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RESEARCH ARTICLE

STATUS AND DISTRIBUTION OF VARIOUS SPECIES OF GENUS *Anogeissus* IN PROTECTED AREAS OF SOUTHERN RAJASTHAN, INDIA

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ABSTRACT

The present status and distribution of various species of the genus *Anogeissus* have been assessed in nine protected areas of southern Rajasthan namely, Sajjangarh, Jaisamand, Phulwari ki Nal, Sitamata, Bassi, Bhensroadgarh, Mount Abu, Kumbhalgarh and Todgarh -Raoli sanctuaries. Five species of the genus *Anogeissus* are found in Rajasthan, out of which *Anogeissus latifolia* and *Anogeissus pendula* are found commonly in these protected areas. *Anogeissus sericea* var. *sericea* is the species having smallest distribution range in Rajasthan.

Key words:

Combretaceae, Sanctuaries,
Sympatrically, Endemic.

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INTRODUCTION

Genus *Anogeissus* (Combretaceae) is a constituent of group 5/E1 – Tropical Dry Deciduous forest in India (Dept of Biotech, 2014; Nayar et al., 1998; Sharma, ISBN 10, ISBN 13). This genus is a group of five important multipurpose species namely *Anogeissus acuminata* (Roxb. ex DC.) Guill. & Perr., *Anogeissus pendula* Edgew., *Anogeissus latifolia* (Roxb. ex DC.) Wall. ex Guill & Perr., *Anogeissus sericea* var. *sericea* and *Anogeissus sericea* var. *nummularia* King ex Duthie (Shetty et al., Vol 1). Genus *Anogeissus* contains species of arid and semi- arid areas yielding timber, fuel wood, fodder and gum (Kora et al., 2012). Above mentioned species of genus *Anogeissus* are economically, ecologically, ethnomedicinally and pharmacologically important (Govindrajan et al., 2006, Hemamalini et al., 2011., Hemamalini et al., 2010., Jagtap et al., 2009., Meena et al., 2010., Parvathi et al., 2009., Patil et al., 2011). *Anogeissus sericea* var. *nummularia* is included in red data book of Indian plant and is considered as endemic taxa of Rajasthan and Gujarat (GEC, MSU, GUIDE, 2002., IUCN, 2000., Nayar et al., 1998: Shah, Vol: I & II., WCMC, 1994).

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Study area

Present study area falls under eight district of southern Rajasthan viz., Udaipur, Sirohi, Dungarpur, Pratapgarh, Banswara, Bhilwara, Chittorgarh & Rajsamand. It extends upto about 41.90% (13679.17 km²) of the total forest cover of Rajasthan (32638.74 Km²). Climate of the study area is hot and dry and it receives average 650 mm rainfall annually.

MATERIALS AND METHODS

The present work embodies the result of two years study from April, 2013 to May, 2015. To study distribution status of different species of *Anogeissus* genus, both vertical (in hilly areas) and horizontal (in plain areas) trekking was done in forest areas by slowly moving vehicles or on foot to know growing pattern of these species at different elevations. Officials of Rajasthan Forest Department were contacted to get clues and information about different species of genus *Anogeissus*. Working plans and management plans of Forest Department were scanned. Rural and tribal people were contacted to get information about the species. They were accompanied not only as the escorts but to take help in spotting the trees. Rainy and winter season were more suitable for locating the plants due to appearance of new leaves and flowering respectively.

Table 1. Presence of different species / sub species in nine protected areas of Southern Rajasthan

S.No.	Name of Protected Area	District	Area (sq km)	Occurrence and status of Species					No. of Species / Sub Species	Hills type
				<i>Anogeissus pendula</i>	<i>Anogeissus acuminata</i>	<i>Anogeissus sericea</i> var. <i>sericea</i>	<i>Anogeissus sericea</i> var. <i>nummularia</i>	<i>Anogeissus latifolia</i>		
1	Sajjangarh WLS	Udaipur	5.19	++	++	+	-	++	4	Aravallis
2	Jaisamand WLS	Udaipur	52.34	++++	++	-	+	+	4	Aravallis
3	Phulwari Ki Nal	Udaipur	492.69	-	-	+	-	++++	2	Aravallis
4	Sitamata WLS	Pratapgarh	422.94	+	-	-	+	++++	3	Aravallis, Vindhya & Malwa plateau
5	Bassi WLS	Chittorgarh	138.69	++++	-	-	+	++	3	Aravallis, Vindhya
6	Bhensroddgarh WLS	Chittorgarh	229.14	++++	-	-	+	++	3	Vindhya
7	Mount Abu WLS	Sirohi	112.98	++++	-	+++	-	++++	3	Aravallis
8	Kumbhalgarh WLS	Udaipur, Rajsamand, Pali	608.57	++++	++	-	+	++++	4	Aravallis
9	Todgarh-Raoli WLS	Rajsamand, Ajmer, Pali	463.03	++++	+	-	+	+	4	Aravallis
Total no. of sanctuaries possess species				8	4	3	6	9		

-Absent

+Rare (occurrence is very poor)

++Less common (scattered or patchy in occurrence)

+++Common (Relatively big patches of good occurrence are seen)

++++Abundant

GPS was used and location of plants was recorded to know about extent of their distribution range. During field surveys in nine sanctuaries, it was noticed that all the five species are confined to protected areas of southern Rajasthan as evident from Table 1.

RESULTS AND DISCUSSION

None of the above sanctuaries of southern Rajasthan possess all the 5 species/subspecies. Sajjangarh, Jaisamand, Kumbhalgarh and Todgarh-Raoli are the richest sanctuaries having 4 species/sub species each. Sitamata, Bassi, Bhensroddgarh and Mount Abu support 3 species/subspecies each. Sajjangarh though is the smallest sanctuary of Rajasthan, covering only 5.19 sq km area, have four species growing sympatrically, while Phulwari, which is second largest sanctuary of state, supports only 2 species which are growing sympatric over there. This is the only sanctuary of Rajasthan which is devoid of most common species of *Anogeissus* i.e. *Anogeissus pendula*. *Anogeissus latifolia* is the species which is present in all 9 sanctuaries. *Anogeissus sericea* var. *sericea* is present in 3 sanctuaries only namely, Sajjangarh, Mount Abu & Phulwari ki Nal. All these 3 sanctuaries are confined to South- West corner of the state in Udaipur and Sirohi districts. The total area of these two districts is 5173 sq km. *Anogeissus sericea* var. *sericea* is the species having smallest distribution range in Rajasthan so utmost care should be taken to protect growing trees of this species in the state. Moreover, Forest Department should raise seedlings of this species in departmental nurseries and they should be planted in forest areas to ensure a good population in the state.

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