Kabirchabutra, Pendra	-	R	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*., 1993
135.	*Launaea acaulis* (Roxb.) Babc. ex Kerr (syn. *Crepis acaulis* Hook.f.)	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
136.	*Cyathocline purpurea* (Buch.-Ham. *ex* D. Don) O. Ktze.	Amarkantak, Kabirchabutra, Lamni	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
137.	*Dicrocephala integrifolia* (L.f) Kuntze	Amarkantak, Kabirchabutra	-	C / R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma, *et al*., 1993
138.	*Eclipta prostrata* (L.) L.	Achanakmar, Amarkantak, Katghora, Lamni	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
139.	*Elepthantopus scaber* L.	Achanakmar, Amarkantak, Amadoh, Chada, Katghora, Khudia, Lamni	M	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena,1970; Tiwari *et al.,*1995

140.	*Emilia sonchifolia* (L.) DC.	Amarkantak, Katghora, Pali, Parasi, Pasan	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
141.	*Galinsoga parviflora* Cav.	Amarkantak	F	C	Saxena, 1970; Tiwari *et al.,* 1995
142.	*Glossocardia bosvallea* (L.f.) DC.	Madai	F	C	Panigrahi & Murti,1989; Verma *et al*., 1993
143.	*Gnaphalium affine* D. Don (syn. *G. luteo-album* L. ssp. *affine* (D.Don) J. Kost.)	Amarkantak, Lamni	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
144.	*Gnaphalium pennysylvani-cum* Willd. (syn. *G. purpureum* L.)	Amarkantak	M	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
145.	*Gnaphalium polycaulon* Pers. (syn.*G. indicum* auct. non L.) Hook. f.	Amarkantak	F	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
146.	*Grangea maderaspatana* (L.) Poir.	Khuria	-	C	Panigrahi & Murti,1989; Verma *et al*., 1993
147.	*Guizotia abyssinica* (L.f.) Cass.	Amarkantak, Pasarkhet	F, M, O	Cultiv-ated	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995, Verma *et al*., 1993
148.	*Lagascea mollis* Cav.	Amarkantak, Kabirchabutra, Khondra, Lamni	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
149.	*Laggera alata* (D.Don) Schultz-Bip. *ex* Oliv.	Kabirchabutra	M, O	C	Panigrahi & Murti,1989; Verma *et al*.,1993
150.	*Laggera crispa* (Vahl) Hepper &Wood (syn. *Laggera pterodonta* (DC.) Schultz.- Bip. *ex* Oliv.)	Amarkantak	M	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*.,1993
151.	*Launaea asplenifolia* (Willd.) Hook.f.	-	-	-	Tiwari *et al.,* 1995; Khanna *et al.,* 2001
152.	*Launaea nudicaulis* Hook.f.	Amarkantak	F, Ms	R	Saxena, 1970
153.	*Pentanema cernua* (Dalz.) Ling	-	-	C	Saxena, 1970
154.	*Pentanema indicum* (L.) Ling (syn. *Vicoa indica* (L.) DC.)	Amarkantak	F, M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma, *et al.,* 1993
155.	*Pulicaria crispa* Sch.-Bip.	Amarkantak	F, M	C	Saxena, 1970
156.	*Pulicaria foliolosa* DC.	Amarkantak, Khuria	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993

157.	*Senecio nudicaulis* Buch.-Ham. ex D. Don	Amarkantak	M	C	Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
158.	*Siegesbeckia orientalis* L.	Amarkantak, Kabirchabutra, Lamni	M, O	C / R	Panigrahi & Murti, 1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
159.	*Sonchus asper* (L.) Hill.	Achanakmar Amarkantak	F, M	C	Saxena, 1970; Tiwari *et al.,* 1995
160.	*Sonchus brachyotus* DC.	Achanakmar, Amarkantak, Kabirchabutra	M, O	C	Saxena, 1970; Tiwari *et al.,* 1995
161.	*Sonchus oleraceus* L.	Amarkantak	M, O	R	Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
162.	*Sonchus wightianus* DC.	Achanakmar, Kabirchabutra	-	C	Panigrahi & Murti,1989; Shrivastava, 1986; Tiwari *et al.,* 1995; Verma *et al*., 1993
163.	*Sphaeranthus indicus* L.	Katghora	M, O	C	Panigrahi & Murti,1989
164.	*Spilanthes paniculata* Wall ex DC.	Amarkantak, Khondra, Khuria	M, Ms	C / R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
165.	*Tegetes erecta* L.	-	-	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*., 1993
166.	*Tridax procumbens* L.	Amarkantak, Pasan	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
167.	*Vernonia aspera* Buch.-Ham. (syn. *Vernonia roxburghii* Less.; *Vernonia pyramidale* (D.Don) Mitra)	Achanakmar, Katghora, Kenda, Madai	-	R	Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
168.	*Vernonia cinerea* (L.) Less.	Amarkantak, Kabirchabutra, Marwahi, Pasarkhet	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
169.	*Vernonia divergens* (Roxb.) Edgew.	Amarkantak, Kabirchabutra Keonchi	-	C	Panigrahi & Murti, 1989 Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
170.	*Vernonia squarrosa* (D.Don) Less.	-	-	-	Tiwari *et al.,*1995
171.	*Wedelia urticaefolia* DC. var. *wightii* DC.	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,* 1995

172.	*Xanthium indicum* Koen. ex Roxb. (syn. *Xanthium strumarium* L.)	Amarkantak	F, M, Ms, O	C	Panigrahi & Murti, 1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
173.	*Youngia japonica* (L.) DC.	Amarkantak, Kabirchabutra	Ms, O	C	Panigrahi & Murti, 1989 Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
174.	*Zinnia elegans* Jacq.		Ms, O	C	Khanna et al., 2001; Tiwari *et al.,*1995
Fam: Balsaminaceae					
175.	*Impatiens balsamina* L.	Amarkantak	F, O, M	C	Panigrahi & Murti, 1989 Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
Fam: Begoniaceae					
176.	*Begonia picta* Sm.	Amarkantak, Madai	Ms	C	Panigrahi & Murti, 1989 Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
Fam: Bignoniaceae					
177.	*Oroxylum indicum* (L.) Vent.	Amarkantak	F, M	VU	Mudgal, *et al*., 1997; Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003
178.	*Radermachera xylocarpa* (Roxb.) K.Schum.	Amarkantak	M, T	C / R	Mudgal, *et al*., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
179.	*Stereospermum chelonoides* (L.f.) DC. (syn.*Stereospermum suaveolens* DC.)	Achanakmar, Amarkantak, Katghora, Khondra, Lamni	M, T	C / R, NT	Mudgal, *et al*., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003
180.	*Stereospermum colais* (Dillwyn) Mabberley (syn. *Stereospermum personatum* (Hassk.) Chaterjee)	Khudia, Lamni, Sarasdol	M, T	C	Chaubey *et al*., 2003 ; Murti & Panigrahi 1999; Tiwari *et al.,* 1995 Mudgal, *et al*., 1997
Fam: Bixaceae					
181.	*Bixa orellana* L.	Amarkantak	D	C	Panigrahi & Murti, 1989 Saxena, 1970; Tiwari *et al*.,1995; Verma *et al*., 1993

Fam: Bombacaceae					
182.	*Bombax ceiba* L.	Amarkantak, Lamni, Sarasdol	Ms	R	Chaubey *et al.*, 2003; Panigrahi & Murti, 1989 Saxena, 1970; Tiwari *et al.,*1995; Verma *et al*.,1993
Fam: Boraginaceae					
183.	*Coldenia procumbens* L.	Katghora, Khuria, Marwahi	M	C	Mudgal, et al., 1997; Panigrahi & Murti, 1989
184.	*Cordia dichotoma* G. Forst.	Amarkantak	F, M, T	R	Saxena, 1970; Tiwari *et al.,* 1995
185.	*Cordia macleodii* (Griff.) Hook.f. & T. Thoms.	Katghora	M, T	R	Mudgal, *et al*., 1997; Panigrahi & Murti, 1989
186.	*Cynoglossum lanceolatum* Forsk.	Achanakmar, Amarkantak, Lamni	M	C	Mudgal, *et al*., 1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
187.	*Ehretia laevis* Roxb.	Khuria	M	R	Mudgal *et al*., 1997; Panigrahi & Murti,1989; Tiwari *et al.,* 1995
188.	*Heliotropium indicum* L.	Khuria	M	C	Mudgal et al., 1997; Panigrahi & Murti,1989;
189.	*Heliotropium ovalifolium* Forssk.	Khuria, Marwahi, Parasi	M	C	Mudgal *et al*., 1997; Panigrahi & Murti,1989; Tiwari *et al.,* 1995
190.	*Heliotropium strigosum* Willd.	Marwahi	M	*C*	Mudgal *et al*., 1997; Panigrahi & Murti, 1989
191.	*Rotula aquatica* Lour.	Katra, Kota, Khootghat	M	C	Mudgal *et al*., 1997; Panigrahi & Murti, 1989
192.	*Trichodesma indicum* (L.) R. Br. *ex* Lehm.	Amarkantak, Katghora, Lamni	F, M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
193.	*Trichodesma zeylanicum* (Burm.f.) R.Br.	Tehrapani	M, O	C	Mudgal *et al*., 1997; Panigrahi & Murti, 1989
Fam: Brassicaceae					
194.	*Brassica juncea* (L.) Czern. & Coss.	Amarkantak	M, F	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al*.,1995; Verma *et al*., 1993
195.	*Brassica napus* L.	Amarkantak	F	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al*.,1995; Verma *et al*., 1993

196.	*Brassica rapa* L. ssp. *campestris* (L.) Clapham var. *campestris* (syn. *Brassica campestris* L.)	Achanakmar, Katghora	O,M	Cultiv-ated	Panigrahi & Murti,1989; Saxena, 1970
197.	*Brassica rapa* L. ssp. *campestris* (L.) Clapham var. *sarson* Prain	Amarkantak, Katghora	O,M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al*.,1995
198.	*Lepidium sativum* L.	Kabirchabutra	F,M, O	R	Panigrahi & Murti,1989; Verma *et al*., 1993
199.	*Raphanus sativus* L.	Amarkantak	F,M	Cultiv-ated	Saxena, 1970; Tiwari *et al*.,1995
200.	*Rorippa indica* (L.) Hiern	Ratanpur	F, M, Ms	C	Panigrahi & Murti,1989; Verma *et al*., 1993
Fam: Buddlejaceae					
201.	*Buddleja asiatica* Lour.	Achanakmar, Amarkantak	F	C	Mudgal *et al*., 1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Burseraceae					
202.	*Boswellia serrata* Roxb. ex Collebr.	Amarkantak	F, O, T	VU	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003
203.	*Bursera serrata* Wall. ex Colebr.	Amarkantak	O	C / R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
204.	*Garuga pinnata* Roxb.	Amarkantak, Kabirchabutra, Keonchi, Lamni, Sarasdol	M, T	C / R	Chaubey *et al*., 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995;
Fam: Cactaceae					
205.	*Opuntia elatior* Mill.	Amarkantak	F, Fb, M	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*., 1993
206.	*Opuntia vulgaris* Mill. (syn. *Opuntia monacantha* (Willd.) Haw.)	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,* 1995
Fam: Caesalpiniaceae					
207.	*Bauhinia malabarica* Roxb.	Amarkantak, Kabirchabutra, Khondra, Khudia, Lamni, Sarasdol	F, M	C	Chaubey *et al*., 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Tiwari *et al.,* 1995; Verma *et al*., 1993

208.	*Bauhinia purpurea* L.	Kota	M,M, O	C	Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al*., 1993
209.	*Bauhinia racemosa* Lam.	Achanakmar	Fb, M	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*., 1993
211.	*Bauhinia semla* Wunderlin (syn. *Bauhinia retusa* Buch.-Ham. ex Roxb.)	Amarkantak Kabirchabutra, Khondra	Ms, T	C	Saxena, 1970; Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*., 1993
212.	*Bauhinia vahlii* W. & A.	Achanakmar, Amarkantak, Amadob, Lamni, Kabirchabutra, Keonchi	F, Ms	C	Choubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987 & 1993; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
213.	*Bauhinia variegata* L.	Amarkantak, Khondra, Pendra, Panisemra	M,Ms O	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
214.	*Caesalpinia bonduc* (L.) Roxb.	Throughout the BR	M,Ms , T	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*., 1993
215.	*Caesalpinia decapetala* (Roth) Alston	Kabirchabutra, Marwahi	-	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*., 1993
216.	*Cassia absus* L.	Khondra	M, O	C	Panigrahi & Murti,1989; Verma *et al*., 1993
217.	*Cassia alata* L.	Katghora	M	R	Panigrahi & Murti,1989; Verma *et al*., 1993
218.	*Cassia auriculata* L.		M	-	Tiwari *et al.,* 1995
219.	*Cassia fistula* L.	Achanakmar, Khuria, Lamni	M, T	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995
220.	*Cassia mimosoides* L.	Amarkantak	-	R	Panigrahi & Murti,1989; Saxena,1970 ; Tiwari *et al.,* 1995
221.	*Cassia obtusifolia* L.	Ratanpur	M	C	Panigrahi & Murti,1989; Verma *et al*., 1993
222.	*Cassia occidentalis* L.	Achanakmar, Amarkantak, Kota	M	C	Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993

223.	*Cassia pumila* Lam.	Amarkantak, Madai	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
224.	*Cassia tora* L.	Achanakmar, Amarkantak, Pasan	F, M	C	Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
225.	*Tamarindus indica* L.	Mewahi, Achanakmar, Lamni	D, F, M, T	C	Panigrahi & Murti,1989; Prasad & Pandey, 1993; Saxena,1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
Fam: Campanulaceae					
226.	*Campanula benthamii* Wall ex Kitamura (syn. *Campanula wallichii* Babu)	Amarkantak, Kabirchabutra	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
227.	*Cephalostigma hookeri* C.B.Cl.	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,* 1995
228.	*Lobelia alsinoides* Lam.	Achanakmar, Keonchi, Pasan	M	C	Panigrahi & Murti,1989; Verma *et al*., 1993
229.	*Lobelia heyneana* R.& S.	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
230.	*Wahlenbergia erecta* (Roth ex Roem. & Schult.) Tuyn (syn. *Cephalostigma erectum* (Roth ex R. Br.) Vatke)	Amarkantak, Korbi	M	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
231.	*Wahlenbergia marginata* (Thunb.) DC.	Amarkantak, Pondu, Ratanpur	-	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
Fam: Capparaceae					
232.	*Capparis zeylanica* L. (syn. *C. horrida* L.f.)	Pali	F, M	C	Panigrahi & Murti,1989; Verma *et al*., 1993
233.	*Capparis decidua* (Forsk.) Edgew.	Amarkantak	-	-	Prasad *et al*, 1988 Panigrahi & Murti,1989
234.	*Cleome chelidonii* L.f.	Khuria	M	C	Panigrahi & Murti,1989
235.	*Cleome monophylla* L.	Katghora, Pasan, Pendra	M	C	Panigrahi & Murti,1989; Verma *et al*., 1993
236.	*Cleome viscosa* L.	Achanakmar, Lamni	M	C	Panigrahi & Murti,1989; Verma *et al*., 1993
Fam: Caricaceae					
237.	*Carica papaya* L.	Amarkantak	F, M, O	Planted	Panigrahi & Murti,1989; Saxena, 1970

Fam: Caryophyllaceae					
238.	*Drymaria cordata* (L.) Willd. ex Roem. & Schult.	Lamni	Ms	C	Panigrahi & Murti,1989; Verma *et al*., 1993
239.	*Polycarpaea corymbosa* (L.) Lam.	Pasan	M	C	Panigrahi & Murti,1989; Verma *et al*., 1993
240.	*Polycarpon prostratum* (Forsk.) Aschers. & Schweinf.	Katghora, Pasan	M	C	Panigrahi & Murti,1989; Verma *et al*., 1993
241.	*Polycarpaea aurea* (Wight) Wight & Arn.	Katghora	M	C	Panigrahi & Murti, 1989
Fam: Celastraceae					
242.	*Cassine glauca* (Rottb.) O. Kuntze (syn. *Elaeodendron glaucum* Pers.)	Amarkantak	Fb, T	R	Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
243.	*Celastrus paniculatus* Willd.	Amarkantak, Katghora, Keonchi, Khondra, Marwahi	M	VU	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003; Verma *et al*., 1993
Fam: Chenopodiaceae					
244.	*Chenopodium album* L.	Amarkantak, Khondra	F, M	Cultiv-ated	Mudgal *et al*., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Combretaceae					
245.	*Anogeissus latifolia* (Roxb. ex DC.)Wall ex Guill. & Pers.	Amarkantak, Khudia, Lamni, Pasan, Sarasdol	Ms,	C / R	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
246.	*Combretum nanum* Buch.-Ham. ex D.Don.	Amarkantak	-	R	Saxena,1970; Verma *et al*., 1993
247.	*Combretum roxburghii* Spreng.	Katghora, Kota, Lormi	Ms	C	Panigrahi & Murti,1989; Verma *et al*., 1993
248.	*Quisqualis indica* L.	Amarkantak	M,Ms, O	Planted	Panigrahi & Murti,1989; Tiwari *et al.,* 1995
249.	*Terminalia alata* Heyne ex Roth (syn. *Terminalia tomentosa* (Roxb. ex DC.) Wight & Arn.)	Amarkantak, Khudia, Lamni, Parasi, Sarasdol	D, M, T	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Tiwari *et al.,* 1995; Verma *et al*., 1993
250.	*Terminalia arjuna* (Roxb. ex DC.) Wight & Arn.	Amarkantak	D, M	NT	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Ved *et al*., 2003 Verma *et al*., 1993

251.	*Terminalia bellirica* (Gaertn.) Roxb.	Amarkantak	M, T	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*., 1993
252.	*Terminalia chebula* Retz.	Amarkantak, Kabirchabutra, Katghora, Khudia, Lamni, Marwahi, Sarasdol	M, O	VU	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003; Verma *et al*., 1993
Fam: Convolvulaceae					
253.	*Argyreia strigosa* (Roth) Sant. & Patel	Amarkantak, Kabirchabutra	F, Fb,	C / R	Mudgal *et al.,*1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
254.	*Cuscuta reflexa* Roxb.	Amarkantak	M	R	Saxena, 1970; Tiwari *et al.,* 1995
255.	*Erycibe paniculata* Roxb.	Katghora, Kota	F, M	C	Panigrahi & Murti,1989; Mudgal *et al.,*1997
256.	*Evolvulus alsinoides* (L.) L.	Achanakmar, Amarkantak, Lamni	M	C	Mudgal *et al.,*1997; Panigrahi & Murti,1989; Prasad & Pandey, 1993; Saxena, 1970; Tiwari *et al.,* 1995
257.	*Evolvulus nummularius* (L.) L.	Khondra, Khuria, Marwahi	M	C	Mudgal *et al.,*1997; Panigrahi & Murti,1989; Tiwari *et al.,*1995
258.	*Ipomoea aquatica* Forsk.	Amarkantak,	F, M	C	Mudgal *et al.,*1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
259.	*Ipomoea cairica* (L.) Sweet	Amarkantak, Champa	F, M	Plant-ed	Mudgal *et al.,*1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
260.	*Ipomoea carnea* Jacq. ssp. *fistulosa* (Mart. & Choisy) Austin	Belghana, Katghora, Khootaghat	M	C	Mudgal *et al.,*1997; Panigrahi & Murti,1989; Tiwari *et al.,*1995
261.	*Ipomoea eriocarpa* R. Br.	Amarkantak, Katghora	F, M	C / R	Mudgal *et al.,*1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
262.	*Ipomoea hederifolia* L.	Achanakmar, Amarkantak, Katghora, Lamni	M	C / R	Panigrahi & Murti,1989; Prasad & Pandey, 1993, Saxena, 1970; Tiwari *et al.,*1995

263.	*Ipomoea nil* (L.) Roth	Throughout the BR	M, O	C	Mudgal *et al.,*1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
264.	*Ipomoea obscura* (L.) Ker - Gawl.	Khuria, Lormi	M	C	Mudgal *et al.,*1997; Panigrahi & Murti, 1989
265.	*Ipomoea pes-tigridis* L.	Achanakmar, Khondra	M, Ms	C	Mudgal *et al.,*1997; Panigrahi & Murti, 1989
266.	*Ipomoea quamoclit* L.	Amarkantak	-	Plant-ed	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
267.	*Ipomoea sinensis* (Desr.) Choisy	Pasarkhet	-	R	Mudgal *et al.,*1997; Panigrahi & Murti, 1989
268.	*Merremia aegyptia* (L.) Urban	Pasan	F	C	Mudgal *et al.,*1997; Panigrahi & Murti, 1989
269.	*Merremia emarginata* (Burm.f.) Hall.f.	Khuria	M	C	Panigrahi & Murti, 1989
270.	*Merremia hederacea* (Burm.f.) Hall.f.	Khondra	M	C	Mudgal *et al.,*1997; Panigrahi & Murti, 1989
271.	*Merremia tridentata* (L.) H.Hailler ssp.*hastata* (Choisy) van Oostr.	Khootghat	M	C / R	Mudgal *et al.,*1997; Panigrahi & Murti, 1989
272.	*Operculina turpethum* (L.) Manso	Pali	M	R, NT	Mudgal *et al.,*1997; Panigrahi & Murti,1989; Ved *et al*., 2003
273.	*Porana paniculata* Roxb.	Amarkantak	Ms	Plant-ed	Saxena, 1970; Tiwari *et al.,* 1995
274.	*Porana racemosa* Roxb.	Amarkantak	Ms	R	Saxena, 1970; Tiwari *et al.,* 1995
Fam: Cornaceae					
275.	*Alangium salvifolium* (L.f.) Wang ssp. *salvifolium*	Katghora, Belghat	M	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,*1993
Fam: Crassulaceae					
276.	*Kalanchoe pinnata* (Lam.) Pers. (syn.*Bryophyllum calycinum* Salisb.)	Amarkantak, Lamni	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
Fam: Cucurbitaceae					
277.	*Coccinia grandis* (L.) Voigt	Neur	-	C	Panigrahi & Murti, 1989
278.	*Cucumis melo* L.	Amarkantak	F, M, O	Cultiv-ated	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
279.	*Cucumis sativus* L.	Amarkantak	M, Ms	Cultiv-ated	Saxena, 1970; Tiwari *et al.,* 1995

280.	*Cucumis setosus* Cogn.	Kota	-	C	Panigrahi & Murti,1989; Verma *et al.,*1993
281.	*Diplocyclos palmatus* (L.) Jaffery	Amarkantak	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
282.	*Luffa cylindrica* (L.) M.J.Roem.	Pendra	F, M, Ms	C	Panigrahi & Murti,1989; Verma *et al.,*1993
283.	*Melothria heterophylla* (Lour.) Cogn.	Amarkantak	F, M	C / R	Saxena, 1970; Panigrahi &Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,*1993
284.	*Melothria maderaspatana* (L.) Cogn.	Amarkantak, Keonchi	M	C / R	Panigrahi & Murti,1989; Saxena, 1970
285.	*Momordica dioica* Roxb. ex Willd.	-	F / M	C	Panigrahi & Murti, 1989
286.	*Trichosanthes bracteata* (Lam.) Voigt	Amarkantak	M	C	Saxena, 1970; Tiwari *et al.,* 1995
287.	*Trichosanthes cordata* Roxb.	Amarkantak	M	R	Saxena, 1970; Tiwari *et al.,* 1995
288.	*Trichosanthes cucumerina* L.	Amarkantak	F / M	C	Panigrahi & Murti,1989, Tiwari *et al.,* 1995; Verma *et al.,*1993
Dilleniaceae					
289.	*Dillenia aurea* Sm.	Lamni	Ms,M	R	Panigrahi & Murti,1989; Tiwari *et al*.,1995; Verma *et al.,*1993
Fam: Dipterocarpaceae					
290.	*Shorea robusta* Gaertn.f.	Amarkantak, Amadob, Chada, Keonchi, , Khudia, Lamni, Sarasdol	T	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Verma *et al.,*1993
Fam: Droseraceae					
291.	*Drosera burmanii* Vahl.	Amarkantak, Katghora, Keonchi	Ms	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
292.	*Drosera indica* L.	Amarkantak, Lamni	Ms	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
Fam: Ebenaceae					
293.	*Diospyros lancifolia* Roxb.	Pasan	F, M	R	Mudgal *et al.,*1997; Panigrahi & Murti, 1989
294.	*Diospyros malabarica* (Desr.) Kostel	-	-	-	Mudgal, *et al.,*1997; Tiwari *et al.,* 1995

295.	*Diospyros melanoxylon* Roxb.	Amarkantak, Amadoh, Katghora, Keonchi, Khudia,Lamni, Pasan,Semra,	F, M	C	Chaubey *et al.*, 2003; Mudgal, *et al.,*1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
296.	*Diospyros sylvatica* Roxb.	Kabirchabutra	F, Ms	C	Mudgal *et al.,*1997; Panigrahi & Murti,1989; Tiwari *et al.,* 1995
Fam: Elatinaceae					
297.	*Bergia ammannioides* Roxb.	Khondra	-	C	Panigrahi & Murti, 1989; Verma *et al.,*1993
Fam: Euphorbiaceae					
298.	*Acalypha ciliata* Forsk.	Khuria, Karidongri	M	C	Saxena, 1970; Murti & Panigrahi 1999; Tiwari *et al.,* 1995
299.	*Antidesma acidum* Retz. (syn. *A. diandrum* (Roxb.) Heyne.ex Roth; *Antidesma ghaesembilla auct. non* Gaertn.)	Achankamar, Keonchi, Khondra, Korbi,Lamni, Marwahi, Pasarkhet, Pasan	M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Prasad & Pandey, 1987
300.	*Baliospermum montanum* (Willd.) Muell.-Arg.	Achanakmar, Amarkantak	M	NT	Murti & Panigrahi 1999; Saxena 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003
301.	*Bridelia retusa* Spreng. (syn. *B. airy-shawii* P.T.Li)	Amarkantak, Katghora, Pasarkhet, Sarasdol	M, Ms, T	C / R	Chaubey *et al*, 2003; Mudgal, *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970
302.	*Chrozophora prostrata* Dalz. var. *prostrata*	Khami, Pandaria	-	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Tiwari *et al.,* 1995
303.	*Chrozophora rottleri* (Geisler) A.Juss. ex Spreng.	Karidongri	-	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999
304.	*Cleistanthus collinus* (Roxb.) Benth.ex Hook. f.	Achanakmar, Khondra, Khuria,Pendra, Sarasdol	M, T	C	Chaubey *et al.*, 2003; Murti & Panigrahi 1999; Tiwari *et al.,* 1995
305.	*Croton roxburghii* Balak.	Kudmura,Pasan	Ms	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999
306.	*Euphorbia chamaesyce* L. (syn. *E. prostrata* Ait.)	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,* 1995; Mudgal *et al.,*1997
307.	*Euphorbia drancunculoides* Lam.	Pendra	M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999

308.	*Euphorbia heterophylla* L. (syn. *Euphorbia geniculata* Orteg.)	Amarkantak Pasarkhet	-	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
309.	*Euphorbia hirta* L.	Amarkantak, Marwahi	M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
310.	*Euphorbia hypericifolia* L.	Kabirchabutra, Khondra, Khuria, Lamni, Pandaria	M	C / R	Mudgal *et al.,*1997; Murti & Panigrahi 1999
311.	*Euphorbia neriifolia* L.	Amarkantak, Palmi	M	C / R	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
312.	*Euphorbia perbracteata* Gage	Khami, Khuria	-	R	Mudgal *et al.,*1997; Murti & Panigrahi 1999
313.	*Euphorbia thymifolia* L.	Achanakmar, Khuria, Marwahi, Parasi	M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Tiwari *et al.,* 1995
314.	*Glochidion multiloculare* Muell.-Arg.	Pasarkhet, Siang	Ms	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999
315.	*Glochidion velutinum* Wight	Amarkantak, Kabirchabutra	Ms	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
316.	*Glochidion zeylanicum* (Gaertn.) A.Juss.	Katghora	M	C / R	Mudgal *et al.,*1997; Murti & Panigrahi 1999
317.	*Homonoia riparia* Lour.	Lamni	F,M, Ms	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999
318.	*Jatropha curcas* L.	Amarkantak, Marwahi, Pasan	M, O	R	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
319.	*Jatropha gossypifolia* L.	Khuria	-	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999
320.	*Mallotus philippensis* (Lam.) Muell.-Arg.	Amarkantak, Khudia, Lafa, Lamni, Sarasdol	F, M, T	C / R	Chaubey *et al.*, 2003; Mudgal *et al.,*1997; Panigrahi & Murti, 1989; Saxena, 1970; Tiwari *et al.,* 1995
321.	*Phyllanthus airy-shawii* Brunel ex Roux (syn. *Phyllanthus debilis* Klein ex Willd.)	Amarkantak, Madai, Pasan	M	C / R	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995

322.	*Phyllanthus amarus* Schum. & Thonn. (syn. *Phyllanthus fraternus* Webster)	Amarkantak, Khuria, Karidongri	M	*C*	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
323.	*Phyllanthus emblica* L. (syn. *Emblica officinalis* Gaertn.)	Amarkantak, Madai, Pasan, Sarasdol	M	VU	Chaubey *et al.*, 2003; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003
324.	*Phyllanthus reticulatus* Poir (syn. *Kirganelia reticulata* (Poir.) Baill.)	Amarkantak, Khondra	M	C	Chaubey *et al.*, 2003; Saxena, 1970; Tiwari *et al.,* 1995
325.	*Phyllanthus urinaria* L.	Amarkantak, Khondra	M	C / R	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
326.	*Phyllanthus virgatus* G.Forster	Achanakmar, Khootghat, Katghora, Marwahi	M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999
327.	*Ricinus communis* L.	Amarkantak	M, O	Plan-ted	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
328.	*Sebastania chamaelea* (L.) Muell.-Arg.	Katghora, Pasarkhet	-	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999
329.	*Securinega virosa* (Roxb. ex Willd.) Baill.	Lamni	F, M, Ms	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999
330.	*Tragia involucrata* L.	Khootghat	M	C / R	Mudgal *et al.,*1997; Murti & Panigrahi 1999
Fam: Fabaceae					
331.	*Abrus precatorius* L.	Amarkantak, Chada, Sarasdol	M, Ms	R, NT	Chaubey *et al*., 2003; Panigrahi & Murti, 1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003; Verma *et al.,*1993
332.	*Aeschynomene indica* L.	Amarkantak	Ms, O	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
333.	*Alysicarpus bupleurifolius* (L.) DC.	Achanakmar, Amarkantak	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,*1995; Verma *et al.,*1993

334.	*Alysicarpus hamosus* Edgew.	Madai	-	C	Panigrahi & Murti,1989; Verma *et al.,*1993
335.	*Alysicarpus monilifer* (L.) DC.	Katghora, Khuria	-	C	Panigrahi & Murti, 1989; Tiwari *et l.,*1995; Verma *et al.,*1993
336.	*Alysicarpus scariosus* Grah. ex Thwaites	Throughout	Ms	R	Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al.,*1993
337.	*Alysicarpus vaginalis* (L.) DC.	Khondra , Katghora, Lamni	Ms	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,*1993
338.	*Atylosia scarabaeoides* (L.) Benth. ex Baker	Katghora, Khondra, Kudmura	Ms	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,*1993
339.	*Butea monosperma* (Lam.) Taub.	Amarkantak, Katghora, Lormi	Fb,Ms , T	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
340.	*Butea parviflora* Roxb.	Amarkantak	M, O	C	Tiwari *et al.,* 1995; Verma *et al.,*1993
341.	*Butea superba* Roxb.	-	-	C	Tiwari *et al.,* 1995 Verma *et al.,*1993
342.	*Cajanus cajan* (L.) Huth	Amarkantak, Pasan	F, Ms	Cultiv-ated	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,*1995; Verma *et al.,*1993
343.	*Clitoria ternatea* L.	Amarkantak	D, M, Ms, O	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
344.	*Crotalaria alata* Buch.-Ham. ex D. Don	Achanakmar, Amarkantak	Ms	C	Panigrahi & Murti,1989; Saxena, 1970;
345.	*Crotalaria albida* Heyne ex Roth	Amarkantak, Khondra, Pendra,	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
346.	*Crotalaria calycina* Schrank	Amarkantak, Lamni	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
347.	*Crotalaria humifusa* Grah. ex Benth.	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,* 1995
348.	*Crotalaria medicaginea* Lam.	Amarkantak, Pasan	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,*1995; Verma *et al.,*1993

349.	*Crotalaria mysorensis* Roth	Keonchi	-	R	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,*1993
350.	*Crotalaria nana* Burm.f. (syn. *Crotalaria umbellata* (Wight) W. & A.)	Amarkantak	-	C	Saxena, 1970
351.	*Crotalaria prostata* Rottb. ex Willd.	Amarkantak, Katghora, Khondra, Lamni Pasarkhet,	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
352.	*Crotalaria sericea* Retz.	Amarkantak	D, Fb	R	Saxena, 1970; Tiwari *et al.,* 1995
353.	*Crotalaria sessiliflora* L.	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,* 1995
354.	*Crotalaria spectabilis* Roth.	Kabirchabutra, Katghora	Fb	*C*	Panigrahi & Murti,1989; Verma *et al.,*1993
355.	*Paracalyx scariosus* (Roxb.) Ali (syn. *Cylista scariosa* Ait.)	Amarkantak	-	-	Saxena, 1970; Tiwari *et al.,* 1995 Verma *et al.,*1993
356.	*Dalbergia lanceolaria* L.f.	Amarkantak, Katghora	-	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
357.	*Dalbergia latifolia* Roxb.	Achanakmar	Ms, T	C	Panigrahi & Murti,1989; Verma *et al.,*1993
358.	*Dalbergia paniculata* Roxb.	Amarkantak, Khondra, Khuria, Lamni	T	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
359.	*Dalbergia sissoo* Roxb. ex DC.	Throughout the BR	Ms, T	C	Panigrahi & Murti,1989; Verma *et al.,*1993
360.	*Dalbergia volubilis* Roxb.	Khondra	M, Ms	C	Panigrahi & Murti,1989; Verma *et al.,*1993
361.	*Desmodium benthamii* Balakr.	Pasarkhet	-	R	Panigrahi & Murti, 1989
362.	*Desmodium dichotomum* (Willd.) DC.	Khondra	Ms	C	Panigrahi & Murti 1989; Tiwari *et al.,* 1995; Verma *et al.,*1993
363.	*Desmodium gangeticum* (L.) DC.	Amarkantak, Khondra	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
364.	*Desmodium heterocarpon* (L.) DC.	Amarkantak, Khondra, Lamni	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993

365.	*Desmodium motorium* (Houtt.) Merr. (syn. *D. gyrans* (L.f.) DC.)	Amarkantak, Lafa	Ms	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
366.	*Desmodium pulchellum* (L.) Benth.	Madai	Ms	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,*1993
367.	*Desmodium triflorum* (L.) DC.	Amarkantak, Khudia, Madai, Sarasdol	M, Ms	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
368.	*Desmodium velutinum* (Willd.) DC.	Khondra	Ms	C	Panigrahi & Murti,1989; Verma *et al.,*1993
369.	*Dolichos uniflorus* Lam.	Khondra	M, Ms	*C*	Panigrahi & Murti,1989
370.	*Dumasia villosa* DC.	Kabirchabutra	-	C	Panigrahi & Murti,1989; Verma *et al.,* 1993
371.	*Eleiotis monophylla* (Burm.f.) DC.	Pasarkhet	-	R	Panigrahi & Murti,1989; Verma *et al.,*1993
372.	*Erythrina suberosa* Roxb.	Belghana	-	R	Panigrahi & Murti, 1989
373.	*Flemingia macrophylla* (Willd.) Kuntze ex Merr.	Lamni	-	C	Panigrahi & Murti,1989; Verma *et al.,*1993
374.	*Flemingia nana* Roxb.	Amarkantak, Lamni, Sarasdol	Ms	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
375.	*Flemingia semialata* Roxb. ex Ait	Amarkantak, Khudia, Lamni, Sarasdol	F, Ms	C	Choubey *et al*., 2003; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
376.	*Flemingia strobilifera* (L.) R.Br. (syn. *Flemingia bracteata* (Roxb.) Wt.)	Amarkantak, Aurapani, Lamni, Madai, Semra	M, Ms	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
377.	*Indigofera astragalina* DC.	Pendra, Madai	-	C	Panigrahi & Murti,1989; Verma *et al.,*1993
378.	*Indigofera cassioides* Rottl. ex DC. (syn. *I. pulchella* auct. non Roxb.)	Amarkantak, Kabirchabutra, Katghora	M	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
379.	*Indigofera glabra* L.	Pasan	M	C	Panigrahi & Murti, 1989
380.	*Indigofera linifolia* (L.f.) Retz.	Katghora, Palmi	M	C	Panigrahi & Murti,1989; Verma *et al.,*1993

381.	*Indigofera linifolia* (L.f.) Retz. ssp. c*ampbellii* (Wt.) Panigr. *et* S.K. Murti	Throughout the BR	M	R	Panigrahi & Murti,1989; Verma *et al.,*1993
382.	*Indigofera linnaei* Ali	Katghora	-	C	Panigrahi & Murti,1989; Verma *et al.,*1993
383.	*Indigofera tinctoria* L.	Amarkantak, Khondra, Khuria, Lamni	M	C	Jamaluddin *et al* , 1993; Panigrahi & Murti,1989; Verma *et al.,*1993
384.	*Indigofera trifoliata* L.(Sw.)	Amarkantak	M	C	Saxena, 1970
385.	*Lablab purpureus* (L.) Sw.	Pasan		C	Panigrahi & Murti,1989; Verma *et al.,*1993
386.	*Lathyrus sativus* L.	Lormi	M	C	Panigrahi & Murti,1989; Verma *et al.,*1993
387.	*Melilotus alba* Desr.	Amarkantak	Ms	C	Saxena, 1970; Tiwari *et al.,*1995
388.	*Melilotus indica* (L.) All.	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,* 1995
389.	*Milletia extensa* (Benth.) Baker (syn. *Milletia auriculata* Baker ex Brand.)	Amarkantak Keonchi, Lamni	Ms	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
390.	*Milletia pinnata* (L.) Panigr.	Katghora	-	C	Panigrahi & Murti, 1989
391.	*Mucuna pruriens* (L.) DC.	Amarkantak, Khondra	F, M	C, NT	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003; Verma *et al.,*1993
392.	*Ougeinia oojeinensis* (Roxb.) Hochr.	Amarkantak, Chada, Pali, Neur, Lamni , Sarasdol	T, Ms	C / R	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
393.	*Phaseolus aureus* Roxb.	Amarkantak		C	Saxena, 1970; Tiwari *et al.,* 1995
394.	*Pongamia pinnata* (L.) Pierre	-	M, T	-	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
395.	*Psoralea corylifolia* L.	Pandaria	M	R	Panigrahi & Murti,1989; Tiwari *et al.,* 1995

396.	*Pterocarpus marsupium* Roxb.	Amarkantak, Khondra, Khuria , Lamni, Pasan	M,Ms , T	VU	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,*1995; Ved *et al*., 2003; Verma *et al.,*1993
397.	*Pueraria tuberosa* (Roxb. ex Willd.) DC.	Amarkantak, Pasarkhet	F, M, Ms	*C*	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
398.	*Rhyncosia minima* (L.) DC.	Throughout the BR	F, M	C	Panigrahi & Murti,1989;
399.	*Sesbania sesban* L. (syn. *Sesbania aegyptiaca* Poir.)	Amarkantak, Semra	Fb, Ms	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
400.	*Sesbania bispinosa* (Jacq.) W.f. Wight	Amarkantak, Pasan	Fb, Ms	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
401.	*Shuteria involucrata* (Wall.) W. & A. var. *glabrata* (W. & A.) Ohashi	Chauradadar , Kabirchabutra, Khuria	Ms	R	Panigrahi & Murti, 1989
402.	*Smithia conferta* J.E. Smith	Amarkantak, Khondra	F, M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
403.	*Smithia sesitiva* Ait.	Pali, Katghora	-	C	Panigrahi &Murti,1989; Verma *et al.,*1993
404.	*Sophora glauca* Lesch. ex DC.	Katghora	D, M	R	Panigrahi & Murti, 1989
405.	*Tephrosia purpurea* (L.) Pers.	Pasarkhet	M, O	C	Panigrahi & Murti,1989; Verma *et al.,*1993
406.	*Tephrosia villosa* (L.) Pers.	Kota	-	R	Panigrahi & Murti,1989; Verma *et al.,*1993
407.	*Teramnus labialis* (L. f.) Spreng.	Amarkantak, Korbi	F, M, Ms	C	Saxena, 1970
408.	*Trigonella foenum-graceum* L.	Kabirchabutra	F, M, O	C	Panigrahi & Murti, 1989
409.	*Uraria alopecuroides* (Roxb.) Wight	Korbi	M,	C	Tiwari *et al.,* 1995; Verma *et al.,*1993
410.	*Uraria lagopus* DC.	Pasarkhet, Phulwaria	M	R	Panigrahi & Murti, 1989
411.	*U. lagopodioides* (L.) Desv.)	Korbi	-	C	Panigrahi & Murti,1989; Verma *et al.,*1993

412.	*Uraria picta* (Jacq.) Desv.	Chada, Madai, Pasarkhet	M	VU	Panigrahi & Murti,1989; Prasad & Pandey, 1987; Tiwari *et al.,* 1995; Ved *et al*., 2003; Verma *et al.,*1993
413.	*Uraria rufescens* (DC.) Schindl.	Lamni	M	C	Panigrahi & Murti,1989; Verma *et al.,*1993
414.	*Vicia sativa* L.	Khami, Padaria	M, Ms	Plan-ted	Panigrahi & Murti,1989; Verma *et al.,*1993
415.	*Vigna radiata* (L.) Wilczek (syn. *Phaseolus radiatus* L.)	Amarkantak	M, Ms	C	Panigrahi & Murti,1989; Saxena, 1970; Verma *et al.,*1993
416.	*Vigna trilobata* (L.) Verdourt.	Padaria, Khuria	M, Ms	C	Panigrahi & Murti,1989; Verma *et al.,*1993
417.	*Vigna umbellata* (Thunb.) Ohwi & Ohashi	Pasan	F	C	Panigrahi & Murti,1989; Verma *et al.,*1993
418.	*Vigna vexillata* (L.) A. Rich.	Amarkantak	F	R	Saxena, 1970
419.	*Zornia gibbosa* Spanoghe (syn. *Zornia diphylla* auct. non (L.) Pers.)	Amarkantak, Madai, Amadob, Lamni	M, Ms	C	Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Flacourtiaceae					
420.	*Casearia elliptica* Willd.	Amarkantak, Lamni	Ms	C	Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Verma *et al.,*1993
421.	*Casearia graveolens* Dalz.	Amarkantak, Khudia, Lamni, Sarasdol	Ms	C	Saxena, 1970; Panigrahi & Murti,1989, Chaubey et al.,2003; Verma *et al.,*1993
422.	*Flacourtia indica* (Burm.f.) Merr.	Khuria, Karidongri	F, M, O, Ms	C	Saxena, 1970; Panigrahi & Murti,1989; Verma *et al.,*1993
Fam: Gentianaceae					
423.	*Canscora decurrens* Dalz.	Amarkantak	M	C	Saxena, 1970; Tiwari *et al.,* 1995
424.	*Canscora decussata* (Roxb.) J. A. & J. H. Schult.	Amarkantak, Lamni, Madai	M	C / R	Saxena, 1970; Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,*1993
425.	*Canscora diffusa* (Vahl) R. Br.	Achanakmar, Amarkantak, Lamni	M	C	Saxena, 1970; Panigrahi & Murti,1989; Prasad & Pandey, 1993; Tiwari *et al.,* 1995; Verma *et al.,*1993

426.	*Enicostema axillare* (Lam.) Raynal	Throughout	M	C	Panigrahi & Murti,1989; Verma *et al.,*1993
427.	*Exacum carinatum* Roxb. (syn. *Exacum petiolare* Griseb.)	Achanakmar	M	R	Saxena, 1970; Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,*1993
428.	*Exacum pedunculatum* L.	Amarkantak	M	C	Saxena, 1970; Tiwari *et al.,* 1995
429.	*Exacum tetragonum* Roxb.	Amarkantak	M	C	Saxena, 1970; Panigrahi & Murti,1989; Tiwari *et al.,* 1995
430.	*Hoppea dichotoma* Willd.	Achanakmar, Amarkantak, Katghora, Kudmura, Lamni	M	C / R	Saxena, 1970; Panigrahi & Murti,1989; Prasad & Pandey, 1993; Tiwari *et al.,* 1995; Verma *et al.,*1993
431.	*Swertia angustifolia* Buch.-Ham. ex D. Don var. *angustifolia*	Amarkantak, Kabirchabutra,	M	C / R	Saxena, 1970; Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,*1993
Fam: Geraniaceae					
432.	*Geranium mascatense* Boiss. (syn. *Geranium ocellatum* Camb.)	Chauradadar, Kabirchabutra	M	C / R	Saxena, 1970; Panigrahi & Murti,1989; Tiwari *et al.,* 1995
Fam: Gesneriaceae					
433.	*Rhynchoglossum obliquum* Bl. (syn. *Rhynchoglossum obliquum* Bl. var. *parviflora* C.B.Cl.)	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,* 1995; Mudgal, *et al.,* 1997
Fam: Haloragaceae					
434.	*Myriophyllum oliganthum* (W. & A.) F. Muell. (syn. *M. intermedium* auct. non DC.)	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,* 1995
Fam: Hypericaceae					
435.	*Hypericum laxum* (Bl.) Koidzumi (syn. *Hypericum japonicum* Thunb. ex Murr.)	Amarkantak, Kabirchabutra	M	C	Saxena, 1970; Panigrahi & Murti,1989; Verma *et al.,*1993
Fam: Lamiaceae					
436.	*Acrocephalus hispidus* (L.) Nicolson & Sivadasan (syn. *Acrocephalus indicus* (Burm.f.) Kuntz.)	Achanakmar, Amarkantak	M	C / R	Mudgal, *et al.,* 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
437.	*Anisochilus carnosus* (L.f.) Wall. ex Benth.	Amarkantak, Lafa, Pasan, Katghora	-	C / R	Mudgal, *et al.,* 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995

438.	*Anisomeles indica* (L.) Kuntze	Amarkantak,	M	C	Mudgal, *et al.,* 1997; Murti & Panigrahi 1999; Tiwari *et al.,*1995
439.	*Clinopodium umbrosum* (Bieb.) Koch (syn. *Calamintha umbrosa* (Bieb.) Fisch. & Mey)	Amarkantak	O	R	Khanna, *et al*., 2001; Saxena, 1970; Tiwari *et al.,* 1995
440.	*Colebrookea oppositifoila* Sm.	Amarkantak, Kabirchabutra, Keonchi	M	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
441.	*Coleus barbatus* (Andr.) Benth.	Amarkantak	F	C	Saxena, 1970; Tiwari *et al.,* 1995; Mudgal, *et al.,* 1997
442.	*Coleus scutellarioides* (L.) Benth.	-	M	Cultiv-ated	Murti & Panigrahi, 1999
443.	*Hyptis suaveolens* (L.) Poit.	Katghora, Khuria	F, M, O	C	Mudgal, *et al.,* 1997; Murti & Panigrahi, 1999
444.	*Lavandula bipinnata* (Roth) O. Ktze. var. *rothiana* O. Ktze.	Amarkantak	O	*C*	Mudgal *et al.,* 1997; Saxena, 1970; Tiwari *et al.,* 1995
445.	*Leonotis nepetaefolia* (L.) R.Br.	Keonchi, Kukdur	-	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Tiwari *et al.,* 1995
446.	*Leucas aspera* (Willd.) Link (syn. *Leucas plukenetil* (Roth) Spr.)	Karidongri, Katghora, Pasan	M	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Tiwari *et al.,* 1995
447.	*Leucas cephalotes* (Roth) Spreng.	Katghora, Pasan	M, O	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999
448.	*Leucas mollissima* Wall. ex Benth.	Achanakmar, Amarkantak, Kabirchabutra, Katghora	M	C	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
449.	*Micromeria biflora* (Buch.-Ham. ex D. Don) Benth.	Amarkantak, Kabirchabutra	M, O	R	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Saxena, 1970
450.	*Micromeria capitellata* Benth.	Amarkantak,	M, O	C	Mudgal *et al.,* 1997; Tiwari *et al.,* 1995
451.	*Nepeta hindostana* (Heyne ex Roth) Haines	Amarkantak, Kabirchabutra	M, O	C	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
452.	*Ocimum basilicum* L.	Katghora, Marwahi	M, O	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995;
453.	*Ocimum canum* Sims	Amarkantak, Karidongri	M , O	C	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995

454.	*Ocimum tenuiflorum* L. (syn. *O. sanctum* L.)	Amarkantak,	M, O	C	Mudgal *et al.,* 1997; Tiwari *et al.,*1995
455.	*Orthosiphon pallidus* Royle ex Benth.	-	-	C	Murti & Panigrahi 1999; Tiwari *et al.,*1995
456.	*Orthosiphon rubicundus* Benth.	Amarkantak, Lamni, Marwahi, Pasan	F, O	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
457.	*Plectranthus mollis* (Ait.) Spreng.	Amarkantak, Kabirchabutra	M	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
458.	*Pogostemon benghalense* (Burm.f.) Kuntze.	Amarkantak, Kabirchabutra, Keonchi	Ms, O	C / R	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
459.	*Pogostemon cruciata* (Benth.) Kuntze (syn. *Dysophylla cruciata* Benth.)	Amarkantak	-	C	Saxena, 1970
460.	*Pogostemon stellatus* (Lour.) Kuntze	Keonchi, Khondra, Pendra	-	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999
461.	*Salvia officinalis* L.	Throughout	M, O	Planted	Tiwari *et al.,* 1995
462.	*Salvia plebeia* R.Br.	Karidongri	M, Ms	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Tiwari *et al.,* 1995
Fam: Lauraceae					
463.	*Litsea glutinosa* (Lour.) C.R.Robins. (syn. *Litsea sebifera* Pers.)	Amarkantak, Pali	M,Ms , T	VU	Chaubey *et al.*, 2003; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003
464.	*Litsea monopetala (*Roxb.) Pers.	Amarkantak, Pali	M, Ms	R	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Lecythidaceae					
465.	*Careya arborea* Roxb.	Amarkantak, Katghora, Khudia, Lamni, Pali	T	R	Chaubey, *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Verma *et al*., 1993
Fam; Leeaceae					
466.	*Leea alata* Edgew.	Lamni	Ms	R	Panigrahi & Murti,1989; Verma *et al*., 1993
467.	*Leea asiatica* (L.) Ridsdale (syn. *Leea edgeworthii* Sant.; *Leea crispa* L.)	Amarkantak, Khondra, Lamni, Pasan	F, M	C	Panigrahi & Murti,1989; Saxena, 1970; Verma *et al*., 1993

468.	*Leea indica* (Burm.f.) Merr.	Achanakmar, Khondra	F	R	Panigrahi & Murti,1989; Verma *et al*., 1993
Fam: Lentibulariaceae					
469.	*Utricularia aurea* Lour.	Throughout the BR	Ms	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Tiwari *et al.,* 1995
470.	*Utricularia bifida* L.	Amarkantak, Katghora, Keonchi	M	C	Mudgal, *et al.,* 1997; Saxena, 1970; Tiwari *et al.,* 1995
471.	*Utricularia graminifolia* (Vahl) Bhattacharya	Amarkantak	M	R	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
472.	*Utricularia caerulea* L.	Amarkantak	-	C / R	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
473.	*Utricularia exoleta* R.Br.	Katghora Keonchi, Pali	-	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Tiwari *et al.,* 1995
474.	*Utricularia striatula* Sm.	Amarkantak	-	C	Saxena, 1970
Fam: Linaceae					
475.	*Linum usitatissimum* L.	Amarkantak, Neur	O	C	Saxena, 1970; Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,* 1993
476.	*Reinwardtia indica* Dumort	Amarkantak Kabirchabutra, Lamni	M	C	Saxena, 1970; Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al.,* 1993
Fam: Loranthaceae					
477.	*Dendrophthoe falcata* (L.f.) Etting. (syn. *Loranthus falcatus* (L.f.)	Achanakmar, Amarkantak, Kabirchabutra, Pali, Pasarkhet	M	C	Mudgal *et al.,* 1997; Murti &Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
478.	*Loranthus cordifolius* Wallich. (syn. *Scurrula cordifolia* (Wall) G.Don)	Kabirchabutra	M	C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,* 1995
479.	*Loranthus parasiticus* (L.) Merr. (syn. *Scurrula parasiticus* L.)	Kabirchabutra, Keonchi	M	C	Murti & Panigrahi 1999
480.	*Viscum articulatum* Burm.f.	Katghora, Kota , Pali, Pasan	-	C	Mudgal *et al.,* 1997; Tiwari *et al.,* 1995

Fam: Lythraceae					
481.	*Ammannia baccifera* L.	Achanakmar, Amarkantak, Pasan, Pendra	M	C	Saxena, 1970; Panigrahi &Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,* 1993
482.	*Ammannia multiflora* Roxb.	-	M	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995
484.	*Lagerstroemia parviflora* Roxb.	Amarantak, Katghora, Khudia, Lamni, Marwahi, Pasarkhet, Sarasdol	Fb, T	C	Chaubey, *et al.,*2003; Panigrahi & Murti,1989; Saxena, 1970
485.	*Lawsonia inermis* L.	Marwahi	D, M, O	C	Panigrahi & Murti,1989; Verma *et al.,* 1993
486.	*Rotala indica* (Willd.) Koehne	Katghora	-	C	Panigrahi & Murti, 1989
487.	*Rotala mexicana* Cham. & Schltr.	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,* 1993
488.	*Rotala rosea* (Poir.) C.D.K.Cook	Katghora, Kudmura, Lamni, Pasan	-	C	Panigrahi & Murti,1989; Verma *et al.,*1993
489.	*Rotala rotundifolia* (Roxb.) Koehne	Amarkantak, Kabirchabutra	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
490.	*Rotala serpylifolia* (Roth) Bremek. (syn. *Ammannia tenuis* C.B.Cl.)	Amarkantak, Khondra	-	C	Saxena, 1970, Tiwari *et al.,*1995 Verma *et al.,* 1993; Panigrahi & Murti,1989
491.	*Woodfordia fruticosa* (L.) Kurz	Achanakmar, Amarkantak, Amadoh	D, F, M	C	Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,* 1993
Fam: Malvaceae					
492.	*Abelmoschus crinitus* Wall	Amarkantak	F, Fb, M	C	Saxena, 1970; Panigrahi & Murti,1989; Tiwari *et al*.,1995; Verma *et al.,* 1993
493.	*Abelmoschus esculentus* (L.) Moench.		F,M, O	Cultiv-ated	Tiwari *et al*.,1995; Verma *et al.,* 1993
494.	*Abelmoschus ficulneus* (L.) W. & A.	Kondra	F, Fb, M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al*.,1995; Verma, *et al.,* 1993

495.	*Abelmoschus manihot* (L.) Medik ssp. *tetraphyllus* (Roxb. ex Hornem.) Borss. var. *pungens* (Roxb.) Hochr.	Amarkantak	O	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al*.,1995; Verma *et al.,* 1993
496.	*Abelmoschus moschatus* Medic.	Lamni	Fb, O	C	Panigrahi & Murti,1989; Tiwari *et al*.,1995; Verma *et al.,* 1993
497.	*Abutilon persicum* (Burm.f.) Merr. (syn. *Abutilon polyandrum* (Roxb.) W. & A.)	Amarkantak, Khondra	Fb	R	Panigrahi & Murti,1989; Saxena, 1970; Verma *et al.,* 1993
498.	*Althaea ludwigii* L.	Khami, Padaria	-	R	Panigrahi & Murti,1989; Verma *et al.,* 1993
499.	*Gossypium arboreum* L.	Amarkantak	Fb	Planted	Saxena, 1970; Tiwari *et al.,* 1995
500.	*Hibiscus lobatus* (J.A. Murray) O. Ktze.	Amarkantak, Kabirchabutra	F, Fb, O	C / R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,*1995
501.	*Hibiscus panduriformis* Burm.f.	Khami, Padaria	Fb	C	Panigrahi & Murti,1989; Verma *et al.,*1993
502.	*Hibiscus rosa sinensis* L.	Amarkantak	D,M	Planted	Panigrahi & Murti,1989; Tiwari *et al.,* 1995
503.	*Hibiscus sabdariffa* L. ssp. c*annabis* (L.) Panigr.	Katghora, Pasan	Fb	Cultiv-ated	Panigrahi & Murti, 1989
504.	*Hibiscus sabdariffa* L. ssp. *sabdariffa* L.	Katghora, Padaria	Fb, M	C	Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al.,*1993
505.	*Hibiscus syriacus* L.	Amarkantak,	Fb	Planted	Saxena, 1970; Tiwari *et al.,*1995
506.	*Kydia calycina* Roxb.	Achanakmar, Amarkantak, Khondra, Khudia, Lamni, Sarasdol	M, Ms, T,	C / R	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena,1970; Tiwari *et al.,* 1995; Verma *et al.,*1993
507.	*Malvestrum coroman-delianum* (L.) Garcke	Khondra	M	C	Panigrahi & Murti,1989; Verma *et al.,*1993
508.	*Sida acuta* Burm.f.	Amarkantak, Khudia, Lamni, Sarasdol	Fb, M, O	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Verma *et al.,* 1993
509.	*Sida alba* L. (syn. *S. spinosa* L.)	Amarkantak	M	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,* 1993

510.	*Sida cordata* (Burm.f.) Borss. (syn. *Sida veronicaefolia* Lam.)	Kabirchabutra, Khondra	Fb, F, M	C	Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al.,* 1993 Saxena, 1970;
511.	*Sida cordifolia* DC.	Achanakmar, Amarkantak, Lamni	Fb,F, M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,*1995; Verma *et al.,* 1993
512.	*Sida rhombifolia* L.	Achanakmar, Khudia, Lamni, Sarasdol	Fb, M	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al.,*1993
514.	*Thespesia lampas* Dalz. & Gibs.	Amarkantak	Fb, D, M, Ms	C	Panigrahi & Murti,1989; Saxena, 1970; Verma *et al.,*1993
515.	*Urena lobata* L. ssp. *lobata* var. *lobata*	Achanakmar, Amarkantak, Lamni,	Fb, M	C	Prasad & Pandey, 1993; Saxena,1970; Tiwari *et al.,*1995; Verma *et al.,* 1993
516.	*Urena repanda* Roxb. ex Sm.	Amarkantak	Fb	R	Saxena, 1970; Tiwari *et al.,*1995
Fam: Melastomaceae					
517.	*Melastoma malabathricum* L.	Pasarkhet	D	C	Panigrahi & Murti,1989; Verma *et al.,* 1993
518.	*Osbeckia chinensis* L.	Amarkantak, Kabirchabutra, Lamni	M	C	Panigrahi & Murti,1989; Saxena, 1970; Verma *et al.,* 1993
519.	*Sonerila tenera* Royle	Amarkantak, Madai	M	C / R	Panigrahi & Murti,1989; Saxena, 1970; Verma *et al.,* 1993
Fam: Meliaceae					
520.	*Azadirachta indica* A. Juss.	Achanakmar, Lamni	M	R	Choubey, *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1993; Tiwari *et al.,* 1995 Verma *et al.,* 1993
521.	*Melia azedarach* L.	Amarkantak, Katghora	M, O	R	Panigrahi & Murti,1989; Verma, *et al.,* 1993 ; Saxena, 1970; Tiwari *et al.,* 1995
522.	*Soymida febrifuga* (Roxb.) A.Juss.	Achanakmar, Sarasdol	Fb, M, T	C	Choubey, , *et al.*, 2003; Panigrahi & Murti,1989; Verma *et al.,* 1993
523.	*Toona ciliata* Roem.	Amarkantak	D, M, T	R	Saxena, 1970; Tiwari *et al.,* 1995

Fam: Menispermaceae					
524.	*Cissampelos pariera* L.	Amarkantak, Khodra	M	C	Panigrahi &Murti,1989; Saxena,1970; Tiwari *et al*.,1995; Verma *et al.,* 1993
525.	*Coculus hirsutus* (L.) Diels.	Khuria	M	C	Panigrahi & Murti,1989; Tiwari *et al*.,1995; Verma *et al.,* 1993
Fam: Menyanthaceae					
526.	*Nymphoides hydrophyllum* (Lour.) Kuntze (syn. *Nymphoides cristata* (Roxb.) O.Ktze.)	Amarkantak, Khuria, Lafa	-	C	Mudgal, *et al.*, 1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,*1995
527.	*Nymphoides indica* (L.) Kuntze.	Katghora, Pali	-	C	Mudgal, *et al.*, 1997; Panigrahi & Murti,1989; Tiwari *et al.,* 1995
Fam: Mimosaceae					
528.	*Acacia auriculiformis* A.Cunn.ex Benth.	Amarkantak	Ms, O	Planted	Panigrahi & Murti,1989; Tiwari *et al.,* 1995
529.	*Acacia catechu* (L.) Willd.	Achanakmar, Khondra, Khuria, Lamni	Fb, Ms	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995
530.	*Acacia leucophloea* (Roxb.) Willd.	Khuria	Ms, T	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995
531.	*Acacia nilotica* (L.) Willd. ex Del. ssp. *indica* (Benth.) Brenan	Marwahi	M, T	C	Panigrahi & Murti,1989; Verma *et al.,* 1993
532.	*Acacia torta* (Roxb.) Craib.	Amarkantak	-	C / R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,* 1993
533.	*Albizia amara* Boiv.	Amarkantak	Ms, T	C	Panigrahi & Murti,1989; Saxena,1970; Tiwari *et al.,* 1995
534.	*Albizia lebbek* (L.) Benth.	Throughout the BR	M, T	C	Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al.,*1993
535.	*Albizia odoratissima* (L.f.) Benth.	Amarkantak, Khondra, Khudia, Sonmuda	Ms, T	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,* 1993
536.	*Albizia procera* Benth.	Amarkantak, Kota, Lamni, Lormi, Marwahi	Ms, T	C / R	Panigrahi & Murti,1989; Prasad & Pandey,1987; Saxena,1970; Tiwari *et al.,* 1995; Verma *et al.,* 1993

537.	*Mimosa pudica* L.	Amarkantak	M, Ms, O	Planted	Panigrahi & Murti,1989; Tiwari *et al.,*1995
538.	*Mimosa rubicaulis* Lam. ssp. *himalayana* (Gamble) Ohashi	Khondra, Pali,	Ms	C	Panigrahi & Murti,1989
Fam: Molluginaceae					
539.	*Glinus lotoides* L.	Lamni, Keonchi, Pasan	F / M	C	Panigrahi & Murti,1989; Verma *et al.,* 1993
540.	*Glinus oppositifolius* (L.) A. DC.	Lamni, Pali	**M**	C	Panigrahi & Murti,1989; Verma *et al.,*1993
541.	*Mollugo pentaphylla* L.	Amarkantak, Marwahi, Pasan, Pasarkhet	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,*1995; Verma *et al.,* 1993
Fam: Moraceae					
542.	*Artocarpus heterophyllus* Lam.	Belghana	F	C	Mudgal *et al.,* 1997; Murti &Panigrahi 1999; Tiwari *et al.,*1995
543.	*Ficus arnottiana* Miq.	Amarkantak, Kabirchabutra	M, Ms	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
544.	*Ficus benghalensis* L.	Achanakmar, Amarkantak, Lamni, Pasarkhet	F, M, Ms	C / R	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Prasad & Pandey,1993; Saxena, 1970; Tiwari *et al.,*1995
545.	*Ficus benjamina* L. ssp. *comosa* (Roxb.) Murti & Panigr.	Siang	M, Ms	R	Mudgal *et al.,* 1997; Murti & Panigrahi 1999
546.	*Ficus carica* L.	Amarkantak	F, M	Planted	Saxena, 1970; Tiwari *et al.,*1995
547.	*Ficus hispida* L.f.	Amarkantak, Chauradadar, Kabirchabutra	F, M	C	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena,1970
548.	*Ficus microcarpa* L.	Amarkantak, Kabirchabutra	M, Ms	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Saxena,1970; Tiwari *et al.,*1995
549.	*Ficus mollis* Vahl	Khootghat	-	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999
550.	*Ficus racemosa* L.	Achanakmar, Amarkantak, Lamni, Pali, Pasan	F, M, Ms	C	Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.* 1995
551.	*Ficus religiosa* L.	Amarkantak	F, M, Ms	C	Saxena, 1970; Tiwari *et al.,* 1995

552.	*Ficus rumphii* Bl.	Amarkantak	-	R	Mudgal *et al.,*1997; Tiwari *et al.,* 1995
553.	*Ficus semicordata* Buch.-Ham. ex J.E.Smith (syn. *Ficus cunia* Buch.-Ham. ex Roxb.)	Amarkantak, Kabirchabutra, Lamni, Sarasdol	M	C / R	Chaubey *et al*., 2003; Prasad & Pandey, 1987; Mudgal *et al.,* 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
554.	*Ficus tinctoria* Forst. f. ssp. *parasitica* (Koenig ex Willd.) Corner	Lainga, Pendra, Katghora	-	C	Chaubey *et al*.,2003; Mudgal *et al.,* 1997; Murti & Panigrahi 1999
555.	*Ficus virens* Ait. (syn. *Ficus infectoria* Roxb.; *Ficus tsjakela (*Burm.f.)	Amarkantak	-	C	Mudgal *et al.,* 1997; Saxena, 1970; Tiwari *et al.,* 1995
556.	*Morus australis* Poir.	Amarkantak	F, Ms	Planted	Mudgal *et al.,* 1997; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Casuarinaceae					
557.	*Casuarina equisetifolia* L.	Amarkantak	T	Planted	Tiwari *et al.,* 1995
Fam: Moringaceae					
558.	*Moringa concanensis* Nimmo	Neur	F, M, O	C	Panigrahi & Murti, 1989
559.	*Moringa oleifera* Lam.	Pasan	F, M	C	Panigrahi & Murti,1989; Tiwari *et al.,*1995; Mudgal *et al.,*1997;
Fam: Myrsinaceae					
560.	*Ardisia solanacea* Roxb.	Amarkantak, Kabirchabutra, Lamni	D, F, M,	R	Mudgal et al.,1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
561.	*Embelia basaal* (Roem. & Schult.) A.DC. (syn. *Embelia robusta* auct. non Roxb. *Embelia tsjeriam cottam* auct. non (R. & S.) A. DC.)	Achanakmar, Amarkantak, Amadoh, Kabirchabutra, Lamni	M	R, NT	Chaubey *et al.*, 2003; Mudgal et al., 1997; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003
Fam: Myrtaceae					
562.	*Callistemon lanceolatus* DC.	Amarkantak	O	Planted	Tiwari *et al.,* 1995; Mudgal *et al.,* 1997
563.	*Eucalyptus camaldulensis* Dehn.	Amarkantak,	Ms, O	Planted	Tiwari *et al.,* 1995
564.	*Eucalyptus citriodora* Hook.	Amarkantak	Ms, O	Planted	Tiwari *et al.,* 1995
565.	*Eucalyptus* spp.	Amarkantak	Ms, O	Planted	Tiwari *et al.,* 1995
566.	*Eucalyptus tereticornis*	Pali	Ms, O	Planted	Panigrahi & Murti, 1989

	Sm.				
567.	*Psidium guajava* L.	Amarkantak	F, M, O	Planted	Panigrahi & Murti,1989; Saxena, 1970; Verma *et al.,* 1993
568.	*Syzygium cumini* (L.) Skeels	Amadob, Amarkantak, Khudia, Lamni, Madai, Pali, Sarasdol	F, M, T	C	Chaubey *et al.*, 2003; Prasad & Pandey, 1987; Panigrahi & Murti,1989, Saxena, 1970
569.	*Syzygium jambos* (L.) Alston	Amarkantak, Lamni, Madai, Pali	F, O	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Verma *et al.,* 1993
570.	*Syzygium nervosum* DC.	Pali, Pasarkhet	-	C	Panigrahi & Murti,1989; Verma *et al.,* 1993
Fam: Nelumbonaceae					
571.	*Nelumbo nucifera* J.Gaertn.	Pali	F, M	C	Panigrahi & Murti,1989; Verma *et al.,* 1993
Fam: Nyctaginaceae					
572.	*Boerhavia diffusa* L.	Amarkantak, Khuria, Pasan	-	C	Mudgal *et al.*,1997; Saxena, 1970; Tiwari *et al.,*1995
573.	*Boerhavia repens* L.	Kota, Khuria Pasan	-	C	Mudgal et al., 1997; Murti & Panigrahi 1999;
574.	*Bougainvillea glabra* Choisy	Amarkantak	-	Planted	Tiwari *et al.,* 1995
575.	*Bougainvillea spectabilis* Willd.	Amarkantak	Ms	Planted	Tiwari *et al.,* 1995
576.	*Mirabilis jalapa* L.	Amarkantak, Kabirchabutra	F, M, Ms	C	Mudgal et al., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Nymphaeaceae					
577.	*Nymphaea pubescens* Willd.	Katghora, Lafa	F,M	C	Panigrahi & Murti,1989; Verma *et al.,* 1993
Fam: Ochnaceae					
578.	*Ochna obtusata* DC.	Katghora	-	R	Panigrahi & Murti, 1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,* 1993
579.	*Ochna obtusata* DC. var. *pumila* (Buch.- Ham. ex DC.) Kanis	Marwahi, Pasan	-	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,*1995; Verma *et al.,* 1993
Fam: Olacaceae					

580.	*Olax scandens* Roxb.	Achanakmar, Lormi, Katghora, Khondra	F, M	C	Panigrahi & Murti,1989; Verma *et al.,* 1993
Fam; Oleaceae					
581.	*Jasminum aborescens* Roxb.	Amarkantak, Pali	M	R	Mudgal et al., 1997; Panigrahi & Murti,1989; Saxena,1970; Tiwari *et al.,* 1995
582.	*Jasminum auriculatum* Vahl	Lamni	M, O	C	Mudgal et al., 1997; Panigrahi & Murti,1989
583.	*Jasminum brevipetiola tum* Duthie ex Brandis	Amarkantak	M, O	R	Saxena, 1970; Tiwari *et al.,* 1995
584.	*Jasminum grandiflorum* L.	Amarkantak	M, Ms, O	Planted	Saxena, 1970; Tiwari *et al.,* 1995
585.	*Jasminum multiflorum* (Burm.f.) Andr.	Amarkantak	O	Planted	Mudgal *et al*., 1997; Tiwari *et al.,*1995
586.	*Jasminum officianale* L.	Amarkantak	Ms, O	Planted	Saxena, 1970; Tiwari *et al.,* 1995
587.	*Jasminum sambac* (L.) Ait.	Amarkantak	F, M, O	Planted	Saxena, 1970; Tiwari *et al.,* 1995
588.	*Nyctanthes arbor tristris* L.	Achanakmar, Amarkantak, Lafa, Lamni	M, Ms, T	C	Chaubey *et al.*, 2003; Mudgal *et al*., 1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995;
589.	*Schrebera swietenioides* Roxb.	Lamni, Sarasdol	M, Ms, T	C	Chaubey *et al.*, 2003; Mudgal *et al.,* 1997;
Fam: Onagraceae					
590.	*Ludwigia adscendens* (L.)Hara	Ratanpur	-	C	Panigrahi & Murti,1989; Verma *et al.,* 1993
591.	*Ludwigia octovalvis* (Jacq.) Raven	Amarkantak, Kudmura, Khondra, Katghora	-	C	Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al.,*1993
592.	*Ludwigia octovalvis* (Jacq.) Raven ssp. *octovalvis*	Kudmura, Khondra	-	C	Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al.,* 1993
593.	*Ludwigia octovalvis* (Jacq.) Raven ssp. *sessiliflora* (Mich.) Raven	Pasan, Khootghat	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
594.	*Ludwigia perennis* L.	Amarkantak	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,* 1993
595.	*Ludwigia prostrata* Roxb.	Achanakmar, Lamni	M	C	Panigrahi & Murti,1989; Tiwari *et al.,*1995

Fam: Orobranchaceae					
596.	*Aeginetia indica* L.	Amarkantak	M	C / R	Mudgal et al., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Oxalidaceae					
597.	*Biophytum petersianum* Klotz.	Pasankhet	M	R	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,* 1993
598.	*Biophytum reinwardtii* (Zucc.) Klotz.	Amarkantak, Lamni	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,* 1993
599.	*Biophytum sensitivum* (L.) DC.	Lamni	M	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al.,* 1993
600.	*Oxalis corniculata* L.	Achanakmar, Amarkantak, Chada, Keonchi	M, F	C	Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al.,* 1993
601.	*Oxalis richardiana* Babu, (syn. *O. latifolia* HBK)	Keonchi	F	C	Tiwari *et al.,* 1995
Fam: Papeveraceae					
602.	*Argemone mexicana* L.	Amarkantak, Keonchi, Lamni	O, M	C	Panigrahi & Murti, 1989; Saxena, 1970; Tiwari *et al*.,1995; Verma *et al.,* 1993
603.	*Argemone ochroleuca* Sweet	Aurapani	-	R	Panigrahi & Murti,1989; Verma *et al.,* 1993
Fam: Passifloraceae					
604.	*Passiflora foetida* L.	Lamni, Karidongri	F, M	C	Tiwari *et al.,* 1995
Fam: Pedaliaceae					
605.	*Martynia annua* L.	Achanakmar, Amarkantak	F, M, O	C/R	Mudgal *et al*., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
606.	*Sesamum indicum* L. (syn. *Sesamum orientale* L.)	Amarkantak, Korbi, Madai	F, M, O	Cultiv-ated	Mudgal, *et al*., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Piperaceae					

607.	*Piper longum* L.	-	M	VU	Tiwari *et al.,* 1995; Ved *et al*., 2003
Fam: Plantaginaceae					
608.	*Plantago exigua* Juss. *et* Murr.	Kabirchabutra	M	R	Mudgal *et al*., 1997; Murti &Panigrahi 1999
Fam: Plumbaginaceae					
609.	*Plumbago zeylanica* L.	Amarkantak, Lamni	M	VU	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Ved *et al*., 2003; Verma *et al.,* 1993
Fam: Polygalacaeae					
610.	*Polygala arvensis* Willd.	Khuria, Pali	-	C	Panigrahi & Murti,1989; Verma *et al.*1993
611.	*Polygala crotalarioides* Buch.-Ham. ex DC.	Pasan	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al*.,1995; Verma *et al.,* 1993
612.	*Polygala furcata* Royle	Amarkantak	-	C	Panigrahi& Murti, 1989; Saxena, 1970; Tiwari *et al*.,1995; Verma *et al.,* 1993
613.	*Polygala longifolia* Poir.	Lamni	M	C	Panigrahi & Murti,1989; Saxena, 1970; Verma *et al.,* 1993
614.	*Polygala persicaraefolia* DC.	Amarkantak	M	C	Saxena, 1970; Tiwari *et al*.,1995
Fam: Polygonaceae					
615.	*Polygonum barbatum* L. (syn. *Polygonum stagninum* Buch.- Ham. var. *stagninum*)	Achanakmar, Amarkantak, Kabirchabutra, Khuria, Lamni	Ms, M	C	Mudgal *et al*., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
616.	*Polygonum glabrum* Willd.	Katghora, Pali	F, M	C	Mudgal *et al*.,1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
617.	*Polygonum hydropiper* L. ssp. *microcarpum* Danser	Kabirchabutra	F, M, Ms	C	Mudgal *et al*.,1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
618.	*Polygonum lapathifolium* L. var. *lanatum* (Roxb.) Steward (syn.*Polygonum lanigerum auct. non* R.Br.)	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,*1995

619.	*Polygonum pedunculare* Wall.	Amarkantak	Ms	C	Saxena, 1970; Tiwari *et al.,* 1995
620.	*Polygonum plebeium* R.Br.	Amarkantak	F, M	C	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
621.	*Polygonum rottleri* Roth	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,* 1995
622.	*Polygonum serrulatum* Lagasc.	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,* 1995
623.	*Polygonum strigosum* R. Br.	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,*1995
624.	*Rumex dentatus* L. subsp. *klotzschianus* (Meisn.) Rchb. f.	Amarkantak, Khuria	F, M, Ms	C / R	Mudgal *et al*., 1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Portulacaceae					
625.	*Portulaca pilosa* L.	Khuria, Khootghat	M, F	C	Panigrahi & Murti,1989; Tiwari *et al*.,1995; Verma *et al*., 1993
626.	*Talinum portulacifolium* (Forssk.) Asch. ex Schweinf.	-	M	C	Khanna *et al*., 2001; Tiwari *et al.,* 1995
Fam: Primulaceae					
627.	*Anagalis arvensis* L.	Khondra	M, Ms	C	Mudgal *et al*., 1997; Panigrahi & Murti, 1989
628.	*Lysimachia candida* Lindl. ssp. *obovata* (Buch.-Ham.ex Hk.f.) Kunth	Amarkantak	F	C	Mudgal *et al*., 1997; Saxena, 1970; Tiwari *et al.,*1995
629.	*Primula umbellata* (Lour.) Bentvelzen (syn. *Androsace umbellata* (Lour.) Merr.)	Amarkantak, Keonchi, Lamni	-	R	Mudgal *et al*., 1997; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Proteaceae					
630.	*Grevillea robusta* A.Cunn. ex R.Br.	Amarkantak	Ms, T	Planted	Mudgal *et al*., 1997; Saxena, 1970; Tiwari *et al.,*1995
Fam: Punicaceae					
631.	*Punica granatum* L.	Amarkantak	D, F, M	Planted	Saxena, 1970; Tiwari *et al.,* 1995
Fam: Ranunculaceae					
632.	*Clematis gouriana* Roxb. ex DC.	Amarkantak	M	R	Saxena, 1970; Tiwari *et al*.,1995
633.	*Clematis smilacifolia* Wall.	Amarkantak, Kabirchabutra	M	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al*.,1995; Verma *et al*., 1993

634.	*Clematis triloba* Heyne ex Roth	Achanakmar, Lamni	M	R	Prasad & Pandey,1993; Tiwari *et al*.,1995
635.	*Delphinium ajacis* L.	Amarkantak	M	C	Khanna *et al*., 2001; Tiwari *et al*., 1995
636.	*Thalictrum foliolosum* DC.	Amarkantak, Kabirchabutra	M	VU	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al*., 1995; Ved, *et al*., 2003; Verma *et al*., 1993
Fam: Rhamnaceae					
637.	*Helinus lanceolatus* Brand.	Amarkantak	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
638.	*Rhamnus purpurens* Edgew.	Kabirchabutra	M, T	R	Panigrahi & Murti, 1989; Verma *et al*., 1993
639.	*Rhamnus wightii* W.& A.	Amarkantak	Fb, M	R	Saxena, 1970; Tiwari *et al.,* 1995 Verma *et al*., 1993
640.	*Ventilago denticulata* Willd. (syn. *Ventilago calyculata* Tul.)	Amarkantak, Khondra, Katghora, Khudia, Lormi, Sarasdol	M,O	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
641.	*Ziziphus mauritiana* Lam. var. *fruticosa* (Haines) Seb. & Balakr.	Amarkantak	M, Ms, O	C	Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
642.	*Ziziphus nummularia* (Burm.f.) Wight & Arn. (syn. *Z. rotundifolia* Lam.)	Amarkantak	-	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
643.	*Ziziphus oenoplia* (L.) Mill.	Amarkantak	M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
644.	*Ziziphus rugosa* Lam.	Amarkantak, Pasan	F, M, Ms	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
645.	*Ziziphus xylopyrus* (Retz.) Willd.	Amarkantak, Khondra, Khudia, Lamni, Marwahi	Fb, Ms	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
Fam: Rosaceae					
646.	*Prunus persica* (L.) Stokes	Amarkantak	F, M, O, T	Cultiv-ated	Khanna *et al*., 2001; Saxena, 1970

Fam: Rubiaceae					
647.	*Neanotis calycina* (Hook. f.) Lewis (syn. *Anotis calycina* HK. f.)	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,* 1995
648.	*Anthocephalus chinensis* (Lam.) A.Rich. ex Walp.	Pasrasi	-	R	Panigrahi & Murti, 989; Verma *et al*., 1993
649.	*Argostemma sarmentosum* Wall.	Pasarkhet	-	R	Panigrahi & Murti,1989; Verma *et al*., 1993
650.	*Borreria stricta* (L. f.) C.F.W. Mey	Amarkantak, Lamni	M	C	Saxena, 1970; Tiwari *et al.,* 1995
651.	*Canthium dicoccum* (Gaertn.) Teysm. & Binn.	Katghora	M, Ms	C	Panigrahi & Murti,1989; Verma *et al*., 1993
652.	*Catunaregum nilotica* (Stapf) Tiruvengadum (syn. *Xeromphis uliginosa* (Retz.) Maheshwari)	Achanakmar	F, M, Ms, O	C	Panigrahi & Murti,1989; Verma *et al*., 1993
653.	*Catunaregum spinosa* (Thunb.) Tiruvengadum (syn. *Xeromphis spinosa* (Thunb.) Keay)	Amarkantak, Kabirchabutra, Khudia, Keonchi, Lamni, Pasan	F, M, Ms, O	C / R	Chaubey *et al*., 2003; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
654.	*Coffea arabica* L.	Jagatpur	F	Planted	Tiwari *et al.,* 1995
655.	*Dentella repens* (L.) J.R. & G.Forst.	Katghora, Khuria, Pali, Pasan	M	C	Panigrahi & Murti,1989; Verma *et al*., 1993
656.	*Gardenia gummifera* L.f.	Achanakmar, Katghora, Pasarkhet	M	C	Panigrahi & Murti,1989; Verma *et al*., 1993
657.	*Gardenia latifolia* Ait.	Amarkantak, Katghora Khuria	T	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
658.	*Gardenia resinifera* Roth.	Khondra, Marwahi, Pasan	M	C	Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al*., 1993
659.	*Gardenia turgida* Roxb.	Achanakmar, Khondra, Khudia, Lamni	T	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Verma *et al*., 1993
660.	*Haldina cordifolia* (Roxb.) Ridsdale	Achanakmar, Amarkantak, Khudia, Lamni, Korbi, Pasan, Sarasdol	T	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
661.	*Hedyotis pinifolia* Wall. ex G. Don.	Amarkantak	M	R	Saxena, 1970; Tiwari *et al.,* 1995

662.	*Hymenodictyon orixense* (Roxb.) Mabbreley (syn. *Hymenodictyon excelsum* (Roxb.) Wall.)	Achanakmar, Amarkantak, Khootaghat	D, M, T	C / R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
663.	*Ixora pavetta* Andrews (syn. *Ixora arborea* Roxb. ex J.E.Smith) (syn. *Ixora parviflora* Vahl.)	Khudia, Lamni, Madai, Sarasdol	M, Ms, T	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al*.,1993
664.	*Knoxia sumatrensis* (Retz.) DC.	Amarkantak, Madai, Pasarkhet		C	Panigrahi & Murti,1989; Verma *et al*., 1993
665.	*Meyna spinosa* Roxb.	Achanakmar	F, M, Ms	C	Panigrahi & Murti,1989; Verma *et al*., 1993
666.	*Mitragyna parviflora* (Roxb.) Korth.	Amarkantak, Khondra, Khudia, Keonchi, Pasan, Sarasdol	Fb, T	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
667.	*Oldenlandia affinis* (Roem. & Schult.) DC.	Katghora, Madai	M,Ms , T	C	Panigrahi & Murti,1989; Verma *et al*., 1993
668.	*Oldenlandia corymbosa* L. (syn. *O. pseudocorymbosa* (Bakh.f.) Raizada)	Achanakmar, Amarkantak, Katghora, Khondra, Lamni	M	C	Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
669.	*Oldenlandia diffusa* (Willd.) Roxb.	Lamni	M	C	Panigrahi & Murti,1989; Verma *et al*., 1993
670.	*Kahoutia gracilis* (Wall.) DC .(syn. *Oldenlandia gracilis* DC.)	Amarkantak	M	-	Saxena, 1970; Tiwari *et al.,*1995
672.	*Pavetta crassicaulis* Bremek. (syn. *Pavetta indica* L.)	Amarkantak, Kabirchabutra, Keonchi, Marwahi	F, M, O	C	Saxena, 1970; Tiwari *et al.* 1995; Verma *et al*., 1993
673.	*Pavetta tomentosa* Roxb. ex Sm.	Kabirchabutra, Keonchi, Marwahi	F, M, O	C	Panigrahi & Murti,1989; Verma *et al*., 1993
674.	*Rubia manjith* Roxb. ex Fleming (syn. *Rubia cordifolia* L.)	Amarkantak Kabirchabutra	M	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*., 1993
675.	*Spermacoce ramanii* Sivarajan and R.V.Nair	Lamni, Pasan	-	C	Panigrahi & Murti, 1989

676.	*Spermacoce hispida* L. (syn. *Spermacoce articularis* L.)	Karidongri, Katghora, Pasan, Pasarkhet	-	C	Panigrahi & Murti,1989; Verma *et al*., 1993
677.	*Spermadictyon suaveolens* Roxb	Achanakmar, Amarkantak, Kabirchabutra	-	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
678.	*Thecagonum ovatifolium* (Cav.) Babu (syn. *Hedyotis ovatifolia* Cav.; *Oldenlandia ovatifolia* (Cav.) DC.)	Madai	-	C	Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al*., 1993
679.	*Wendlandia heynei* (R. & S.) Sant. & Merch. (syn.*Wendlandia exerta* DC.)	Amarkantak, Lamni, Pali	M,Ms , T	R	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Saxena,1970; Tiwari *et al.,* 1995 ; Verma *et al*., 1993
Fam: Rutaceae					
680.	*Aegle marmelos* (L.) Corr.	Amarkantak, Achanakmar, Katghora, Lamni	M, F, O	C / R	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,*1995; Verma *et al*., 1993
681.	*Atalantia monophylla* Corr.	Pasarkhet	T, O	R	Panigrahi & Murti,1989; Verma *et al*., 1993
682.	*Chloroxylon swietenia* DC.	Katghora	Fb, M, T	C	Panigrahi & Murti,1989; Verma *et al*., 1993
683.	*Citrus aurantium* L.	Amarkantak	F, M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
684.	*Citrus medica* L.	-	F, M, O	C	Tiwari *et al.,* 1995
685.	Naringi crenulata (Roxb.) Nicolson (syn. *Limonia crenulata* (Roxb.) Roem. ; L. acidissima auct. non L.	Belgahana	F, M, O	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
686.	*Murraya koenigii* (L.) Spreng.	Amarkantak	F, M, O	R	Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
687.	*Murraya paniculata* (L.) Jacq.	Amarkantak	M,Ms , O	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
Fam: Salicaceae					
688.	*Salix tetrasperma* Roxb.	Amarkantak, Throughout the BR,	M,M, T	C / R	Choubey *et al.*, 2003; Mudgal, *et al.,* 1997; Murti &Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995

Fam: Sapindaceae					
689.	*Cardiospermum halicacabum* L.	Karidongri, Kondra	-	C	Panigrahi & Murti,1989; Verma *et al*., 1993
690.	*Dodonaea angustifolia* L.f. (syn. *Dodonaea viscosa* Jacq.)	Pasan	Fb, O, T	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*., 1993
691.	*Litchi chinensis* Sonner.	-	F, M	Planted	Tiwari *et al.,* 1995
692.	*Sapindus laurifolia* Vahl	-	M, T	-	Saxena, 1970
693.	*Schleichera oleosa* (Lour.) Oken.	Amarkantak, Kudmura, Khudia, Lamni, Sarasdol	M, Ms, O, T,	R	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,* 1995; Verma *et al*., 1993
Fam: Sapotaceae					
694.	*Madhuca longifolia* (J.Koenig) Macbr. var. latifolia (Roxb.) Chavalier (syn. *Madhuca indica* J.F.Gmelin. ; *M.latifolia* (Roxb.) Macbr.)	Khudia, Lainga, Lamni, Pasan	F,M, Ms	C	Chaubey *et al.*, 2003; Mudgal *et al*., 1997; Panigrahi & Murti,1989; Tiwari *et al.,* 1995;
695.	*Manilkara hexandra* (Roxb.) Dubard	Pasarkhet	M, O, T	R	Mudgal *et al*., 1997; Panigrahi & Murti, 1989
696.	*Manilkara zapota* (L.) P.Royen	Pasarkhet	-	-	Tiwari *et al.,* 1995
Fam: Scrophulariaceae					
697.	*Alectra sessililfora* (Vahl) Kuntze. (syn. *Melasma arvense* (Benth.) Hand.-Mazz.)	Amarkantak	M	R	Saxena, 1970; Tiwari *et al.,* 1995
698.	*Bacopa monnieri* (L.) Wettst.	Khuria, Korbi	M	C	Mudgal 1997; Saxena, 1970; Tiwari *et al.,*1995
699.	*Bacopa procumbens* (Mill.) Greenm. (syn. *Mecardonia procumbens* (Mill.) Small; *Mecardonia dianthera* (Swartz) Pennell)	Amarkantak, Kabirchabutra, Khondra, Pasan, Lamni,	-	C	Mudgal *et al*., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
700.	*Centranthera nepalensis* D.Don	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,* 1995
701.	*Limnophila aromatica* (Lam.) Merr.	Amarkantak, Katghora, Pasarkhet	F, M, O	R	Mudgal *et al*., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995

702.	*Limnophila chinensis* (Osbeck) Merr.	Kabirchabutra	O	C	Mudgal *et al*.,1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
703.	*Limnophila chinensis* (Osbeck) Merr. var. *C.B.Cl.i* (Haines) S.K.Murti	Pasarkhet	-	C	Mudgal, *et al*.,1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
704.	*Limnophila connata* (Buch.-Ham.ex D.Don) Hand.-Mazz.	Amarkantak	-	C	Mudgal, *et al*.,1997; Saxena,1970; Tiwari *et al.,*1995
705.	*Limnophila indica* (L.) Druce.	Amarkantak, Keonchi, Kabirchabutra, Khondra, Pasan	M, O	C	Mudgal, et al.,1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
706.	*Limnophila rugosa* (Roth) Merr.	Kabirchabutra	F, O	C	Mudgal *et al*.,1997; Murti & Panigrahi 1999
707.	*Lindenbergia indica* (L.) Kuntze	Amarkantak		R	Saxena, 1970; Tiwari *et al.,*1995
708.	*Lindernia anagallis* (Burm.f.) Pennell (syn. *Lindernia cordifolia* (Colsm.) Merr.)	Amarkantak, Kabirchabutra, Pasan, Pali	M	C	Mudgal *et al*.,1997; Murti & Panigrahi 1999; Saxena,1970; Tiwari *et al.,*1995
709.	*Lindernia antipoda* (L.) Alston	Achanakmar, Katghora, Pasan, Kabirchabutra, Pendra	M	C	Mudgal *et al*.,1997; Murti & Panigrahi 1999
710.	*Lindernia ciliata* (Colsm.) Pennell	Amarkantak, Achanakmar, Lamni	M	C	Mudgal *et al.*,1997; Saxena, 1970; Tiwari *et al.,*1995
712.	*Lindernia crustacea* (L.) F.V. Mueller	Amarkantak, Katghora, Lamni, Pasarkhet	M	C	Mudgal *et al*., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
713.	*Lindernia hookeri* C.B.Cl. ex Hk.f. var. *kumaunensis* Pennell	Amarkantak,	M	C	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
714.	*Lindernia hyssopioides* (L.) Haines	Kota	-	C	Mudgal *et al*.,1997; Murti & Panigrahi 1999
715.	*Lindernia nummularifolia* (D.Don.) Wettst	Amarkantak	M	C	Saxena, 1970; Tiwari *et al.,*1995

716.	*Lindernia oppositifolia* (L.) Mukerjee	Amarkantak	M	R	Saxena, 1970; Tiwari *et al.,*1995
717.	*Lindernia procumbens* (Krock.) Borbas	Amarkantak, Kenda	M	C	Mudgal *et al*., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
718.	*Lindernia sessiliflora* (Benth.) Wettst.	Amarkantak	M	C	Saxena, 1970; Tiwari *et al.,* 1995
719.	*Mazus delavayi* Bonati	Amarkantak	M	R	Saxena, 1970; Tiwari *et al.,*1995
720.	*Mazus pumilus* (Burm.f.) Steenis	Amarkantak, Kabirchabutra, Lamni	-	C	Mudgal *et al*., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
721.	*Mimulus strictus* Benth.	Amarkantak	M	C	Mudgal *et al*.,1997; Saxena, 1970; Tiwari *et al.,* 1995
722.	*Scoparia dulcis* L.	Achanakmar, Amarkantak, Lamni, Kabirchabutra, Katghora	M	C	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
723.	*Sopubia delphinifolia* (L.) G. Don	Madai	M	C	Mudgal *et al*., 1997; Murti & Panigrahi 1999; Saxena,1970; Tiwari *et al.,*1995
724.	*Stemodia viscosa* (Roxb.)	Khami, Padaria	M	R	Mudgal *et al*., 1997; Murti & Panigrahi 1999
725.	*Striga angustifolia* (D.Don) Saldanha	Katghora	M	C	Mudgal *et al*.,1997; Murti & Panigrahi 1999; Tiwari *et al.,*1995
726.	*Striga densiflora* (Benth.) Benth.	-	M	R	Murti & Panigrahi 1999; Tiwari *et al.,*1995
727.	*Verbascum chinense* (L.) Sant.	Keonchi, Lamni	M	R	Mudgal *et al.*,1997; Murti & Panigrahi 1999
728.	*Veronica anagallis-aquatica* L.	Pondu	M	C	Mudgal *et al*., 1997; Murti & Panigrahi 1999
Fam: Solanaceae					
729.	*Capsicum annuum* L.	Pasan, Kabirchabutra	M	Planted	Mudgal *et al*., 1997; Murti &Panigrahi 1999; Tiwari *et al.,* 1995
730.	*Capsicum frutescens* L.	Kabirchabutra	F, Ms	Cultiv-ated	Mudgal *et al*., 1997; Murti & Panigrahi 1999; Tiwari *et al.,*1995
731.	*Cestrum nocturnum* L.	Amarkantak	M, Ms	Planted	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995

732.	*Datura metel* L.	Achanakmar, Lamni	M	C	Murti & Panigrahi 1999; Prasad & Pandey, 1993; Tiwari *et al.,*1995
733.	*Datura stramonium* L. (syn. *Datura tatula* L.)	Amarkantak	M	R	Saxena, 1970; Shrivastava, 1986; Tiwari *et al.,* 1995
734.	*Lycopersicon esculentum* Mill. (syn. *Lycopersicon lycopersicon* (L.) Karsten)	Amarkantak	F, M, O	Cultiv-ated	Mudgal *et al*., 1997; Saxena, 1970
735.	*Nicandra physalodes* (L.) Gaertn.	Lamni, Amarkantak	Ms	C / R	Mudgal *et al.*, 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
736.	*Petunia* x *hybrida* Vilm.	-	Ms	Planted	Murti & Panigrahi 1999
737.	*Physalis divaricata* D.Don (syn. *Physalis minima* L.)	Throughout	M	C	Mudgal *et al*.,1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
738.	*Solanum incanum* L. (syn. *S. melongena* L. var. *incanum* (L.) Kuntze.)	Amarkantak	F, M	R	Mudgal, et al.,1997; Saxena, 1970; Tiwari *et al.,*1995
739.	*Solanum melongena* L.	Throughout the BR	F, M	Planted	Mudgal, et al.,1997; Tiwari *et al.,*1995
740.	*Solanum nigrum* L.	Achanakmar, Amarkantak, Lamni	M	C	Mudgal *et al*.,1997; Murti & Panigrahi 1999; Prasad & Pandey, 1993; Saxena, 1970; Tiwari *et al.,*1995
741.	*Solanum tuberosum* L.	Amarkantak	F, M	Cultiv-ated	Mudgal *et al.,*1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
742.	*Solanum violaceum* Ortega (syn. *Solanum indicum* auct. non L.)	Amarkantak, Chauradadar, Kabirchabutra Katghora, Lamni	F, M	C	Mudgal *et al*., 1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
743.	*Solanum virginianum* L. (syn. *Solanum surratense* Burm.f.)	Amarkantak, Katghora	M	C	Mudgal *et al*.,1997; Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
Fam: Sterculiaceae					
744.	*Byttneria herbacea* Roxb.	Lamni , Marwahi	M	C	Panigrahi & Murti,1989; Tiwari *et al.,* 1995; Verma *et al*., 1993

745.	*Eriolaena candollei* Wall (syn. *Eriolaena hookeriana* W. & A.)	Amarkantak, Khuria, Pendra	Ms	R	Panigrahi & Murti, 1989; Saxena, 1970; Tiwari *et al.,*1995
746.	*Helicteres isora* L.	Achanakmar , Khondra, Khuria	Fb, M, Ms	R	Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al*., 1993
747.	*Melochia corchorifolia* L.	Karidongri, Pasarkhet	F ,Fb	C	Panigrahi & Murti,1989; Verma *et al*., 1993
748.	*Sterculia urens* Roxb.	Achanakmar, Karghora, Khuria, Lamni, Sarasdol	F,Fb, M	VU	Chaubey, *et al.*, 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1993; Tiwari *et al.,*1995; Ved *et al*., 2003; Verma *et al*., 1993
749.	*Sterculia villosa* Roxb.	Amarkantak	Fb, Ms	R	Saxena, 1970; Tiwari *et al.,*1995; Verma *et al*., 1993
750.	*Waltheria indica* L.	Korbi	M	R	Panigrahi & Murti,1989; Verma *et al*., 1993
Fam: Stylidaceae					
751.	*Stylidium kunthii* Wall. ex DC.	Pali	-	R	Panigrahi & Murti, 1989
752.	*Stylidium tenellum* Sw.	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,* 1995
Fam: Symplocaceae					
753.	*Symplocos laurina* (Retz.) Wall.	Pasarkhet	M	C / R	Mudgal *et al*., 1997; Panigrahi & Murti,1989
754.	*Symplocos racemosa* Roxb.	Pasan	M, Ms	C	Mudgal *et al*., 1997; Panigrahi & Murti,1989
Fam: Tamaricaceae					
755.	*Tamarix ericoides* Rottl. ex Willd.	-	M	C	Panigrahi & Murti,1989; Tiwari *et al*.,1995; Verma *et al*., 1993
Fam: Tiliaceae					
756.	*Corchorus aestuans* L.	Amarkantak	Fb, M	C	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,*1995
757.	*Corchorus fascicularis* Lam.	Amarkantak	M	R	Panigrahi & Murti,1989; Tiwari *et al.,*1995; Verma *et al.*, 1993
758.	*Corchorus olitorius* L.	Khondra	FB,M	C	Panigrahi & Murti,1989; Verma *et al*., 1993
759.	*Grewia serrulata* DC. (syn. *Grewia glabra* Bl.; *Grewia disperma* Rottl. ex Spreng.)	Achanakmar, Amarkantak, Khondra	Fb, Ms, T	C / R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995

760.	*Grewia hirsuta* Vahl	Keonchi, Lamni	M	C	Chaubey *et al*., 2003; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Tiwari *et al.,*1995; Verma, et al., 1993
761.	*Grewia rothii* DC.	Madai	F, Fb	C	Panigrahi & Murti, 1989
762.	*Grewia asiatica* L. (syn. *Grewia subinaequalis* DC.)	Amarkantak	F, Fb, M	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,*1995
763.	*Grewia tiliaefolia* Vahl	Kabirchabutra, Khudia, Lamni, Marwahi to Pasan, Sarasdol	M	C	Chaubey *et al.*, 2003; Panigrahi & Murti,1989; Tiwari *et al.,*1995
764.	*Triumfetta annua* L.	Amarkantak	F	R	Saxena, 1970; Tiwari *et al.,*1995
765.	*Triumfetta pentandra* A. Rich.	Kabirchabutra, Katghora	Fb	C	Tiwari *et al.,*1995
766.	*Triumfetta pilosa* Roth	Amarkantak, Khondra, Lamni	Fb	R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,*1995
767.	*Triumfetta rhomboidea* Jacq.	Achanakmar, Amarkantak, Lamni, Pasan	Fb, M	C	Panigrahi & Murti,1989; Prasad & Pandey, 1993; Saxena, 1970; Tiwari *et al.,*1995
Fam: Trapaceae					
768.	*Trapa natans* var. *bispinosa* (Roxb.) Makino (syn. *Trapa bispinosa* Roxb.)	Ratanpur, Pali	F	C	Panigrahi & Murti, 1989
Fam: Ulmaceae					
769.	*Celtis tetrandra* Roxb.	Amarkantak, Kabirchabutra	T	R	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
770.	*Trema orientalis* (L.) Bl.	Achanakmar, Amarkantak, Pasarkhet	T	R	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
Fam: Urticaceae					
771.	*Boehmeria macrophylla* Siebold & Zucc.	Kabirchabutra	-	C	Murti & Panigrahi,1999; Tiwari *et al.,*1995
772.	*Boehmeria scabrella* Gaud.	Amarkantak	Ms	C	Saxena, 1970; Tiwari *et al.,*1995
773.	*Elatostema cuneatum* Wight	Achanakmar	Ms	C	Murti & Panigrahi, 1999
774.	*Girardinia diversifolia* (Link.) Friis (syn. *Girardinia palmata* (Forsk.) Gaud.)	Amarkantak, Kabirchabutra	F	C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995

775.	*Lecanthus peduncularis* (Wall. ex Royle) Wedd. (syn. *Lecanthus wightii* Wedd.)	-	-	C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
776.	*Pouzolzia pentandra* (Roxb.) Benn.	Amarkantak	F, M	C	Saxena, 1970; Tiwari *et al.,* 1995
Fam: Verbenaceae					
777.	*Clerodendrum philippinum* Schauer (syn. *Clerodendrum fragrans* Willd.) (syn. *Cleroden-drum japonicum* (Thunb.) Sweet var. *pleniflorum* (Schauer) Maheshwari)	Amarkantak, Kabirchabutra	M	C	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
778.	*Clerodendrum serratum* (L.) Moon	Amarkantak, Kabirchabutra	M	EN	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995; Ved *et al*., 2003
779.	*Clerodendrum viscosum* Vent. (syn. *C. infor-tunatum* auct. non L.)	Achanakmar	M	C	Murti & Panigrahi 1999
780.	*Duranta repens* L. var. repens	Pendra, Keonchi	Ms, O	C	Murti & Panigrahi 1999; Tiwari *et al.,*1995
781.	*Gmelina arborea* Roxb.	Amarkantak	T	C	Saxena, 1970; Tiwari *et al.,*1995
782.	*Lantana camara* L. var. *aculeata* (L.) Moldenke	Amarkantak, Khootaghat	F, M, Ms, O	C	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
783.	*Phyla nodiflora* (L.) Greene	Khuria	F, M	C	Murti & Panigrahi 1999
784.	*Premna barbata* Wall. ex Schauer	Amarkantak	M	R	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
785.	*Pygmaeopremna herbacea* (Roxb.) Moldenke (syn. *Premna herbacea* Roxb.)	Amarkantak, Marwahi	M	C / R	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
786.	*Symphorema polyandrum* Wight	Katghora	Ms	R	Murti & Panigrahi, 1999
787.	*Tectona grandis* L.f.	Madai	T	Planted	Murti & Panigrahi,1999; Tiwari *et al.,*1995
788.	*Verbena officinalis* L.	Amarkantak, Khondra	M	R	Saxena, 1970; Tiwari *et al.,*1995
789.	*Verbena tenuisecta* Briq.	Kabirchabutra, Khondra	-	Planted	Murti & Panigrahi 1999

790.	*Vitex negundo* L.	Amarkantak, Katghora, Marwahi	M	C	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
Fam: Violaceae					
791.	*Hybanthus enneaspermus* (L.) F.v.Muell.	Khootghat	M	C	Panigrahi & Murti, 1989
Fam: Vitaceae					
792.	*Ampelocissus latifolia* (Roxb.) Planch	Amarkantak, Khondra, Lamni, Marwahi	M	R	Saxena, 1970; Panigrahi & Murti,1989; Prasad & Pandey, 1987; Tiwari *et al.,* 1995
793.	*Ampelocissus tomentosa* (Heyne ex Roth) Planch	Amarkantak	M	C / R	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995
794.	*Cayratia auriculata* (Roxb.) Gamble	Khondra		C	Panigrahi & Murti, 1989
795.	*Cayratia pedata* Gagnep.	Amarkantak, Khondra		R	Saxena, 1970
796.	*Cayratia trifolia* (L.) Domin	Achanakmar, Kabirchabutra	M	C	Panigrahi & Murti, 1989
797.	*Cissus quandrangularis* L. (syn *Vitis uandrangularis* (L.) Wall ex Wight & Arn.)	Lamni	M	Plant-ed	Prasad & Pandey, 1993
798.	*Tetrastigma lanceolarium* Planch	Amarkantak	F, M	C	Saxena, 1970; Tiwari *et al.,* 1995
799.	*Vitis vinifera* L.		F, M	Plant-ed	Panigrahi & Murti,1989; Saxena, 1970; Tiwari *et al.,* 1995

F=Food; Fb= Fibre; M=Medicine; Ms= Miscellaneous; O= Oilseed; T= Timber

Monocots: In all, 317 monocotyledonous angiosperms have been reported from Achanakmar-Amarkantak BR by various authors. The synonyms of some of the species existing, their distribution in BR, uses and status are detailed as in table 6.

Table: 6. Different species of monocotyledonous flora reported from Achanakmar – Amarkantak Biospehre Reserve

S.N.	Name of Species	Distribution in BR	Uses	Status	References
Fam: Agavaceae					
1.	*Agave cantula* Roxb. (syn. *Agave americana* auct. non L.)	Achanakmar, Amarkantak	Fb, M, O	Planted	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
2.	*Sansevieria hyacinthoides* (L.) Druce	Lamni	Fb, M	Planted	Panigrahi & Murti,1989; Singh *et al*., 2001
Fam: Alismataceae					
3.	*Limnophyton obtusifolium* (L.) Miq.	Ratanpur	-	C	Panigrahi & Murti,1989; Singh *et al*., 2001
4.	*Sagittaria guayanensis* H.B.K ssp. *lappula* (D.Don) Bogin	Khuria, Pasan,	-	C	Panigrahi & Murti, 1989; Singh *et al*., 2001
Fam: Amaryllidaceae					
5.	*Crinum defixum* Ker-Gawler	Madai, Korbi	-	C	Panigrahi & Murti,1989; Singh *et al*., 2001
6.	*Crinum latifolium* L.	Amarkantak	M	R	Saxena, 1970; Tiwari *et al.,* 1995
Fam: Aponogetonaceae					
7.	*Aponogeton undulatus* Roxb.	Pasarkhet	-	C	Panigrahi & Murti, 1989
Fam: Araceae					
8.	*Acorus calamus* L.	Amarkantak, Lamni	M	EN	Tiwari *et al.,* 1995, Ved *et al*., 2003
9.	*Amorphophallus bulbifer* (Roxb.) Bl.	Amarkantak, Pasan	F	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
10.	*Arisaema tortuosum* (Wall.) Schott.	Achanakmar, Amarkantak, Kabirchabutra, Lamni	M, Ms	C	Murti & Panigrahi, 1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
11.	*Colocasia esculenta.* (L) Schott (syn. *Colocasia antiquorum* Schott)	Amarkantak	F, M, Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995
12.	*Pistia stratiotes* L.	Ratanpur	M	C	Murti & Panigrahi,1999; Tiwari *et al.,*1995
13.	*Plesmonium margaritiferum* (Roxb.) Schott	Amarkantak	M	R	Saxena, 1970; Tiwari *et al.,*1995

14.	*Remusatia vivipara* (Roxb.) Schott	Amarkantak	F, M	R	Saxena, 1970; Tiwari *et al.,*1995
15.	*Typhonium trilobatum* (L.) Schott	Achanakmar		R	Murti & Panigrahi,1999; Singh *et al*., 2001
Fam: Arecaceae					
16.	*Phoenix acaulis* Roxb. ex Buch.-Ham.	Amadoh, Amarkantak, Chada, Khudia, Lamni, Sarasdol	F, Ms,	R	Chaubey *et al*., 2003; Saxena, 1970; Tiwari *et al.,*1995
17.	*Phoenix humilis* Royle var. humilis	Katghora	F, M, Ms	C	Murti & Panigrahi,1999
18.	*Phoenix sylvestris* (L.) Roxb.	Achanakmar, Amarkantak Lamni	F, Ms, T	R	Saxena, 1970; Tiwari *et al.,*1995
Fam: Burmanniaceae					
19.	*Burmannia coelestis* D.Don	Achanakmar, Amarkantak, Katghora	-	R	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
Fam: Butomaceae					
20.	*Butomopsis latifolia* (D.Don) Kunth	Katghora, Pali, Pasan, Semra	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
Fam: Cannaceae					
21.	*Canna coccinea* Mill.	-	Fb	C	Tiwari *et al.,*1995
Fam: Commelinaceae					
22.	*Commelina attenuata* J.Koenig. ex Vahl	Madai	F, M	C	Murti & Panigrahi,1999; Singh *et al*., 2001
23.	*Commelina benghalensis* L.	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,*1995
24.	*Commelina diffusa* Burm.f	-	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
25.	*Commelina erecta* L. (syn. *Commelina undulata* R.Br.)	Amarkantak	-	C	Murti & Panigrahi,1999; Saxena, 1970
26.	*Commelina forsskalaei* Vahl	Keonchi, Khuria, Padaria	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
27.	*Commelina hasskarlii* C.B.Cl.	Amarkantak	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995

28.	*Commelina paludosa* Bl.	Amarkantak	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
29.	*Commelina suffruticosa* Bl.	-	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
30.	*Cyanotis cristata* (L.) D. Don.	Amarkantak	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
31.	*Cyanotis fasciculata* (Heyne *ex* Roth) J.A.Schult	Khondra	-	C	Murti & Panigrahi,1999; Saxena, 1970
32.	*Floscopa scandens* Lour.	Amarkantak	M	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
33.	*Murdannia edulis* (Stokes) Faden (*Murdannia scapiflora* (Roxb.) Royle)	Amarkantak	-	R	Murti & Panigrahi,1999; Singh *et al*., 2001; Saxena, 1970; Tiwari *et al.,* 1995
34.	*Murdannia nudiflora* (L.) R. Brenan	Amarkantak, Pasan	-	C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
35.	*Murdannia spirata* (L.) Bruckn.	Achanakmar, Amarkantak, Katghora, Keonchi, Khondra, Pasarkhet	-	C / R	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001
36.	*Murdannia vaginata* (L.) Bruck.	Amarkantak	-	C	Singh *et al*., 2001; Tiwari *et al.,*1995
37.	*Tonningia axillaris* (L.) Kuntze	Madai	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
38.	*Tonningia cucullata* (Roth) Kuntze	Pali	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
Fam: Cyperaceae					
39.	*Bulbostylis barbata* (Rottb.) C.B.Cl. var. *barbata*	Karidongri, Katghora, Khuria, Pasan	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
40.	*Carex cruciata* Wahlenb. var. *cruciata*	Kabirchabutra, Pasarkhet, Madai	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
41.	*Carex speciosa* Kunth	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,*1995

42.	*Carex stramentitia* Boott. ex Boeck.	Amarkantak	-	C / R	Saxena,1970
43.	*Cyperus alulatus* Kern	Amarkantak, Pasan	M, O	C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,* 1995; Singh *et al*., 2001
44.	*Cyperus brevifolius* (Rottb.) Hassk. ssp. *brevifolius* (syn. *Kyllinga brevifolia* Rottb.)	Amarkantak, Khondra, Kota	M	R	Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
45.	*Cyperus bulbosus* Vahl.	Pasarkhet, Pasan, Pendra	-	C	Singh *et al*., 2001
46.	*Cyperus cephalotes* Vahl	Ratanpur	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
47.	*Cyperus compressus* L.	Pasan, Pendra	Ms	C	Murti & Panigrahi,1999, Singh *et al*., 2001
48.	*Cyperus difformis* L.	Pasan, Pendra	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995;
49.	*Cyperus distans* L.f.	Achanakmar, Amarkantak, Khondra , Lamni	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
50.	*Mariscus dubius* Fischer (syn. *Cyperus dubius* Rottb.)	Korbi, Lamni, Pasan	Ms	R	Murti & Panigrahi,1999
51.	*Cyperus exaltatus* Retz. var. *exaltatus*	Amarkantak, Pasarkhet	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,* 1995
52.	*Cyperus flavidus* Retz.	Amarkantak	-	C	Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
53.	*Cyperus iria* L.	Khuria	Fb, M	C	Murti & Panigrahi,1999; Singh *et al*., 2001
54.	*Cyperus kyllingia* Endl. (syn. *Kyllinga nemoralis* (J.R. & G.Forst.) Dandy ex Hutchinson & Dalz.	Achanakmar, Katghora, Pasarkhet, Marwahi	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
55.	*Cyperus latespicatus* Boeck. (syn. *Cyperus diaphanus* Schrad. ex R. & S.)	Amarkantak	Ms	C	Saxena, 1970; Tiwari *et al.,*1995
56.	*Cyperus michelianus* (L.) Link ssp. *pygmaeus* (Rottb.) Aschers. & Graebn.	-	-	C	Murti & Panigrahi,1999

57.	*Cyperus niveus* Retz.	Amarkantak, Marwahi, Pasan	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995
58.	*Cyperus nutans* Vahl. var. *eleusinoides* (Kunth) Koyama	Kabirchabutra, Lamni, Madai	-	C	Murti & Panigrahi,1999
59.	*Cyperus pangorei* Rottb. var. *pangorei*	Achanakmar	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
60.	*Cyperus paniceus* (Rottl.) Boeck.	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,*1995
61.	*Cyperus pilosus* Vahl	Amarkantak, Pasarkhet	-	C / R	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995
62.	*Cyperus platystylis* R.Br.	Pali	-	R	Murti & Panigrahi,1999
63.	*Cyperus pseudokyllingi-oides* Kuekenth. [Syn. *Courtoisina cyperoides* (Roxb.) Sojak]	Throughout	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
64.	*Cyperus pulchellus* R.Br.	Lamni	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
65.	*Cyperus pumillus* L. (syn. *Pycerus pumillus* (L.) Nees ssp. *pumilus*)	Katghora, Khondra, Madai	-	C	Murti & Panigrahi, 1999 Singh *et al*., 2001
66.	*Cyperus rotundus* L.	Amarkantak, Khudia, Lamni, Marwahi, Pasarkhet, Sarasdol	-	C	Chaubey *et al.*, 2003; Murti & Panigrahi,1999; Saxena,1970; Singh *et al*., 2001; Tiwari *et al.,*1995
67.	*Cyperus sanguinolentus* Vahl	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,*1995
68.	*Cyperus squarossus* L. (syn. *Mariscus squarossus* (L.) C.B.Cl.)	Kota, Lormi	Ms	C	Murti & Panigrahi,1999 Singh *et al*., 2001
69.	*Cyperus tenuispica* Steud.	Amarkantak, Pasarkhet, Siang	-	C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
70.	*Eleocharis atropurpurea* (Retz.) K.B. Presl.	Korbi, Pali	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
71.	*Eleocharis congesta* D. Don	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,*1995
72.	*Eleocharis palustris* (L.) R.Br. var. *palustris*	Pasarkhet	-	C	Murti & Panigrahi,1999

73.	*Eleocharis retroflexa* (Poir.) Urban	Katghora	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
74.	*Fimbristylis acuminata* Vahl	Katghora, Pali, Pasarkhet	-	C	Murti & Panigrahi,1999
75.	*Fimbristylis aestivalis* (Retz.) Vahl var. *aestavalis*	Katghora, Khootaghat, Khuria	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
76.	*Fimbristylis bisumbellata* (Forsk.) Bub.	Amarkantak	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
77.	*Fimbristylis complanata* (Retz.) Link.	Pasarkhet	-	R	Murti & Panigrahi,1999; Singh *et al*., 2001
78.	*Fimbristylis dichotoma* (L.) Vahl	Amarkantak, Madai, Neur	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995
79.	*Fimbristylis dipsacea* (Rottb.) C.B.Cl.	Pasarkhet, Siang	-	R	Murti & Panigrahi,1999; Singh *et al*., 2001
80.	*Fimbristylis falcata* (Vahl.) Kunth	Amarkantak, Marwahi, Pasan, Pendra	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
81.	*Fimbristylis fusca* (Nees) C.B.Cl.	Achanakmar	-	R	Murti & Panigrahi,1999
82.	*Fimbristylis miliacea* (L.) Vahl	Kudamura, Pasarkhet	-	C	Murti & Panigrahi,1999
83.	*Fimbristylis ovata* (Burm.f.) Kern.	Pali	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
84.	*Fimbristylis schoenoides* (Retz.) Vahl	Pasarkhet	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
85.	*Fimbristylis tetragona* R.Br.	Katghora, Pasarkhet	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
86.	*Fimbristylis tomentosa* Vahl	Throughout	-	R	Murti & Panigrahi,1999; Singh *et al*., 2001
87.	*Fuirena ciliaris* (L.) Roxb.	Katghora, Kudmura	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
88.	*Lipocarpha chinensis* (Osbeck) Kern.	Amarkantak, Pasarkhet	-	C	Murti & Panigrahi,1999; Saxena,1970; Singh *et al*., 2001; Tiwari *et al.,*1995
89.	*Mariscus compactus* (Retz.) Boldingh.	Khondra	-	C	Murti & Panigrahi,1999

90.	*Mariscus concinnus* Schrader ex Nees	Achanakmar, Lamni, Marwahi, Pasan, Pendra	-	C	Murti & Panigrahi,1999
91.	*Rikliella squarrosa* (L.) Raynal	Pasan, Pasarkhet	-	C	Murti & Panigrahi, 1999
92.	*Scirpus articulatus* L. (syn. *Schoenoplectus articulatus* (L.) Palla)	Keonchi, Lamni	-	C	Murti & Panigrahi,1999; Singh *et al*.,2001; Tiwari *et al.,*1995
93.	*Scirpus juncoides* Roxb. (syn. *Schoenoplectus juncoides* (Roxb.) Palla)	Lamni, Pasan, Katghora	-	C	Murti & Panigrahi,1999; Singh *et al*.,2001; Tiwari *et al.,*1995
94.	*Scirpus lateriflorus* J.F.Gmelin. [Syn. *Sch-oenoplectus lateriflorus* (J.F. Gmelin) Lye.]	Katghora, Khondra, Pasan	-	C	Murti & Panigrahi,1999; Singh *et al*.,2001; Tiwari *et al.,*1995
95.	*Scirpus mucronatus* L. (syn. *Schoenoplectus mucronatus* (L.) Palla)	Pasarkhet	-	C	Murti & Panigrahi,1999; Singh *et al*.,2001; Tiwari *et al.,*1995
96.	*Scirpus triangulatus* Roxb.	Amarkantak	Ms	C	Saxena, 1970; Tiwari *et al.,*1995
97.	*Scleria levis* Retz.	Amarkantak	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
98.	*Scleria pergracilis* (Nees) Kunth	Amarkantak	-	R	Saxena, 1970; Singh *et al*.,2001; Tiwari *et al.,* 1995
99.	*Scleria psilorrhiza* C.B.Cl.	Amarkantak	M	R	Saxena, 1970; Tiwari *et al.,*1995
Fam: Dioscoreaceae					
100.	*Dioscorea belophylla* (Prain)Voight ex Haines	Amarkantak, Khondra	F, M	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995
101.	*Dioscorea bulbifera* L.	Achanakmar, Amadoh, Amarkantak, Keonchi, Lamni	M	VU	Panigrahi & Murti,1989; Prasad & Pandey, 1987; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995; Ved *et al*., 2003
102.	*Dioscorea hispida* Dennst.	Achanakmar, Amarkantak, Lamni	M, Ms	VU	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Ved *et al*., 2003

103.	*Dioscorea oppositifolia* L.	Achanakmar, Amarkantak	M	C / R	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
104.	*Dioscorea pentaphylla* L.	Amadoh, Amarkantak, Khondra, Lamni	M, F	C	Murti & Panigrahi,1999; Prasad & Pandey, 1987; Saxena,1970; Tiwari *et al.,*1995
105.	*Dioscorea pubera* Bl.	Achanakmar	F	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
106.	*Dioscorea wightii* Hook.f.	Achanakmar	-	C	Murti & Panigrahi 1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
Fam: Eriocaulaceae					
107.	*Eriocaulon breviscapum* Koern.	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,*1995
108.	*Eriocaulon cinereum* R.Br. (syn. *Eriocaulon seiboldianum* Sieb. & Zucc. ex Steud.)	Amarkantak, Khondra, Pasarkhet	-	C	Murti & Panigrahi,1999; Tiwari *et al.,*1995
109.	*Eriocaulon longicuspis* Hook.f. (syn. *Eriocaulon polycephalum* Hk.f.)	Amarkantak	-	R	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,* 1995
110.	*Eriocaulon quinquangulare* L.	Amarkantak	-	C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
111.	*Eriocaulon ritchieanum* Ruhl.	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,*1995
Fam: Hydrocharitaceae					
112.	*Blyxa auberti* Rich.	Pasarkhet, Siang	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
113.	*Blyxa octandra* (Roxb.) Planch	Kota	M	R	Murti & Panigrahi,1999; Singh *et al*., 2001
114.	*Hydrilla verticiliata* (L.f.) Royle	Pasan	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
115.	*Lagarosiphon alternifolia* (Roxb.) Druce	Katghora, Lamni	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
116.	*Ottelia alismoides* (L.) Pers.	Keonchi, Korba	F, M	C	Panigrahi & Murti,1989; Singh *et al*., 2001
117.	*Vallisneria natans* (Lour.) Hara	Pali	-	C / R	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995

Fam: Hypoxidaceae					
118.	*Curculigo orchioides* Gaertn.	Amadoh, Amarkantak, Chada, Lamni	F, M	C	Murti & Panigrahi,1999; Prasad & Pandey,1987; Saxena,1970; Tiwari *et al.,*1995
Fam: Juncaceae					
119.	*Juncus leschenaultii* Gay (syn. J. *prismatocarpus auct. non* R.Br.)	Amarkantak, Katghora, Pondu	-	C / R	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
Fam: Liliaceae					
120.	*Aloe vera* (L.) Burm. f. (syn. *Aloe barbadensis* Mill.)	Achanakmar, Chada, Lamni	Fb, M	Plant-ed	Tiwari *et al.,*1995
121.	*Asparagus gracilus* Royle ex Baker	Amarkantak	-	R	Saxena, 1970 Singh *et al*., 2001
122.	*Asparagus racemosus* Willd.	Amadoh, Amarkantak, Chada, Khondra, Lamni	M	NT	Murti & Panigrahi,1999; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,*1995; Ved *et al*.,2003
123.	*Chlorophytum arundinaceum* Baker	Amadoh, Amarkantak, Chada, Lamni, Madai, Pasan, Pendra	F, M	C	Murti & Panigrahi,1999; Prasad & Pandey, 1987; Tiwari *et al.,*1995
124.	*Chlorophytum tuberosum* (Roxb.) Baker	Amarkantak, Khudia, Lamni	F, M	VU	Chaubey *et al*., 2003; Saxena, 1970; Tiwari *et al.,*1995; Ved *et al*., 2003
125.	*Drimia indica* (Roxb.) J.P. Jessop. (syn. *Urgenia indica* (Roxb.) Kunth)	Amarkantak, Katghora	M	VU	Murti & Panigrahi,1999; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,*1995; Ved *et al*.,2003
126.	*Gloriosa superba* L.	Amarkantak, Madai, Pasarkhet	M	VU	Murti & Panigrahi,1999; Tiwari *et al.,*1995; Ved *et al*., 2003
127.	*Iphigenia indica* (L.) A. Gray	Achanakmar, Pasarkhet	D	C	Panigrahi & Murti, 1989
Fam: Musaceae					
128.	*Musa paradisiaca* L. (syn. *Musa sapientum* L.)	Amarkantak	F, Fb, M	R	Saxena, 1970; Tiwari *et al.,*1995
Fam: Najadaceae					
129.	*Najas graminea* Delile	Pasan	-	C	Murti & Panigrahi,1999

Fam: Orchidaceae					
130.	*Aerides multiflorum* Roxb.	Achanakmar, Amarkantak	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995
131.	*Cymbidium macrorhizon* Lindl.	Sonmuda	M	C	Murti & Panigrahi,1999; Singh *et al*., 2001
132.	*Epipogium roseum* (D.Don) Lindl.	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,*1995
133.	*Eulophia cullenii* (Wight) Bl. (syn. *E. flava* (Lindl.) Hook.f.)	Lamni	M	C	Murti & Panigrahi,1999; Singh *et al*., 2001
134.	*Eulophia herbaea* Lindl.	Amarkantak	M	EN	Murti & Panigrahi,1999; Ved *et al*., 2003
135.	*Eulophia nuda* Lindl.	Amarkantak	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
136.	*Eulophia spectabilis* (Dennst.) Suresh (syn. *Eulophia nuda* Lindl.)	Amarkantak	M	C	Murti & Panigrahi,1999; Tiwari *et al.,*1995
137.	*Geodorum densiflorum* (Lam.) Schltr.	Pasan	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
138.	*Habenaria dentata* (Sw.) Schlecht.	Achanakmar	M	R	Singh *et al*., 2001; Tiwari *et al.,*1995
139.	*Habenaria digitata* Lindl.	Achanakmar, Kabirchabutra, Lamni	-	C	Murti & Panigrahi,1999; Tiwari *et al.,*1995
140.	*Habenaria furcifera* Lindl.	Amarkantak	-	R	Saxena, 1970
141.	*Luisia trichorhiza* (Hook.) Bl.	Amarkantak	M	R	Saxena, 1970; Tiwari *et al.,*1995
142.	*Luisia zeylanica* Lindl. (syn. *Luisia teretifolia* Gaud.)	Amarkantak	M	R	Saxena, 1970; Tiwari *et al.,*1995
143.	*Malaxis mackinnonii* (Duthie) Ames.	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,*1995
144.	*Oberonia ensiformis* (Sm.) Lindl.	Amarkantak,	-	R	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
145.	*Oberonia falconeri* Hook.f.	Kabirchabutra	-	C	Murti & Panigrahi,1999; Singh *et al*.,2001; Tiwari *et a.,*1995
146.	*Peristylus constrictus* (Lindl.) Lindl.	Amarkantak, Lamni	-	C / R	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995

147.	*Peristylus goodyeroides* (D.Don) Lindl.	Kabirchabutra	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
148.	*Peristylus lawii* Wight	Katghora	-	R	Murti & Panigrahi,1999; Singh *et al*., 2001
149.	*Peristylus stocksii* (Hook.f.) Kranzl.	Amarkantak	-	R	Saxena, 1970
150.	*Pelatantheria insectifera* (Reichb.f.) Ridley	Pasarkhet	M	R	Saxena, 1970; Singh *et al*., 2001
151.	*Platanthera susannae* (L.) Lindl.	Amarkantak	-	C	Murti & Panigrahi,1999; Tiwari *et al.,*1995
152.	*Rhynchostylis retusa* (L) Bl.	Amarkantak, Pasan	M	R	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
153.	*Vanda tessellata* (Roxb.) Hook. ex G. Don	Marwahi, Khondra, Pasan	M	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
154.	*Vanda testacea* (Lindl.) Rceihb. (syn. *Vanda parviflora* Lindl.)	Kabirchabutra	M	R	Murti & Panigrahi 1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
Fam: Poaceae					
155.	*Acrachne racemosa* (Heyne ex Roem. & Schult.) Ohwi	Lamni	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
156.	*Alloteropsis cimicina* (L.) Stapf	Pasarkhet	-	C	Murti & Panigrahi,1999; Tiwari *et al.,* 1995
157.	*Alloteropsis semialata* (R.Br.) Hitchc	Amarkantak	-	C	Saxena, 1970
158.	*Apluda mutica* L.	Amarkantak, Pendra	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001
159.	*Aristida adscensionis* L.	Khootghat, Katghora	Ms	C	Murti & Panigrahi,1999; Singh *et al.*,2001
160.	*Aristida cumingiana* Trin. *et* Rupr.	Amarkantak	Ms	R	Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
161.	*Aristida setacea* Retz.	Amarkantak, Pasan, Pasarkhet	Ms	C/R	Murti & Panigrahi 1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
162.	*Arthraxon hookeri* (Hack.) Henr.	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,*1995

163.	*Arthraxon lanceolatus* (Roxb.) Hochst	Khondra	Ms	C	Murti & Panigrahi,1999
164.	*Arthraxon lancifolius* (Trin.) Hochst.	Amarkantak, Khondri, Madai	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
165.	*Arthraxon quartinianus* (A.Rich.) Nash	Amarkantak	Ms	C	Saxena, 1970; Tiwari *et al.,*1995
166.	*Arundinella pumila* (Hochst.ex A.Rich.) Steud.	Amarkantak, Kota, Madai	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995
167.	*Arundinella setosa* Trin. var. *lanifera* C. E.C. Fischer	Madai	Ms	R	Murti & Panigrahi,1999; Singh *et al*., 2001
168.	*Bambusa arundinacea* (Retz.) Willd.		Ms, T	C	Singh *et al*.,2001; Tiwari *et al.,*1995
169.	*Bambusa bambos* (L.) Vilmorin	Pasan	-	C	Murti & Panigrahi,1999
170.	*Bothriochloa glabra* (Roxb.) A. Camus	Amarkantak, Kota, Pali	Ms	C	Murti & Panigrahi,1999; Saxena,1970
171.	*Bothriochloa grahamii* (Haines) Bor	Amarkantak	Ms	Ende-mic	Khanna, 2007; Saxena, 1970; Tiwari *et al.,*1995
172.	*Bothriochloa bladhii* (Retz.) S. T. Blake (syn. *Bothriochloa intermedia* (R.Br.) A.Camus	Amarkantak	Ms	C	Saxena, 1970; Tiwari *et al.,*1995
173.	*Bothriochloa kuntzeana* (Hack.) Henr.	Amarkantak	Ms	C	Saxena, 1970; Tiwari *et al.,*1995
174.	*Bothriochloa odorata* (Lisboa) A. Camus	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,*1995
175.	*Bothriochloa pertusa* (L.) A. Camus	Amarkantak	-	C	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,* 1995
176.	*Brachiaria deflexa* (Schum.) C. E. Hubb. ex Robyns	Lamni	Ms	R	Murti & Panigrahi 1999
177.	*Brachiaria distachya* (L.) Stapf		Ms	C	Murti & Panigrahi 1999
178.	*Brachiaria reptans* (L.) C. A. Gard. & C.E. Hubb.	Throughout the BR	Ms	C	Murti & Panigrahi 1999
179.	*Capillipedium assimile* (Steud.) A.Camus	Achanakmar, Amarkantak, Kabirchabutra	-	C / R	Murti & Panigrahi 1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
180.	*Capillipedium huegelii* (Hack.) Stapf	Amarkantak	-	C	Saxena, 1970; Tiwari *et al.,*1995

181.	*Capillipedium parviflorum* (R.Br.) Stapf	Amarkantak	-	C / R	Saxena, 1970
182.	*Chionachne koenigii* (Spreng.) Thw.	Achanakmar, Amarkantak, Katghora	-	C / R	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995
183.	*Chloris dolichostachya* Lag.	Achanakmar, Khondra	Ms	C	Murti & Panigrahi,1999; Tiwari *et al.,*1995
184.	*Chloris virgata* Swartz.	Throughout	Ms	C	Murti & Panigrahi 1999; Singh *et al*., 2001
185.	*Chrysopogon aciculatus* (Retz.) Trin. (syn. *Andropogon aciculatus* Retz)	Pali		C	Murti & Panigrahi 1999
186.	*Chrysopogon fulvus* (Spreng.) Chiov.	Pali, Katghora		C	Murti & Panigrahi 1999
187.	*Coelachne simpliciuscula* (W. & A.ex Steud.) Benth	Amarkantak, Pali, Semra		R	Murti & Panigrahi 1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995
188.	*Coix gigantea* Koenig. ex Roxb.		Ms	C	Tiwari *et al.,*1995
189.	*Coix lacryma- jobi* L.	Amarkantak, Kota, Khondra	F, M, Ms	C	Murti & Panigrahi 1999; Saxena, 1970; Singh *et al*., 2001
190.	*Cymbopogon martinii* (Roxb.) Wats.	Amarkantak, Katghora, Keonchi, Katra, Lamni	Ms, O	C	Chaubey *et al*., 2003; Saxena, 1970; Murti & Panigrahi 1999; Tiwari *et al.,*1995
191.	*Cynodon arcuatus* J.Presl. ex K. Presl.	Katghora	-	R	Murti & Panigrahi 1999
192.	*Cynodon dactylon* (L.) Pers.	Amarkantak, Khuria, Pasarkhet, Achanakmar	M, Ms	C	Murti & Panigrahi 1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
193.	*Dactyloctenium aegyptium* (L.) P. Beauv.	Amarkantak, Karidongri, Pasan	-	C	Murti & Panigrahi 1999; Saxena, 1970; Tiwari *et al.,*1995
194.	*Dendrocalamus strictus* (Roxb.) Nees	Achanakmar, Amarkantak, Lamni	Ms,	C	Chaubey *et al*., 2003; Murti & Panigrahi 1999; Singh *et al*.,2001; Tiwari *et al.,*1995;
195.	*Desmostachya bipinnata* (L.) Stapf	Madai	-	C	Murti & Panigrahi,1999

196.	*Dichanthium annulatum* (Forssk.) Stapf	Achanakmar, Amarkantak, Madai, Katghora, Kabirchabutra, Karidongri, Khondra, Pasan, Semra	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
197.	*Dichanthium aristatum* (Poir.) C.E.Hubb.	Amarkantak, Kabirchabutra	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
198.	*Diectomis fastigiata* (Sw.) Kunth	Pasarkhet	-	R	Murti & Panigrahi,1999; Singh *et al*., 2001
199.	*Digitaria abludens* (Roem. & Schult.) Veldk. [Syn. *Digitaria granularis* (Trin.) Henr.]	Amarkantak, Khuria, Pasarkhet	-	C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
200.	*Digitaria bicornis* (Lam.) Roem. & Schult. *Ex* Loud.	Throughout, Kota	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
201.	*Digitaria ciliaris* (Retz.) Koeler [Syn. *Digitaria adcendens* (Kunth) Henr. ssp. *adscendens*]	Amarkantak, Lamni, Pasan, Pali	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001
202.	*Digitaria longiflora* (Retz.) Pers.	Achanakmar, Amarkantak	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
203.	*Digitaria setigera* Roth ex R.& S.	Amarkantak, Keonchi	-	C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
204.	*Digitaria stricta* Roth ex Roem. & Schult.	Khondra	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
205.	*Dimeria connivens* Hack.	Lafa	-	C	Murti & Panigrahi,1999
206.	*Dimeria ornithopoda* Trin.var. *ornithopoda*	Amarkantak, Katghora, Khondra, Kota	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
207.	*Echinochloa colonum* (L.) Link.	Amarkantak, Lamni , Karidongri, Pasan, Parasi,	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995
208.	*Echinocholoa stagnina* (Retz.) P. Beauv.	Achanakmar, Amarkantak, Pasan, Semra		C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995

209.	*Eleusine indica* (L.) Gaertn.	Amarkantak, Pali , Pasan	M	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
210.	*Elytrophorus spicatus* (Willd.) A. Camus	Katghora, Keonchi, Pasan	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
211.	*Eragrostiella bifaria* (Vahl) Bor	Katghora, Madai, Pasarkhet	-	C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
212.	*Eragrostiella brachyphylla* (Stapf) Bor	Kota, Pasarkhet, Pasan	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
213.	*Eragrostis atrovirens* (Desf.) Trin. ex Steud.	Katghora, Lamni, Pasan, Pendra	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
214.	*Eragrostis ciliaris* (L.) R. Br.	-	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
215.	*Eragrostis coarctata* Stapf	-	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
216.	*Eragrostis gangetica* (Roxb.) Steud.	Amarkantak	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
217.	*Eragrostis japonica* (Thunb.) Trin.	Achanakmar, Katghora, Padaria	-	R	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
218.	*Eragrostis nutans* (Retz.) Nees ex Steud.	Amarkantak, Katghora	-	R	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
219.	*Eragrostis pilosa* (L.) P. Beauv.	Khondra, Pali, Pasarkhet	-	C	Murti & Panigrahi 1999; Singh *et al*., 2001
220.	*Eragrostis tenella* (L.) P.Beauv. ex R. & S.	Lafa, Katghora	-	C	Murti & Panigrahi,1999; Tiwari *et al.,*1995
221.	*Eragrostis tenuifolia* Hochst. ex Steud.	Amarkantak	-	R	Saxena, 1970; Tiwari *et al.,* 1995
222.	*Eragrostis tremula* (Lam.) Hochst. ex Steud.	Katghora, Pali, Pasan	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
223.	*Eragrostis unioloides* (Retz.) Nees ex Steud.	Amarkantak, Katghora, Pali, Pasan, Lamni	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
224.	*Eriochloa procera* (Retz.) C.E. Hubb.	Neura	-	R	Murti & Panigrahi,1999

225.	*Eulalia contorta* (Borogn.) Clayton & Renvoize ex Panigr.	Katghora, Madai	-	C	Murti & Panigrahi,1999
226.	*Eulalia trispicata* (Schult.) Henr.	Achanakmar, Amarkantak, Siang	-	R	Murti & Panigrahi 1999; Saxena, 1970; Singh *et al*., 2001
227.	*Hackelochloa granularis* (L.) O. Ktze.	Amarkantak	-	R	Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995
228.	*Hemarthria compressa* (L.f.) R.Br.	Achanakmar, Amarkantak	-	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
229.	*Heteropogon contortus* L. (P. Beauv.)	Amarkantak, Katghora, Kota, Korbi, Khudia, Madai, Sarasdol	Ms	C	Chaubey *et al*., 2003; Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
230.	*Hymenachne pseudo-interrupta* C. Muell.	Amarkantak	Ms	R	Saxena, 1970; Tiwari *et al.,*1995
231.	*Imperata cylindrical* (L.) P.Beauv. var. *major* (Nees) Hubb. ex Hubb.& Vaughan	Amadoh, Achanakmar, Amarkantak, Lamni, Pasan	M, Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
232.	*Isachne globosa* (Thunb.) O. Ktze.	Amarkantak, Katghora, Pali	Ms	C / R	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
233.	*Isachne miliacea* Roth	Amarkantak, Kabirchabutra	Ms	R	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
234.	*Ischaemum duthiei* Stapf	Amarkantak	Ms	-	Saxena, 1970; Tiwari *et al.,* 1995
235.	*Ischaemum indicum* (Houtt.) Merr.	Achanakmar, Khondra, Kudmura, Pali	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
236.	*Ischaemum rugosum* Salisb.	Amarkantak, Katghora, Kota	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
237.	*Iseilema laxum* Hack.	Throughout thr BR	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
238.	*Iseilema prostratum* (L.) Anderss.	Amarkantak, Keonchi	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995

239.	*Leersia hexandra* Swartz.	Pasan	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
240.	*Leptochloa chinensis* (L.) Nees	Madai	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
241.	*Manisuris C.B.Cl.i* (Hack.) Bor	Amarkantak	Ms	R	Saxena, 1970; Tiwari *et al.,*1995
242.	*Melanocenchris Jacque montii* Jaub. & Spach.	Kota	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
243.	*Mnesithea granularis* (L.) Koenig.	Pasan, Khootghat	Ms	C	Murti & Panigrahi,1999
244.	*Mnesithea laevis* (Retz.) Kunth (syn. *Rottboellia perforata* Nees)	Amarkantak, Khootaghat, Pasan	Ms	R	Murti & Panigrahi,1999
245.	*Ophiuros exaltatus* (L.) Kuntze	Acahanakmar, Khondra	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
246.	*Oplismenus burmannii* (Retz.) P. Beauv.	Amarkantak	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
247.	*Oplismenus compositus* (L.) P.Beauv.	Amarkantak, Katghora, Kota, Khondra	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
248.	*Oryza rufipogon* Griff.	Amarkantak, Belghana, Kota, Khondra, Lamni	Ms	R	Murti & Panigrahi 1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
249.	*Oryza sativa* L.	Lamni	F	C	Tiwari *et al.,*1995
250.	*Panicum walense* Mez. (syn. *Panicum austro-asiaticum* Ohwi	Amarkantak	Ms	-	Saxena, 1970
251.	*Panicum notatum* Retz.	Amarkantak, Kabirchabutra, Madai	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
252.	*Panicum paludosum* Roxb.	Katghora, Pasarkhet, Pasan	Ms	C	Murti & Panigrahi,1999; Singh *et al*.,2001; Tiwari *et al.,*1995
253.	*Panicum psilopodium* Trin.	Amarkantak, Pasan	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
254.	*Panicum repens* L.	Amarkantak	Ms	C	Saxena, 1970; Singh *et al*.,2001; Tiwari *et al.,*1995

255.	*Panicum sumatrense* Roth ex R. & S.	Amarkantak, Pasarkhet, Tehrapani	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
256.	*Panicum trypheron* Schult	Amarkantak	Ms	-	Saxena, 1970; Tiwari *et al.,*1995
257.	*Paspalidium flavidum* (Retz.) A.Camus	Amarkantak, , Keonchi, Lamni, Madai, Pasan, Pendra	Ms	C	Murti & Panigrahi 1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
258.	*Paspalidium punctatum* (Burm. f.) A.Camus (syn. *Panicum punctatum* Burm.f.)	Keonchi, Khondra	Ms	C	Chaubey *et al*., 2003 Murti & Panigrahi 1999; Saxena, 1970
259.	*Paspalum commersonii* Lam. (*Paspalum scrobiculatum* L.)	Amarkantak	-	C	Saxena, 1970; Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
260.	*Paspalum vaginatum* Swartz. (syn. *Paspalum distichum* L.)	Amarkantak, Kota	Ms	C / R	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
262.	*Pennisetum hohenackeri* Hochst ex Steud.	Achanakmar, Amarkantak, Kabirchabutra	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
263.	*Pennisetum pedicellatum* Trin.	Katghora	Ms	C	Murti & Panigrahi,1999; Singh *et al*.,2001; Tiwari *et al.,*1995
264.	*Pennisetum polystachion* (L.) Schult.	Katghora	Ms	C	Murti & Panigrahi,1999
265.	*Perotis indica* (L.) Kuntze.	Katghora, Karidongri, Pasarkhet	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
266.	*Phragmites karka* (Retz.) Trin. ex Steud.	Achanakmar, Pasan , Semra	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
267.	*Pogonatherum crinitum* (Thunb.) Kunth	Achanakmar	M	C	Murti & Panigrahi,1999
268.	*Pogonatherum paniceum* (Lamk.) Hack. (syn. *Pogonatherum saccharoideum* P. Beauv.)	Amarkantak, Siang, Korbi	M	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
269.	*Pseudopogonatherum contortum* (Brongn.) A.Camus	Amarkantak	-	R	Saxena, 1970; Singh *et al*., 2001

270.	*Pseudosorghum fasciculare* (Roxb.) A.Camus	Madai	-	R	Murti & Panigrahi,1999; Singh *et al*., 2001
271.	*Rottboellia cochichinensis* (Lour.) Clayton	-	Ms	C	Saxena, 1970
272.	*Rottboellia exaltata* L.f.	Amarkantak	Ms	C	Saxena, 1970
273.	*Saccharum narenga* (Nees ex Steud.) Hack.	Achanakmar	Ms	C	Murti & Panigrahi,1999
274.	*Saccharum spontaneum* L.	Achanakmar, Amarkantak	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
275.	*Sacciolepis indica* (L.) A.Chase	Amarkantak	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001
276.	*Sacciolepis interrupta* (Willd.) Stapf	Keonchi	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
277.	*Sacciolepis myosuroides* (R.Br.) A.Chase	Amarkantak, Achanakmar, Katghora, Pasarkhet, Pasan	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
278.	*Schizachyrium brevifolium* (Sw.) Nees ex Buse	Amarkantak, Pasan	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,* 1995
279.	*Schizachyrium exile* (Hochst.) Pilger	Pasan	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
280.	*Sehima nervosum* (Rottb.) Stapf	Lafa	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
281.	*Setaria homonyma* (Steud.) Chiov.	Amarkantak, Kabirchabutra	Ms	C / R	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
282.	*Setaria intermedia* Roem. & Schult. (syn. *Setaria tomentosa* (Roxb.) Kunth)	Pasan	Ms	C	Murti & Panigrahi,1999
283.	*Setaria italica* (L.) P. Beauv.	Amarkantak	Ms	C	Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
284.	*Setaria pumila* (Poir.)R. & S. (syn. *Setaria pallide-fusca* (Schum.) Stapf & C.E.Hubb.)	Amarkantak, Karidongri, Lamni, Pasan	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995

285.	*Setaria verticilliata* (L.) P.Beauv.	Lamni	Ms	C	Murti & Panigrahi,1999; Singh *et al*., 2001
286.	*Sorghum cernuum* (Ard.) Host.	Pasan	Ms	C	Murti & Panigrahi,1999
287.	*Sorghum halepense* (L.) Pers.	Amarkantak, Kabirchabutra, Pendra	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
288.	*Sorghum nitidum* (Vahl) Pers.	Amarkantak, Achanakmar, Madai	Ms	C / R	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
289.	*Spodiopogon rhizophorus* (Steud.) Pilger	Amarkantak, Keonchi, Kabirchabutra, Kota	-	R	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
290.	*S. indicus* auct. non (L.) R.Br.	Amadob	-	C	Saxena, 1970; Singh *et al*., 2001
291.	*Sporobolus fertilis* (Steud.) W.D.Clayton (syn. *S. indicus* auct. non (L.) R.Br. var. *fertilis* (Steud.) Jovet & Guedes)	Keonchi, Khondra, Lamni	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
292.	*Sporobolus indicus* (L.) R.Br.	-	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
293.	*Themeda caudata* (Nees) A.Camus	Lamni	Ms	R	Murti & Panigrahi,1999; Singh *et al*., 2001
294.	*Themeda laxa* (Anderss.) A.Camus	Achanakmar Khondra	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001
295.	*Themeda quadrivalvis* (L.) O. Ktze.	Amarkantak, Pendra	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
296.	*Themeda triandra* Forssk.	Achanakmar, Amarkantak, Katghora , Kenda	Ms	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
297.	*Thysanolaena maxima* (Roxb.) O. Ktze.	Amarkantak, Achanakmar, Kabirchabutra, Katghora, Lamni	Ms	-	Chaubey *et al*., 2003; Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
298.	*Urochloa panicoides* P. Beauv.	Amarkantak	F, Ms	C	Saxena, 1970; Tiwari *et al.,*1995

299.	*Vetiveria zizanioides* (L.) Nash	Khuria, Khondra, Achanakmar	M,Ms, O	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
Fam: Pontederiaceae					
300.	*Monochoria vaginalis* (Burm.f.) Persl. ex Kunth	Amarkantak, Kota, Pasan, Pendra	F, M	C	Murti & Panigrahi,1999; Saxena,1970; Tiwari *et al.,*1995
Fam: Potamogetonaceae					
301.	*Potamogeton crispus* L.	Khuria	F	-	Murti & Panigrahi,1999; Singh *et al*., 2001
302.	*Potamogeton nodosus* Poir.	Khuria	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
303.	*Octandrus* Poir. (syn. *Potamogeton javanicus* Hassk.)	Amarkantak	F	R	Saxena, 1970; Tiwari *et al.,*1995
Fam: Smilacaceae					
304.	*Smilax perfoliata* Lour.	-	F, M	C / R	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
305.	*Smilax zeylanica* L. (syn. *S. macrophylla* Roxb.)	Achanakmar, Amarkantak, Khondra, Lamni	M	C	Chaubey *et al*.,2003; Murti & Panigrahi,1999; Singh *et al*.,2001; Tiwari *et al.,*1995
Fam: Taccaceae					
306.	*Tacca leontopetaloides* (L.)Kuntz.	Khondra, Lamni	-	C	Murti & Panigrahi,1999; Singh *et al*., 2001; Tiwari *et al.,*1995
Fam: Xyridaceae					
307.	*Xyris pauciflora* Willd.	Katghora, Pasarkhet, Pali	F, M	C	Murti & Panigrahi,1999
Fam: Zingiberaceae					
308.	*Costus speciosus* (J. Koenig.) Sm.	Amarkantak, Kabirchabutra, Lamni, Madai	F, M	VU	Murti & Panigrahi,1999; Prasad & Pandey, 1987; Saxena, 1970; Tiwari *et al.,*1995; Ved *et al*., 2003
309.	*Curcuma amada* Roxb.	Madai, Pali	M, O	C	Murti & Panigrahi,1999; Saxena, 1970; Singh *et al*., 2001
310.	*Curcuma angustifolia* Roxb.	Achanakmar, Amarkantak, Khudia, Lamni, Sarasdol	M	VU	Chaubey *et al.*, 2003; Murti & Panigrahi,1999; Prasad & Pandey, 1987; Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995; Ved, *et al*., 2003

311.	*Curcuma aromatica* Salisb.	Achanakmar	M, Ms	C	Prasad & Pandey, 1987; Tiwari *et al.,*1995
312.	*Curcuma caesia* L.	-	M, Ms	Cultiv-ated, DD	Tiwari *et al.,*1995; Ved *et al*., 2003
313.	*Curcuma longa* L.	-	F, M, O	C	Murti & Panigrahi,1999; Tiwari *et al.,*1995
314.	*Globba marantina* L. (syn. *Globba bulbifera* Roxb.)	Achanakmar, Amarkantak, Kabirchabutra	F	C	Murti & Panigrahi,1999; Saxena, 1970; Tiwari *et al.,*1995
315.	*Globba racemosa* Sm.	Amarkantak	F	R	Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
316.	*Hedychium coronarium* Koenig.	Amarkantak	M	C	Saxena, 1970; Singh *et al*., 2001; Tiwari *et al.,*1995
317.	*Zingiber capitatum* Roxb.	Achanakmar, Lamni	M	C	Murti & Panigrahi,1999; Singh *et al*., 2001
318.	*Zingiber roseum* (Roxb.) Rosc.	Achanakmar Amarkantak, Khudia, Lamni	M	C	Chaubey, *et al.*, 2003; Murti & Panigrahi 1999; Singh *et al*., 2001; Saxena,1970

F=Food; Fb= Fibre; M=Medicine; Ms= Miscellaneous; O= Oilseed; T= Timber

ii. List of threatened plant species needs protection in BR:

As per the above floral documentation of Achanakmar- Amarkantak BR, the following 28 species are found under various categories of threats. As per IUCN norms they have been categorized as Critically Endangered (CR), Endangered (EN) and Vulnerable (VU). The BR has one critically endangered, five endangered and twenty two vulnerable plants species. Two at them are ferns.

S.N.	**Name of species**	**Common name**	**Division: Family**	**Category**
1	*Adiantum capillus veneris* L.	Hansraj	Pteridophyta: Adiantaceae	EN
2	*Lygodium flexuosum* (L.) Sw.	-	Pteridophyta: Lygodiaceae	EN
3	*Andrographis paniculata* (Burm.f.) Wall. ex Nees	Kalmegh	Angiosperm: Acanthaceae	VU
4	*Peucedanum nagpurense* Prain	Tejraj	Apiaceae	VU
5	*Rauvolfia serpentina* (L.) Benth.ex Kurz	Sarpagandha	Apocynaceae	CR
6	*Gymnema sylvestre* (Retz.) R.Br. ex Schult.	Gurmar	Asclepiadaceae	VU

7	*Oroxylum indicum* (L.) Vent.	Sheonag	Bignoniaceae	VU
8	*Boswellia serrata* Roxb.	Salai	Burseraceae	VU
9	*Celastrus paniculata* Willd.	Malkangni	Celastraceae	VU
10	*Terminalia chebula* Retz.	Harra	Combretaceae	VU
11	*Phyllanthus emblica* L. (syn. Emblica officinalis Gaertn.)	Aonla	Euphorbiaceae	VU
12	*Pterocarpus marsupium* Roxb.	Bija	Fabaceae	VU
13	*Uraria picta* (Jacq.) Desv. ex DC.		Fabaceae	VU
14	*Litsea glutinosa* (Lour.) CR. Robins	Maida	Lauraceae	VU
15	*Piper longum* L.	Lendi peper	Piperaceae	VU
16	*Plumbago zeylanica* DC.	Chitrak	Plumbaginaceae	VU
17	*Thalictrum foliolosum* DC.	Mameri	Ranunculaceae	VU
18	*Sterculia urens* Roxb.	Kullu	Sterculiaceae	VU
19	*Clerodendrum serratum* (L.) Moon.	Bharangi	Verbenaceae	EN
20	*Acorus calamus* L.	Buch	Araceae	EN
21	*Dioscorea bulbifera* L.	Ratalu	Dioscoreaceae	VU
22	*D. hispida* Denn.	Karuakanda	Dioscoreaceae	VU
23	*Chlorophytum tuberosum* Baker	Safed musali	Liliaceae	VU
24	*Drimia indica* (Roxb.) I.P. Jessop (syn.*Urgenia indica* (Roxb.) Kunth)	Jangali Pyaj	Liliaceae	VU
25	*Gloriosa superba* L.	Kaliyari	Liliaceae	VU
26	*Eulophia herbacea* Lindl.		Orchidaceae	EN
27	*Costus speciosus* Sm.	Keokand	Zingiberaceae	VU
28	*Curcuma angustifolia* Roxb.	Tikhur	Zingiberaceae	VU

ii. Scientific information Published:

1. Shettyi, P.K. 1957. Soil fungal flora of two forest compartments of Amarkantak, M.P.*Bull.Bot. Soc.Univ. Saugar,* **9**: 40-47.

Abstract

Author collected soil fungi from two forest compartments of Amarkantak, isolated them and identified.

2. Saxena, H.O. 1970. The flora of Amarkantak, M. P. *Bull. Bot. Sur. India,* **12** (1-4): 37-66**.**

Abstract

The paper deals with the flora of phanerogams and pteridophyte of Amarkantak plateau. The total number of species enumerated in this paper is 635 (Angiosperms 612, Gymnosperms 2 and Pteridophytes 21), of which, 7 species are new for central India and 14 for Madhya Pradesh.

3. Chaturvedi, J.K.1982. Tropical pines in Madhya Pradesh. *Indian Forester,* **108** (2): 163-170.

Abstract

Tropical pines were first introduced in Amarkantak region of Madhya Pradesh in 1968 by the State Forest Research Institute. Numbers of experiments were conducted at Amarkantak on choice of species, spacement, fertilizer application and technique of planting. Based on the data obtained, tropical pines were raised over an area of 230 ha and 1356 ha under research trials and pilot plantations respectively in Bastar. Tentative conclusions have been drawn from a number of experiments. Tests have shown the suitability of tropical pines for pulpwood. Growth data has confirmed the fast growth of species and its increased out turn per hectare has encouraged the prospects of a paper industry in the region.

4. Soni, K. K., Dadwal, V.S. and Jamaluddin.1984. A new species of *Cercosporidium* from India. *Current Science*, **53** (16): 877-878**.**

Abstract

During studies on parasitic fungi of Madhya Pradesh, a parasitic fungus was collected on leaves of *Helicteres isora* L. from Amarkantak forest. Microscopic examinations revealed it to be a new species of *Cercosporidium*. It was named as *C. helicteri* and confirmed by CMI to be a new species.

5. Yadav, V. K., Khare, P. K. and Mishra, G. P. 1986. Effect of tree girth on seed viability and germination in Sal. *Journal of Tropical Forestry,* **2** (2): 160-163**.**

Abstract

Seeds of sal from trees of different girth classes were examined in laboratory to establish the relationship between age and viability and germination. Results of experiments revealed higher viability and germination in seed from middle girth class trees. Statistical analysis also showed significant difference in germination in seed from different girth class.

6. Prasad, Ram and Pandey, R. K. 1987a. Survey of medicinal wealth of central India: I. Potential of indigenous medicinal plants in natural forests of eastern Madhya Pradesh. *Journal of Tropical Forestry,* **3** (IV): 287-297.

Abstract

Based on the botanical survey of six sites viz; Amarkantak, Amadoh, Lamni, Achanakmar, Motinala and Chada (Baiga chak), all contain dense sal forest and inhabited by some of the most primitive tribes of this country, it is reported that all the inhabitants use many plants as medicines, spices, fruits and as a food supplement, especially during the period of food shortages. Commercial exploitation of forests and biotic factors such as excessive grazing, fire, illicit cutting, etc. has accelerated the pace of destruction of these useful plant habitats. Many plant species have disappeared while many more are getting threatened. This paper highlights the implication of forest destruction to the tribals and advocates for the preservation and propagation of threatened plant species.

7. Prasad, Ram and R.K.Pandey.1987b.Vegetation damage by frost in natural forest of M.P. *Journal of Tropical Forestry,* **3** (III):273-278.

Abstract

In the study, an attempt has been made to evaluate the extent of frost damage to the natural vegetation of Achanakmar and Lamni of Bilaspur district and Khandoli and Amarkantak of Shahdol district. The observations showed that sal is the least affected, while *Casearia graveolens, Lagerstoemia parviflora, Litsea glutinosa, Kydia calycina* and *Ziziphus xylopyra* are the most sensitive species in Achanakmar range. The impact of frost was more pronounced in open patches than in continuous forest belt. *Emblica officinalis, Azadirachta indica. Lagerstoemia parviflora, Bombax ceiba, Cassia siamea, Ficus glomerata, Mangifera indica, Madhuca indica*, *Terminalia tomentosa, Ipomoea* spp. were the species, which were subjected to

maximum damage and 60-100 % foliage was damaged. Seedling damage by frost was noticed in *Terminalia tomentosa, T. arjuna, Emblica officinalis, Ipomoea* sp., etc.

8. Prasad, Ram and Pandey, R.K. and Singh, S.P. 1988. Survey of medicinal wealth of central India: II Ethno-medico botanical studies of indigenous plants by local tribes. *Journal of Tropical Forestry,* **4** (III): 236 – 241**.**

Abstract

A large number of tribal communities live in remote and accessible parts of the state using an enormous range of wild plants for their food, medicine, fibre, shelter, etc. and are still dependent on plants for their daily needs and livelihood. The knowledge acquired by tribal people on several plants growing in natural sources around them, often as a result of thousands of years of experience living with forests, is certainly indispensable for the better management of tropical natural forests. A large number of wild medicinal plants in natural forests of Madhya Pradesh require adequate attention about their preservation and further propagation under natural conditions. Moreover, there is greater need to survey the natural habitat of wild medicinal plants which are still unknown in respect of their medicinal values. Considering the importance of wild medicinal plants in natural forests, a list of some valuable medicinal plants which are also being used by local habitant tribes around the forests encountered during survey is presented.

9. Harsh, N.S.K., Tiwari, C.K. and Jamaluddin, 1989. Prospects of wild edible fungi as minor forest produce in Madhya Pradesh. *Paper presented in National Seminar on minor Forest Produce and Tribal development held on 19-20 October 1989 at Institute of Deciduous forests, Mandla Road, Jabalpur.*

Abstract

The authors surveyed Mandla, Balaghat, Shahdol and Rajnandgaon districts of Madhya Pradesh and found that two edible fungi, *Scleroderma texense* and *Termitomyces albuminosa* were being sold by local tribal during June- July. Among these two species of mushrooms, *Termitomyces albuminosa* was found to be suitable for longer storage by drying them under sun.

10. Panigrahi, G. and Murti, S. K. 1989. Flora of Bilaspur. Vol. I., *Botanical Survey of India,* P-8, Brabourne Road, Kolkata, 396p.

Abstract

This first volume of Flora of Bilaspur district consists of description and distribution of species collected from the entire district. The introductory chapter covers aspects of economic plants, medicinal plants, and other information regarding plants used in the district. It covers families Ranunculaceae, Dilleniaceae, Annonaceae, Menispermaceae, Nymphaeaceae, Nelumbonaceae, Papaveraceae, Brassicaceae, Capparaceae, Violaceae, Flacourtiaceae, Polygalaceae, Caryophyllaceae, Elatinaceae, Hypericaceae, Dipterocarpaceae, Malvaceae, Bombacaceae, Sterculiaceae, Tiliaceae, Linaceae, Geraniaceae, Oxalidaceae, Balsaminaceae, Rutaceae, Burseraceae, Meliaceae, Olacaceae, Celastraceae, Rhamnaceae, Vitaceae, Leeaceae, Sapindaceae, Anacardiaceae, Moringaceae, Fabaceae, Caesalpiniaceae, Mimosaceae, Rosaceae, Crasullaceae, Droseraceae, Combretaceae, Myrtaceae, Lecythidaceae, Melastomaceae, Lythraceae, Punicaceae, Onagraceae, Trapaceae, Turneraceae, Passifloraceae, Caricaceae, Cucurbitaceae, Begoniaceae, Cactaceae, Molluginaceae, Apiaceae, Araliaceae, Alangiaceae, Rubiaceae, Asteraceae, Stylidiaceae, Campanulaceae, Lobelliaceae, Plumbaginaceae, Primulaceae, Myrsinaceae, Sapotaceae, Ebenaceae, Symplococaceae, Oleaceae, Apocynaceae, Asclepiadaceae, Buddlejaceae, Loganiaceae, Gentiaceae, Menyanthaceae, Hydrophyllaceae, Boraginaceae and Convolvulaceae.

12. Jamaluddin, Dadwal, V. S and Soni, K. K. 1990. Susceptibility of different provenances of *Pinus roxburghii* to *Cercospora* needle blight at Amarkantak (M.P.). *Indian Forester*, **116** (1):5861.

Abstract

The studies on needle blight disease caused by *Cercospora pini-densiflorae* in different provenances of *Pinus roxburghii*, exhibited that there was no mortality in plants of Supkhar (MP) origin and Rohri (HP) origin, whereas other provenance were highly susceptible to this infection. The heavily infected plants also exhibited a greater number of stomata and conidia in the needles. The size and septation of spores obtained from infected needles of

different provenances also vary. The germination of conidia was very less or negligible in distilled water. The addition of glucose increased the higher percentage of germination. Bavistin and diathane M- 45 at 0.2 per cent concentration considerably checked the germination of different provenances under study. Fytolan at 0.2 per cent failed to check the germination but the germination was minimized to a considerable extent. On basis of the susceptibility of different provenances of *P. roxburghii* for *C. pini-densiflorae,* it is recommended that the plants of Supkhar (MP) origin have developed a high tolerance to needle blight fungus as compared to other provenances. The plants of this origin may be used for plantation in Madhya Pradesh.

13. Dadwal, V. S. and Jamaluddin, 1991. Unrecorded diseases of *Grevillea pteridifolia. Journal of Tropical Forestry,* **7** (3):248-249.

Abstract

Grevillea pteridifolia, one of the largely grown exotic species raised in nursery by State Forest Research Institute, Jabalpur to plant the mined out areas of Amarkantak suffers from diseases like root rot and leaf spots. It is recorded that charcoal root rot is caused by *Macrophomina phaseolina* and leaf spots were caused by *Phoma sorghina*, *P. glomerata*, *Cytospora* sp. and *Pestallotiopsis* sp. These diseases are transmitted from nursery to field and affect the growth.

14. Chakraborty, L., Panwar, S.K. and Shukla, R.V. 1991. Effect of closure on soil properties and its fungal population in sal forest. *Journal of Tropical Forestry*, **7** (1):51-61.

Abstract

During the course of this study, an extensive survey of fenced and unfenced area of dry peninsular sal forests of Achanakmar and Lamni ranges of Biosphere Reserve was made to investigate the fungi population in relation to the fertility of soil. In all, 85 fungal species isolated from fenced and unfenced area to correlate various factors involved in degradation in soil and its vegetation cover. Thus, it was concluded that fungi are responsible to improve the physico-chemical properties of soil, resulting in over all improvement in soil fertility and productivity.

15. Prasad, Ram and Danayak, S.C. 1992. Performance of tropical pines in Amarkantak area of Madhya Pradesh. *Journal of Tropical Forestry,* **8** (III): 208-210.

Abstract

Tropical pines were tried on Amarkantak plateau at the trijunction of Shahdol, Mandla and Bilaspur districts of undivided Madhya Pradesh. These plantations were raised after clearing low level sal (*Shorea robusta*) forests in 1972. Performance of different pines was judged on the basis of their survival, height and breast height girth. Overall picture indicates the suitability of *Pinus caribaea* followed by *Pinus kesiya* and *P. roxburghii.* Fruiting of *P. caribaea* has not been observed even after 20 years of plantation. The two other species are however fruiting regularly.

16. Harsh, N. S.K., Rai, B.K. and Ayachi, S.S., 1993. Forest fungi and tribal economy – a case study in Baiga tribes of M.P. *Journal of Tropical Forestry,* **9** (3): 270-279.

Abstract

The paper deals with market assessment and business potential of six edible fungi (mushrooms) *viz*., *Astraeus hygrometricus, Mycena* sp*., Mycenastrum corium, Podabrella microcarpa, Russula* sp., and *Termatomyces heimii* marketed in local weekly markets (bazaar) of some places in Baiga tribal belt of Madhya Pradesh.

18. Jamaluddin, Nath, V. and Namdeo, R.K. 1993. Studies on diseases of some important medicinal plants. *Journal of Tropical Forestry,* **9** (1): 94-96.

Abstract

Besides, many species of fungi causing damage to nine species of medicinal plants cultivated at various localities including at Amarkantak and Lamni, a leaf spot and blight caused by *Alternaria alternata* recorded for the first time on *Hedychium spicatum* (Gulbakawli), *Indigofera tinctoria* (Neel) and *Acorus calamus* (Bach) between August and January.

19. Prasad, Ram and Pandey, R.K. 1993. Ethno-medico botanical studies of Indigenous plants of Lamni and Achanakmar forest of Bilaspur district of Madhya Pradesh. *Journal of Tropical Forestry,* **9** (1): 27-40.

Abstract

A large number of wild-medicinal plants in natural forests of the Achanakmar and Lamni require adequate attention for preservation and further regeneration under natural conditions. There is greater need of survey of the natural habitats of the wild medicinal plants and their mode of use to cure various ailments by tribal people of the locality. Keeping this view in mind, an ethno-botanical survey has been made by the authors in different seasons of 1986-90. In all, a total of 113 plant species of medicinal value belonging to 49 families, encountered during survey.

20. Shukla , P.K. and Pandey, R.K. 1993. Tribal life and forest: A case study of selected forest villages in Dindori, Tahsil of Madhya Pradesh. *Journal of Tropical Forestry,* **9** (iv): 287-306.

Abstract

Authors studied the socio-economic status, occupation pattern and dependence on forests of Baiga and Gond in Chada, Tantar, Silpiri and Tharpathra villages of Bajag Forest Range in buffer zone of Biosphere Reserve. It was reported that 61.6 per cent of the total income of the inhabitants was on collection of minor forest produce and other forestry works. The income from the cultivation of crop was recorded only 38.4 percent of the total income.

21. Verma, D.M., Balakrishnan, N.P. and Dixit, R.D. 1993. The Flora of Madhya Pradesh. Vol. I. *Botanical Survey of India,* Kolkata, 668 p.

Abstract

The first volume of Flora of Madhya Pradesh deals with an account of 102 species of pteridophytes belonging to 51 genera and 36 families and 874 species of angiosperms belonging to 407 genera and 83 families' viz. Ranunculaceae, Dilleniaceae, Magnoliaceae, Annonaceae, Menispermaceae, Berberidaceae, Nymphaeaceae, Papaveraceae, Brassicaceae, Capparaceae,

Violaceae, Bixaceae, Cochlospermaceae, Flacourtiaceae, Pittosporaceae, Polygalaceae, Caryophyllaceae, Portulaceae, Tamaricaceae, Elatinaceae, Hypericaceae, Theaceae, Dipterocarpaceae, Malvaceae, Bombacaceae, Sterculiaceae, Tiliaceae, Linaceae, Malphigiaceae, Zygophyllaceae, Geraniaceae, Oxalidaceae, Averrhoaceae, Balsaminaceae, Rutaceae, Simaroubaceae, Balatinaceae, Ochnaceae, Burseraceae, Meliaceae, Olacaceae, Opiliaceae, Celastraceae, Rhamnaceae, Vitaceae, Leeaceae, Sapindaceae, Sabiaceae, Anacardiaceae, Moringaceae, Fabaceae, Caesalpiniaceae, Mimosaceae, Rosaceae, Vahliaceae, Crasullaceae, Droseraceae, Halograceae, Callitrichaceae, Rhizophoraceae, Combretaceae, Myrtaceae, Lecythidaceae, Melastomaceae, Lythraceae, Punicaceae, Onagraceae, Trapaceae, Turneraceae, Passifloraceae, Caricaceae, Cucurbitaceae, Begoniaceae, Cactaceae, Aizoaceae, Molluginaceae, Apiaceae, Cornaceae, Rubiaceae, Asteraceae, Stylidaceae, Campanulaceae and Plumbaginaceae. It describes collection from undivided Madhya Pradesh.

22. Tiwari, K.P., Pandey, R.K., Date, G.P., Prasanth, K.P. and Goswami, A.1995. Preliminary Project Report on Flora of Amarkantak for Detailed Project Formulation to Constitute Amarkantak Biosphere Reserve. *State Forest Research Institute, Jabalpur, Madhya Pradesh,* 94 p.

Abstract

This preliminary study formed part of a project to inventorize the flora and vegetation communities of Amarkantak Biosphere Reserve falling in four forest divisions, i.e. Dindori (Karanjiya range), Bilaspur (Lamni, Achanakmar, Lormi, Kota and Khudia range), north Bilaspur (Pendra and Kenda range) and south Shahdol (Rajendragram range) of Mandla, Bilaspur and Shahdol district respectively. The analytical characters *viz.,* density and frequency of plant associates at different localities of ten ranges of proposed area, were calculated on the basis of different data collected through quadrat method (quadrat size 50X50m). Quadrat were laid out at each grid e.g. 1 km apart in all ten ranges *viz*., Karanjia, Lamni, Achanakmar, Lormi, Kota, Khudia, Pendra, Belghana and Amarkantak. The tree density ranged between 588 trees/ha in Pendra to 1932 trees/ha in Lormi. The regeneration status was recorded in 11 species in Pendra to 45 species in Achanakmar whereas the density for seedlings and saplings between 6200 plants/ha to 26023 plants/ha. The total number of species recorded was 930 belonging to 543 genera and 151 families of bryophytes, pteridophytes, gymnosperms and angiosperms.

23. Jamaluddin and Chandra, K. K. 1997. Distribution of VAM fungi in bauxite mine overburden plantation of Amarkantak (M.P.), *Indian Forester,* **125** (5): 412-418.

Abstract

The study of VAM fungi was made in the plantations under taken in bauxite mine area. Initially bauxite mine overburden soil is deficient in VAM fungi but the plantations enhanced the VAM population. The VAM colonization and spore density varied in different species even in different age group. The population of VAM fungi was more in undisturbed plantation in forest area, followed by plantation undertaken in the degraded forest as compared with the species planted after mining.

24. Mudgal, D., Khanna, K.K. and Hajra, P.K.1997. The Flora of Madhya Pradesh. Vol. II, *Botanical Survey of India,* Kolkata, 681 p.

Abstract

This volume of Flora of Madhya Pradesh deals with the account of 792 species of angiosperms belonging to 320 genera and 51 families, viz. Primulaceae, Myrsinaceae, Theosphrastaceae, Sapotaceae, Ebenaceae, Symplococaceae, Oleaceae, Salvadoraceae, Apocynaceae, Asclepiadaceae, Loganaceae, Buddlejaceae, Gentianaceae, Menyanthaceae, Polemoniaceae, Hydrophyllaceae, Boraginaceae, Convolvulaceae, Solanaceae, Scrophulariaceae, Orobranchaceae, Lentibulariaceae, Gesneriaceae, Bignoniaceae, Pedaliaceae, Acanthaceae, Verbenaceae, Lamiaceae, Plantaginaceae, Nyctaginaceae, Amaranthaceae, Chenopodiaceae, Basellaceae, Phytolaccaceae, Polygonaceae, Podostemaceae, Aristolochiaceae, Piperaceae, Lauraceae, Proteaceae, Elaeagnaceae, Loranthaceae, Santalaceae, Euphorbiaceae, Urticaceae, Ulmaceae, Cannabaceae, Moraceae, Casurinaceae, Salicaceae and Ceratophyllaceae.

25. Shadangi ,D.K., Kunnikanan, C., Totey N.G., 1997. Floristic Observation in Kapildhara (Amarkantak). *Vaniki Sandesh*, **21** (2), 8-11.

Abstract

Amarkantak region is highly disturbed due to intense biotic pressure and excavation of bauxite. Valleys are rich in biodiversity. Many rare/ endangered plant species like *Ceropegia hirsuta* listed in red data book occur in Kapildhara valley and need *in-situ* as well *ex-situ* conservation.

26. Sharma, M.C. Masih, S.K. and Sharma, C.B. 1997. Participation in collection of NTFP's and their share in tribal economy. *Journal of Tropical Forestry*, **13** (IV): 220-225.

Abstract

A comparative study of participatory involvement of villagers in collection of various NTFP species and income realization from their sale on Amarkantak Plateau revealed that 56 percent house holds were involved in collection of NTFP's. It was noticed that there was equal participation by males, females and children. Total income realized from sale of NTFP's was found to increase from core to distanced villages. Share of each species of NTFP is discussed in this paper.

27. Tiwari, K.P., Choubey, O.P. and Patil, M. 1999. Study The Impact Of Biotic Pressure Within The Protected Area Of Achanakmar Sanctuary And To Suggest Remedial Measures. *Report Submitted To MP Forestry (Wildlife) Project, Bhopal.192pp.*

Abstract

Achanakmar Wildlife Sanctuary is situated on the Bilaspur- Amarkantak state highway and is surrounded by both natural and artificial boundaries. Human activities in the area have sored in recent decade, contributing to rapid deforestation, site degradation and fragmentation of natural habitats of wild animals. Heavy vehicles are plying day and night through this area. A large number of cattle camps harboured inside the sanctuary area are posing serious threats to the ecosystem of this area. Over exploitation of NTFP's from this area has altered the composition of the forest and fragmented wildlife habitats.

Socio economics of 67 villages were found dependent either partially and fully on the Sanctuary. They harvest fuelwood, timber, and bamboos for their own consumption and livelihood. Cattles incore and buffer areas are totally depending on forests for grazing. No stall feeding is practiced in the area. Extraction of fuel wood and NWFP's per annum from the

area was computed to be 27,118 t. and 4167 t. respectively. Practice of extraction of wood and non-wood forest produce in the area is very crude and un-scientific resulting into poor regeneration potential of site and depletion of various forest species. Van haldi (*Curcuma aromatica*) was found locally restricted in the Haldikacchar area near Chhirhatta village only. Over use of NWFP's has resulted to restricted distribution of safed musli, mahul patta, tikhur, *Asparagus racemosus*, *Dioscoreas*, *Pueraria tuberosa* (Patal kumbhra) in the area. Unscientific extraction of aonla fruits by lopping, branch cutting and even tree cutting also resulted to affect its phenological behaviour adversely. Density of aonla trees was reported reduced considerably. Cattle camps were found exerting tremendous damage to the biodiversity of the region and reducing productivity potential of the site.

The authors have suggested *ex-situ* cultivation of non-wood forest produce like safed musli, tikhur, mahul patta, char, aonla, baichandi, bamboos, *Diosoreas*, etc. to minimize pressure on wild resources. Rehabilitation of cattle camps, check of illegal removal of forest produce, need of a well defined utilization and marketing policy to enhance the economy of user groups are the other methods suggested.

28. Murti, S. K. and Panigrahi, G. (1999). Flora of Bilaspur Vol. II. *Botanical Survey of India,* P-8, *Brabourne Road, Kolkata.* pp 396 - 906**.**

Abstract

This volume comprises of the taxonomic descriptions of the species belonging to families Solanaceae to Poaceae along with references and combined index of the species. The families included in this volume are Solanaceae, Scrophulariaceae, Orobranchaceae, Lentibulariaceae, Bignoniaceae, Pedaliaceae, Acanthaceae, Verbenaceae, Lamiaceae, Plantaginaceae, Nyctaginaceae, Amaranthaceae, Chenopodiaceae, Polygonaceae, Lauraceae, Loranthaceae, Euphorbiaceae, Urticaceae, Ulmaceae, Moraceae, Salicaceae, Ceratophyllaceae, Hydrocharitaceae, Burmanniaceae, Orchidaceae, Zingiberaceae, Musaceae, Cannaceae, Iridaceae, Agavaceae, Taccaceae, Dioscoreaceae, Liliaceae, Ponteridaceae, Commelinaceae, Juncaceae, Arecaceae, Typhaceae, Araceae, Lemnaceae, Alismataceae, Limnocharitaceae, Najadaceae, Aponogetonaceae, Potamogetonaceae, Eriocaulaceae, Cyperaceae and Poaceae.

29. Tiwari, H. C., Dobhal, R. P., Masih, S. K. and Sharma, C. B. 2000. Trade of non - timber forest products on Amarkantak plateau. *Journal of tropical Forestry*, **16** (1): 39-43.

Abstract

A survey of all 22 important traders involved in trade of NTFP on Amarkantak plateau in M.P. revealed that 8284.47 tonnes of NTFP's with economic worth of Rs. 2.70 crore are traded by these traders. Trade profile shows that 65% of total trade involves only Mahul leaves. Two third traders are from 5-20 years of trade of NTFP's. There is large gap between quantities of NTFP's traded in primary weekly tribal markets and quantities traded by NTFP's traders.

30. Chaubey, O.P., Pandey A., Dixit, S., Patil M., 2001. Achanakmar Abhayaran Mein Jaiv Vividhtayon Ka Mulyankan.(In Hindi).*Vaniki Sandesh*, **25** (3): 14-21.

Abstract

The authors surveyed Achanakmar and Lamni areas and recorded 129 genera and 172 species of plants belonging to 53 families. In all, 90 species of trees observed in the entire study area. The density of tree species recorded as an average of 836 trees/ ha. The regeneration of sal, tendu and *Mallotus philipensis* was found dominant on other species at all the places under study. Commercially important plant species have been observed restricted to certain localities due to their over exploitation.

31. Shadangi, D. K., Totey, N.G., and Banerjee, S. K. 2001.Ground flora productivity in plantation and natural forest in Amarkantak: *Advances in Forestry Research in India*, **24:** 228-245.

Abstract

The variation in species, biomass, net community productivity (NCP) and rate of production of ground flora under Eucalyptus and pines plantation and natural sal (*Shorea robusta*) forest at Amarkantak (M.P.) had been studied. During rainy season, maximum species were recorded under natural sal forest (26), whereas those under Eucalyptus (21) and pines (19).

The highest IVI of the species under Eucalyptus, pines and natural sal forests were *A. conyzoides, Adiantum* sp. and *Ophioglossum reticulatum,* respectively. Average biomass of ground flora under *Eucalyptus* was higher than that under sal and pines during period I (rainy season) and period II (winter season). During period III (summer season) it was higher under sal forest. Net community production and rate of production of ground flora showed negative value during period II under Eucalyptus and pines, but under sal it was positive.

32. Singh, N.P., Khanna, K.K., Mudgal, D. and Dixit, R.D. 2001. The Flora of Madhya Pradesh. Vol. III. *Botanical Survey of India*, P-8, Brabourne Road, Kolkata, 587pp**.**

Abstract

The 3rd volume of Flora of Madhya Pradesh, deals with an account of 706 species of angiosperms belonging to 241 genera and 37 families Hydrocharitaceae, Burmanniaceae, Orchidaceae, Zingiberaceae, Costaceae, Marantaceae, Musaceae, Sterlitziaceae, Cannaceae, Haemodoraceae, Iridaceae, Amaryllidaceae, Hypoxidaceae, Agavaceae, Taccaceae, Dioscoreaceae, Liliaceae, Ruscaceae, Smilacaceae, Ponteridaceae, Xyridaceae, Commelinaceae, Flagellariaceae, Juncaceae, Arecaceae, Pandanaceae, Typhaceae, Araceae, Lemnaceae, Alismataceae, Butomaceae, Najadaceae, Aponogetonaceae, Potamogetonaceae, Zannichelliaceae, Eriocaulaceae, Cyperaceae and Poaceae and 7 species of gymnosperms (mostly cultivated) under 5 genera and 4 families.

33. Khanna, K.K., Kumar Anand, Dixit, R.D. and Singh, N.P. 2001. Supplement to the flora of Madhya Pradesh. Botanical Survey of India, P-8, Brabourne Road, Kolkatta. 181pp.

Abstract

The authors supplemented 379 taxa of angiosperms belonging to 233 genera and 65 families of angiosperms, which were previously not included in the volumes of Flora of Madhya Pradesh. The species reported from Achanakmar- Amarkantak areas were *Carthamus tinctorius, Clinopodium umbrosum, Prunus persica* and *Zinnia elegans.*

34. Singh, L., Sharma, B. and Agarwal, R. 2003. Species composition and plant diversity of representative tropical moist deciduous forest of Achanakmar Sanctuary. *Journal of Tropical Forestry,* **19** (I & II): 25-34.

Abstract

Species composition and species diversity were studied on two sites of a tropical moist deciduous forest. The forest was characterized by high density of trees (1040-1290 stems ha^{-1}) and understorey vegetation (1100-1800 stems ha^{-1}) on closed forest site compared to open forest site which represents 390-930 stems ha^{-1} 700-1090 stems ha^{-1} of trees and understorey vegetation respectively. Basal cover too was high for both trees and understorey vegetation and ranges from 25.4-44.85 m^2 h^{-1} and from 1.02-2.84 m^2 h^{-1} for trees and under storey vegetation respectively. Similar to plant density, cover was also low in open forest sites and ranges from 20.05-45.85 m^2 $h^{-1}$and 0.28 to 0.47 m^2 h^{-1} for trees and shrubs, respectively. Similarly, diversity was also high on closed forest site than on open forest site. The ranges of diversity on these sites were 1.99-2.92 (Shannon index), 1.43-4.76 (richness index) and 0.78-1.04 (equitability index). The beta diversity was high on open forest.

35. Chaubey, O.P., Pandey, Amit, Negi, C.M.S. and Ansari, A.A. 2003. Phyto-diversity in preservation plots established in peninsular sal forests (5B/C1 C) in Madhya Pradesh and Chhattisgarh. *Indian Journal of Tropical Biodiversity,* **11**: 8-21.

Abstract

The study was conducted in five plots (Sarasdol, Lamni, Khudia, Narsinghpur and Pachmarhi) of dry peninsular sal forests in Madhya Pradesh and Chhattisgarh. Physico-chemical properties of soils and several phyto-sociological indices showed apparent differences across different plots. Total density ranged from 282-976 for trees; 2430-7232 for shrubs and 167324-386800 for herb species. The distribution pattern for most tree species varied at different plots. The range of diversity index (Shannon-Weiner index) was 1.63 to 2.83 for trees, 2.16 to 3.16 for shrubs and 2.75 to 3.83 for herbs. Total basal area (m^2 ha^{-1}) ranged between 14.66-25.90 for trees with sal (*Shorea robusta*) existing dominance and contagious distribution.

36. Ved, D. K., Kinhal, G. A., Ravikumar, K., Karnat, Mohan, Vijay Shankar, R. and Indresha, J.H. 2003. Threat Assessment and Management Prioritization for the medicinal plants of Chhattisgarh and Madhya Pradesh. *Proceedings of workshop on Eco-regional Assimilation for Conservation Action. A synthesis of regional expertise in medicinal plants taxonomy and distribution through a workshop held at Bhopal during 23-26th July 2003*. FRLHT, Bangalore.

Abstract

Of the 54 taxa assessed, 44 taxa were found to be threatened, which include 4 critically endangered, 6 endangered and 33 vulnerable. Only one taxon was assessed to be threatened globally, as Madhya Pradesh hosts 100% of the estimated global geographical distribution. Altogether, Chhattisgarh is home to 36 and Madhya Pradesh to 40 threatened taxa. These 54 taxa belong to 50 genera from 36 families. The most represented genus is *Curcuma* (3 species) followed by *Dioscorea* and *Terminalia* (2 species each). Liliaceae, Fabaceae and Cucurbitaceae are the most represented (4 species each) families, followed by Asclepiadaceae and Zingiberaceae (5 species each). The species assessed as critically endangered are *Psilotum nudum, Commiphora wightii* and *Alectra chitrakutensis* (endemic to M.P.) for Madhya Pradesh and *Rauwolfia serpentina* for Chhattisgarh, as endangered are *Acorus calamus, Angiopteris evecta, Clerodendrum serratum, Eulophia herbacea* and *Luffa echinata* ; as vulnerable *Andrographis paniculata, Boswellia serrata, Caesalpinia digyna, Celastrus paniculatus, Chlorophytum tuberosum, Citrullus colocynthis, Cochlospermum religiosum, Costus speciosus, Crateva magna, Curcuma angustifolia, Curcuma zedoaria, Dioscorea bulbifera, Dioscorea hispida, Gloriosa superba, Gymnema sylvestre, Litsea glutinosa, Oroxylum indicum, Peucedanum nagpurense, Phyllanthus emblica, Piper longum, Plumbago zeylanica, Pterocarpus marsupium, Rubia cordifolia, Sterculia urens, Strychnos nux-vomica, Terminalia arjuna, Terminalia chebula, Thalictrum foliolosum, Tylophora indica, Uraria picta* and *Urginea indica*

37. Shadangi, D. K and Nath, V. 2005. Impact of seasons on ground flora under plantation and natural forest in Amarkantak. *Indian Forester,* **131**: 240-250.

Abstract

Ground flora is more sensitive to changes in environment than trees. Amarkantak plateau being at higher elevation has a privilege to cooler climate. Due to higher elevation climate of Amarkantak closely resembles with isolated valleys. The measurement of different phytosociological attributes like density, importance value index, population distribution and diversity in different season have been studied in Amarkantak (Madhya Pradesh) during 1996-97 under plantations (*Eucalyptus* and pine) and natural sal forest. The range of number of species recorded in rainy season was highest (15-21) under *Eucalyptus* plantation, followed by under pine plantation and under natural sal forest, and lowest in summer (5-9) under *Eucalyptus* and pines plantation. The range of IVI was highest in summer than in winter and summer resulted distribution was also involve due to severe competition for resources. Diversity index was maximum (1.246, 1.2024 and 1.333) in rainy season and lowest (0.3950, 0.65930, 0.946) in summer under eucalyptus, pine plantations and natural sal forest respectively. The best adapted niche area was observed for O*phioglossum reticulatum, Ageratum conyzoides and Adiantum* sp. on the basis of highest IVI in natural sal forest, eucalyptus and pine plantations respectively. Dominance diversity curves tended to assume the form of a series more distinctly in the winter and summer seasons, when climatic conditions are not congenial for plant growth. Thus, all the vegetational changes in structure and composition are mostly dependent seasons.

38. Saini, D.C. 2005. Pteridophytic flora of Anuppur district in Madhya Pradesh. *J. Econ. Taxon. Bot*., **29** (4): 713-732.

Abstract

The present paper encompasses the floristic account of pteriodophytes occur in Anuppur district of Madhya Pradesh. The enumeration comprises the alphabetical list of 46 plant species viz. *Acrostichum aurium* Linn., *Actinopteris australis* (Linn.f.), *Adiantum capillus-veneris* Linn.f., *Adiantum hispidulum* Sw., *Adiantum incisum* Forsk., *Adiantum peruvianum*, *Adiantum philippense* Linn., *Adiantum venustum* Don., *Ampelopteris prolifera* (Retz.) Copel, *Asplenium cheilosorum* Kuntz. *ex* Mett., *Athyrium falcatum* Bedd., *Azolla pinnata* R. Br., *Ceratopteris siliquosa* (Linn.) Copel., *Cheilanthes farinosa* kaulf., *Cheilanthes tenuifoila* (Burm.f.) Sw., *Ctenitopsis fuscipes* (Wall.) C. Chr. Ex Tard. - Blot. & C. Chr., *Cyclosorus parasiticus* (Linn.) Forwell, *Diluvium esculentum* (Retz.) Sw., *Dryopteris cochletata* (Don.) C.

Chr., *Equisetum arvense* Linn., *Equisetum debile* Roxb.*ex* Voucher, *Helminthostachys zeylanica* (Linn.) Hook. f., *Lastrea falciloba* Hook., *Leptochilus decurrens* Blume, *Lycopodium cernuum* Linn., *Lygodium flexuosum* (Linn.) Sw., *Lygodium microphyllum* (Cav.) R. Br., *Marginaria macrocarpa* (Bory *ex* Willd.) Nayar & Kaur, *Marsilea minuta* Linn., *Microsorum membranaceum* (D.Don) Ching., *Nephrolepis acuta* Presl., *Nephrolepis cordifolia* Linn., *Ophioglossum reticulatum* Linn., *Ophioglossum vulgatum* Linn., *Pleopeltis lanceolata* Kaulf., *Polystichum auriculatum* Linn., *Polystichum semicordatum* Sw., *Pronephrium aspera* (Presl.) Sheih. & Tsai, *Psilotum nudum* (Linn.) Beauv., *Pteris quadriaurita* Retz., *Pteris vittata* Linn., *Salvinia natans* (linn.) all., *Selaginella ciliaris* (Retz.) Spring, *Selaginella longipila* Hieron, *Tectaria coadunata* (Wall.) C. Chr., *Tectaria devexa* (Kze.) Copel., belonging to 32 genera and 19 families with correct botanical name, their natural order, basionym if any, available synonyms, and local names, followed by description, field note and distribution of each species. Four species, namely *Adiantum capillus-veneris,* Linn. f., *Equisetum debile* Roxb. *ex* Voucher., *Lygodium flexuosum* (Linn.) Sw. and *Psilotum nudum* (Linn.) Beauv. are reported endangered from the district. The area also harbours many rare species which need proper assessment and monitoring for their conservational measures.

39. Singh, Shweta and Dixit, R.D. 2005. Fern-Allies of central India. *J. Econ. Taxon. Bot*., **29** (2): 403-413.

Abstract

The paper provides upto date data on the fern-allies of central India for the first time, 5 families, 9 genera and 22 species have been reported from various parts of Madhya Pradesh and Chhattisgarh states of Central India. Keys to the genera and species are provided to facilitate easy identification. Enumeration of each species of fern allies with current nomenclature, basionym and important synonyms, notes on the ecology and distribution in central India and specimens examined have been provided. The species reported in this paper with their distribution, specimens examined and ecology are *Palhinhaea cernua* (L.) Franco, *Huperzia hamiltonii* (Spring) Trev., *Psilotum nudum* (L.) P. Beauv., *Equisetum diffusum* D. Don., *Equisetum ramosissimum* Desf. sub sp. debile (Roxb. *ex* Vauch.) Hauke., *Selaginella bryopteris* (L.) Baker, *Selaginella ciliaris* (Retz.) Spring, *Selaginella indica* (Milde) Trayon, *Selaginella*

involvens (Sw.) Spring, *Selaginella jainii* Dixit, *Selaginella panigrahii* Dixit, *Selaginella radicata* (Hook. *et* Grev.) Spring., *Selaginella repanda* (Desv. *ex* Poir) Spring, *Selaginella proniflora* (Lamk.) Bak., *Selaginella kurzii* Bak., *Isoetes bilaspuriensis* Panigrahi, *Isoetes coromandelina* L.f. , *Isoetes dixitei* Shende, *Isoetes mahadevensis* Srivastava *et* Shukla, *Isoetes pantii* Goswami *et* Arya, *Isoetes panchananii* var. *panchananii* Pant *et* Srivastava, *Isoetes panchananii* var. *pachmarihensis* Srivastava, *Isoetes sampathkumarnii* L.N. Rao, *Isoetes indica* Pant & Srivastava, *Isoetes fushsii* Goswami *et* Sharma.

40. Shadangi, D. K. and Nath, V. 2006. Litter decomposition in *Eucalyptus* and pine plantations and natural sal forests related to micro-arthropods in different season in Amarkantak, Madhya Pradesh. *Indian Forester*, **132**: 420-428.

Abstract

The rate of decomposition was highest in litter of sal (0.0105 g g^{-1} day^{-1}) than *Eucalyptus* (0.0102 g g^{-1} day^{-1}) and pines (0.0090 g g^{-1} day^{-1}) in Amarkantak (M.P.). The number and diversity of micro-arthropods was more in sal than *Eucalyptus.* Micro-arthropods multiply during rainy season when the rate of litter decomposition is maximum. As decomposition proceeds, the composition of the litter continuously changes creating new condition for the decomposing organisms. The fast disappearance rate of litter during rainy season might be due to accelerated growth of microbial population as well as their activities to decompose the material in presence of sufficient moisture and optimum temperature, while it was moderate in the winter season and at a very low rate in the summer season.

41. Ved, D. K. Kinhal, G.A.; Rathore, B. M. S.; Ravikumar, K.; Vijay Shankar, R. and Venkateshwaran. 2006. Threat Assessment for Prioritized Medicinal Plant Species of Madhya Pradesh. *Proceedings of Workshop on Eco-regional Assimilation for Conservation Action. (A synthesis of Eco-regional expertise in Medicinal Plants Taxonomy and Distribution through a workshop held at Bhopal during 3rd to 7th of January 2006).* Organized by Madhya Pradesh Biodiversity Board, Beej Nigam Complex, Mother Teresa Marg, Arera Hills, Bhopal and Co-ordinated by FRLHT, Bangalore Karnataka.

Abstract

A total of 48 species belonging to 45 genera and 32 plant families were included in the final list. The most species rich families were Asclepiadaceae, Fabaceae and Orchidaceae (4 species each), followed by Mimosaceae (3 species each). Five families were represented by 2 species and the majority of plant families were represented by single species (23 species). The most represented genera were *Butea, Drosera* and *Nervilia* (2 each). Of the 48 taxa assessed for threat category, 41 taxa were found to be threatened, including 2 Critically Endangered (CR), 17 Endangered (EN), and 22 Vulnerable (VU). *Grewia asiatica* and *Osmunda regalis* were assessed as critically endangered; *Gardenia gummifera*, *Prosopis cineraria, Pueraria* tuberosa, *Ceropegia hirsuta, Didymocarpus pygmeae, Sarcostemma acidum, Scleichera oleosa, Berberia hainessi* var. *brevifilipes, Chlorophytum borivilianum, Drosera indica, Entada rheedei, Equisetum ramosissimum, Hedychium coronarium, Musa rosacea, Nervilia aragoana, Nervilia plicata and Palhinhaea cernua* were assessed as endangered and *Careya arborea, Curcuma aromatica, Docrostachys cinerea, Gmelina arborea, Aristolochia bracteolata, Bacopa monnieri, Barleria prionitis, Centella asiatica, Capparis decidua, Hardwickia binata, Acampe praemorsa, Amorphallus paeonifolius, Moringa concanensis, Soymida febrifuga, Butea parviflora, Dillenia pentagyna, Drosera indica, Drosera burmanni, Marsdenia tenacissima, Pygmaeopremna herbacea, Zeuxine strateumatica, Cryptolepis buchanani* and *Symplocos racemosa* were assessed as vulnerable .

42. Singh Lalji, Sunil Puri and Bargali.2006.Biodiversity and importance of lesser- known woody species of moist deciduous forest of Achanakmar-Amarkantak Biosphere Reserve. *The Biotanica*, **56:** 97-103

Abstract

The present paper focuses on biological diversity and uses of lesser- known woody species (LKWS) of moist deciduous sal forest of Achanakmar- Amarkantak Biosphere Reserve, Bilaspur district (Chhatisgarh). The forest is characterized by high tree density (1203 stems ha^{-1}) and a basal cover of 36.33 m^2 ha^{-1}. A total of 37 tree species were recorded. The forest is mainly dominated by *Shorea robusta, Embelia robusta, terminalia, Diospyros melanoxylon, Anogeisus latifolia* and *miliusa tomentosa* and their contribution to the total density and dominance ranged between 81-83 %. LKWS contribute significantly i.e. 17-19 % to the total forest density and dominance. This emphasizes the key role to LKWS in forest structure and diversity.21 These species provide innumerous tangible and intangible services to the welfare of human society. Many trees are known for their specific uses e.g. *Dalbargia paniculata* wood is used for making musical instruments, *Garuga pinnata* wood is used for making match- splints and pencils, and *Wenlandia exerta* and *Adina cordifoila* yields termite resistant timber which is used as Grade-I plywood. Wood of *Grewia tiliafolia* is used for making cricket stumps and billard cues. Ash obtained from wood of *Dillenia aurea* is used for making fire resistant crockery. The study suggests that potentially important tree species, which are presently in the background, be included in the working plan of forest department. If these species are managed properly for its quality improvement they can be better sources of revenue and employment generation.

43. Chaubey, O.P., Bahadur, V. and Singh, J. 2007. Threats to plant diversity of Achanakmar-Amarkantak Biosphere Reserve. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Abstract

The author studied 21 compartments of erstwhile Achanakmar Wildlife Sanctuary during the year 1999. They observed that *Cucuma angustifolia, Chlorophytum tuberosum, Asparagus recomosus, Bahuinia vahlii* and *Emblica ribes* are in decreasing trends in both occurrence and dominance due to over exploitation and unscientific collection. Grazing and collection of tender leaves of sal, saja, tinsa, dhawa, kosum, char and aonla also posses serious threats for regeneration.

44. Dubey, P.C., Sikarwar, R.L.S. and Tiwari, A.P. 2007. Threat assessment of important medicinal plants in Amarkantak area. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Abstract

During the study the status of 352 plant species of Amarkantak were evaluated and 179 of them were reported as critically endangered (CR), 57 species as endangered (EN) and 111 species as vulnerable (VU), which is roughly 50% of the total species evaluated. The main cause for the loss biodiversity was reported to be over exploitative harvesting fire, grazing, etc. The authors stressed on awareness campaign, scientific study abut propagation techniques and *in-situ* conservation of the threatened species.

45. Sharma, N.D. 2007. Achanakmar-Amarkantak Biosphere Reserve: Systematic mapping of fungal biodiversity. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Abstract

The author stressed on the systematic study of BR by involving multidisciplinary approach like taxonomy, ecology, molecular biology, microbiology, soil chemistry, etc. Extensive studies on identification of pathogens, their role in maintenance of ecosystem, edible mushrooms and unsustainable harvesting of various species were reported to be useful for sustainability of BR.

46. Singh, L., Yadav, D.K. and Jha, C.S. 2007. Species composition, diversity and biomass in dry deciduous forest of Achanakmar-Amarkantak Biosphere Reserve. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Abstract

On the basis of preliminary studies of four forest sites, the authors recorded the density of the trees in different forest plots ranged from 240 in degraded forest to 1270 trees/ha in regeneration forest. They observed that the forest represents the gradient in diversity and biomass from high, medium, poor and low. Remote sensing tools and GIS techniques may be useful to BR authorities in demarcating the entire reserve area.

47. Upreti, D.K., Satya and Joshi, Y. 2007. Lichenological studies in Achanakmar-Amarkantak Biosphere Reserve. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Abstract

National Botanical Research Institute, Lucknow conducted on extensive and intensive exploration of Biosphere Reserve and documented the lichen taxa. In all, 130 species belonging to 44 genera and 25 families of the lichens were documented. Out of 53 taxa of lichen recorded as the addition to the lichen flora of Achanakmar-Amarkantak Biosphere Reserves, *Caloplaca amarkantakana* Joshi, Y. & Upreti and *Schadonia indica* Upreti & Nayaka were described as new to science. The author also observed that the BR exhibits maximum diversity of the corticolous or bark growing lichens followed by saxicolous or rock growing ones.

48. Khanna, K.K., 2007. Achanakmar-Amarkantak Biosphere Reserve – need for the documentation of floristic diversity with special reference to status of threatened plants. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Abstract

The author expressed his views that more than 1000 species of angiosperms, which are about 45% of the total angiosperm species of the state, exist in the BR. *Bothriochloa grahamii* (Haines) Bor. is endemic in Amarkantak area and has not been recollected after its discovery.

49. Nayaka, Sanjeeva, Satya and Upreti, D.K. 2007. Lichen diversity in Achanakmar wildlife sanctuary, core zone area of proposed Amarkantak Biosphere reserve, Chhattisgarh. *J. Econ. Taxon. Bot*., **31** (1): 133-142.

Abstract

The paper enumerates the occurrence of 32 species belonging to 20 genera and 16 families of lichens in Achanakmar Wildlife Sanctuary. The sanctuary is dominated by crustose lichens. *Collema ryssoleum* (Tuck.) A. Schenider and *Pyxine cocoes* (Swartz.) Nyl. Were the only two foliose lichens in the area, while fruticose lichens are completely absent. The lichens of the sanctuary were mostly bark inhabiting represented by 20 species, *viz*., *Arthothelium aborme* (Ach.) Muell. – Arg., *Arthothelium pycnocorpoid* Muell. –Arg., *Arthonia recedens* Stirton, *Bacidia alutacea* (Krempelh.) Zahlbr., *Bacidia rubella* (Hoffm.) Massal., *Chrysothrix chlorina* (Ach.) Laundon., G*raphina panhalensis* Pat. & Kulkarni, *Graphina platycarpa* (Eschw.) Zahlbr., *Haematomma puniceum* (Sm. ex Ach.) Massal., *Lecanora sp., Lecanora imshaugii* Brodo, *Lecanora perplexa* Brodo, *Letrouitia transgressa* (Malme) Haf. & Bellem, *Pyrenula fuscoolivacea* Vainio, *Pyrenula subglabriscula* Vainio, *Buellia almorensis* S. Singh & Awasthi, *Buellia curtisii* (Tuck.) Imsh., *Pyxine cocoes* (Swartz.) Nyl., *Pertusaria acuta* Muell.- Arg., *Pertusaria himalayensis* Awasthi & Srivastava, followed by seven rock inhabiting species *Collema ryssoleum* (Tuck.) A. Schneider, *Lecanora subimmersa* (Fee) Vainio, *Peltula euploca* (Ach.) Poelt., *Endocarpon nanum* A. Singh & Upreti, *Endocarpon subrosettum* A. Singh & Upreti, *Staurothele clopima* (Wahlenb.) Th. Fr., *Trapeliopsis* sp. while, *Felhanera semecarpi* (Vainio) Vezda is the only leaf inhabiting lichen collected from the sanctuary. *Cryptothecia lunulata* (Zahlbr.) Makh. & Patw., *Letrouitia transgressa* (Malme) Haf. & Bellem and *Pyxine cocoes* (Swartz) Nyl. are the most common lichens of the sanctuary. *Cryptothecia lunulata* (Zahlbr.) Makh. & Patw., *Pertusaria subdepressa* Muell. – Arg., *Lepraria* sp., *Lepraria lobificans* Nyl. are the species found on both bark as well as rock. Beside low altitude, dry and

hot climatic conditions in the deciduous forest are the main reasons for the poor growth of the lichens in the area. The present study is the first enumeration of lichens from Achanakmar Wildlife Sanctuary. All the species enumerated in the present study are new to the lichen flora of the state. The available records of the lichens will play a vital role in conducting future biomonitoring studies in the area.

II. Thrust areas for Research and Monitoring:

As per the guidelines of Ministry of Environment and Forests, Government of India, the following thrust areas are recognized for research and monitoring of BRs.

A. The design of BR requires integrated knowledge on eco-geographical aspects, socio-economic aspects of local communities, magnitude of biodiversity, political and economic factors and categories of people who use the Reserve.

B. Determination of monitoring regimes which include the identification of indicators, the frequency at which monitoring should be done is an important component of the management of BR.

C. The role of species in the maintenance of ecosystem health and their response to natural and man-made disturbance regime are critical inputs for management of BRs.

D. Ecological rehabilitation of degraded habitats is of prime importance in the maintenance of biodiversity as well as in the sustainable use of landscapes and species for economic benefit of the local communities. Research in the area of ecological restoration should be given priority. This may also include propagation technique for rare endemic species.

E. Valuing of biodiversity may provide the basis for the economic management of the BRs. Consequently, natural resource accounting forms an important component of research and development.

F. Identification of appropriate technologies compatible with the goals of conservation and evaluation of environmental and socio-economic efficiency of the identified technologies.

G. Applied researches for increasing the efficiency of food crops, animal husbandry and other domestic sectors that bring down the local pressure on forests.

H. Identification of factors that lead to environmental degradation and unsustainable use of biological resources.

I. Development of alternative means of the livelihood for local populations when existing activities are limited or prohibited within the Biosphere Reserve.

J. Identification of institutional mechanisms that ensure sharing of benefits from resources available in buffer zone.

III. Research needs:

On the basis of published information by various agencies in different scientific journals, the following Achanakmar- Amarkantak Biosphere Reserve have been identified.

1. Size, shape and design: As per norms, the BR should have 3 distinct zones viz. core zone, buffer zone and transition zones. A distinct core zone is marked in Achanakmar -Amarkantak Biosphere Reserve but the buffer and the transition zones are not clearly differentiated and shaped. The inhabitants of remote areas, who desire to shift to better areas (as proposed by BR authorities), should be rehabilitated in transition zone. Dense forests in buffer zones should not be disturbed. Research projects to study the impact of shifting on the economy of inhabitants and on biodiversity conservation should be undertaken on priority basis, so that, the research outcomes can be utilized in better management of BR's.

2. The movement of heavy vehicles in BR should be limited and vehicles should not be allowed after the sunset till morning to minimize the disturbances to wild animals.

3. Taxonomic identification of flora including microbes existing in BR, their distribution and habitat is essential. The documented information about each group of flora is urgently required for the exchange of views among BR managers of India and abroad.

4. Studies on the threatened species of flora, their status and documentation in response to Achanakmar- Amarkantak BR should be encouraged.

5. Studies on bio-indicator species of flora of Achanakmar- Amarkantak BR should also be encouraged.

6. Researches should be encouraged to assess sustainability parameters, from time to time, i.e., status of nature's own decomposing/ biodegrading organisms (fungi, bacteria and arthropods) in successful litter decomposition and nutrient cycling in BR.

7. Studies on propagation techniques for rare endemic species of flora should also be initiated in priority basis.

8. Ecological rehabilitation of degraded habitats is of prime importance in maintenance of wild animals. Therefore, research inputs should be evolved to improve the degraded areas.

9. The density assessment of each species of biological resources, including microbes and other flora, in the BR is necessary for the sustainable use of resources. Regular studies on density of utilizable species harvested by inhabitants from BR should be monitored to get the sustainability of the species.

10. The BR is rich in water resources. Watershed management is an urgent need in the entire BR. It will not only enrich the flora but also be helpful in upliftment of the economy of inhabitants in buffer and transition zones. Research projects to monitor the economy of the inhabitants and biodiversity change should get priority for financial support.

11. Studies should be initiated to investigate the suitable plant species to prevent soil erosion in the BR. The possibility of construction of check dams should also be evaluated.

12. To minimize cattle pressure on BR, the state Government has started improving the cattle breeds. This will enhance milk production and minimize unnecessary burden of unproductive cattle. Encouraging the inhabitants to grow suitable fodder species near villages will check forest grazing, which generally destroys not only many useful young plant species growing in association with tree species but also makes soil compact and restricts water percolation and thus making the forest surface unable to hold rain water. Such researches should be encouraged by providing financial support.

13. Studies should also be initiated to uplift the socio-economic status of inhabitants by encouraging them to enhance production of edible/medicinal mushrooms, lac, tassar silkworm, honey and other beneficial species, occurring naturally in the BR.

14. Studies should also be encouraged on bioremediation of the soil through tree species and fungi in core and buffer areas of the BR.

15. Identification of factors that lead to environmental degradation and sustainable use of biological resources.

16. Development of alternative means of livelihood for local populations when existing activities are limited or prohibited within the BR.

17. Distribution and ongoing changes in diversity at the landscapes, habitat, species and land race levels should also be initiated.

18. Alternative possibilities for income generation and subsistence biomass supplies to the local communities and their likely impacts on the distribution of diversity.

19. Studies on wildlife, mapping and corridor values of buffer and transition zone should also be initiated.

4. ***News/ Views/Events***

I. Workshop to find out the Research needs

A workshop on Research Needs for Achanakmar- Amarkantak Biosphere Reserve was held on 30th April 2007. The workshop began with the registration of delegates at 09.10 hrs, followed by welcome address by Director, Tropical Forest Research Institute, Jabalpur at 09.45 hrs. Out of nearly 147 invitees, only 82 participants from different universities, research institutions, state forest departments, forest development corporations, world wildlife fund, Central Sericulture Board and NGOs from Chhattisgarh and Madhya Pradesh attended the workshop. In all, 34 delegates requested for presentation of their views on research needs for Biosphere Reserve. Considering the importance of the topics and shortage of time for presentation and discussion, only 9 delegates were selected for oral presentation in the technical session I (Pre- lunch session) and 8 delegates for technical session II (Post lunch session). The details of the sessions are as hereunder:

Technical Session I: Studies on flora and fauna - 10.00 hrs to 13.30 hrs.

Technical Session II: Ecotourism, management, geo-information technology, - 14.30 hrs to 16.30 hrs.

approach for management,

Socio-economics, etc.

Technical Session III. Plenary Session: - 16.30 hrs to 17.30 hrs.

Technical Session I, studies on flora and fauna, was chaired by Mr. C.P. Rai, IFS, Chief Conservator of Forest, Working Plan Circle, Jabalpur. The participants presented their views on research needs on flora and fauna of Achanakmar- Amarkantak Biosphere Reserve. As per the published information, only three species of lichens are known (as reported in Compendium) but Dr. Upreti and his associates claimed the existence of 30 species of lichens. Of these, *Caloplaca amarkantakana* Joshi Y. & Upreti, and *Schadonia indica* Upreti & Nayaka are recorded for the first time, whereas, *Fellhanera semicarpi* (Vainio) Vezda – a folicolous (growing on leaves) recorded as an indicator of undisturbed healthy and moist habitat. Some of the investigators were in the opinion that the number of identified pteriodophytes or ferns and angiosperms reported by different researchers vary in Achanakmar- Amarkantak Biosphere Reserve and hence deserves for further taxonomical investigation on this line.

Technical Session II, ecotourism, management, geo-information technology, socio-economics, etc., was chaired by Shri P.C. Dubey, IFS, Conservator of Forests, Research and Extension Circle, Rewa, M.P. The participants viewed the various needs of Achanakmar-Amarkantak Biosphere Reserve. The main emphasis was on use of GIS in mapping the resources and demarcation of sites, enumerate the magnitude of biodiversity, identification of factors leading to habitat degradation, non- destructive harvesting of NTFPs, restoration of ecologically degraded habitats, identification of appropriate technology for conservation of environmental efficiency, development of alternative means of livelihood of inhabitants in BR.

II. Recommendations:

1. Taxonomical identification of various species of flora, their population status, type of threats to them, their qualitative assessment of variety are to be documented on top priority basis. Sustainable use of natural resources, *in-situ* and *ex-situ* conservation of rare, endemic and threatened species would be helpful to prevent them from extinction. The priority should be given to most threatened species based on the present available data.

2. Taxonomical identification of protozoan, fresh water coelenterates, helminthes, annelids, crustaceans, spiders, many groups of insects, species of mollusks, fishes, amphibians,

reptiles, aves and mammals, their status as per IUCN categorization, their habitat, enumeration of magnitude are wanting or incomplete, and hence needs to explored.

3. Studies should also be taken on GIS techniques to demarcate the dense and degraded forests, existing seasonal and permanent water resources by taking remote sensing tools, wildlife security, which could be helpful in taking decision for their conservation and sustainable management.

4. Identification of factors that lead to habitat and environmental degradation and their ecological rehabilitation to minimize the conflict between man and wildlife in AABR.

5. Status of forest ecosystem management and its relation with inhabitants should be studied for future holistic management approach.

6. Identification of appropriate technology for conservation and evaluation of environmental efficiency and steps for protection of fragile and vulnerable ecosystem.

7. Basic needs of the rural population in BR are the improved agricultural and horticultural practices, education and training to improve socio-economic status of inhabitants. Water conservation techniques by encouraging construction of small stop dams in buffer zone, harvesting and utilization of rain water, etc. may not only be helpful for wild animals but also to inhabitants for irrigating their fields. Training on compost formation, development of improved varieties of crops, fodder, cattle suitable for the area may bring down pressure on forests.

8. For buffer zones, exploration of alternative means of livelihood and income generation by motivating tribal on latest techniques of silk, lac, honey extraction, mushroom and profitable medicinal plant cultivation, ropes, leaf plates, mats production and eco-tourism may be helpful to uplift the socio-economic status of the inhabitants and hence projects on these aspects should be given preference.

III. Views of Dr. P.B. Gangopadhyaya, IFS, P.C.C.F. (Wildlife), M.P., Bhopal

1. The ecological and biological essentials of the origins of river systems.

2. The ecological values of the Achanakmar-Amarkantak Biosphere Reserves, i.e. the direct and tangible environment benefits being enjoyed by people.

3. The components of an eco-friendly model of development, i.e., the essentials which need to be ensured before taking up any developmental action in the BR.

4. A landscape planning for the biosphere reserve, i.e., the criteria for the classification and management of the forest and non-forest areas of the reserve.

5. The possibilities of cottage industries in the whole area.

6. The possibilities of water conservation by small water conservation structures and indigenous technologies.

7. The possibilities of meeting of the basic needs of the rural population of the area within the present rules and regulations.

8. The activities which may be harmful for the BR and may not be recommended in the area.

9. The area and the systems of grazing domestic animals and the possible sustainable grazing and fodder production systems.

10. Crop damage by wild animals and other negative effects of conserving natural ecosystems and the strategies to tackle these problems.

IV. List of Research projects funded on Achanakmar- Amarkantak Biosphere Reserve Sanctioned During the year 2006

1. Ecological studies of the forests with a view to identify species useful in restoration of degraded forest habitat by Dr. Lalji Singh, Associate Professor, Department of Forestry, Indira Gandhi Agricultural University, Raipur – 492 006.

Bibliography

Chakraborty, L., Panwar, S.K. and Shukla, R.V. 1991. Effect of closure on soil properties and its fungal population in sal forest. *Journal of Tropical Forestry*, **7** (1):51-61.

Chaturvedi, J.K.1982. Tropical pines in Madhya Pradesh. *Indian Forester,* **108** (2): 163-170.

Chaubey, O.P., Bahadur, V. and Singh, J. 2007. Threats to plant diversity of Achanakmar-Amarkantak Biosphere Reserve. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Chaubey, O.P., Pandey A., Dixit, S., Patil M., 2001. Achanakmar Abhayaran Mein Jaiv Vividhtayon Ka Mulyankan.(In Hindi).*Vaniki Sandesh*, **25** (3): 14-21.

Chaubey, O.P., Pandey, Amit, Negi, C.M.S. and Ansari, A.A. 2003. Phyto-diversity in preservation plots established in peninsular sal forests (5B/C1 C) in Madhya Pradesh and Chhattisgarh. *Indian Journal of Tropical Biodiversity,* **11**: 8-21.

Dadwal, V. S. and Jamaluddin, 1991. Unrecorded diseases of *Grevillea pteridifolia. Journal of Tropical Forestry,* **7** (3):248-249.

Dubey, P.C., Sikarwar, R.L.S. and Tiwari, A.P. 2007. Threat assessment of important medicinal plants in Amarkantak area. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Harsh, N. S.K., Rai, B.K. and Ayachi, S.S., 1993. Forest fungi and tribal economy – a case study in Baiga tribes of M.P. *Journal of Tropical Forestry,* **9** (3): 270-279.

Harsh, N.S.K., Tiwari, C.K. and Jamaluddin, 1989. Prospects of wild edible fungi as minor forest produce in Madhya Pradesh. *Paper presented in National Seminar on minor Forest Produce and Tribal development held on 19-20 October 1989 at Institute of Deciduous forests, Mandla Road, Jabalpur.*

Jamaluddin and Chandra, K. K. 1997. Distribution of VAM fungi in bauxite mine overburden plantation of Amarkantak (M.P.), *Indian Forester,* **125** (5): 412-418.

Jamaluddin, Dadwal, V. S and Soni, K. K. 1990. Susceptibility of different provenances of *Pinus roxburghii* to *Cercospora* needle blight at Amarkantak (M.P.). *Indian Forester*, **116** (1):5861.

Jamaluddin, Nath, V. and Namdeo, R.K. 1993. Studies on diseases of some important medicinal plants. *Journal of Tropical Forestry,* **9** (1): 94-96.

Khanna, K.K., 2007.Achanakmar-Amarkantak Biosphere Reserve – need for the documentation of floristic diversity with special reference to status of threatened plants. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Khanna, K.K., Kumar Anand, Dixit, R.D. and Singh, N.P. 2001. Supplement to the flora of Madhya Pradesh. *Botanical Survey of India*, P-8, Brabourne Road, Kolkatta. 181pp.

Khare, P.B. and Khare, S.K. 2006. Pteridophytic diversity of Achanakmar- Amarkantak Biosphere Reserve- Retropection and Future prospects. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Mudgal, D., Khanna, K.K. and Hajra, P.K.1997. The Flora of Madhya Pradesh. Vol. II, *Botanical Survey of India,* Kolkata, 681 p.

Murti, S. K. and Panigrahi, G. (1999). Flora of Bilaspur Vol. II. *Botanical Survey of India,* P-8, Brabourne Road, Kolkata. pp 396 - 906**.**

Nayaka, Sanjeeva, Satya and Upreti, D.K. 2007. Lichen diversity in Achanakmar wildlife sanctuary, core zone area of proposed Amarkantak Biosphere reserve, Chhattisgarh. *J. Econ. Taxon. Bot*., **31** (1): 133-142.

Panigrahi, G. and Murti, S. K. 1989. Flora of Bilaspur. Vol. I., *Botanical Survey of India,* P-8, Brabourne Road, Kolkata, 396p.

Prasad, Ram and Danayak, S.C. 1992. Performance of tropical pines in Amarkantak area of Madhya Pradesh. *Journal of Tropical Forestry,* **8** (III): 208-210.

Prasad, Ram and Pandey, R. K. 1987a. Survey of medicinal wealth of central India: I. Potential of indigenous medicinal plants in natural forests of eastern Madhya Pradesh. *Journal of Tropical Forestry,* **3** (IV): 287-297.

Prasad, Ram and Pandey, R.K. 1993. Ethno-medico botanical studies of Indigenous plants of Lamni and Achanakmar forest of Bilaspur district of Madhya Pradesh. *Journal of Tropical Forestry,* **9** (1): 27-40.

Prasad, Ram and Pandey, R.K. and Singh, S.P. 1988. Survey of medicinal wealth of central India: II Ethno-medico botanical studies of indigenous plants by local tribes. *Journal of Tropical Forestry,* **4** (III): 236 – 241**.**

Prasad, Ram and R.K.Pandey.1987b.Vegetation damage by frost in natural forest of M.P. *Journal of Tropical Forestry,* **3** (III):273-278.

Saini, D.C. 2005. Pteridophytic flora of Anuppur district in Madhya Pradesh. *J. Econ. Taxon. Bot*., **29** (4): 713-732.

Saxena, H.O. 1970. The flora of Amarkantak, M. P. *Bull. Bot. Sur. India,* **12** (1-4): 37-66**.**

Shadangi ,D.K., Kunnikanan, C., Totey N.G., 1997. Floristic Observation in Kapildhara (Amarkantak). *Vaniki Sandesh*, **21** (2), 8-11.

Shadangi, D. K and Nath, V. 2005. Impact of seasons on ground flora under plantation and natural forest in Amarkantak. *Indian Forester,* **131**: 240-250.

Shadangi, D. K. and Nath, V. 2006. Litter decomposition in *Eucalyptus* and pine plantations and natural sal forests related to micro-arthropods in different season in Amarkantak, Madhya Pradesh. *Indian Forester*, **132**: 420-428.

Shadangi, D. K., Totey, N.G., and Banerjee, S. K. 2001.Ground flora productivity in plantation and natural forest in Amarkantak: *Advances in Forestry Research in India*, **24:** 228-245.

Sharma, M.C. Masih, S.K. and Sharma, C.B. 1997. Participation in collection of NTFP's and their share in tribal economy. *Journal of Tropical Forestry*, **13** (IV): 220-225.

Sharma, N.D. 2007. Achanakmar-Amarkantak Biosphere Reserve: Systematic mapping of fungal biodiversity. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Shettyi, P.K. 1957. Soil fungal flora of two forest compartments of Amarkantak, M.P.*Bull.Bot. Soc.Univ. Saugar,* **9**: 40-47.

Shukla , P.K. and Pandey, R.K. 1993. Tribal life and forest: A case study of selected forest villages in Dindori, Tahsil of Madhya Pradesh. *Journal of Tropical Forestry,* **9** (iv): 287-306.

Singh, L., Sharma, B. and Agarwal, R. 2003. Species composition and plant diversity of representative tropical moist deciduous forest of Achanakmar Sanctuary. *Journal of Tropical Forestry,* **19** (I & II): 25-34.

Singh, L., Yadav, D.K. and Jha, C.S. 2007. Species composition, diversity and biomass in dry deciduous forest of Achanakmar-Amarkantak Biosphere Reserve. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Singh, N.P., Khanna, K.K., Mudgal, D. and Dixit, R.D. 2001. The Flora of Madhya Pradesh. Vol. III. *Botanical Survey of India*, P-8, Brabourne Road, Kolkata, 587pp**.**

Singh, Shweta and Dixit, R.D. 2005. Fern-Allies of central India. *J. Econ. Taxon. Bot*., **29** (2): 403-413.

Soni, K. K., Dadwal, V.S. and Jamaluddin.1984. A new species of *Cercosporidium* from India. *Current Science*, **53** (16): 877-878**.**

Tiwari, H. C., Dobhal, R. P., Masih, S. K. and Sharma, C. B. 2000. Trade of non - timber forest products on Amarkantak plateau. *Journal of tropical Forestry*, **16** (1): 39-43.

Tiwari, K.P., Choubey, O.P. and Patil, M. 1999. Study The Impact Of Biotic Pressure Within The Protected Area Of Achanakmar Sanctuary And To Suggest Remedial Measures. *Report Submitted To MP Forestry (Wildlife) Project, Bhopal.*192pp.

Tiwari, K.P., Pandey, R.K., Date, G.P., Prasanth, K.P. and Goswami, A.1995. Preliminary Project Report on Flora of Amarkantak for Detailed Project Formulation to Constitute Amarkantak Biosphere Reserve. *State Forest Research Institute, Jabalpur, Madhya Pradesh,* 94 pp.

Upreti, D.K., Satya and Joshi, Y. 2007. Lichenological studies in Achanakmar-Amarkantak Biosphere Reserve. *Paper presented in workshop on Research Needs for Achanakmar-Amarkantak Biosphere Reserve on 30th April 2007,* Tropical Forest Research Institute, Jabalpur.

Ved, D. K. Kinhal, G.A.; Rathore, B. M. S.; Ravikumar, K.; Vijay Shankar, R. and Venkateshwaran. 2006. Threat Assessment for Prioritized Medicinal Plant Species of Madhya Pradesh. *Proceedings of Workshop on Eco-regional Assimilation for Conservation Action. (A synthesis of Eco-regional expertise in Medicinal Plants Taxonomy and Distribution through a workshop held at Bhopal during 3rd to 7th of January 2006).* Organized by Madhya Pradesh Biodiversity Board, Beej Nigam Complex, Mother Teresa Marg, Arera Hills, Bhopal and Co-ordinated by FRLHT, Bangalore Karnataka.

Ved, D. K., Kinhal, G. A., Ravikumar, K., Karnat, Mohan, Vijay Shankar, R. and Indresha, J.H. 2003. Threat Assessment and Management Prioritization for the medicinal plants of Chhattisgarh and Madhya Pradesh. *Proceedings of workshop on Eco-regional Assimilation for Conservation Action. A synthesis of regional expertise in*

medicinal plants taxonomy and distribution through a workshop held at Bhopal during 23-26th July 2003. FRLHT, Bangalore.

Verma, D.M., Balakrishnan, N.P. and Dixit, R.D. 1993. The Flora of Madhya Pradesh. Vol. I. *Botanical Survey of India,* Kolkata, 668 pp.

Yadav, V. K., Khare, P. K. and Mishra, G. P. 1986. Effect of tree girth on seed viability and germination in Sal. *Journal of Tropical Forestry,* **2** (2): 160-163**.**

Annexure-I **Format for projects submission on Achanakmar-Amarkantak Biosphere Reserve**

APPLICATION FOR GRANT FOR RESEARCH PROJECT

(To be completed by the Principal Investigator)

1. Title of the Project :
2. Name and Designation of the Principal-Investigator :
3. Name and Designation of the Co-Investigator :
4. Postal Address of the Principal Investigator and Co-investigator :
5. Name of the institution/organisation in which the project will be carried out :
6. Name of other institution(s)/ Organisation(s) involved in the project :

7. Duration of the project :

8. Total amount of assistance required :

9. Following documents are enclosed :

Statement I – An abstract, not exceeding one page, describing the back ground, objectives, methodology and figures of year-wise budget.

Statement II - Should contain the following :

A. State of Art of the subject including work done in India and elsewhere;
B. Detailed literature survey
C. Objectives
D. Detailed methodology
E. Quarter-wise work-plan
F. PERT – Chart
G. Practical relevance/utility of the project
H. Agencies which can utilize the results of the project.

Statement III – giving brief background of the investigator who will carry out the project including papers published in the area of the proposed research project.

Statement IV – indicating facilities (equipment/instrument) available at institution organisation for carrying out the projects.

Statement V – Project budget in the prescribed format.

APPENDIX TO THE APPLICATION FOR GRANT OF RESEARCH PROJECTS

PROJECT BUDGET

A. Salaries & Wages :	**I Year**	**II Year**	**III Year**	**Total**
1. Investigator				
2. Research Associate				
3. SRF/JRF/SPF/JPF				
4. Supporting technical staff or other personnel, if any				
Grand total : ……. …….				

* Please specify, the rate of salary and wages per month for each category and also rates of HRA and Medical reimbursement.

B. Permanent Equipment

Grand total: ……

C. Expendables
(Chemicals & Glassware)

D. Travel

E. Other project costs, if any (please specify)

F. Contigencies

G. Institutional charges
(15% of the total Project Cost)

Grand Total : ……

Procedure for sending the research projects to Ministry of Environment and Education, New Delhi: