

RARE AND THREATENED PLANTS OF JHALAWAR DISTRICT (RAJASTHAN) - A PRELIMINARY SURVEY

N. K. SHARMA

P. G. Department of Botany, Govt. College, Kota-324001, India.

Present communication deals with the studies about rare and threatened plants of Jhalawar district. 67 species of Angiosperms and 1 Species of Pteridophyta belonging to 63 genera and 33 families, are listed along with their local names, presence, distribution in Rajasthan and reasons of their deterioration. Destruction of forest vegetation for fuel, timber and other forest products attribute to the endangerment of these species, while destruction of ecological niches due to biotic interference might be responsible for threatening of arid zone species. Probable measures for conservation and protection of these rare and threaten plants of the area have also been suggested.

Keywords : Forest; Genus; Species; Threatened.

Introduction

Most of the forest plants and animals of our country are under continuous threat of increasing deforestation for urbanization, industrialization, agriculture, cutting, grazing and operation of quarries etc. It is estimated by IUCN that about 20000 - 250000 vascular species of the world have become rare or are under-threat. Their probable disappearance from the scene may cause irreversible damage to the balance of world's biosphere. Immediate steps are to be taken for area wise assessment of such species and preventive measures for checking their destruction, hence the present studies were undertaken to assess the threatened taxa of Jhalawar district forests.

Jhalawar district lies between 23°45' to 24°55' north latitude and 75°51' to 76°95' east longitude. The soil varies from gravel to sandy loam or black cotton soil very much fertile with highest fertility status in the state of Rajasthan (India). It has got an area of 6323.13 sq. kms in the south eastern corner of the state adjacent to the northern edge of Deccan plateau (Key map I). Average annual rainfall in the area recorded is 925 mm and temperature fluctuates between 3.9°C (during winters) to 47.5°C (during summer).

Floristics of the area have been studied by various workers¹⁻⁴. However no efforts have been made to study the rare and threatened plants of the area except Pandey *et al*⁵. who made a preliminary census of rare and threatened plants of Rajasthan.

Material and Methods

Present work is based on the field collections and critical observations by author from 1971 and onwards. Specimens thus collected during

these trips were deposited in Herbarium Botany Department, University of Rajasthan (RUBL). Besides this, published literature about the area, and working plan for the Jhalawar forest division (1962-71)⁶ and (1976-85)⁷ were of great help.

Results and Discussion

Critical studies of endangered species of the area reveal that 67 taxa of Angiosperms and 1 taxa of Pteridophyta belonging to 63 genera and 33 families are there which were very commonly found in the forests previously, have now become rare due to their meager presence, or on the verge of disappearance or totally disappeared from the forests of the area. These species are listed with the name of their respective families, local names with information about their presence or absence (Table 1). Out of the listed 67 species, 10 belonged to Fabaceae, 6 to Rubiaceae and 4 were of family Caesalpiniaceae.

Reason for threatening and endangerment of these taxa may be attributed to the deterioration of natural forests of the area causing destruction of their natural habitat as well as diminishing number of wild animals might be a great hurdle in the dispersal of their germinules and in their protection.

Extensive survey of the forests and informations obtained from Forest department authorities and local people, revealed that maximum number of species were exploited for fuel requirements. However threatening of certain species viz. *Dalbergia latifolia*, *Soymida febrigua*, *Adina cordifolia*, *Tecomella undulata*, *Wrightia tinctoria* and *Antidesma diandrum* may be attributed to their exploitation for

timber. *Pterocarpus marsupium* which was very common in the forests is totally vanished now. This may due to its exploitation for making vessels from its wood. These vessels are commonly known as "Sagar-Patra", and used for treatment of diabetes. Threatening and disappearance of some arid zone species e. g. *Fagonia cretica*, *Alhagi psued-alhagei*, *Crotalaria burrhia* & *Salvadora sp.* may be attributed to the destruction of their ecological niches due to increasing biotic interference. Exploitation of *Dendrocalamus strictus* and *Bambusa arundanacea* for making baskets and other articles might be responsible for their decreasing presence and disappearance respectively. According to Misra⁸ human disturbances of natural vegetation render newer habitats and environments which in turn are responsible for greater changes in biosphere.

For conservation and protection of rare and endangered plants, immediate and proper steps must be taken. Besides listing such plants large areas must be set aside as

biological reserves if massive threatening is to be avoided. In Rajasthan for example the establishment of the Desert National Park in Jaiselmer and Barmer districts certainly be beneficial in this direction.

In local conditions destruction of forests is being done, not only for edible products, dyes, medicinal products and timber but also being exploited for fuel. It is a source of bread and butter to wood cutters and poachers but a permanent headache for the forest authorities of the district. Alternative fuel resources for human population of the area, and alternative jobs and employment may be helpful in this matter.

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Table 1. Checklist of rare and threatened plants of Jhalawar district *

S. No.	Scientific Name & Local Name/Family	Frequency of Species in Past v/s Frequency at present	Habit	Presence	Distribution in N. E. Rajasthan
1	2	3	4	5	6
I	PARKERIACEAE 1 <i>Ceratopteris thalictroides</i> (H) Brongen Ban Palak	Abundant till 1977/Rare at present	Herb	+	-
II	RANUNCULACEAE 2 <i>Clematis royeli</i> Roxb. Naakchikni	Frequent till 1971/Rare	Climber	-	-
III	ANNIONACEAE 3 <i>Millusa tometosa</i> (Roxb) Sinclair Karra	Frequent till 1968/Rare	Tree	+	-
IV	BRASSICACEAE 4 <i>Fagonia criteca</i> L. Damasa	Occasional till 1971/Rare	Undershrub	-	+
V	CAPPARIDACEAE 5 <i>Capparis spinosa</i> L. Kalwari 6 <i>Crateva adansoni</i> Dc. Barna	Occasional in 60's/Rare Common till 1977/Rare	Shrub Tree	- +	- -
VI	BIXACEAE 7 <i>Cochlospermum gossypium</i> L. Girnar	Occasional till 1971/Rare	Tree	+	-

1	2	3	4	5	6
VII	MALVACEAE				
	8 <i>Kydia calycina</i> Roxb. Pola	Occasional till 1959/Rare	Tree	+	-
VIII	9 <i>Thespasia lampas</i> Dalz Gibs. Bankapas	Occasional till 1969/Rare	Shrub	-	-
	TILIACEAE				
IX	10 <i>Grewia hirsuta</i> Vahl. Gursharia	Occasional till 1970/Rare	Shrub	+	-
	11 <i>Grewia villosa</i> Willd. Dholkan	Occasional till 1970/Rare	Shrub	+	-
X	RUTACEAE				
	12 <i>Clausena pentaphylla</i> Dc. Ratanjot	Occasional till 1979/Rare	Tree	-	-
XI	13 <i>Murraya koenigii</i> sprang Kadhipat	Frequent till 1970/Rare	Shrub	+	-
	BURSERACEAE				
XII	14 <i>Boswellia serrata</i> Roxb. Salar	Common till 1972/Rare	Tree	+	+
	15 <i>Commiphora mukul</i> Engl. Gugal	Frequent till 1972/Rare	Tree	+	+
XIII	MELIACEAE				
	16 <i>Cedrela toona</i> Roxb. Toon	Occasional till 1971/Rare	Tree	-	-
XIV	17 <i>Soymida febrigua</i> juss. Ruhin	Occasional till 1972/Rare	Tree	-	-
	CELASTRACEAE				
XV	18 <i>Celastrus paniculatus</i> willd Kunjani	Occasional till 1972/Rare	Climber	-	-
	19 <i>Eleodendron glaucum</i> Pers. Jamrasia	Occasional till 1971/Rare	Tree	-	-
XVI	SAPINDACEAE				
	20 <i>Schliechera oleosa</i> (Lour) Oken Kusum	Frequent till 1970/Rare	Tree	+	-
XVII	ANACARDIACEAE				
	21 <i>Buchanania lanzan</i> spreng Char	Frequent till 1969/Rare	Tree	+	-
XVIII	22 <i>Rhus mysurensis</i> Heyne, Dasan	Common till 1970/Rare	Shrub	+	+
	MORINGACEAE				
XIX	23 <i>Moringa concanensis</i> Himme Sargora	Occasional till 1976/Rare	Tree	-	-
	FABACEAE				
XX	24 <i>Alhagi psuedalhagi</i> Desv. Jawasa	Occasional till 1968/Rare	Under Shrub	-	+
	25 <i>Butea parviflora</i> Roxb. Nahbel	Occasional till 1977/Rare at present	Climber	-	-
XXI	26 <i>Butea superba</i> Roxb. Palasbel	Frequent till 1971/Rare	Climber	-	-
	27 <i>Crotalaria burrhia</i> Buch. Ham. Senia	Frequent till 1968/Rare	Undershrub	-	-
XXII	28 <i>Dalbergia latifolia</i> Roxb. Kalasissam	Occasional till 1973/Rare	Tree	+	-
	29 <i>Erythrina stricta</i> Roxb. Gadhpalash	Occasional till 1971/Rare	Tree	+	-

1	2	3	4	5	6
	30 <i>Erythrina suberosa</i> Roxb. Ghodapalash	Common till 1977/Rare	Tree	+	-
	31 <i>Flemingia semialata</i> Roxb. Banharar	Common till 1971/Rare	Tree	-	-
	32 <i>Milletia auriculata</i> Baker Dujni	Occasional till 1959/Rare	Climber	-	-
	33 <i>Puraria tuberosa</i> Dc. Ghorabel	Occasional till 1969/Rare	Climber	+	-
	34 <i>Pterocarpus marsupium</i> Roxb. Bijasal	Frequent till 1979/Rare	Tree	+	-
XVII	CAESELPINACEAE				
	35 <i>Bauhinia vahlii</i> wt. et. Arn. Malghan	Common till 1972/Rare	Climber	-	-
	36 <i>Bauhinia variegata</i> L. Kachnar	Frequent till 1972/Rare	Tree	+	-
	37 <i>Delonix alata</i> (L.) Gamble Sandeshra	Occasional till 1971/Rare	Tree	-	-
	38 <i>Parkinsonia aculeata</i> L. Bukhan	Occasional till 1972/Rare	Tree	-	-
XVIII	MIMOSACEAE				
	39 <i>Acacia pennata</i> Willd. Shembadi	Occasional till 1972/Rare	Climber	-	-
XIX	MIMOSACEAE				
	40 <i>Lagerstroemia parviflora</i> Roxb. kalasdarea	Common till 1972/Rare	Tree	+	-
XX	RUBIACEAE				
	41 <i>Adina cordifolia</i> R & H Haldu	Frequent till 1972/Rare	Tree	+	-
	42 <i>Gardinia turgida</i> Roxb. Chamkaror	Occasional till 1971/Rare	Tree	-	-
	43 <i>Ixora brachiata</i> Roxb. Lodhne	Occasional till 1972/Rare	Tree	-	-
	44 <i>Morinda tinctoria</i> Roxb. Aal	Occasional till 1979/Rare	Tree	+	-
	45 <i>Randia dumatorum</i> Lamk Manphal	Common till 1977/Rare	Tree	+	-
	46 <i>Wondlanadia exserta</i> Dc. Tilbam	Common till 1971/Rare	Shrub	-	-
XXI	MYRINACEAE				
	47 <i>Embelia robusta</i> Roxb. Baiborang	Occasional till 1959/Rare	Shrub	-	-
XXII	SAPOTACEAE				
	48 <i>Manilkara hexandra</i> (Roxb.) Dub. Reni	Occasional till 1969/Rare	Tree	+	+
XXIII	EBENACEAE				
	49 <i>Diospyros cordifolia</i> Roxb. Bistendu	Occasional till 1979/Rare	Tree	-	-
XXIV	OLACACEAE				
	50 <i>Nyctanthes arbor-tristis</i> L. Harsingar	Occasional till 1977/Rare at present	Tree	+	-
	51 <i>Schrebera swietenoides</i> Roxb. Mokha	Frequent till 1978/Rare	Tree	+	-

1	2	3	4	5	6
XXV	SALVADORACEAE 52 <i>Salvadora oleoides</i> Decaine Jal 53 <i>Salvadora persica</i> L. Pilu	Frequent till 1968/Rare Occasional till 1971/Rare	Tree Tree	+ +	+ +
XXVI	APOCYNACEAE 54 <i>Vallis solanacea</i> (Roth) Ktz. Dudhi 55 <i>Wrightia tinctoria</i> R. Br. Kalakuda	Occasional till 1977/Rare Common till 1977/Rare	Climber Tree	+ +	- +
XXVII	SOLANACEAE 56 <i>Lycium europaeum</i> L. Murali	Common till 1971/Rare	Shrub	-	-
XXVIII	BIGNONIACEAE 57 <i>Stereospermum suaveolens</i> Dc. Padar 58 <i>Tecomella undulata</i> seam Rohida	Occasional till 1959/Rare Occasional till 1969/Rare	Tree Tree	+ -	- +
XXIX	POLYGONACEAE 59 <i>Calligonum polygonoides</i> L. Fok	Occasional till 1979/Rare	Shrub	-	-
XXX	LORANTHACEAE 60 <i>Dendrophthae falcata</i> Cl. Banda 61 <i>Viscum orientale</i> willd. Gurbel	Occasional till 1972/Rare Frequent till 1972/Rare	Parasite Climber	- -	+ -
XXXI	SANTALACEAE 62 <i>Santalum album</i> L. Safed Chandan	Common till 1971/Rare	Tree	+	-
XXXII	EUPHORBIACEAE 63 <i>Antidesma diandrum</i> Roth. Khartua 64 <i>Putranjiva roxburghii</i> wall Putranja	Occasional till 1972/Rare Frequent till 1972/Rare	Tree Tree	+ +	- -
XXXIII	ORCHIDACEAE 65 <i>Vanda roxburghii</i> R. Br. Chinkala	Common till 1971/Rare	Epiphytic herb	-	-
XXXIV	POACEAE 66 <i>Bambusa arudinacea</i> Roxb. Baans 67 <i>Dendrocalamus strictus</i> Nees Baans	Occasional till 1959/Rare Common till 1969/Rare	Tree Tree	+ +	- -

+ Present or found

- Absent or not found

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